IEEE P802.11  
Wireless LANs

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| IEEE 802.11bf – Teleconference Minutes May - July 2023 | | | | |
| Date: 2023-07-09 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Leif Wilhelmsson | Ericsson AB | Mobilvägen 1, 22632 Lund, Sweden | +46-706-216956 | [leif.r.wilhelmsson@ericsson.com](mailto:leif.r.wilhelmsson@ericsson.com) |

Abstract

This document contains minutes for the TG 802.11bf teleconferences in May-July 2023.

Rev 0: Minutes for TG 802.11bf teleconference on the 23rd of May 2023.

Rev 1: Minutes for TG 802.11bf teleconference on the 25th of May 2023 and List of Attendees for the 23rd and 25th of May added.

Rev 2: Minutes for TG 802.11bf teleconference on the 30th of May 2023 added.

Rev 3: Minutes for TG 802.11bf teleconference on the 1st of June 2023 added.

Rev 4: Minutes for TG 802.11bf teleconference on the 5th of June 2023 and List of Attendees for the 30th of May and 1st of June added.

Rev 5: Minutes for TG 802.11bf teleconference on the 12th  and 13th of June 2023 and List of Attendees for the 5st of June added.

Rev 6: List of Attendees for the 12th  and 13th of June 2023 added.

Rev 7: Minutes for TG 802.11bf teleconference on the 20th of June 2023 added.

Rev 8: A typo corrected and List of Attendees for the 20th of June 2023 added.

Rev 9: Minutes for TG 802.11bf teleconference on the 26th of June 2023 added.

Rev 10: List of Attendees for the 26th of June 2023 added.

### Tuesday, May 23, 2023, 10:00am - 12:00pm (ET)

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/23/11-23-0909-01-00bf-tgbf-meeting-agenda-2023-05-part-2.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The chair, Tony Han, calls the meeting to order at 10:00 am ET (30 persons are on the call after 15 minutes of the meeting).
10. The chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The chair goes through the agenda (slide 16) and asks if there are any question on the agenda. Dong Wei asks if the group would allow his presentation to be presented earlier as he wants obtain feedback today to be able to do more work offline. As a consequence, his presentation is moved up to be presented second.

The chair asks if there is any objection to approve the updated agenda. No response from the group. As a result, the agenda is approved.

1. –
2. -
3. The chair presents the telco Teleconference Times (slide 20). There is a comment that for the f2f, we should take into account who is calling in when scheduling the different presentations. Claudio gives an update that D1.1 is ready and will soon be distributed.
4. Presentation of submission:

**11-23/0777r1, “CR for setup parameters related CIDs”, Dibakar Das (Intel):**

This document proposes resolution to following CIDs relative to 11bf draft 1.0:

2285 1111 1112 1113 1114 1317 1118 1694 1494 2273 2188 1954 2022 1695 1547 1696 1648 2060 2144 1813 2279 1366 1033 1798 1084 1552 1554 2274 1553 1087 2276 2190 2277 2275 1091 1529 1709 1088 1528 1530 1090 2193 1098 1100 1711 1099 1710 2194 1115 1714 1347 2195 1432 1109 2243 2244 1110 1040 1564 1955 1720 1539

CID 2285: No discussion.

CID 1111: No discussion.  
CID 1112: No discussion.

CID 1113: No discussion.

CID 1114: No discussion.

CID 1317: No discussion.

CID 1118: No discussion.

CID 1694: No discussion.

CID 1494: No discussion.

CID 2273: Some discussion leading to that the proposed resolution is slightly updated. The CID is removed from the document to allow for more offline discussion.

CID 2188: No discussion.

CID 1954: No discussion.

CID 2022: No discussion.

CID 1695: No discussion.

CID 1547: No discussion.

CID 1696: No discussion.

CID 1648: No discussion.

CID 2060: No discussion.

CID 2144: No discussion.

CID 1813: Some clarifying discussion.

CID 2279: No discussion.

CID 1366: No discussion.

CID 1033: No discussion.

CID 1798: Question from Dibakar if someone is working on this text in D1.0. After some discussion it is reassigned to Dongguk.

CID 1084: No discussion.

CID 1552: No discussion.

CID 1554: No discussion.

CID 2274: No discussion.

CID 1553: No discussion.

CID 1087: No discussion.

CID 2276: No discussion.

CID 2190: No discussion.

CID 2277: No discussion.

CID 2275: No discussion.

CID 1091: No discussion.

CID 1529: No discussion.

CID 1709: No discussion.

CID 1088: No discussion.

CID 1528: No discussion.

CID 1530: No discussion.

CID 1090: No discussion.

CID 2193: No discussion.

CID 1098: No discussion.

CID 1100: No discussion.

CID 1711: No discussion.

CID 1099: Some clarifying discussion.

CID 1710: No discussion.

CID 2194: No discussion.

CID 1115: No discussion.

CID 1714: No discussion.

CID 1347: No discussion.

CID 2195: No discussion.

CID 1432: No discussion.

CID 1109: Some clarifying discussion and the resolution is updated.

CID 2243: No discussion.

CID 2244: No discussion.

CID 1110: After discussion with the group the CID is rejected.

CID 1040: No discussion.

CID 1564: No discussion.

CID 1955: The CID is deferred.

CID 1720: No discussion.

CID 1539: No discussion.

Since two CIDs need more offline discussion, Dibakar defers the SP.

**11-23/0882r0, “LB272 CR on capability of sensing measurement reporting”, Dong Wei (NXP):** This document aims to resolve the following ten LB272 CIDs related to the capability of sensing measurement reporting: 1056, 1929, 1930, 1986, 2015, 2052, 2146, 2149, 2155, and 2176.

Dong gives an overview of the 10 CIDs.

Q: We discussed this in the January f2f and agreed that measurement report is mandatory. If this now is to be reverted, we must discuss the implications.

The chair suggests that he can allocate some time in one of the calls next week to discuss this further.

1. The chair asks if there is any other business. No response from the group.
2. The meeting is adjourned without objection at 12:01pm.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 5/23 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 5/23 | CHENG, yajun | Xiaomi Communications Co., Ltd. |
| TGbf | 5/23 | da Silva, Claudio | Meta Platforms; PWC, LLC |
| TGbf | 5/23 | feng, Shuling | MediaTek Inc. |
| TGbf | 5/23 | Kain, Carl | USDOT; Noblis |
| TGbf | 5/23 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 5/23 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 5/23 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 5/23 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 5/23 | Luo, Yuanqiu | Futurewei Technologies |
| TGbf | 5/23 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbf | 5/23 | Minayi Jalil, Amir | Aerial Technologies |
| TGbf | 5/23 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 5/23 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 5/23 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 5/23 | Sand, Stephan | German Aerospace Center (DLR) |
| TGbf | 5/23 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 5/23 | Tang, Zhuqing | Huawei Technologies Co., Ltd |
| TGbf | 5/23 | Tsai, Tsung-Han | MediaTek Inc. |
| TGbf | 5/23 | Wang, Pu | Mitsubishi Electric Research Labs (MERL) |
| TGbf | 5/23 | Wei, Dong | NXP Semiconductors |
| TGbf | 5/23 | Wilhelmsson, Leif | Ericsson AB |
| TGbf | 5/23 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

### Thursday, May 25, 2023, 11:00pm - 01:00am (ET)

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/23/11-23-0909-02-00bf-tgbf-meeting-agenda-2023-05-part-2.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The chair, Tony Han, calls the meeting to order at 11:00 pm ET (25 persons are on the call after 15 minutes of the meeting).
10. The chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The chair goes through the agenda (slide 17) and asks if there are any questions on the agenda. No response from the group.

