IEEE P802.11  
Wireless LANs

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| IEEE 802.11bf – Teleconference Minutes September-November 2022 | | | | |
| Date: 2022-09-28 | | | | |
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Abstract

This document contains minutes for the TG 802.11bf teleconferences in September-November 2022.

Rev 0: Minutes for TG 802.11bf teleconferences on the 22nd of September 2022.

Rev 1: Minutes for TG 802.11bf teleconferences on the 26th of September 2022 added.

Rev 2: List of Attendees added for 22nd and 26th of September.

Rev 3: Minutes for TG 802.11bf teleconferences on the 27th of September 2022 added.

### Thursday, September 22, 2022, 11:00 pm-01:00 am (ET)

**Meeting Agenda:**

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

<https://mentor.ieee.org/802.11/dcn/22/11-22-1644-01-00bf-tgbf-meeting-agenda-2022-09-part2.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 (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 16) and asks if there are any questions or comments on the agenda. Mengshi points out that SP should be added to the title of his presentations.

The Chair asks if there is any objection to approve the modified agenda. No objection from the group so the agenda is approved.

1. The Chair presents the TGbf timeline (slides 17) and CR status (slide 18)
2. The Chair presents slide 19, Call for contributions.
3. The Chair presents the teleconference times (slide 20). It is noted that the sessions for the November f2f has been slightly updated. There is a comment that PM1 and PM2 are very inconvenient for people in US. As a response to this it is noted that this is common for other parts of the world, e.g. Asia, so this should be OK for people in the US.

Another comment relates to that we have three teleconferences every week and in addition ad-hoc meetings. It is asked whether it would be possible to have one day with more meetings not to spread things out. The response from the chair is that this situation should not last for a long time.

Would it be possible to have a one day ad-hoc before the November f2f?

It is pointed out by one member that a f2f ad-hoc would need to be decided in the previous f2f as it needs a WG motion, so this is not possible.

Comment from one member that the discussions are sometimes inefficient, and suggests that maybe some telcos can be used for more focused ad-hocs to get progress.

Chair: If PoC cannot find a slot or if there are other issues then the PoC can asks the chair to use a time slot.

1. Presentations:

**11-22/1495r2, “DMG comments resolution part five”, Solomon Trainin (Qualcomm):** This submission proposes resolutions for CIDs 338, 340

Solomon started to present this contribution in the last session of the September f2f.

CID 338: Some discussion and a few typos corrected based on feedback from the group.

The chair asks about future plans. Solomon explains he wants to update the documents based on the received feedback and then come back and run the SP.

Tony wants to run a SP to obtain a feeling for how many persons intend to attend the f2f meeting in November.

**Straw Poll:** Do you plan to attend the November Plenary in person?

**Result:** Y/N/A: 12/13/5

Tony explains that he believes we can consider discussing aggregated topics during TGbf meetings. Based on that there is no other topic in the presentation queue and that there is really a need to make progress due to that the discussion is stuck.

Tony asks the group if there is any objection to allocate the session on Monday to discuss NDPA TTT. No objection from the group.

1. The chair asks if there is AoB. No response from the group.
2. The meeting is adjourned without objection at 01:03 am ET.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 9/22 | Au, Oscar | Origin Wireless |
| TGbf | 9/22 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 9/22 | CHENG, yajun | Xiaomi Communications Co., Ltd. |
| TGbf | 9/22 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 9/22 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 9/22 | Du, Rui | Huawei Technologies Co., Ltd |
| TGbf | 9/22 | Eitan, Alecsander | Qualcomm Technologies, Inc. |
| TGbf | 9/22 | feng, Shuling | MediaTek Inc. |
| TGbf | 9/22 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 9/22 | Jang, Insun | LG ELECTRONICS |
| TGbf | 9/22 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 9/22 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 9/22 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 9/22 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 9/22 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 9/22 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 9/22 | Sahoo, Anirudha | National Institute of Standards and Technology |
| TGbf | 9/22 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 9/22 | Trainin, Solomon | Qualcomm Incorporated |
| TGbf | 9/22 | Tsai, Tsung-Han | MediaTek Inc. |
| TGbf | 9/22 | Wei, Dong | NXP Semiconductors |
| TGbf | 9/22 | Wilhelmsson, Leif | Ericsson AB |
| TGbf | 9/22 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |

### Monday, September 26, 2022, 10:00 am-12:00 pm (ET)

**Meeting Agenda:**

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

<https://mentor.ieee.org/802.11/dcn/22/11-22-1644-03-00bf-tgbf-meeting-agenda-2022-09-part2.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 Vice Chair, Assaf Kasher, calls the meeting to order at 10:07 pm ET (37 persons are on the call after 20 minutes of the meeting). The Chair, Tony Han, has issues calling in.
10. The Vice 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 Vice Chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The Vice 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, Tony Han, takes over the meeting.

