IEEE P802.11
Wireless LANs

|  |
| --- |
| IEEE 802.11bf – Teleconference Minutes November 2022 – January 2023 |
| Date: 2022-12-05 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Leif Wilhelmsson | Ericsson AB | Mobilvägen 1, 22632 Lund, Sweden | +46-706-216956 | leif.r.wilhelmsson@ericsson.com |
| Sang Kim | LGE |  |  |  |

Abstract

This document contains minutes for the TG 802.11bf teleconferences in November 2022 – January 2023.

Rev 0: Minutes for TG 802.11bf teleconference on the 22nd of November 2022.

Rev 1: Minutes for TG 802.11bf teleconference on the 28th of November 2022 added.

Rev 2: Minutes for TG 802.11bf teleconference on the 29th of November 2022 added + Typo corrected.

Rev 3: Minutes for TG 802.11bf teleconference on the 1st of December 2022 added

### Tuesday, November 22, 2022, 9:00 am-11:00 am (ET)

**Meeting Agenda:**

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

<https://mentor.ieee.org/802.11/dcn/22/11-22-2043-02-00bf-tgbf-meeting-agenda-2022-11-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. D0.1 CR Status
7. Presentation of submissions
8. Any other business
9. Adjourn
10. The chair, Tony Han, calls the meeting to order at 9:01 am ET (31 persons are on the call after one hour 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 16) 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 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. The chair presents D0.1 CR Status (slide 22). Claudio comments that a new version of the SFD has been updated and that D0.5 is expected to be published next week.
5. Presentations:

**11-22/1897r1, “****CC40 CR for Topic Instance - Part 2”, Mengshi Hu (Huawei):** This submission contains the proposed comment resolutions for the following 9 CIDs in the Topic “Instance” shown in 22/0820 IEEE 802.11bf CC40 comments.

CIDs 243, 478, 557, 626, 627, 795, 796, 867, 909

CIDs 557, 627, 867, 243, 478, and 797: Presented earlier.

CID 626: Q: I don’t believe this text is needed.

A: I am OK to delete it.

As a result of the comment, the text is removed.

CID 795: Some discussion related to that normative text is needed.

As a result, Mengshi explains he intends to leave the details to the next comment collection.

CID 909: No discussion.

**Straw Poll:** Do you support the proposed resolutions in revision 2 of the document to the following CIDs and incorporate the text changes into the latest TGbf draft: 243, 478, 557, 626, 627, 795, 796, 867, 909?

**Result:** Unanimously supported.

**11-22/1772r4, “CC40 CR for MLME – Part 2”, Narengerile (Huawei):** This document proposes comment resolutions for the following CIDs:

* 55, 56, 57, 58, 59, 105, 113, 251, 252, 253, 457 (Group 1)
* 112, 114, 115, 116, 328, 390, 678, 823, 833 (Group 2)

Revision 2 of this contribution has been presented before and Narengerile goes through the updates made compared to revision 2.

**Straw Poll:** Do you support the proposed modifications to the following CIDs in document 11-22/1772r4 and incorporate the changes into the latest TGbf draft:

55, 56, 57, 58, 59, 105, 113, 251, 252, 253, 457, 112, 114, 115, 116, 328, 390, 678, 823, 833

**Result:** Unanimously supported.

**11-22/1913r1, “CC40 CR for CID 834, 896”, Narengerile (Huawei):**

This document proposes comment resolutions for CID 834, 896.

CID 834: Mengshi comments that he has a CID that is related and would like to hear the groups opinion. The feedback is that he may reject the corresponding CID.

CID 896: No discussion.

**Straw Poll:** Do you agree to include the resolutions for CID 834, 896 in the latest 11bf Draft?

**Result:** Unanimously supported.

**11-22/1952r0, “CR for CC40 Instance TTT, CID 256”, Junghoon Suh (Huawei):**

This submission proposes resolutions for the follwing CC40 CID: 256. The proposed changes are based on IEEE 802.11bf D0.1 [1].