The chair asks if there is any objection to approve the updated agenda. No response from the group. As a result, the agenda is approved.

1. -
2. -
3. The chair presents the Teleconference Times (slide 20). Claudio gives an update related to that D1.1 has been made available and encourages the group to check if there are issues or mistakes.
4. Presentation of submission:

**11-23/0777r2, “CR for setup parameters related CIDs”, Dibakar Das (Intel):**

This document proposes resolution to following CIDs relative to 11bf draft 1.0:

2285 1111 1112 1113 1114 1317 1118 1694 1494 2273 2188 1954 2022 1695 1547 1696 1648 2060 2144 1813 2279 1366 1033 1084 1552 1554 2274 1553 1087 2276 2190 2277 2275 1091 1529 1709 1088 1528 1530 1090 2193 1098 1100 1711 1099 1710 2194 1115 1714 1347 2195 1432 1109 2243 2244 1110 1040 1564 1955 1720 1539

CID 2273: The CID has been updated to reject. No discussion.

CID 1955: No discussion.

**Straw Poll:** Do you support the proposed comment resolutions in this document?

**Result:** Unanimously supported.

**11-23/0719r1, “Comment Resolution in LB272 for OST CID (Part 4)”, Anirudha Sahoo (NIST):** This document resolves comments in LB272 with CIDs 1966, 1068, 1969, 1970

CID 1966: No discussion.

CID 1068: No discussion.

CID 1969: Some clarifying discussion.

CID 1970: No discussion.

**Straw Poll:** Do you support the resolution to CIDs 1966, 1068, 1969, 1970 proposed in 11-23/0719r1 and incorporate the changes into TGbf draft D1.0?

**Result:** Unanimously supported.

**11-23/0814r1, “Discussion and proposed Modifications to Annex C”, Claudio da Silva (Meta Platforms):** This submission examines MIB concepts and recommends modifications to Annex C.

Claudio first gives an overview of MIBs before going into the proposed changes and additions.

DMG SBP Procedure: Some clarifying discussion.

DMG Sensing Procedure: The text is slightly updated. No discussion.

SBP Procedure: Some clarifying discussion.

Sensing Procedure: Some discussion and the text is slightly updated.

**11-23/0872r0, “[CR for LB272 NDPA Instance TTT]”, Junghoon Suh (Huawei):**

This submission proposes resolutions for the follwing 19 LB272 CIDs: 1228, 1278, 1279, 1352, 1421, 1433, 1435, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1524, 1541, and 1569. The proposed changes are based on IEEE 802.11bf D1.0 [1].

CID 1228: Some clarifying discussion.

CID 1278: No discussion.

CID 1279: Some clarifying discussion pointing out that there has been a CR to another CID that is related to this. Claudio points out that it has already been addressed in D1.1.

CID 1352: Some clarifying discussion.

CID 1421: Some clarifying discussion.

CID 1433: No discussion.

CID 1435: No discussion.

CIDs 1511, 1512, and 1513: Some clarifying discussion.

CID 1514: No discussion.

CID 1515: No discussion.

CIDs 1516, 1517, and 1518: No discussion.

CID 1519: No discussion.

CID 1524: Some clarifying discussion.

CID 1541: No discussion.

CID 1569: No discussion.

**Straw Poll:** Do you support the proposed comment resolutions in r1 of this document?

**Result:** Unanimously supported.

**11-23/0794r1, “LB272 comments DMG comment 2064 resolution”, Rui Du (Huawei):**

This submission contains the proposed comment resolution for the CID 2064

CID 2064: Run out of time.

1. The chair asks if there is any other business. No response from the group.
2. The meeting is adjourned without objection at 01:02am.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 5/25 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 5/25 | CHENG, yajun | Xiaomi Communications Co., Ltd. |
| TGbf | 5/25 | Dash, Debashis | Apple Inc. |
| TGbf | 5/25 | da Silva, Claudio | Meta Platforms; PWC, LLC |
| TGbf | 5/25 | Du, Rui | Huawei Technologies Co., Ltd |
| TGbf | 5/25 | feng, Shuling | MediaTek Inc. |
| TGbf | 5/25 | Hsu, Ostrovsky | Xiaomi Communications Co., Ltd. |
| TGbf | 5/25 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 5/25 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 5/25 | Krebs, Alexander | Apple, Inc. |
| TGbf | 5/25 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 5/25 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 5/25 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 5/25 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 5/25 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 5/25 | Tang, Zhuqing | Huawei Technologies Co., Ltd |
| TGbf | 5/25 | Wilhelmsson, Leif | Ericsson AB |
| TGbf | 5/25 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbf | 5/25 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

### Tuesday, May 30, 2023, 10:00am - 12:00pm (ET)

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/23/11-23-0909-03-00bf-tgbf-meeting-agenda-2023-05-part-2.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The chair, Tony Han, calls the meeting to order at 10:01 am ET (34 persons are on the call after 1 hour of the meeting).
10. The chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The chair goes through the agenda (slide 18) and asks if there are any questions on the agenda. Claudio informs that 814 is not ready for presentation today, but will be ready in the next call.

The chair asks if there is any objection to approve the updated agenda. No response from the group. As a result, the agenda is approved.

1. The chair presents the timeline (slide 20). No discussion.
2. The chair presents Call for contribution (slide 21). No discussion.
3. The chair presents the telco Teleconference Times (slide 22) and gives an update of the D1.0 CR status. Leif informs that all rooms are booked for those who requested this.
4. Presentation of submission:

**11-23/0882r0, “LB272 CR on capability of sensing measurement reporting”, Dong Wei (NXP):** This document aims to resolve the following ten LB272 CIDs related to the capability of sensing measurement reporting: 1056, 1929, 1930, 1986, 2015, 2052, 2146, 2149, 2155, and 2176.

Dong gave an overview of the CRs in an earlier call, but we ran out of time.

Q: If we make this optional, I believe we have made a lot of unnecessary specifying work. I also believe this will lead to a split market, which I believe is not good. I strongly disagree with this approach.

