IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IEEE 802.11bf – Teleconference Minutes March - May 2023 | | | | |
| Date: 2023-04-11 | | | | |
| 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) |
| Sang Kim | LGE |  |  |  |

Abstract

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

Rev 0: Minutes for TG 802.11bf teleconference on the 23rd-24th of March 2023.

Rev 1: Minutes for TG 802.11bf teleconference on the 27th of March 2023 added.

Rev 2: List of Attendees for teleconference on the 23rd and 27th of March 2023 added.

Rev 3: One typo corrected and the minutes for TG 802.11bf teleconference on the 6th of April 2023 added.

Rev 4: Minutes for TG 802.11bf teleconference on the 11th of April 2023 added.

### Thursday, March 23, 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/23/11-23-0498-01-00bf-tgbf-meeting-agenda-2023-03.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 (31 persons are on the call after 20 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.

Claudio explains that contribution 511 has to be deferred to the next time.

The chair asks if there is any objection to approve the 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 slide 19, Call for contributions.
3. The chair presents the teleconference times (slide 20). He mentions that 57meeting slots are being planned for the May meeting.
4. Presentation of submission:

**11-23/0476r1, “Comment resolution for OST miscellaneous comments” Chaoming Luo (OPPO):** This submission resolves miscellaneous comments under ‘OST’ topic. The following 9 CIDs are resolved: 1082, 1083, 1526, 1555, 1556, 1702, 1844, 1341, 1501.

CIDs 1082,1083,1526,1555, and 1556: Some clarifying discussion. As a result, the proposed resolution is slightly updated e.g. by adding text related to that an associated non-AP STA ignores this Responder Needed field.

Q: Probe response can also be broadcast, so I think it should be clarified that here it assumed that probe response is for the unicast case.

CIDs 1702, 1844, 1341, and 1501.

Some clarifying discussion related to 1844.

**Straw Poll:** Do you support resolutions to the following 9 CIDs and incorporate the text changes into the latest TGbf draft: 1082, 1083, 1526, 1555, 1556, 1702, 1844, 1341, 1501, in 11-23/0476r2.

Unanimously supported.

**11-23/0508r1, “Comment resolution for Misc Security comments”, Chaoming Luo (OPPO):**

This submission resolves security related comments under ‘Misc’ topic. The following 4 CIDs are resolved: 1478, 1479, 2263, 2265.

CID 1478, 1479, 2263, 2265: Some clarifying discussions. A note is added.

**Straw Poll:** Do you support resolutions to the following 4 CIDs and incorporate the text changes into the latest TGbf draft: 1478, 1479, 2263, 2265, in 11-23/0508r1.

Unanimously supported.

**11-23/0510r0, “Proposed resolutions for editorial comments on D1.0 - Part 1”, Claudio da Silva (Meta):** This document contains ”trivial” editorial comments that Claudio intends to be accepted. Claudio proposes that the group checks this offline so save time and then not have to go through these comments in detail during a call.

**11-23/0505r0, “LB272-DMG-CIDs-phase-report”, Alecsander Eitan (Qualcomm): This document proposes resolution to several LB272 DMG** CIDs related to adding phase value to DMG Sensing Image report.

CIDs 1031,1174, 1209, 1408, 1409: Some clarifying discussion and as a result the proposed resolutions are slightly updated.

**Straw Poll:** Do you agree with the proposed resolutions in revision 1 of this document?

Unanimously supported.

**11-23/0506r0, “LB272-DMG-CIDs-Earth-Coordinates”, Alecsander Eitan (Qualcomm):**

This document proposes resolution to several LB272 DMG CIDs related to Earth Coordinates in DMG Sensing.

CID 1306, 1307, 1308, 1309, 1310, 1324, and 1325: Some clarifying discussion and as a result the proposed resolutions are slightly updated.

Alecsander wants to update the text before running the SP.

