IEEE P802.11
Wireless LANs

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| 802.11bf Teleconference Minutes January 2021 |
| Date: 2021-01-26 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
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Abstract

This document contains minutes for TG 802.11bf teleconferences in January 2021.

Rev 0: Minutes for TG 802.11bf teleconference on 5th of January.

Rev 1: Minutes for TG 802.11bf teleconference on 26th of January added.

**Teleconference on Tuesday, January 5, 2021, 9:00am –11:00am (ET)**

**Proposed Agenda:**

* Call the meeting to order
* Patent policy and logistics
* TGbf Timeline
* Call for contribution
* Teleconference Times
* Straw poll: Submissions uploading rule
* Presentation of submissions



* Any other business
* Adjourn

**Teleconferences are subject to applicable policies and procedures, see below.**
•       IEEE Code of Ethics
–       <https://www.ieee.org/about/corporate/governance/p7-8.html>
•       IEEE Standards Association (IEEE-SA) Affiliation FAQ
–       <https://standards.ieee.org/faqs/affiliation.html>
•       Antitrust and Competition Policy
–       <https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/antitrust.pdf>
•       IEEE-SA Patent Policy
–       <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html>
–       <https://standards.ieee.org/about/sasb/patcom/>
 •       IEEE 802 Working Group Policies &Procedures (29 Jul 2016)
–       [http://www.ieee802.org/PNP/approved/IEEE\_802\_WG\_PandP\_v19.pdf](https://protect2.fireeye.com/v1/url?k=5e715d2a-02fb7fe5-5e711db1-0cc47ad93ea4-c0712d99b9889b4a&q=1&e=f61fa0ab-291b-4ac4-a25e-6335a767a660&u=http%3A%2F%2Fwww.ieee802.org%2FPNP%2Fapproved%2FIEEE_802_WG_PandP_v19.pdf)
•       IEEE 802 LMSC Chair's Guidelines (Approved 13 Jul 2018)
–       <https://mentor.ieee.org/802-ec/dcn/17/ec-17-0120-27-0PNP-ieee-802-lmsc-chairs-guidelines.pdf>
•       Participation in IEEE 802 Meetings
–       <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
•       IEEE 802.11 WG OM: (Approved 10 Nov 2017)
–       <https://mentor.ieee.org/802.11/dcn/14/11-14-0629-22-0000-802-11-operations-manual.docx>

**Vice Chair Assaf Kasher (Qualcomm) calls the meeting to order at 9:04 am (ET).**

(Because the chair, Tony Han, has some issues calling in to the meeting, it was decided to let Assaf start the meeting.)

Assaf goes through slide 4 in document 11-20/1974r0, covering “Meeting Protocol, Attendance, Voting & Document Status”.

Assaf goes through slides 6 and 7, covering “Participants have a duty to inform the IEEE” and “Ways to inform IEEE”, respectively.

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

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

Assaf goes through the proposed agenda, slide 16, and asks if there are any comments or questions. Based on comments from the group, the SP in 20/1849 is postponed. Also, document 20/1851 is not ready, so also this contribution is postponed.

Assaf discusses the timeline and call for contribution, slides 17 and 18.

Assaf goes through the teleconference times, pointing out that there are three meetings in the Interim meeting. No questions from the group.

**The TG chair, Tony Han, has joined the meeting and takes over as chair of the meeting.**

Tony has prepared a SP regarding rules related to uploading of submissions, which was discussed in the previous teleconference.

**Straw Poll:**

Which of the following do you think should be the rule for uploading the submissions of

revision 0?

* Option 1: Prior to presentation
	+ (Reference: 14/0629r22 IEEE 802.11 Working Group Operations Manual ---- 3.7.3: Submissions)
* Option 2: 12 hours prior to the meeting
* Option 3: 24 hours prior to the meeting

Result: Option 1/2/3: 5/0/35

After the SP, there is some discussion related to what it the proper action in case a submission is no uploaded 24 hours in advance. One opinion is that in case there is a SP, then this SP should be postponed to the next meeting.

Tony tells the group that he will summarize and discuss with the group.

**Presentations:**

**11-20/1893r0, “Channel Modeling for WLAN Sensing Indoor Scenario”, Meihong Zhang (Huawei):** The contribution presents some ray tracing simulation results for static and dynamic living room scenarios.

Question/comment (Q): I expect you would sweep your beams in different directions?

Answer (A): No, I assume isotropic antenna.

Q: How do you configure your transmit antenna?

A: The ray tracing is for the channel model, but not for the antenna.

Q: You are only measuring the receive direction?

A: Yes.

Q: About channel modeling. Extensive studies were done for NR-U. For 28 GHz the it was found to be very sparse. The paths are likely to be grouped. Are you considering similar features for 60 GHz? You mentioned there may be a person moving around. Do you have any plans to include Doppler in your channel model?