A: I believe we have disagreement on whether downlink sounding is needed. We believe uplink is more efficient.

Q: We discussed this in January, and this is why it is included in D1.0 as mandatory.

Q: I support the proposed change and believe it makes perfect sense. I think should focus on the client side being the initiator.

Q: I don’t agree that we should focus on one specific type of devices being the initiator.

Q: I suggest sending out an email and initiate at discussion.

Q: I have seen many measurements where things look very differently in the two directions, e.g. if there are different chip-sets in the two devices.

Q: I also believe the proposed change would help market adoption.

As a result of the discussion, Dong explains he will not run the SP and instead discuss more offline.

Q: I believe we should try to get feedback from customers. If they are happy to make it optional, making it optional may be OK.

**11-23/0795r0, “LB272 CRs for Clause 3 and CID 1461”, Ray Wang (InterDigital):** This submission present proposed resolutions for the following 15 CIDs: 1337, 1338, 1340, 1462, 1463, 1464, 1465, 1817, 1818, 1819, 1820, 2016, 2293, 2294, 1461

The proposed changes are based on 802.11bf D1.0.

CID 1337: No discussion.

CID 1338: Comment from the editor that the explanation may not be sufficient to convince the commenter and is the commenter may make the same comment for D2.0.

CID 1340: Some clarifying discussion. As a consequence, the CID is deferred.

CID 1462: Some clarifying discussion.

CID 1463: Some clarifying discussion. As a consequence, the CID is deferred.

CID 1464: Some clarifying discussion. As a consequence, the CID is deferred.

CID 1465: Some clarifying discussion. As a consequence, the CID is deferred.

CID 1817: No discussion.

CID 1818: No discussion.

CID 1819: No discussion.

CID 1820: No discussion.

CID 2016: No discussion.

CID 2293: Some discussion from the group that additional reasons for rejection is possible.

CID 2294: No discussion.

CID 1461: After some discussion, the CID is deferred.

**Straw Poll:** Do you agree with the proposed resolutions to the CIDs above excluding 1340, 1463, 1464, 1465, and 1461.

**Result:** Unanimously supported.

**11-23/0794r1, “LB272 comments DMG comment 2064 resolution”, Rui Du (Huawei):**

This submission contains the proposed comment resolution for the CID 2064. Rui started to present in an earlier teleconference but ran out of time.

CID 2064: Some clarifying discussion and also some minor changes are done to the proposed text. As a consequence, the SP is deferred.

1. The chair asks if there is any other business. No response from the group.
2. The meeting is adjourned without objection at 12:00pm.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 5/30 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 5/30 | CHENG, yajun | Xiaomi Communications Co., Ltd. |
| TGbf | 5/30 | Dash, Debashis | Apple Inc. |
| TGbf | 5/30 | da Silva, Claudio | Meta Platforms; PWC, LLC |
| TGbf | 5/30 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 5/30 | Du, Rui | Huawei Technologies Co., Ltd |
| TGbf | 5/30 | Eitan, Alecsander | Qualcomm Technologies, Inc. |
| TGbf | 5/30 | feng, Shuling | MediaTek Inc. |
| TGbf | 5/30 | Hsu, Ostrovsky | Xiaomi Communications Co., Ltd. |
| TGbf | 5/30 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 5/30 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 5/30 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 5/30 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 5/30 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbf | 5/30 | Minayi Jalil, Amir | Aerial Technologies |
| TGbf | 5/30 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 5/30 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 5/30 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 5/30 | Sand, Stephan | German Aerospace Center (DLR) |
| TGbf | 5/30 | Tang, Zhuqing | Huawei Technologies Co., Ltd |
| TGbf | 5/30 | Wang, Pu | Mitsubishi Electric Research Labs (MERL) |
| TGbf | 5/30 | Wei, Dong | NXP Semiconductors |
| TGbf | 5/30 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

### Thursday, June 1, 2023, 11:00pm - 01:00am (ET)

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/23/11-23-0949-01-00bf-tgbf-meeting-agenda-2023-06.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The chair, Tony Han, calls the meeting to order at 11:00 pm ET (26 persons are on the call after 15 minutes of the meeting).
10. The chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The chair goes through the agenda (slide 16) and asks if there are any questions on the agenda.

Rui is not available so his presentation is deferred.

The chair asks if there is any objection to approve the updated agenda. No response from the group. As a result, the agenda is approved.

1. The chair presents the TGbf Timeline (slide 18)
2. The chair presents Call for contribution (slide 19)
3. The chair presents the Teleconference Times (slide 20) and briefly discusses the CR status, slides 21 and 22.
4. Presentation of submission:

**11-23/0814r2, “Discussion and proposed Modifications to Annex C”, Claudio da Silva (Meta Platforms):**  Claudio gave an overview of this documents in an earlier teleconference call and now continues this. Claudio has also updated the document based on feedback from the group and goes through the updates.

Based on feedback from the group, the text in the document is slightly updated.

**Straw Poll:** Do you agree with the proposed changes in r3 of this document?

**Result:** Unanimously supported.

**11-23/0912r0, “LB272 CR for MLME CID – Part 1”, Narengerile (Huawei):** This document proposes the comment resolutions for 30 MLME CIDs that can be resolved by accepting the proposed draft texts proposed in 625r1: <https://mentor.ieee.org/802.11/dcn/23/11-23-0625-01-00bf-pdt-on-new-clause-6.docx>.

The motion for the contribution 625r1 was passed during May Interim.

CID: 1000, 1222, 1223, 1237, 1238, 1777, 1816, 1843, 2161, 2260, 1211, 1212, 1213, 1214, 1220, 1221, 1297, 1320, 1321, 1542, 1543, 1544, 1568, 1663, 1935, 1944, 1945, 1946, 1947, 1958

CIDs 1000, 1222, 1223, 1237, 1238, 1777, 1816, 1843, 2161, 2260: No discussion.

CIDs 1211, 1212, 1213, 1214, 1220, 1221: No discussion.

CIDs 1297, 1320, 1321, 1542, 1543, 1544, 1568, 1663, 1935, 1944, 1945, 1946, 1947, 1958: No discussion.

A typo is found and the documents will be updated to r1.

**Straw Poll:** Do you agree to the resolutions provided for CIDs 1000, 1222, 1223, 1237, 1238, 1777, 1816, 1843, 2161, 2260, 1211, 1212, 1213, 1214, 1220, 1221, 1297, 1320, 1321, 1542, 1543, 1544, 1568, 1663, 1935, 1944, 1945, 1946, 1947, 1958 to be included in the latest 11bf Draft?

**Result:** Unanimously supported.

**11-23/0913r0, “LB272 CR for MLME CID – Part 2”, Narengerile (Huawei):**

This document proposes the comment resolutions for 30 MLME CIDs that can be resolved by accepting the proposed draft texts proposed in 625r1: <https://mentor.ieee.org/802.11/dcn/23/11-23-0625-01-00bf-pdt-on-new-clause-6.docx>. The motion for 625r1 was passed during May Interim.

