IEEE P802.11  
Wireless LANs

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| 802.11bf  Teleconference Minutes November 2020 | | | | |
| Date: 2020-11-30 | | | | |
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Abstract

This document contains minutes from TG 802.11bf teleconference in November 2020.

Rev 0: Minutes for TG 802.11bf teleconference on 24th of November.

**Teleconference on Tuesday, November 24, 2020, 9:00am –10:30am (ET)**

**Proposed Agenda:**

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

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| **DCN** | **Author** | **Title** | **Time duration** |
| 20/1712 | Assaf Kasher (Qualcomm) | WiFi Sensing Use Cases | 30 mins |
| 20/1804 | Insun Jang (LG Electronics) | Discussion on WLAN Sensing Procedure | 30min |
| 20/1805 | Insun Jang (LG Electronics) | Discussion on WLAN Sensing Roles | 30min |
| 20/1741 | Pu (Perry) Wang (MERL) | Feasibility Study of Human Pose and Occupancy Classification using mmWave WiFi Beam Attributes -- Q&A | 10 mins |
| 20/1742 | Anthony Pesin (InterDigital) | A Study on the Impact of Radar Range Resolution in Different Use Cases -- Q&A | 10 mins |
| 20/1849 | Cheng Chen (Intel) | Wi-Fi Sensing Definitions | 20 mins |
| 20/1850 | Cheng Chen (Intel) | Overview of Wi-Fi Sensing Scenarios | 30 mins |
| 20/1851 | Cheng Chen (Intel) | Overview of Wi-Fi Sensing Protocol | 30 mins |
| 20/1893 | Meihong Zhang (Huawei) | Channel Modeling for WLAN Sensing Indoor Scenario | 30 mins |

* Any other business

**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).**

The Chair goes through slide 4 in document 11-20/1832r0, 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 8-13, covering “Other Guideline for IEEE WG meetings”, “Patent related information”, “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 14, and asked if there are any comments or questions.

Question /Comment (Q): It is suggested to add “Adjourn” as the last point on the agenda

Q: Will there be any time to discuss the selection procedure and the Functional Requirement Document?

Answer (A): Yes, I will add this to the agenda before the other presentations.

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

The Chair discuss the timeline, call for contribution, and teleconference times and explains that because there are many contributions, it is suggested to extend the teleconferences to two hours. The Chair asks if there is any objection to this. No response from the group.

The Chair informs that he has requested three time slots for the January Interim meeting.

**Presentations:**

**11-20/1812r0, “IEEE 802.11bf Selection Procedure”, Claudio da Silva (Intel):**

Claudio asks if there are any questions on this document, which he went through in the last meeting. No questions from the group.

**Straw Poll:** Do you support the adoption of 11-20/1813r0 as the Functional Requirement Document for TGbf?

**Y/N/A: 23/0/2**

Based on the positive outcome of the SP, Claudio requests to run a corresponding motion in the next teleconference.

**11-20/1804r0, “Discussion on WLAN Sensing Procedure”, Insun Jang (LGE):**

Insun presents some thought on the sensing procedure.

Q: You separate set-up and negotiation. I understand that this allows for further negotiation after the set-up is completed, but what is the reason for this?

A: I assume that the set-up is based on the maximum capabilities, which later can be negotiated to something else. But I am looking for feedback and are open to alternatives.

Q: On slide 9, does how the TXOP is obtained depend on the roles? I don’t understand why we are discussing TXOP here, and I think this part of the discussion can be removed.

Q: Why do the roles have to be announced in advance every time? Seems this can be done at set-up only.

A: Depending on the application, the roles can be different.

Q: I guess your intention is that negotiation is only once and then followed by many session phases.

A: The set-up is for the whole session.

Q: on slide 4, it looks like the capability is signaled in the same way for all bands, but today things are done differently in e.g. sub 7 GHz and 60 GHz.

A: I am open for doing things differently.

Q: The set-up as discussed here is about capability exchange done at association. I would call this discovery.

Q: On slide 6, STA 2 can be asleep. How do you get around this?

A: STA 2 can wake up before the sensing packet is transmitted.

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

Assaf presents the excel-sheet with uses cases collected this far.

Q: What kind of robustness is this about?

A: Basically, it is about issues related to interference and scheduling. For instance how you can deal with interference from other networks in the area or if the STA wants a specific scheduling, but the AP does not provide this.

Q: Is this from some contribution or is it an interpretation?

A: It is my interpretation of the contributions. I am happy to update if that would be needed.

Q: Great summary. Is this for Wi-Fi only, or are you open for some active complement?

A: We have agreed in the PAR to use what is available for sub 7 GHz. For 60 GHz we are open for modifications.