A: I did not plan to group the rays. We did not consider Doppler as you describe, but instead considered many channel snapshots. The Doppler may be obtained by post processing these snapshots.

**11-20/1901r2 “Discussion on ambiguity function, range Doppler map and link level simulation”, Rui Du (Huawei):**

The presentation discusses importance of the ambiguity function and the difference when it comes to a matched filter receiver and a correlation receiver.

Q: Is this applicable for sub 7 GHz or only for mmW?

A: The flow chart as such can be used for both, but we are more focused on the 60 GHz.

Q: Do you have any thoughts about new waveforms?

A: Not really, we just wrote it here to highlight this option.

**11-20/1712r1 “Wi-Fi sensing use cases”, Assaf Kasher (Qualcomm):**

Assaf has already presented this document, and the purpose is to run a SP to get the feedback from the group whether this document can be used as the use case document.

**Straw Poll:**

Do you agree to use 11-20/1712r1 as the TGbf use cases document?

**Y/N/A: 32/2/18**

After the SP, there were some additional questions and comments for clarification:

Q: Is it still possible to update this document?

A: I believe the group should be open for changes.

Q: I just noted that excel is not the normal format used for describing use cases. Normally the description is a bit more detailed.

Based on the previous discussion on rules for submission uploading, Tony has summarized it as follows:

* Please upload your submissions on mentor **24 hours** prior to the meeting so that members would have a chance to review those submissions offline.
* Otherwise,
	+ If there is **not enough time** during the meeting, the presentation will be delayed to the **next meeting.**
	+ If there is **enough time** during the meeting, the presentation will be moved to the **end of the queue and be presented in the end**. However, any related **SP** should be delayed to the **next meeting.**

Tony asks if there is any question or comment. No response from the group.

**The meeting is adjourned without objection at 10:54 am (ET).**

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 1/5 | Aboulmagd, Osama | Huawei Technologies Co., Ltd |
| TGbf | 1/5 | Aldana, Carlos | Facebook |
| TGbf | 1/5 | Al Falujah, Iyad | ON Semiconductor |
| TGbf | 1/5 | Au, Kwok Shum | Huawei Technologies Co., Ltd |
| TGbf | 1/5 | Au, Oscar | Origin Wireless |
| TGbf | 1/5 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 1/5 | Berger, Christian | NXP Semiconductors |
| TGbf | 1/5 | Bluschke, Andreas | Signify |
| TGbf | 1/5 | Bredewoud, Albert | Broadcom Corporation |
| TGbf | 1/5 | Chayat, Naftali | Vayyar Imaging |
| TGbf | 1/5 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 1/5 | Choi, Jinsoo | LG ELECTRONICS |
| TGbf | 1/5 | Costa, D.Nelson | Peraso Technologies Incorporated |
| TGbf | 1/5 | da Silva, Claudio | Intel Corporation |
| TGbf | 1/5 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 1/5 | Du, Rui | Huawei Technologies Co., Ltd |
| TGbf | 1/5 | Eitan, Alecsander | Qualcomm Incorporated |
| TGbf | 1/5 | Erell, Assaf | Vayyar Imaging Ltd. |
| TGbf | 1/5 | feng, Shuling | MediaTek Inc. |
| TGbf | 1/5 | Fridman, Roi | Vayyar Imaging Ltd |
| TGbf | 1/5 | HAN, Xiao | Huawei Technologies Co., Ltd |
| TGbf | 1/5 | Jang, Insun | LG ELECTRONICS |
| TGbf | 1/5 | Kadampot, Ishaque Ashar | Qualcomm Incorporated |
| TGbf | 1/5 | Kain, Carl | Noblis, Inc. |
| TGbf | 1/5 | Kasher, Assaf | Qualcomm Incorporated |
| TGbf | 1/5 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 1/5 | Kwon, Young Hoon | NXP Semiconductors |
| TGbf | 1/5 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 1/5 | Ma, Li | MediaTek Inc. |
| TGbf | 1/5 | Mazor, Nadav | Vayyar Ltd |
| TGbf | 1/5 | Merlin, Simone | Qualcomm Incorporated |
| TGbf | 1/5 | NANDAGOPALAN, SAI SHANKAR | Cypress Semiconductor Corporation |
| TGbf | 1/5 | Ozbakis, Basak | VESTEL Electronics Corp. |
| TGbf | 1/5 | PESIN, ANTHONY | InterDigital, Inc. |
| TGbf | 1/5 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 1/5 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 1/5 | Rantala, Enrico-Henrik | Nokia |
| TGbf | 1/5 | RISON, Mark | Samsung Cambridge Solution Centre |
| TGbf | 1/5 | Sahin, Onur | InterDigital, Inc. |
| TGbf | 1/5 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 1/5 | Sun, Yingxiang | Huawei Technologies Co. Ltd |
| TGbf | 1/5 | Tsai, Tsung-Han | MediaTek Inc. |
| TGbf | 1/5 | Turkmen, Halise | Vestel |
| TGbf | 1/5 | Wang, Pu | Mitsubishi Electric Research Labs (MERL) |
| TGbf | 1/5 | Wilhelmsson, Leif | Ericsson AB |
| TGbf | 1/5 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbf | 1/5 | Yee, James | MediaTek Inc. |
| TGbf | 1/5 | Zeng, Ruochen | NXP Semiconductors |
| TGbf | 1/5 | Zhang, Meihong | Huawei Technologies Co., Ltd |