CID: 1001, 1319, 2065, 1215, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1636, 1637, 1638, 1639, 1640, 1641, 1802, 1854, 1877, 1878, 1938, 1939, 2066.

CIDs 1001, 1319, 2065, 1215, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1636, 1637, 1638, 1639, 1640, 1641, 1802, 1854, 1877, 1878, 1938, 1939, 2066: No discussion.

**Straw Poll:** Do you agree to the resolution provided for CIDs 1001, 1319, 2065, 1215, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1636, 1637, 1638, 1639, 1640, 1641, 1802, 1854, 1877, 1878, 1938, 1939, 2066 to be included in the latest 11bf Draft?

**Result:** Unanimously supported.

**11-23/0910r2, “LB272 Resolutions for DMG Coordinated Monostatic Sensing”, Ning Gao (OPPO):** This submission proposes resolutions to the following CIDs:

* 1303, 1304, 1305, 1390, 1391, 1392, 1485, 1486.

The text used as reference is 802.11bf D1.0.

CID 1303: No discussion.

CID 1304: No discussion.

CID 1305: No discussion.

CID 1390: Minor typo corrected. As a result, the proposed resolution is changed from accepted to revised.

CID 1391: Some clarifying discussion. Ning explains he needs more time to think about the received comments.

CID 1392: No discussion.

CID 1486: No discussion.

CID 1485: No discussion.

Ning explains he will defer the SP to a later time.

**11-23/0938r0, “LB272 Comment resolution for SBP procedure CID 1625”, Zhuqing Tang (Huawei):** This submission resolves the comments of the CID 1625.

CID 1625: Based on feedback from the group it is decided to continue discussion offline in an ad-hoc meeting.

1. The chair asks if there is any other business. No response from the group.
2. The meeting is adjourned without objection at 00:34am.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 6/1 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 6/1 | CHENG, yajun | Xiaomi Communications Co., Ltd. |
| TGbf | 6/1 | da Silva, Claudio | Meta Platforms; PWC, LLC |
| TGbf | 6/1 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 6/1 | feng, Shuling | MediaTek Inc. |
| TGbf | 6/1 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 6/1 | Hsu, Ostrovsky | Xiaomi Communications Co., Ltd. |
| TGbf | 6/1 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 6/1 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 6/1 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 6/1 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 6/1 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 6/1 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 6/1 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 6/1 | Tang, Zhuqing | Huawei Technologies Co., Ltd |
| TGbf | 6/1 | Wei, Dong | NXP Semiconductors |
| TGbf | 6/1 | Wilhelmsson, Leif | Ericsson AB |

### Monday, June 5, 2023, 10:00am - 12:00pm (ET)

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/23/11-23-0949-03-00bf-tgbf-meeting-agenda-2023-06.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The chair, Tony Han, calls the meeting to order at 10:00 am ET (18 persons are on the call after 15 minutes of the meeting).
10. The chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The chair goes through the agenda (slide 17) and asks if there are any questions on the agenda. No response from the group.

The chair asks if there is any objection to approve the updated agenda. No response from the group. As a result, the agenda is approved.

1. The chair presents the timeline (slide 19). No discussion.
2. The chair presents Call for contribution (slide 20). No discussion.
3. The chair presents the telco Teleconference Times (slide 21) and gives an update of the D1.0 CR status. Tony explains that there are two presentations in the WFA meeting related to Wi-Fi sensing. One is by Tony who will introduce 802.11bf.
4. Presentation of submission:

**11-23/0794r2, “LB272 comments DMG comment 2064 resolution”, Rui Du (Huawei):**

This submission contains the proposed comment resolution for the CID 2064. Rui started to

present in an earlier teleconference but ran out of time.

Revision 1 of this contribution has been presented in an earlier teleconference call and Rui goes through the updates that have been made based on off-line feedback.

CID 2064: No discussion.

**Straw poll:** Do you support resolution to the following CID and incorporate the text changes into the latest TGbf draft: 2064 in 11-23/0794r2?

**Result:** Unanimously supported.

**11-23/0910r4, “LB272 Resolutions for DMG Coordinated Monostatic Sensing”, Ning Gao (OPPO):** This submission proposes resolutions to the following CIDs:

* 1303, 1304, 1305, 1390, 1391, 1392, 1485, 1486.

The text used as reference is 802.11bf D1.0.

Ning has presented r2 in an earlier teleconference call, and goes through the updates made.

CID 1390: No discussion.

CID 1392: No discussion.

**Straw poll:** Move to approve resolutions to CIDs 1303, 1304, 1305, 1390, 1391, 1392, 1485, 1486 as specified in doc.: 11-23/0910r4 and incorporate the text changes into the latest TGbf draft?

**Result:** Unanimously supported.

**11-23/0844r1, “LB272 Comment Resolution – Part I”, Osama Aboul-Magd (Huawei):** This submission conyains proposed resolution for the following CIDs

1830, 1831, 1856, 1857, 1880, 1881, 1996, 1900, 1901, 1903, 1904, 1905, 1906, 2017, 2054, 2055, 2127, 2128, 2129, 2130, 2132, 2133, 2134, 2135, 2136, 2163

CID 1830: No discussion.

CID 1831: Based on feedback from the group, the CR is changed from accepted to revised.

CID 1856: Based on feedback from the group, the CR is changed to accepted.

CID 1857: Feedback from the editor that some changes have been made to the related text because of another CID so he would like some freedom to adapt the change to fit the CR for that CID.

CID 1880: No discussion.

CID 1881: A typo is corrected. No further discussion.

CID 1886: No discussion.

CID 1900: No discussion.

CID 1901: Some clarifying discussion.

CID 1903: No discussion.

CID 1904: No discussion.

CID 1905: No discussion.

CID 1906: No discussion.

CID 2017: No discussion.

CID 2054: No discussion.

CID 2055: No discussion.

CID 2127: No discussion.

CID 2128: No discussion.

CID 2129: No discussion.

CID 2130: No discussion.

CID 2132: No discussion.

CID 2133: No discussion.

CID 2134: No discussion.

CID 2135: No discussion.

CID 2136: No discussion.

CID 2163: No discussion.

**Straw poll:** Do you support resolutions in r1 of this contribution?

**Result:** Unanimously supported.

**11-23/0941r0, “LB272 Reporting CID Resolution Part 2**.**”, Chris Beg (Cognitive Systems):** This submission addresses the following 7 LB272 CIDs: 1231 1403 1454 1623 1805 1890, and 1893.

CID 1231: Based on feedback from the group, the text is slightly updated.

CID 1403: No discussion.

CID 1454: Some clarifying discussion.

CID 1805: No discussion.

CID 1623: No discussion.

CID 1893: No discussion.

CID 1890: Some clarifying discussion.