The Chair goes through the agenda (slide 17) and asks if Junghoon or Chaoming want to present, given that we have a conflict with UHR. Junghoon explains that he wants to present today.

Solmon asks to run the SP for his contribution. As a result, the agenda is modified accordingly.

The Chair asks if there is any objection to approve the modified agenda. No objection from the group so the agenda is approved.

1. The Chair presents the TGbf timeline (slide 18) and CR status (slide 19)
2. The Chair presents slide 20, Call for contributions.
3. The Chair presents the teleconference times (slide 21). The time for the f2f has been updated. The chair asks for comments. No comments from the group, so Tony explains he will try to obtain the proposed times for the f2f.
4. Presentations:

**11-22/1495r3, “DMG comments resolution part five”, Solomon Trainin (Qualcomm):** This submission proposes resolutions for CIDs 338, 340

Solomon goes through the changes made compared to revision 2 of the document related to CID 338.

No discussion.

CID 340: No discussion.

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

**Result:** The proposed CRs are supported unanimously.

**11-22/1654r0, “Harmonized Sensing NDPA”, Junghoon Suh (Huawei):** Junghoon presents a proposes for sensing NDPA, including a set of SPs.

A relatively large number of questions and comments follow the presentation.

As a result, additional SPs, SP 1-1 and SP1-2, are added.

**Straw Poll 1-1:** Do you agree to indicate the TX Power Control TB case of the Special STA Info Field with AID 2045 of Sensing NDPA?

* R2I NDP Target RSSI subfield is reserved.

**Result:** Unanimously supported.

**Straw Poll 1-2:** How many bits do you prefer for the Measurement Set-up ID

* Option 1: 3 bits
* Option 2: 4 bits
* Option 3: 1 byte
* Abstain

**Result:** Opt.1 / Opt. 2 / Opt. 3 / Abstain: 12/7/1/7

Run out of time.

The chair explains that his intention is to finalize the SPs and then go to Chaoming’s presentation.

1. The chair asks if there is AoB. No response from the group.
2. The meeting is adjourned without objection at 12:04 pm ET.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 9/26 | Au, Oscar | Origin Wireless |
| TGbf | 9/26 | Aygul, Mehmet | VESTEL; IMU |
| TGbf | 9/26 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 9/26 | Dash, Debashis | Apple Inc. |
| TGbf | 9/26 | Du, Rui | Huawei Technologies Co., Ltd |
| TGbf | 9/26 | feng, Shuling | MediaTek Inc. |
| TGbf | 9/26 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 9/26 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 9/26 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 9/26 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 9/26 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 9/26 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbf | 9/26 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 9/26 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 9/26 | Rafique, Saira | Istanbul Medipol University; Vestel |
| TGbf | 9/26 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 9/26 | Schweizer, Benedikt | Apple Inc. |
| TGbf | 9/26 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 9/26 | Trainin, Solomon | Qualcomm Incorporated |
| TGbf | 9/26 | Turkmen, Halise | Istanbul Medipol University; Vestel |
| TGbf | 9/26 | Wei, Dong | NXP Semiconductors |
| TGbf | 9/26 | Zhang, Jiayi | Ofinno |
| TGbf | 9/26 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

### Tuesday, September 27, 2022, 10:00 am-12:00 pm (ET)

**Meeting Agenda:**

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

<https://mentor.ieee.org/802.11/dcn/22/11-22-1644-04-00bf-tgbf-meeting-agenda-2022-09-part2.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 (43 persons are on the call after 50 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 any question on the agenda. Rajat stated that the presentation of 1579is to postpone due to the unavailability of the presenter. The agenda is approved.