**Teleconference on Tuesday, January 26, 2021, 9:00am –11:00am (ET)**

**Proposed Agenda:**

* Call the meeting to order
* Patent policy and logistics
* TGbf Timeline
* Call for contribution
* Teleconference Times
* Presentation of submissions

|  |  |  |  |
| --- | --- | --- | --- |
|  **DCN** | **Author** | **Title** | **Time duration** |
| 21/0145 | Sang Kim (LG Electronics) | Collaborative WLAN Sensing – Follow Ups | 30 mins |
| 21/0147 | Rui Du (Huawei) | Definitions and scenarios of the WLAN sensing – follow ups | 30 mins |
|  |  |  |  |

* Any other business
* Adjourn

**Teleconferences are subject to applicable policies and procedures, see below.**
•       IEEE Code of Ethics
–       <https://www.ieee.org/about/corporate/governance/p7-8.html>
•       IEEE Standards Association (IEEE-SA) Affiliation FAQ
–       <https://standards.ieee.org/faqs/affiliation.html>
•       Antitrust and Competition Policy
–       <https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/antitrust.pdf>
•       IEEE-SA Patent Policy
–       <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html>
–       <https://standards.ieee.org/about/sasb/patcom/>
 •       IEEE 802 Working Group Policies &Procedures (29 Jul 2016)
–       [http://www.ieee802.org/PNP/approved/IEEE\_802\_WG\_PandP\_v19.pdf](https://protect2.fireeye.com/v1/url?k=5e715d2a-02fb7fe5-5e711db1-0cc47ad93ea4-c0712d99b9889b4a&q=1&e=f61fa0ab-291b-4ac4-a25e-6335a767a660&u=http%3A%2F%2Fwww.ieee802.org%2FPNP%2Fapproved%2FIEEE_802_WG_PandP_v19.pdf)
•       IEEE 802 LMSC Chair's Guidelines (Approved 13 Jul 2018)
–       <https://mentor.ieee.org/802-ec/dcn/17/ec-17-0120-27-0PNP-ieee-802-lmsc-chairs-guidelines.pdf>
•       Participation in IEEE 802 Meetings
–       <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
•       IEEE 802.11 WG OM: (Approved 10 Nov 2017)
–       <https://mentor.ieee.org/802.11/dcn/14/11-14-0629-22-0000-802-11-operations-manual.docx>

**Chair Tony Xiao Han (Huawei) calls the meeting to order at 9:00 am (ET). (Around 50 people on the call)**

The Chair goes through slide 4 in document 11-21/0146r1, covering “Meeting Protocol, Attendance, Voting & Document Status”.

The Chair goes through slides 6 and 7, covering “Participants have a duty to inform the IEEE” and “Ways to inform IEEE”, respectively.

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

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

The Chair goes through the proposed agenda, slide 16 and asks if there are any comments or questions. No response from the group.

The Chair asks if there is any objection to approve the agenda by unanimous consent. No response from the group so the agenda is approved by unanimous consent.

The Chair goes through call for contribution.

The Chair goes through the teleconference times.

Q: I have one question on the agenda. I asked to run a motion, but that is not on the agenda.

A: It will be in the next telco to allow for enough time after it is approved by Dorothy.

**Presentations:**

**11-21/0145r0, “Collaborative WLAN Sensing – Follow Ups”, Sang Kim (LGE):** The contribution discusses means for multiple devices to collaborate to enhance the sensing performance. The presentation is a follow-up of 11-20/1533r0.

Question/comment (Q): On slide 12 you mention that the concept is “logical on top”, what do yo mean?

Answer (A): To support collaborative sensing we need to define some way to form a group. E.g dynamically select devices within a BSS to form a group. This is on top of the actual sensing protocol.

Q: On page 4, what does the dashed lines mean?

A: In case only one of the CPs has a sensing agent, the sensing data have to be sent between the groups.

Q: Are you suggesting that in one session, the sensing transmitter can be different for different bursts in the same session?