1. The chair asks if there is any other business. No response from the group.
2. The meeting is adjourned without objection at 00:55 am.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 3/23 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 3/23 | Chen, You-Wei | Mediatek Inc |
| TGbf | 3/23 | CHENG, yajun | Xiaomi Communications Co., Ltd. |
| TGbf | 3/23 | Chitrakar, Rojan | Huawei International Pte Ltd |
| TGbf | 3/23 | da Silva, Claudio | Meta Platforms; PWC, LLC |
| TGbf | 3/23 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 3/23 | Eitan, Alecsander | Qualcomm Technologies, Inc. |
| TGbf | 3/23 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 3/23 | Huang, Lei | Huawei International Pte Ltd |
| TGbf | 3/23 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 3/23 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 3/23 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 3/23 | Tsai, Tsung-Han | MediaTek Inc. |
| TGbf | 3/23 | Wang, Pu | Mitsubishi Electric Research Labs (MERL) |
| TGbf | 3/23 | Wei, Dong | NXP Semiconductors |
| TGbf | 3/23 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |

### Monday, March 27, 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/23/11-23-0498-03-00bf-tgbf-meeting-agenda-2023-03.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 (24 persons are on the call after 10 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 question on the agenda.

There is a request to defer document 514.

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

1. The chair presents the TGbf timeline (slide 19).
2. The chair presents slide 20, Call for contributions.
3. The chair presents the teleconference times (slide 21).
4. Presentation of submission:

**11-23/0506r1, “LB272-DMG-CIDs-Earth-Coordinates”, Alecsander Eitan (Qualcomm):**

This document proposes resolution to several LB272 DMG CIDs related to Earth Coordinates in DMG Sensing.

The contribution has been updated according to the discussion in the last teleconference and Alecsander goes through these updates.

**Straw Poll:** Do you agree with CRs presented in document 11-23/0506r1?

Unanimously supported.

**11-23/0511r0, “Proposed resolutions for editorial comments on D1.0 - Part 2”, Claudio da Silva (Meta):** This document contains proposed resolutions for editorial comments on D1.0 (LB272). The text used as reference is D1.0.

CIDs: 1973, 1980, 1510, 2200, 1039, 1124, 1602, 1018, 1019, 1313, 1677, 1630, 1838, 2094, 1678, 1632, 1839, 1633, 1907, 1840, 2187, 1631, 2095, 1981

CIDs 1973 and 1980: Q: Why is instance not a good term?

A: I can check with Robert to get more information.

Q: I also agree, I don’t think measurement exchange sounds right.

Q: I agree with keeping instance, I just want to mention that the term exchange has been used in ranging.

CIDs 1510, 2200, and 1039: After some discussion it is agreed to use the terms Sensing Polling and Sensing Reporting. Claudio will update accordingly.

CIDs 1124,1602, 1018, and 1019: No discussion.

CID 1313: No discussion.

CIDs 1677, 1630, 1838, and 2094: No discussion.

CIDs 1678, 1632, and 1839: No discussion.

CIDs 1633, 1907, 1840, and 2187: No discussion.

CIDs 1631 and 2095: No discussion.

CID 1981: Q: What if we would use “if” throughout?

A: Note that Robert does not suggest that “if ” should be used everywhere.

**11-23/0515r0, “Comment Resolution in LB272 for Reporting CID (Part 2)”, Anirud Sahoo (NIST):** This document resolves comment in LB272 with CID 1147, 1156.

CID 1147: Q: I just want to remark that it does not make sense to write what NOT to do, as there is an infinite amount of things that should not be done. This is why it is written as a note.

As a result, the resolution is changed to rejected.

CID 1156: Some clarifying discussion.

Anirud explains he will update the document based on the received feedback.

**11-23/0477r0, “Comment resolution for sensing session”, Chaoming Luo (OPPO):**

This submission resolves comments related to the concept of ‘sensing session’. The following 31 CIDs are resolved: 1330, 1976, 2295, 1668, 1058, 1346, 1445, 1007, 1447, 1861, 2232, 1799, 1975, 2233, 1035, 1029, 2234, 1914, 1862, 1708, 2236, 1008, 1774, 2238, 1527, 2235, 2237, 1847, 1848, 1086, 1036.

CIDs 1330, 1976, 2295, 1668, 1058, 1346, 1445, 1007, 1447, 1861, 2232, 1799, 1975, 2233, 1035, 1029, 2234, 1914, 1862, 1708, 2236, 1008, 1774, 2238, 1527, 2235, 2237, 1847, 1848, 1086, and 1036:

Run out of time at page 21 of the document.

The Chair asks if there is any other contribution for tomorrow, because otherwise the call may be cancelled. The group agrees that the call can be cancelled.