Dong Wei stated that the sensing responder-to-sensing responder (SR2SR) sounding was initially discussed and many consensus was achieved through ad hoc call, thus suggestion was made to present this Thursday call. The Chair asked to group members to place 1368 right after 1543. No objection was raised. As a result, the agenda is modified and re-approved accordingly.

1. The Chair presents the TGbf timeline (slide 19) and CR status (slide 20)
2. The Chair presents slide 21, Call for contributions.
3. The Chair presents the teleconference times (slide 22). The updated times for the November f2f meeting has been sent to WG leadership. The chair asks for comments. No comments from the group.
4. Presentations:

**11-22/1654r1, “Harmonized Sensing NDPA”, Junghoon Suh (Huawei):** Junghoon presents a harmonized proposal for sensing NDPA, including a set of SPs.

Based on the result of SP 1-2, he prepared SP1-3

A relatively large number of questions and comments follow the presentation.

Q: Measurement Set-up ID (MS ID) is also carried in Measurement Request frame in which the length is 1 byte. Is it matched?

C: We can approve 3 bits today and align later. Even though it is 1 byte, the actual length is dictated by transport of NDPA or Trigger frame. We can go back and reserve some bits based on the decision.

The length of MS ID is “TBD” is added in the straw poll text.

Q: Is this only for sub-7 GHz case? The MS ID in DMG case is 4 bits. Do we need to align?

A: Use cases are different, and we don’t need to align.

Q: With 3 bits of MS ID, we cannot support more than 8 applications. Is it 1 MS ID per one sensing responder?

A: 1 MS ID is assigned to multiple STAs in an application. For example, 20 STAs can use 1 MS ID. We use the same MS ID when a new STA joins to existing application.

Q: If 9th MS ID is needed, then what is an AP supposed to do? There seems a good chance that we have more than 9 applications.

A: If sounding parameters are similar to existing application, we can assign it to existing application. Right now, we don’t see many Wi-Fi sensing applications and 3 bits are reasonable.

**Straw Poll 1-3:** Do you agree to indicate the Measurement Set-up ID and Sensing indications in the Special STA Info Field of Sensing NDPA?

* B28 to B30 are used for the indication of Measurement Set-up ID
* B31 is used to indicate the Sensing NDPA
* AID for Special STA Info Field is 2045
* The length of MS ID is TBD.

Q: B31 is not only for AID 2045. For any AID, B31 needs to be set for sensing. This applies to every STA Info field.

A: To support EHT and non-EHT mixed mode of operation, EHT Trigger frame design places information in Common Info field.

Q: If AID 2045 is used for sensing, then do we need to set B31?

A: For non-TB case, we need NDPA. When both ranging/sensing are used and AID 2045 is also used, we still need B31 to be set.

**Result:** Unanimously supported.

**Straw Poll 3:** Which one of the followings do you prefer?

* Option 1: Disallow the Partial BW Feedback in the Sensing NDPA
  + The Operation BW of each responder should be aligned with the BW of EHT NDP PPDU (which is 320 MHz)
  + LTF Offset subfield of Ranging NDPA shall be set to “Reserved”
* Option 2: Allow only the same Partial BW Feedback patterns for 320 MHz of the EHT NDPA in the Sensing NDPA
  + LTF Offset subfield of Ranging NDPA shall be repurposed for the Partial BW Feedback
  + B11 to B16 of the STA Info Field are used for this indication

**Result:** Opt.1 / Opt. 2 / Abstain: 14/12/13

C: We don’t need it and it is very complicated.

PDT will be prepared with partial BW feedback as “TBD”.

**11-22/1385r4, “Comment resolution for sensing session”, Chaoming Luo (OPPO):** This submission resolves comments of CID 299, 308, 316, 481, 93, 141, 145, 430, 611, 774, 463, 21, 570, 912. In Rev 4, the following additions are made: A description for active/inactive state and frame exchange timer

A relatively large number of questions and comments follow the presentation.

Chaoming stated that he needs to revise the text and come back.

The Chair stated that we can go to the normal queue in the next time and even though we made a progress, we still need more offline discussion. The next presentation queue will be Junghoon (1543), Dong Wei (1368), and Rajat (1403) in that order.

1. The chair asks if there is AoB. No response from the group.
2. The meeting is adjourned without objection at 11:59 am ET.