CID 256: Q: Actually, I believe this field has been removed.

A: I believe it is still there. If you want it removed, you can just propose this in the next round.

Q: I support removing it now.

As a result, Junghoon decides to update the proposed resolution. Claudio asks Junghoon to give him the instruction that the field should be removed.

**Straw Poll:** Do you agree to include the resolution in revision 1 if this document for the CID 256 in the latest TGbf Draft?

**Result:** Unanimously supported.

**11-22/1953r0, “Proposed Resolution to SBP CIDs”, Claudio da Silva (Meta Platforms):**

This document includes proposed resolutions to SBP comments received in CC40.

CIDs 527, 572, 505, 506: No discussion.

CID 179: No discussion.

CID 292: Some clarifying discussion.

CID 419: No discussion.

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

**Result:** Unanimously supported.

**11-22/1958r1, “Resolution for CID 53”, Pei Zhou (OPPO):** This submission proposes resolution to CID 53. The text used as reference is 802.11bf D0.4.

CID 53: Some clarifying discussion and based on this discussion the proposed resolution is slightly updated.

**Straw Poll:** Do you support the proposed resolutions in revision 2 of this document?

**Result:** Unanimously supported.

**11-22/1956r1, “Resolutions for SBP Comments in CC40 - Part 3”, Cheng Chen (Intel):**

This submission proposes resolutions to comments submitted in CC40. The CIDs are referring to D0.1. The text used as reference is D0.4.

CIDs covered in this document include: 300 479 303 319 502 574

CIDs 300 and 479: Clarifying discussion.

CIDs 303 and 319: No discussion.

CID 502: Some clarifying discussion.

CID 574: No discussion.

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

**Result:** Unanimously supported.

1. The chair asks if there is any other business. Some discussion related to when motions will be run.
2. The meeting is adjourned without objection at 11.01am.

**Monday, November 28, 2022, 9:00 am-11:00 am (ET)**

**Meeting Agenda:**

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

<https://mentor.ieee.org/802.11/dcn/22/11-22-2043-04-00bf-tgbf-meeting-agenda-2022-11-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. D0.1 CR Status
7. Presentation of submissions
8. Any other business
9. Adjourn
10. The chair, Tony Han, calls the meeting to order at 9:01 am ET (39 persons are on the call after one hour 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 18) and asks if there are any question on the agenda. Ning wants to defer his presentation.

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 20).
2. The chair presents slide 21, Call for contributions.
3. The chair presents the teleconference times (slide 22).
4. The chair presents D0.1 CR Status (slide 23). Claudio comments that a new version of the SFD has been updated and that D0.5 is expected to be published next week.
5. Presentations:

**11-22/1958r3, “Resolution for CID 53”, Pei Zhou (OPPO):** This submission proposes resolution to CID 53. The text used as reference is 802.11bf D0.4.

The SP in revision 2 was run in the last teleconference and unanimously supported. The document has been slightly updated and Pei therefore would like to re-run the SP for the new revision.

**Straw Poll:** Do you support the proposed resolutions in revision 3 of this document?

**Result:** Unanimously supported.

**11-22/2058r0, “Resolution of DMG CID 351, 356 DMG Burst”, Solomon Trainin (Qualcomm):** Resolution of the DMG CIDs 367 and 452

CIDs 367 and 452: Some clarifying discussion.

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

**Result:** Unanimously supported.

**11-22/1932r0, “**CC40 CR for CSI related CIDs**”, Rajat Pushkarna (Panasonic):**

This submission proposes resolutions of comments received from TGbf comment collection 40 (TGbf Draft 0.1).

* CIDs: 19 and 296. (2 CIDs)

CIDs 19 and 296: No discussion.

**Straw Poll:** Do you agree to the resolutions provided in the document 11-22/1932r0 for the following CIDs: 19 and 296 for inclusion in the latest 11bf draft?

**Result:** Unanimously supported.

**11-22/1845r0, “CC40 cid428 resolution”, Assaf Kasher (Qualcomm):** This document proposes resolution to CID 428 of CC40 of TGbf.