1. The chair asks if there is any other business. No response from the group.
2. The meeting is adjourned without objection at 12:03 pm.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 3/27 | Aygul, Mehmet | VESTEL; IMU |
| TGbf | 3/27 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 3/27 | Dash, Debashis | Apple Inc. |
| TGbf | 3/27 | da Silva, Claudio | Meta Platforms; PWC, LLC |
| TGbf | 3/27 | feng, Shuling | MediaTek Inc. |
| TGbf | 3/27 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 3/27 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 3/27 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 3/27 | Minayi Jalil, Amir | Aerial Technologies |
| TGbf | 3/27 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 3/27 | Rafique, Saira | Istanbul Medipol University; Vestel |
| TGbf | 3/27 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 3/27 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 3/27 | Schweizer, Benedikt | Apple Inc. |
| TGbf | 3/27 | Wei, Dong | NXP Semiconductors |
| TGbf | 3/27 | Wilhelmsson, Leif | Ericsson AB |

### Thursday, April 6, 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/23/11-23-0561-01-00bf-tgbf-meeting-agenda-2023-04.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 11:04 pm ET (28 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 16) and asks if there are any question on the agenda.

The chair asks if there is any objection to approve the 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 slide 19, Call for contributions.
3. The chair presents the teleconference times (slide 20). The chair also goes through the status of D1.0 CR status (slide 21).
4. Presentation of submission:

Claudio gives an update of the comment resolutions and expresses that there has been very good progress. It is noted that the queue is quite long and it may be a good idea to have an ad-hoc meeting before the May f2f. Claudio asks people who have comments to resolve, to provided how much time they believe they need.

Q: Is there a target time for when the comments should be resolved?

A: According to the timeline, we are targeting to generate D2.0 out of the July meeting.

Claudio also points at the 802.11 Style Guide 11-09/1034r2 and reminds the group to follow this in order to avoid additional comments later on. Claudio also briefly goes through this document and points at some examples where D1.0 is not written according to this style guide document.

**11-23/0477r2, “Comment resolution for sensing session”, Chaoming Luo (OPPO):**

This submission resolves comments related to the concept of ‘sensing session’. The following 31 CIDs are resolved: 1330, 1976, 2295, 1668, 1058, 1346, 1445, 1007, 1447, 1861, 2232, 1799, 1975, 2233, 1035, 1029, 2234, 1914, 1862, 1708, 2236, 1008, 1774, 2238, 1527, 2235, 2237, 1847, 1848, 1086, 1036.

This is a continuation of the presentation that started in the last tele conference. Chaoming also points out that the document has been updated based on offline discussions.

CIDs 1330, 1976, 2295, 1668, 1058, 1346, 1445, 1007, 1447, 1861, 2232, 1799, 1975, 2233, 1035, 1029, 2234, 1914, 1862, 1708, 2236, 1008, 1774, 2238, 1527, 2235, 2237, 1847, 1848, 1086, and 1036:

Some clarifying discussion related to whether there should be normative text in one of the notes.

Some clarifying discussion related to whether what discussed here also is also applicable to the DMG part.

Chaoming will update the document based on the received comments before running the SP.

**11-23/0515r1, “Comment Resolution in LB272 for Reporting CID (Part 2)”, Anirud Sahoo (NIST):** This document resolves comment in LB272 with CID 1147, 1156.

Revision 0 of this documents has been presented and Anirud goes thought the updates that have been made.

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

Unanimously supported.

**11-23/0514r1, “Comment Resolution in LB272 for Reporting CID (Part 1)”, Anirud Sahoo (NIST):** This document resolves comment in LB272 with CID 1789, 1074, 1002, 1077.

CID 1789: No discussion.

CID 1074: Some clarifying discussion related to terminology.

CIDs 1002 and 1077: A comment related to that the word “size” is no used elsewhere and we should not use it here to be consistent.

Anirud explains that he will update the document based on the received feedback.

**11-23/0511r1, “Proposed resolutions for editorial comments on D1.0 - Part 2”, Claudio da Silva (Meta):** This document contains proposed resolutions for editorial comments on D1.0 (LB272). The text used as reference is D1.0. CID 2098 has been added compared to r0.