A: Yes

Q: On slide 7, how does responder know it has to do sensing?

A: Referring to slide 9, this is informed by the AP beforehand.

Q: What is the difference between slide 9 and 10?

A: Slide 9 is explicit.

Q: Do you believe implicit feedback is better for sensing?

A: I believe it is better in terms of overhead. Not clear when it comes to performance.

Q: When you use the term “Feedback”, it is not feedback for measurement itself. I believe it is better to use the term “report”.

Q: Can one session be only one burst?

A: Yes.

Q: Is the whole session in one TXOP or several?

A: Both options are possible.

Q: During the session, the initiator is the same?

A: Yes

**Straw Poll #1**

Do you support to have a sensing session that is comprised of multiple burst instances?

**Result:** Y/N/A: 17/5/13

**Straw Poll #2**

Deferred

**11-21/0147r0 “Definitions and scenarios of the WLAN sensing – follow ups ”, Rui Du (Huawei):** This is a slightly updated version of 11-21/0035, which has been presented.

Q: The presentation is very similar to what you have already presented. I believe it better to make a new revision rather than making a new contribution. It would make it easier to understand what has been changed.

Q: You mention feedback phase. Who feedbacks to whom? There may actually not be any feedback if the initiator is the receiver.

**Straw Poll 1**

Do you agree with the following?

* A sensing initiator may not participate in the sensing PPDU transmitting and/or receiving, but shall obtain the sensing measurement result.

We are running out of time and the Chair declares that he intends to allocate some time for this in the next meeting.

Tony asks if there is any other business. No response from the group.

**The meeting is adjourned without objection at 11:00 am (ET).**

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 1/26 | Aboulmagd, Osama | Huawei Technologies Co., Ltd |
| TGbf | 1/26 | Al Falujah, Iyad | ON Semiconductor |
| TGbf | 1/26 | Au, Kwok Shum | Huawei Technologies Co., Ltd |
| TGbf | 1/26 | Au, Oscar | Origin Wireless |
| TGbf | 1/26 | Aygul, Mehmet | Istanbul Medipol University; Vestel |
| TGbf | 1/26 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 1/26 | Chayat, Naftali | Vayyar Imaging |
| TGbf | 1/26 | Cheng, Gang | Nokia |
| TGbf | 1/26 | Choi, Jinsoo | LG ELECTRONICS |
| TGbf | 1/26 | Costa, D.Nelson | Peraso Technologies Incorporated |
| TGbf | 1/26 | da Silva, Claudio | Intel Corporation |
| TGbf | 1/26 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 1/26 | feng, Shuling | MediaTek Inc. |
| TGbf | 1/26 | Grigat, Michael | Deutsche Telekom AG |
| TGbf | 1/26 | Haskou, Abdullah | InterDigital, Inc. |
| TGbf | 1/26 | Jang, Insun | LG ELECTRONICS |
| TGbf | 1/26 | Kadampot, Ishaque Ashar | Qualcomm Incorporated |
| TGbf | 1/26 | Kain, Carl | Noblis, Inc. |
| TGbf | 1/26 | Kim, Jeongki | LG ELECTRONICS |
| TGbf | 1/26 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 1/26 | Kim, Youn-Kwan | Sync Techno |
| TGbf | 1/26 | Kwon, Young Hoon | NXP Semiconductors |
| TGbf | 1/26 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 1/26 | Lumbatis, Kurt | CommScope, Inc. |
| TGbf | 1/26 | Mirfakhraei, Khashayar | Cisco Systems, Inc. |
| TGbf | 1/26 | Ozbakis, Basak | VESTEL Electronics Corp. |
| TGbf | 1/26 | PESIN, ANTHONY | InterDigital, Inc. |
| TGbf | 1/26 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 1/26 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 1/26 | Rantala, Enrico-Henrik | Nokia |
| TGbf | 1/26 | Sahin, Onur | InterDigital, Inc. |
| TGbf | 1/26 | Solaija, Muhammad Sohaib | Istanbul Medipol University; Vestel |
| TGbf | 1/26 | Sosack, Robert | Molex Incorporated |
| TGbf | 1/26 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 1/26 | Sun, Yingxiang | Huawei Technologies Co. Ltd |
| TGbf | 1/26 | Trainin, Solomon | Qualcomm Incorporated |
| TGbf | 1/26 | Tsai, Tsung-Han | MediaTek Inc. |
| TGbf | 1/26 | Wang, Pu | Mitsubishi Electric Research Labs (MERL) |
| TGbf | 1/26 | Wilhelmsson, Leif | Ericsson AB |
| TGbf | 1/26 | Xin, Yan | Huawei Technologies Co., Ltd |
| TGbf | 1/26 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbf | 1/26 | Zhang, Meihong | Huawei Technologies Co., Ltd |