CID 428: Some clarifying discussion with respect to if one can select what Golay sequence to use.

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

**Result:** Unanimously supported.

**11-22/1957r1, “Resolutions for Instance Comments in CC40 - Part 5”, Cheng Chen (Intel):** This submission proposes resolutions to several comments submitted in CC40 under Instance topic. The CIDs are referring to D0.1. The text used as reference is D0.4.

CIDs: 593 594

CID 593: No discussion.

CID 594: Some clarifying discussion.

**Straw Poll:** Do you support the proposed resolutions to the following CIDs and incorporate the text changes into the latest TGbf draft: 593 594?

**Result:** Unanimously supported.

**11-22/1954r1, “Resolutions for SBP Comments in CC40 - Part 2 – SBP termination”, Cheng Chen (Intel):** This submission proposes resolutions to comments submitted in CC40. The CIDs are referring to D0.1. The text used as reference is D0.4.

CIDs covered in this document include:

48 83 278 280 531 640

CIDs 48,83,278,280,531, and 640:

Q: Are all optional?

A: Yes.

Q: I believe the parts that talk about behavior should be in Section 11. We can discuss more in the ad-hoc.

A: I agree.

Some additional clarifying discussion.

**11-22/1783r0, “CRs for CC40 11bf D0.1 SBP Miscellaneous CIDs”, Rojan Chitrakar (Panasonic):** This submission proposes resolutions of comments received from TGbf comment collection 40 (TGbf Draft 0.1).

* CIDs: 12, 302, 320 (3 CIDs)

Rojan explains that he currently does not have any firm proposals for the CIDs, but wants to present some ideas to obtain feedback from the group.

Q: When you talk about encapsulation, you intend to use available things like TDLS?

A: It is not exactly reuse, but an extension.

Q: What is it that needs to be extended?

A: The format is the same, it is just that it must be extended with an additional type.

Q: I believe we need to have an ad-hoc to discuss this, there are many things we need to discuss much more.

**11-22/2000r0, “CC40 CR for 4 CIDs”, Dongguk Lim (LGE):** This submission proposes the resolutions for following 4 CIDs:

* 155, 272, 346, and 755

CIDs 155, 272, and 755: No discussion.

CID 346: No discussion.

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

**Result:** Unanimously supported.

**11-22/1962r0, “Comment Resolution for CIDs 169 and 803”, Chris Beg (Cognitive Systems):** This document proposes resolutions to the following CC40 CIDs: 169 and 803. All CID resolutions are relative to 802.11bf D0.4.

CID 169: No discussion.

CID 803: No discussion.

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

**Result:** Unanimously supported.

**11-22/2047r0, “Comment Resolution for Instance CID”, Anirud Sahoo (NIST):** This document resolves comment with CID 130

CID 130: No discussion.

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

**Result:** Unanimously supported.

1. The chair asks if there is any other business. There is a question from the group is there will be any time for the presentations in Group 3. The chair explains that if there is nothing else, we can consider this. However, it may be preferred to instead to use the time for an ad-hoc meeting to make progress.
2. The meeting is adjourned without objection at 11:01am.

### Tuesday, November 29, 2022, 9:00 am-11:00 am (ET)

**Meeting Agenda:**

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

<https://mentor.ieee.org/802.11/dcn/22/11-22-2043-05-00bf-tgbf-meeting-agenda-2022-11-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. D0.1 CR Status
7. Presentation of submissions
8. Any other business
9. Adjourn
10. The chair, Tony Han, calls the meeting to order at 10:01 am ET (39 persons are on the call after one hour 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 19) 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 21).
2. The chair presents slide 22, Call for contributions.
3. The chair presents the teleconference times (slide 23). The chair stated that a few links for teleconference are missing and he sent a request to add to WG Vice Chair.
4. The chair presents D0.1 CR Status (slide 24).
5. Presentations:

**11-22/1915r2, “Proposed Draft Text: Coordinated Monostatic DMG Sensing Instance”, Ning Gao (OPPO):** This submission proposes the draft text for the Coordinated Monostatic DMG sensing instance.