Q: About max network load, do you think this will impact our design in any way?

A: I believe it is important to discuss the trade-off between sensing performance and the impact it may have on the network performance.

Q: I agree it is good to discuss, but I don’t think it ultimately will impact the design.

A: Possibly. Maybe we can define categories depending on requirements.

Q: With respect to privacy and security, shouldn’t all measurements in a home be private and secure?

A: In a house it should be secured in the sense that it cannot be spoofed. Privacy is hard as you can just place a receiver outside the house and this can be used to detect movements inside.

Q: Max NW load, is that per session?

A: No, long term average.

Q: Do you believe different sensing activities can add up to a large number?

A: For 3D vision, I believe it could. For many other applications perhaps not.

Q: Is it fair to say that robustness is the inverse to sensitivity?

A: Yes, I believe so.

Q: We may want to add elevation for some use cases.

A: I agree, but I tried to limit the number of KPIs.

Q: Do you expect that different proposals will be judged using this list?

A: At this point I would not read too much into this list. It is intended as a guide.

Q: Are sub 7 GHz and 60 GHz exclusive.

A: No, but some uses cases may be predominantly handled in one of them.

Q: Any next steps for this document?

A: Nothing planned. If a new use case appears, we can just add it to this document. In fact, the group is encouraged to add things that are missed.

**The meeting is adjourned at 10:44 am (ET).**

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 11/24 | Au, Kwok Shum | Huawei Technologies Co., Ltd |
| TGbf | 11/24 | Au, Oscar | Origin Wireless |
| TGbf | 11/24 | Aygul, Mehmet | Istanbul Medipol University; Vestel |
| TGbf | 11/24 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 11/24 | Bluschke, Andreas | Signify |
| TGbf | 11/24 | Chayat, Naftali | Vayyar Imaging |
| TGbf | 11/24 | Chen, Cheng | Intel Corporation |
| TGbf | 11/24 | Cheng, Gang | Nokia |
| TGbf | 11/24 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 11/24 | Choi, Jinsoo | LG ELECTRONICS |
| TGbf | 11/24 | Costa, D.Nelson | Peraso Technologies Incorporated |
| TGbf | 11/24 | da Silva, Claudio | Intel Corporation |
| TGbf | 11/24 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 11/24 | Du, Rui | Huawei Technologies Co., Ltd |
| TGbf | 11/24 | Erell, Assaf | Vayyar Imaging Ltd. |
| TGbf | 11/24 | feng, Shuling | MediaTek Inc. |
| TGbf | 11/24 | HAN, Xiao | Huawei Technologies Co., Ltd |
| TGbf | 11/24 | Hoffman, Damian | Vayyar Imaging |
| TGbf | 11/24 | Jang, Insun | LG ELECTRONICS |
| TGbf | 11/24 | jiang, yiming | Nokia |
| TGbf | 11/24 | Kasher, Assaf | Qualcomm Incorporated |
| TGbf | 11/24 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 11/24 | Levy, Joseph | InterDigital, Inc. |
| TGbf | 11/24 | Lopez, Miguel | Ericsson AB |
| TGbf | 11/24 | Omar, Hassan | Huawei Technologies Co., Ltd |
| TGbf | 11/24 | Pare, Thomas | MediaTek Inc. |
| TGbf | 11/24 | PESIN, ANTHONY | InterDigital, Inc. |
| TGbf | 11/24 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 11/24 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 11/24 | Rantala, Enrico-Henrik | Nokia |
| TGbf | 11/24 | RISON, Mark | Samsung Cambridge Solution Centre |
| TGbf | 11/24 | Rosenhouse, Tsachi | Vayyar Imaging |
| TGbf | 11/24 | Sand, Stephan | German Aerospace Center (DLR) |
| TGbf | 11/24 | Sosack, Robert | Molex Incorporated |
| TGbf | 11/24 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 11/24 | Sun, Bo | ZTE Corporation |
| TGbf | 11/24 | Sun, Yingxiang | Huawei Technologies Co. Ltd |
| TGbf | 11/24 | Trainin, Solomon | Qualcomm Incorporated |
| TGbf | 11/24 | Tsai, Tsung-Han | MediaTek Inc. |
| TGbf | 11/24 | Wang, Chao Chun | MediaTek Inc. |
| TGbf | 11/24 | Wang, Pu | Mitsubishi Electric Research Labs (MERL) |
| TGbf | 11/24 | Wilhelmsson, Leif | Ericsson AB |
| TGbf | 11/24 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbf | 11/24 | Zeng, Ruochen | NXP Semiconductors |
| TGbf | 11/24 | Zhang, Meihong | Huawei Technologies Co., Ltd |