CIDs: 1973, 1980, 1510, 2200, 1039, 2098, 1124, 1602, 1018, 1019, 1313, 1677, 1630, 1838, 2094, 1678, 1632, 1839, 1633, 1907, 1840, 2187, 1631, 2095, 1981

CID 1973: Some clarifying discussion.

CID 1980: Some clarifying discussion.

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 01:01 am.

### Tuesday, April 11, 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/23/11-23-0561-03-00bf-tgbf-meeting-agenda-2023-03.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 (35 persons are on the call after 10 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 question on the agenda.

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

1. The chair presents the TGbf timeline (slide 19).
2. The chair presents slide 20, Call for contributions.
3. The chair presents the teleconference times (slide 21). The chair also presents the D1.0 status. Claudio also gives an update of the CR situation.

Q: I suggest adding more teleconference calls, because the sessions at the f2f are not so effective because some members are not able to attend.

Q: I am of the opposite opinion. I believe the teleconferences are not very effective compared to the meetings at the f2f. I also have another suggestion, namely trying to focus the discussions so that similar presentations are treated together.

Q: If we have 3-4 calls per week, I believe we must devote different calls to different topics so that it is possible to skip some of the calls.

Some discussion about having an ad-hoc meeting in Lund, Sweden, before the Berlin f2f.

It is clarified that the alternative of having the ad-hoc at the same hotel as the f2f comes at a significant cost and also that Jon probably would have needed this information earlier in order to make such arrangements with the hotel.

1. Presentation of submission:

**11-23/0477r3, “Comment resolution for sensing session”, Chaoming Luo (OPPO):**

This submission resolves comments related to the concept of ‘sensing session’. The following 31 CIDs are resolved: 1330, 1976, 2295, 1668, 1058, 1346, 1445, 1007, 1447, 1861, 2232, 1799, 1975, 2233, 1035, 1029, 2234, 1914, 1862, 1708, 2236, 1008, 1774, 2238, 1527, 2235, 2237, 1847, 1848, 1086, 1036.

Chaoming has presented r2 in a previous call and goes through the updates of this contribution that have been made based on the received feedback.

**Straw Poll:** Do you support the resolution to the following 31 CIDs and incorporate the changes into the latest TGbf draft: 1330, 1976, 2295, 1668, 1058, 1346, 1445, 1007, 1447, 1861, 2232, 1799, 1975, 2233, 1035, 1029, 2234, 1914, 1862, 1708, 2236, 1008, 1774, 2238, 1527, 2235, 2237, 1847, 1848, 1086, 1036, in 11-23/0477r3.

**Unanimously supported.**

**11-23/0514r2, “Comment Resolution in LB272 for Reporting CID (Part 1)”, Anirud Sahoo (NIST):** This document resolves comment in LB272 with CID 1789, 1074, 1002, 1077.

Anirud presented this in a previous call and goes through the updates made compared to the previous revision.

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

**Unanimously supported.**

**11-23/0511r2, “Proposed resolutions for editorial comments on D1.0 - Part 2”, Claudio da Silva (Meta):** This document contains proposed resolutions for editorial comments on D1.0 (LB272). The text used as reference is D1.0. CID 2098 has been added compared to r0.

CIDs: 1973, 1980, 1510, 2200, 1039, 2098, 1124, 1602, 1018, 1019, 1313, 1677, 1630, 1838, 2094, 1678, 1632, 1839, 1633, 1907, 1840, 2187, 1631, 2095, 1981

Claudio goes through in detail the proposed resolutions to CIDs 1973 and 1980.

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

**Unanimously supported.**

**11-23/0553r3, “LB272 Comment Resolution for INSTANCE category”, Ali Raissinia (Qualcomm):** This document proposes resolutions for CID 1041,1284, 1771, 1931, 1949, 2048 and 2125.

CID 1041: No discussion.

CID 1284: Some clarifying discussion.

CID 1771: Some clarifying discussion.

CID 1931: No discussion.

CID 1949: No discussion.

CID 2048: No discussion.

CID 2125: No discussion.

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

**Unanimously supported.**

**11-23/0554r3, “LB272 Comment Resolution for OST category”, Ali Raissinia (Qualcomm):** This document proposes resolutions for CID 1707 and 1757:

CID 1707: Some clarifying discussion. Based on feedback the proposed resolution is changed to revised.

CID 1757: 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 12:01pm.