Q: How is the duration of the 1st instance set?

A: It is delivered in the Sensing Response frame.

C: There are inconsistency in the name of the fields, e.g., Num of TX Beams in one place and Num TX Beams.

A: It will be fixed.

Q: What if the report is fragmented into multiple frames? Is this considered?

A: One Report frame is assumed.

C: The Editor mentioned that fragmentation is only considered in sub 7 GHz. However, it is corrected that fragmentation is also considered in 60 GHz.

C: Multiple frames can be aggregated into an A-MPDU. It was pointed that there is no way to aggregate management frames.

A: The PDT will be modified accordingly.

Q: Question was raised on the description in TDD BF Information field, “This field is reserved in the last DMG Sensing instance”. Is the duration of the 1st frame in the 2nd burst specified in the last frame of the 1st burst?

A: More discussion is needed.

More offline discussion will follow and it will be informed to the Chair when it is ready for presentation.

**11-22/1963r1, “CR for NDP TTT”, Junghoon Suh (Huawei):** This submission proposes resolutions for the following 5 CC40 CIDs: 310 - 314. The proposed changes are based on IEEE 802.11bf D0.1 [1].

CIDs 310, 311, 312, 313 and 314: Based on the comment in Bangkok meeting, the resolution is changed from rejected to revised. No question was raised.

**Straw Poll:** Do you agree with the resolutions in 22/1963r1?

**Result:** Unanimously supported.

**11-22/2055r1, “CR for NDPA in Clause 9”, Junghoon Suh (Huawei):**

This submission proposes resolutions for the following 3 CC40 CIDs: 293, 485 and 503. The proposed changes are based on IEEE 802.11bf D0.1 [1].

No question was raised.

**Straw Poll:** Do you agree with the resolutions in 22/2055r1?

**Result:** Unanimously supported.

**11-22/2068r0, “CR document for R2R TB Sensing”, Rajat Pushkarna (Panasonic):** This submission proposes resolutions of comments received from TGbf comment collection 40 (TGbf Draft 0.1): CIDs: 380, 466, 467, 497 and 787 (5 CIDs)

C: It was stated that Dongwei is working on these and has been resolved in 1917r1.

C: The Editor pointed out that 1917r1 is a general description and is not straw-polled yet.

C: Dongwei stated that 1917r1 is a proposed PDT and still has a few elements missing. He requested that this contribution is on hold until 1917 with some revision is ready.

C: Another suggestion was raised to reassign all 5 CIDs to Dongwei.

All 5 CIDs are reassigned to Dongwei.

**11-22/2051r1, “Resolutions for Instance Comments in CC40 - Part 6”, Cheng Chen (Intel):** This submission proposes resolutions to several comments submitted in CC40 under Instance topic. The CIDs are referring to D0.1. The text used as reference is D0.4: CIDs – 349, 436, 500, 565 and 537.

Q: Is “minimum possible length of one LTF symbol” needed?

A: It is removed.

C: 4x HE-LTF is optionally supported in 11ax, but for HE Ranging NDP, the only supported LTF/GI mode is 2x HE-LTF with 1.6us GI.

A: In Ranging NDP, this is correct.

C: For the resolution of CID 537, delete Ranging, Sensing in front of NDPA.

A: Agreed.

**Straw Poll:** Do you support the proposed resolutions to the following CIDs and incorporate the text changes into the latest TGbf draft: 349 436 500 565 537?

**Result:** Unanimously supported.

1. The chair asked if any ad-hoc meeting is scheduled this Wednesday. Cheng replied that his ad-hoc discussion will be on Wednesday next week. Since not many contributions are in the queue, ad-hoc topic can be brought to regular meeting time slot at this time.
2. The chair asks if there is any other business.
3. The meeting is adjourned without objection at 11:07am.