**Straw Poll:** Do you support the resolution to CIDs 1231 1403 1454 1623 1805 1890, and 1893

as proposed in 11-23/0941r1 and incorporating the changes into the latest TGbf draft?

**Result:** Unanimously supported.

11-23/0952r0, “LB272 CR for Threshold-based Reporting – Part 2”, Mengshi Hu

**(Huawei):** This submission contains the proposed comment resolutions of CIDs in 23/0314 LB272 comments and approved resolutions.

9 comments related to the threshold-based reporting are resolved.

Resolved CIDs: 1440, 1441, 1442, 1666, 1667, 1723, 1892, 1936, 1948.

CID 1440: No discussion.

CID 1441: No discussion.

CID 1442: No discussion.

CID 1723: The proposed resolution text is slightly updated.

CID 1666: No discussion.

CID 1667: No discussion.

CID 1892: No discussion.

CID 1936: No discussion.

CID 1948: No discussion.

**Straw Poll:** Do you support resolutions to the following CIDs and incorporate the text changes into the latest TGbf draft: 1440, 1441, 1442, 1666, 1667, 1723, 1892, 1936, and 1948, in 11-23/0952r1.

**Result:** Unanimously supported.

1. The chair asks if there is any other business. Claudio asks if the group wants to review a D1.2 around June 26 before publication of D2.0. There is a suggestion from the group to send out the draft to the reviewers of the resolution to make sure that their resolutions are correctly captured. Claudio explains we can do this, but what he is asking for is something else.

After some discussion it is decided to cancel the teleconference call on Thursday this week.

1. The meeting is adjourned without objection at 12:01pm.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 6/5 | Aboulmagd, Osama | Huawei Technologies Co., Ltd |
| TGbf | 6/5 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 6/5 | feng, Shuling | MediaTek Inc. |
| TGbf | 6/5 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 6/5 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 6/5 | Minayi Jalil, Amir | Aerial Technologies |
| TGbf | 6/5 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 6/5 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 6/5 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 6/5 | Schweizer, Benedikt | Apple Inc. |
| TGbf | 6/5 | Wei, Dong | NXP Semiconductors |
| TGbf | 6/5 | Wilhelmsson, Leif | Ericsson AB |

**Monday, June 12, 2023, 10:00am - 12:00pm (ET)**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/23/11-23-0949-05-00bf-tgbf-meeting-agenda-2023-06.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The chair, Tony Han, calls the meeting to order at 10:02 am ET (18 persons are on the call after 15 minutes of the meeting).
10. The chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The chair goes through the agenda (slide 18) and asks if there are any question on the agenda. No response from the group.

The chair asks if there is any objection to approve the updated agenda. No response from the group. As a result, the agenda is approved.

1. The chair presents the timeline (slide 20). No discussion.
2. The chair presents Call for contribution (slide 21). No discussion.
3. The chair presents the telco Teleconference Times (slide 22) and gives an update of the D1.0 CR status.
4. Presentation of submission:

**11-23/1000r1, “LB272 CR for CIDs on TF Sounding Phase – Part 1”, Dong Wei (NXP):**

This submission contains the proposed comment resolution for the CIDs 1014, 1107, 1138, 1141, 1142, 1230, 1616, 1619, 1621, 1622, 1646, 2137, 2139, 2140, and 2141.

CID 2137: No discussion.

CID 1646: Resolution is changed from ”Accepted” to ”Rejected”.

CIDs 1621, 1622, 1619: Resolution is changed from ”Rejected” to ”Accepted”. Page and line numbers for CIDs 1621 and 1622 are updated.

CID 2139: No discussion.

CID 2140: No discussion.

CID 2141: No discussion.

CID 1107: No discussion.

CID 1138: No discussion.

CID 1141: Resolution is changed from : ”Accepted” to ”Revised”. Note to Editor: There are multiple occurrences of “SR2SR sensing transmitter” and “SR2SR sensing receiver” in this clause.

CID 1014: No discussion.

CID 1230: No discussion.

CID 1142: No discussion.

CID 1616: No discussion.

**Straw poll:** Do you agree to the resolutions provided in the document 11-23/1000r2 for the following CIDs: 1014, 1107, 1138, 1141, 1142, 1230, 1616, 1619, 1621, 1622, 1646, 2137, 2139, 2140, and 2141?

**Result:** Unanimously supported.

**11-23/0942r0, “LB272 Resolutions for DMG CIDs”, Ning Gao (OPPO):**

This submission contains the proposed comment resolution for the CIDs – 1312 and 1316.

CID 1312: No discussion.

CID 1316: No discussion.

**Straw poll:** Do you agree to the resolutions provided in the document 11-23/0942r0 for the following CIDs: 1312 and 1316?

**Result:** Unanimously supported.

**11-23/0948r1, “LB272 Resolutions for DMG CIDs”, Ning Gao (OPPO):**

This submission contains the proposed comment resolution for the CIDs – 1318 and 1357.

CID 1318: No discussion.

CID 1357: No discussion.

**Straw poll:** Do you agree to the resolutions provided in the document 11-23/0942r0 for the following CIDs: 1318 and 1357?

**Result:** Unanimously supported.

**11-23/0718r2, “Comment Resolution in LB272 for OST CID (Part 3)”, Anirudha Sahoo (NIST):**

This submission contains the proposed comment resolution for the CIDs – 1706, 1707, 1967, and 1071.

CID 1706: No discussion.

CIDs 1707, 1967, and 1071: Claudio (Editor) said the added text should be underlined. Comment was raised for unassociated case. “AP may” should be changed to “AP should”. Comment was reflected in 0718r3.

**Straw poll:** Do you agree to the resolutions provided in the document 11-23/0718r3 for the following CIDs: 1706, 1707, 1967, and 1071?

**Result:** Unanimously supported.

1. The chair asks if there is any other business. Claudio asks when motion will be requested. Tony replied after Tuesday or Thursday call this week.
2. The meeting is adjourned without objection at 11:21am.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 6/12 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 6/12 | da Silva, Claudio | Meta Platforms; PWC, LLC |
| TGbf | 6/12 | Eitan, Alecsander | Qualcomm Technologies, Inc. |
| TGbf | 6/12 | feng, Shuling | MediaTek Inc. |
| TGbf | 6/12 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 6/12 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 6/12 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 6/12 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 6/12 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 6/12 | Redmore, Josh | Cable Television Laboratories Inc. (CableLabs) |
| TGbf | 6/12 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 6/12 | Sand, Stephan | German Aerospace Center (DLR) |
| TGbf | 6/12 | Schweizer, Benedikt | Apple Inc. |
| TGbf | 6/12 | Tang, Zhuqing | Huawei Technologies Co., Ltd |
| TGbf | 6/12 | Wei, Dong | NXP Semiconductors |

**Tuesday, June 13, 2023, 10:00am - 12:00pm (ET)**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/23/11-23-0949-08-00bf-tgbf-meeting-agenda-2023-06.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The chair, Tony Han, calls the meeting to order at 10:01 am ET (25 persons are on the call after 15 minutes of the meeting).
10. The chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The chair goes through the agenda (slide 19) and asks if there are any questions on the agenda. Dong Wei asked an agenda request through e-mail, but missing. Tony revised the agenda slide. No further response is noted.