### Thursday, December 1, 2022, 10:00 pm-12:00 am (ET)

**Meeting Agenda:**

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

<https://mentor.ieee.org/802.11/dcn/22/11-22-2043-07-00bf-tgbf-meeting-agenda-2022-11-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. D0.1 CR Status
7. Presentation of submissions
8. Any other business
9. Adjourn
10. The chair, Tony Han, calls the meeting to order at 9:00 am ET (26 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 question on the agenda. No response from the group.

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 22).
2. The chair presents slide 23, Call for contributions.
3. The chair presents the teleconference times (slide 24). The chair reminds about that motions Monday next week and announces that probably motions will also be run the last week before Christmas.
4. The chair presents D0.1 CR Status (slide 25). Claudio announces that he now has implemented all the text resulting from the motions in the Bangkok meeting. Due to that motions will be run on Monday, Claudio decided to wait to release a new draft until these are run so that also the corresponding text can be included in the next draft.
5. Presentation of submissions:

**11-22/1918r1, “CC 40 CR for Instance CIDs – Part 2”, Narengeril (Huawei):**

This contribution presents CR for CIDs 95, 496, 756, 791 and 541, which are related to the order of TF sounding and NDPA sounding.

CID 496, 541, 95, 756:

Q: I don’t see a reason to make the order of the two negotiable.

Q: I also believe we should fix the order. I also have another comment related to if the sensing if done with two responders. In this case the order should be the same for both responders, so what happens if the two responders would indicate they would prefer to do it in different orders?

A: OK. I see your point.

Q: I believe it has to be clarified that sensing may be in one direction only.

Narengerile explains that as this is the first time she presents the contribution, she does not intend to run the SP at this time.

**11-22/1917r2, “****Proposed Draft Text for Sensing-Responder-to-Sensing-Responder Sounding”, Dong Wei (NXP):** This document contains proposed draft text on sensing-responder-to-sensing-responder (SR2SR) sounding that aims to resolve the following comments received in CC40: 156, 380, 467, 495, and 787.

Revision 1 of this contribution was presented during the f2f meeting and Dong goes through the updates made compared to revision 1.

CIDs 156, 380, 467,495, and 787: No discussion.

**Straw Poll:** Do you agree to the resolutions provided in the document 11-22/1917r3for the following CIDs:156, 380, 467, 495, and 787 for inclusion in the latest 11bf draft?

**Result:** Unanimously supported.

**11-22/1914r2, “CC 40 CR for Instance CIDs – Part 1”, Narengeril (Huawei):**

This document proposes comment resolutions for CID 153, 154, 127 and 789.

CIDs 153 and 154: Q: I propose to delete first column in Table 11-xx as it is a bit confusing with the corresponding text.

Some more clarifying discussion with respect to what different phases may occur and how to represent them in the table.

CID 789: Based on feedback from the group, the proposed resolution text is slightly updated.

CID 127: No discussion.

**11-22/2077r1, “CC40 CR for CIDs 100, 102 and 734”, Mengshi Hu (Huawei):** This submission contains the proposed comment resolutions for the remaining 3 deferred CIDs in the Topics “Frames” and “Instance” shown in 22/0820 IEEE 802.11bf CC40 comments.

CIDs 100, 102 and 734.

CIDs 100 and 102: No discussion.

CID 734: No discussion.

**Straw Poll:** Do you support the proposed resolutions to the following CIDs and incorporate the text changes into the latest TGbf draft: 100, 102 and 734?

**Result:** Unanimously supported.

**11-22/2086r0, “Resolutions for CID 49 and 50 — follow up”, Pei Zhou (OPPO):** This submission proposes resolutions to CID 49 and CID 50. The text used as reference is 802.11bf D0.4.

CID 49: No discussion.

CID 50: Some clarifying discussion.

**Straw Poll:** Move to approve resolutions to CID 49 and CID 50 as specified in doc.: 11-22/2086r0 and incorporate the text changes into the latest TGbf draft.

**Result:** Unanimously supported.

1. The chair asks if there is any other business.
2. The meeting is adjourned without objection at 00:01am.