The chair asks if there is any objection to approve the updated agenda. No response from the group. As a result, the agenda is approved.

1. The chair presents the timeline (slide 21). No discussion.
2. The chair presents Call for contribution (slide 22). No discussion.
3. The chair presents the telco Teleconference Times (slide 23) and gives an update of the D1.0 CR status.
4. Presentation of submission:

**11-23/1007r0, “Draft D1.0 Bug Fix: CSI Matrix Dimensions”, Dong Wei (NXP):**

* This submission is to propose the alignment of CSI matrix to the baseline. In the 802.11 baseline spec (e.g., Draft P802.11Revme D3.0), the channel matrix on a given subcarrier has the dimensions of , where and are the numbers of receive and transmit antennas, respectively. In Draft P802.11bf D1.1, the CSI matrices on subcarrier have the dimensions of . Chris (Cognitive Systems) mentioned that 10 CIDs under his assignment are similar issue.
* Chris and Dong will work together to resolve all CIDs.

**11-23/1003r1, “LB272-Misc-Comments-set-2”, Assaf Kasher (Qualcomm):**

This document proposes resolution to several LB272 DMG related CIDs.

The list of CIDs is: 1928, 2120, 1227, 1814, 1885, 2258, 1224, 1314, 1376, 2245, 2246, 2247, 2248, 1350, 1807, 1833, 1661, 1806, 1662, 1808, 1779, 1351, 1657, 1407, and 1815.

CID 1928: No discussion.

CID 2120: No discussion.

CID 1227 and 1814: Similar comments. Claudio stated that “shall” is used in Clause 11. The following will be added at the beginning for 11.55.3.6.1:

“The SME shall initiate a DMG sensing instance by issuing an MLME-DMG-SENSMSMTSTART.request. The MLME-DMG-SENSMSMTSTART.request shall include the list of peer STA addresses and the parameters of the DMG Sensing Request frame for each of the STAs.”

CID 1885: Question was raised whether a commenter also mentioned EDMG in other places. Assaf replied that it doesn’t matter because DMG covers EDMG.

CID: 2258: No discussion.

CID 1224: No discussion.

CID 1314: Modified Table 9-571 and added new rows:

|  |  |
| --- | --- |
| **Order** | **Information** |
| 12 | BRP Sensing element |
| 13 | DMG Sensing Report Control element |
| 14 | DMG Sensing Report element |

CID 1376: Further offline discussion will be followed.

CID 2245: No discussion.

CID 2246: No discussion.

CID 2247: No discussion.

CID 2248: No discussion.

CID 1350: No discussion.

CID 1807: No discussion.

CID 1833: No discussion.

CID 1661: No discussion.

CID 1806: No discussion.

CID 1662: No discussion.

CID 1808: No discussion.

CID: 1779: No discussion.

CID 1675: This comment proposes to support of sensing transmitter role should be mandatory whilst support of sensing receiver role should be optional, since low-end device may be limited by cache. Since there are pros and cons, further discussion will be followed. CID 1675 is reassigned to Dong Wei.

CID 1407: No discussion.

CID 1815: No discussion.

**Straw poll:** Do you agree to the resolution of CIDs: The list of CIDs is: 1928, 2120, 1227, 1814, 1885, 2258, 1224, 1314, 2245, 2246, 2247, 2248, 1350, 1807, 1833, 1661, 1806, 1662, 1808, 1779, 1351, 1407, and 1815 as specified in 11-23-1003r1.

**Result:** Unanimously supported.

1. The chair asks if we need a call on Thursday. Since we don’t have a contribution in the queue, Thursday call is cancelled. The next call will be on June 20th (Tuesday).
2. The meeting is adjourned without objection at 11:45am.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 6/13 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 6/13 | CHENG, yajun | Xiaomi Communications Co., Ltd. |
| TGbf | 6/13 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 6/13 | feng, Shuling | MediaTek Inc. |
| TGbf | 6/13 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 6/13 | Kasher, Assaf | Qualcomm Incorporated |
| TGbf | 6/13 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 6/13 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 6/13 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 6/13 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbf | 6/13 | Minayi Jalil, Amir | Aerial Technologies |
| TGbf | 6/13 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 6/13 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 6/13 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 6/13 | Tang, Zhuqing | Huawei Technologies Co., Ltd |
| TGbf | 6/13 | Wang, Pu | Mitsubishi Electric Research Labs (MERL) |
| TGbf | 6/13 | Wei, Dong | NXP Semiconductors |

**Tuesday, June 20, 2023, 10:00am - 12:00pm (ET)**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/23/11-23-0949-10-00bf-tgbf-meeting-agenda-2023-06.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Privacy discussion for 802.11bf
8. Any other business
9. Adjourn
10. The chair, Tony Han, calls the meeting to order at 10:01 am ET (30 persons are on the call after 10 minutes of the meeting).
11. The chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The chair goes through the agenda (slide 20) and asks if there are any questions on the agenda. Osama announces that he may not be able to present.

The chair asks if there is any objection to approve the updated agenda. No response from the group. As a result, the agenda is approved.

1. The chair presents the timeline (slide 22). No discussion.
2. The chair presents Call for contribution (slide 23). No discussion.
3. The chair presents the telco Teleconference Times (slide 24) and gives an update of the D1.0 CR status. The chair also checks with the different contributors with respect to whether they believe they will have time to finalize the CRs before the end of the July meeting.
4. Privacy discussion for 802.11bf. Concerns were brought up in the latest WFA f2f. The chair presents a plan for how to address these concerns. As a response to this, it is clarified from the group that this concern relates to the possibility of a third party to overhear the packets that are sent for sensing and to perform sensing based on their own CSI measurement.

It is proposed not to have a separate email-thread for this, but instead use the TGbf reflector.

It is also pointed out that CSI has been sent over the air also in earlier amendment, so it is not clear why 11bf would cause a more severe problem.

Q: The LTF is used for this, but there is LTF in every packet, so it is not clear to me what makes 802.11bf so different in this respect. I believe we first really need to identify what is the problem before starting to discuss solutions.

Q: I don’t think this should slow down D2.0, but rather this is something we must consider after D2.0.

Q: I believe there are application layer problems, which are not within the scope of 802.11bf.

Q: Actually, I believe some of the people who are expressing concerns do not know enough about 11bf. They should participate and make contribution to 11bf. There are already solutions on the market that uses passive sensing, so this is nothing new for 11bf.

The chair announces that even if the concerns may not be valid, we need to prepare material that can be used to explain this.

The chair concludes that the group largely agrees to the presented tentative plan.

1. Presentation of submission:

**11-23/0944r0, “LB 272 Resolution for CID related to unassociated STA”, Atsushi Shirakawa (Sharp):** This submission proposes resolutions for CID 1290, 1775, 1776, 1800, 2158, 2159, 2284 received for TGbf LB272

CID 1290: No discussion.

CIDs 1775,1776,1800, and 2158: No discussion.

CIDs 2159 and 2284: Some clarifying discussion.

**Straw poll:** Do you agree to the resolution of CIDs in this document.

**Result:** Unanimously supported.

**11-23/0993r0, “LB272 CRs for Clause 3 and 4”, Rui Yang (InterDigital):** This submission presents proposed resolution for the following 5 CIDs: 1340, 1463, 1464, 1465, and 1461.

CID 1340: No discussion.

CID 1463: No discussion.

CID 1464: No discussion.

CID 1465: No discussion.

CID 1461: No discussion.

**Straw poll:** Do you agree to the resolution of CIDs in this document.

**Result:** Unanimously supported.

**11-23/0970r1, “LB272 CR for DMG CID 2217”, Naren (Huawei):** This document proposes comment resolutions for CID 2217.

CID 2217: A minor comment that there is a typo in the proposed resolution text in that the referred document should be r1 rather than r0.

**Straw poll:** Do you agree to the resolution provided for CID 2217 to be included in the latest 11bf Draft?

**Result:** Unanimously supported.

1. Any other business. It is pointed out that the teleconference on the 6th of July will be at the same time as the ad-hoc f2f meeting and therefore should be cancelled.
2. The meeting is adjourned without objection at 11:20am.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 6/20 | Au, Oscar | Origin Wireless |
| TGbf | 6/20 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 6/20 | Bredewoud, Albert | Broadcom Corporation |
| TGbf | 6/20 | CHENG, yajun | Xiaomi Communications Co., Ltd. |
| TGbf | 6/20 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 6/20 | feng, Shuling | MediaTek Inc. |
| TGbf | 6/20 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 6/20 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 6/20 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 6/20 | Minayi Jalil, Amir | Aerial Technologies |
| TGbf | 6/20 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbf | 6/20 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 6/20 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 6/20 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 6/20 | Sand, Stephan | German Aerospace Center (DLR) |
| TGbf | 6/20 | Schweizer, Benedikt | Apple Inc. |
| TGbf | 6/20 | Shirakawa, Atsushi | SHARP CORPORATION |
| TGbf | 6/20 | Sosack, Robert | Molex Incorporated |
| TGbf | 6/20 | Wang, Pu | Mitsubishi Electric Research Labs (MERL) |
| TGbf | 6/20 | Wei, Dong | NXP Semiconductors |
| TGbf | 6/20 | Yano, Kazuto | Advanced Telecommunications Research Institute International (AT |

**Monday, June 12, 2023, 10:00am - 12:00pm (ET)**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/23/11-23-0949-12-00bf-tgbf-meeting-agenda-2023-06.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. D1.0 CR Status
7. Motions
8. Presentation of submissions
9. Privacy discussion for 802.11bf
10. Any other business
11. Adjourn

UPDATE

1. The chair, Tony Han, calls the meeting to order at 10:00 am ET (20 persons are on the call after 10 minutes of the meeting).
2. The chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The chair goes through the agenda (slide 21) and asks if there are any question on the agenda. No response from the group.

The chair asks if there is any objection to approve the updated agenda. No response from the group. As a result, the agenda is approved.

1. The chair presents the timeline (slide 23). No discussion.
2. The chair presents Call for contribution (slide 24). No discussion.
3. The chair presents the telco Teleconference Times (slides 25 and 26) including the plan for the September f2f. Sang points out that August 15 is a holiday in Korea. September 4th is removed due to holiday in the US.
4. The chair gives an update of the D1.0 CR status (slides 27 and 28).
5. Privacy discussion

The chair gives a recap of what was said in this matter in an earlier teleconference call and encourages people who were not present in the last session when this was discussed can check the minutes.

1. Motions

**Motion 327:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 2285 1111 1112 1113 1114 1317 1118 1694 1494 2273 2188 1954 2022 1695 1547 1696 1648 2060 2144 1813 2279 1366 1033 1084 1552 1554 2274 1553 1087 2276 2190 2277 2275 1091 1529 1709 1088 1528 1530 1090 2193 1098 1100 1711 1099 1710 2194 1115 1714 1347 2195 1432 1109 2243 2244 1110 1040 1564 1955 1720 1539
  + as specified in 11-23/0777r2

**Move:** Cheng Chen

**Second:** Claudio da Silva

**Result:** Motion passed by unanimous consent

**Note：**

* Related document 11-23/0777r2
* SP Result: Unanimous consent

**Motion 328:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs:1228, 1278, 1279, 1352, 1421, 1433, 1435, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1524, 1541, and 1569.
  + as presented in document 11-23/0872r1

**Move:** Osama Aboul-Magd

**Second:** Yan Xin

**Result:** Motion passed by unanimous consent

**Note：**

* Related document 11-23/0872r1
* SP Result: Unanimous consent

**Motion 329:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs:1966, 1068, 1969, 1970
  + as specified in 23/0719r1 “Comment Resolution in LB272 for OST CID (Part 4)”

**Move:** Anirudha Sahoo

**Second:** Yan Xin

**Result:** Motion passed by unanimous consent

**Note：**

* Related document 23/0719r1
* SP Result: Unanimous consent

**Motion 330:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs:1337, 1338, 1462, 1817, 1818, 1819, 1820, 2016, 2293, 2294
  + as specified in document 11-23/0795r1

**Move:** Rui Yang

**Second:** Claudio da Silva

**Result:** Motion passed by unanimous consent

**Note：**

* Related document 11-23/0795r1
* SP Result: Unanimous consent

**Motion 331:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1000, 1222, 1223, 1237, 1238, 1777, 1816, 1843, 2161, 2260, 1211, 1212, 1213, 1214, 1220, 1221, 1297, 1320, 1321, 1542, 1543, 1544, 1568, 1663, 1935, 1944, 1945, 1946, 1947, 1958
  + as specified in 11-23/0912r1

**Move:** Narengerile

**Second:** Yan Xin

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0912r1
  + SP Result: Unanimous consent

**Motion 332:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1001, 1319, 2065, 1215, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1636, 1637, 1638, 1639, 1640, 1641, 1802, 1854, 1877, 1878, 1938, 1939, 2066
  + as specified in 11-23/0913r0

**Move:** Narengerile

**Second:** Claudio da Silva

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0913r0
  + SP Result: Unanimous consent

**Motion 333:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 2169, 1697
  + as specified in 11-23/0789r1

**Move:** Narengerile

**Second:** Claudio da Silva

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0789r1
  + SP Result: Unanimous consent

**Motion 334: Move to include the text proposed in the following document into the IEEE 802.11bf draft amendment:**

* + 23/0814r3 Discussion and Proposed Modifications to Annex C

**Move:** Claudio da Silva

**Second:** Sang Kim

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 23/0814r3
  + SP Result: Unanimous consent

**Motion 335:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 2064
  + as specified in 11-23/0794r2

**Move:** Rui Du

**Second:** Anirudh Sahoo

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0794r2
  + SP Result: Unanimous consent

**Motion 336:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1303, 1304, 1305, 1390, 1391, 1392, 1485, 1486
  + as specified in doc.: 11-23/0910r4

**Move:** Ning Gao

**Second:** Chaoming Luo

**Result:** Motion passed by unanimous consent

**Note：**

* Related document 11-23/0910r4
* SP Result: Unanimous consent

**Motion 337:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1830, 1831, 1856, 1857, 1880, 1881, 1886, 1900, 1901, 1903, 1904, 1905, 1906, 2017, 2054, 2055, 2127, 2128, 2129, 2130, 2132, 2133, 2134, 2135, 2136, 2163
  + as specified in 11-23/0844r2

**Move:** Osama Aboul-Magd

**Second:** Yan Xin

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0844r2
  + SP Result: Unanimous consent

**Motion 338:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1440, 1441, 1442, 1666, 1667, 1723, 1892, 1936 and 1948
  + as specified in DCN 11-23/0952r1

**Move:** Yan Xin

**Second:** Osama Aboul-Magd

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0952r1
  + SP Result: Unanimous consent

**Motion 339:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1231 1403 1454 1623 1805 1890, and 1893
  + as specified in DCN 11-23/0941r1

**Move:** Chris Beg

**Second:** Ali Raissinia

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0941r1
  + SP Result: Unanimous consent

**Motion 340:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1014, 1107, 1138, 1141, 1142, 1230, 1616, 1619, 1621, 1622, 1646, 2137, 2139, 2140, and 2141
  + as specified in DCN 11-23/1000r2

**Move:** Dong Wei

**Second:** Yan Xin

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/1000r2
  + SP Result: Unanimous consent

**Motion 341:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1706, 1707, 1967, 1071
  + as specified in 23/0718r3 “Comment Resolution in LB272 for OST CID (Part 3)”

**Move:** Anirudha Sahoo

**Second:** Ali Raissinia

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 23/0718r3
  + SP Result: Unanimous consent

**Motion 342:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1312, 1316
  + as specified in doc.: 11-23/0942r0

**Move:** Ning Gao

**Second:** Chaoming Luo

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0942r0
  + SP Result: Unanimous consent

**Motion 343:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1318
  + as specified in doc.: 11-23/0948r1

**Move:** Ning Gao

**Second:** Chaoming Luo

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0948r1
  + SP Result: Unanimous consent

**Motion 344:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1928, 2120, 1227, 1814, 1885, 2258, 1224, 1314, 2245, 2246, 2247, 2248, 1350, 1807, 1833, 1661, 1806, 1662, 1808, 1779, 1351, 1407, 1815
  + as specified in 11-23-1003r1

**Move:** Ning Gao

**Second:** Claudio da Silva

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23-1003r1
  + SP Result: Unanimous consent

**Motion 345:** Move to approve resolutions to the following CIDs listed in the following document and incorporate the text changes into the latest TGbf draft:

* + CIDs: 1011
  + as specified in 11-23/0828r2

**Move:** Rui Yang

**Second:** Claudio da Silva

**Result:** Motion passed by unanimous consent

**Note：**

* + Related document 11-23/0828r2
  + SP Result: Unanimous consent

Claudio explains that he has prepared D1.2, except for the motions announced last week. It will be posted within a day or two. Claudio would appreciate if people would be able to read specific sub-sections and check for errors.

1. Presentations

**11-23/1032r1, “LB 272 Comment Resolution – Part II”, Osama Aboul-Magd (Huawei):**

This submission contains proposed resolutions for the following CIDs:

1855, 1902,2069,2131,2186,2189,2206, and 2266

CID 1855: No discussion.

CID 1902: No discussion.

CID 2069: No discussion.

CID 2131: Based on feedback from the group the resolution is changed from Accepted to Rejected.

CID 2186: No discussion.

CID 2189: No discussion.

CID 2206: Some clarifying discussion.

CID 2266: Based on feedback from the group, the CID is rejected.

**Straw Poll:** Do you agree with proposed resolutions in this document?

**Result:** Unanimously supported.

**11-23/1016r0, “LB272 CR for MLME CID – Part 3”, Narengerile (Huawei):**

This document proposes the comment resolutions for 18 MLME CIDs. The resolutions are proposed based on 11bf D1.1.

CIDs: 1216, 1217, 1218, 1219, 1225, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1778 and 2162.

CIDs 1216, 1217, 1218, 1219, and 1225: No discussion.

CIDs 1466-1476: No discussion.

CIDs 1778 and 2162: No discussion.

**Straw Poll**: Do you agree to include the resolutions provided for CIDs 1216, 1217, 1218, 1219, 1225, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1778 and 2162 in the latest 11bf Draft?

**Result:** Unanimously supported.

**11-23/1044r0, “Resolutions to CID 1604”, Cheng Chen (Intel):**

This submission proposes resolutions to the following comments submitted in LB272 under Instance topic. The CIDs are referring to D1.0. The text used as reference is D1.0.

CID 1604: No discussion.

**Straw Poll:** Do you support the proposed resolutions to the CIDs and incorporate the text changes into the latest TGbf draft?

**Result:** Unanimously supported.

**11-23/1040r0, “LB272-DMG-CID-1420”, Alecsander Eitan (Qualcomm):**

This document proposes resolution to LB272 CID 1420.

CID 1420: No discussion.

**Straw Poll:** Do you agree with the proposed resolutions in revision 0 of this document?

**Result:** Unanimously supported.

1. Any other business. After some discussion it is decided to cancel the conference call tomorrow, Tuesday. It is suggested to also cancel the conference call on Thursday if there are no additional contributions.
2. The meeting is adjourned without objection at 11:47am.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 6/26 | Aboulmagd, Osama | Huawei Technologies Co., Ltd |
| TGbf | 6/26 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 6/26 | feng, Shuling | MediaTek Inc. |
| TGbf | 6/26 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 6/26 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 6/26 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 6/26 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 6/26 | Sand, Stephan | German Aerospace Center (DLR) |
| TGbf | 6/26 | Schweizer, Benedikt | Apple Inc. |
| TGbf | 6/26 | Tang, Zhuqing | Huawei Technologies Co., Ltd |
| TGbf | 6/26 | Wei, Dong | NXP Semiconductors |
| TGbf | 6/26 | Wilhelmsson, Leif | Ericsson AB |