IEEE P802.11
Wireless LANs

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| July 2022 IEEE Plenary 802.11 AMP TIG Session minutes  |
| Date: 2022-7-11 |
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Abstract

This document includes minutes of AMP TIG Session of July 2022 IEEE 802 Plenary mixed-mode meetings.

Version Tracking:

R0: July 11th mixed-mode meetings minutes.

# Monday 11 July 2022 @ 7:30-9:30 pm ET

## Opening (IEEE 802.11-22/0860r1)

* 1. Call to order 9:30 pm ET.
	2. Chair instructed members to record attendance in IMAT.
	3. Chair introduced the patent policy and meeting rules (slides 2-8).
	4. No response to the call for patents.
	5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 9-10)
	6. Chair reviewed other Guidelines and new Motion rules for IEEE WG Meetings, and Registration requirements for July mixed-mode Meetings (slides 11-15).
	7. Chair reviewed current AMP TIG Session Plan, AMP-IoT Documents Update, AMP TIG Background, and AMP session Agenda (slides 16-23).
	8. Chair call for approval of the agenda of AMP session.

## Agenda (IEEE 802.11-22/0860r1)

* 1. Chair presented the agenda: https://mentor.ieee.org/802.11/dcn/22/11-22-0860-01-0000-tig-amp-session-agenda-for-jul-plenary-2022.pptx. (slide 19)
		+ Call meeting to order and remind the group to record attendance on imat.ieee.org
		+ IEEE-SA IPR policies and meeting rules
		+ Appoint executive Secretary
		+ Approval of agenda
		+ AMP TIG background and kickoff
		+ Contribution discussion
		+ Any other business?
		+ Recess
	2. No objection, Agenda approved.

## Contribution discussion

* 1. Presentation of IEEE 802.11-22/0969, draft technical report on support of AMP IoT devices in WLAN, by Weijie Xu (OPPO):

Q(uestion) by chair: how will you use the document? as the technical report?

A(nswer): I will use it as the basic structure of the report and agree it.

Q(uestion) by chair: do you want straw poll now?

A(nswer): We can do the poll.

Q(uestion) by chair: you can also take it later, considering people viewing it.

A(nswer): We can give more time for feedback.

* 1. Presentation of IEEE 802.11-22/0963r0 Use Cases for AMP IoT Devices, by Zhisong Zuo(OPPO)

Q(uestion): What are the main considerations to integrate WiFi?

A(nswer): Better integrate the advantages of WiFi communication and Battery-less.

Q(uestion): Existing scheme like 802.15 low power scheme may cover, what is the different for AMP-IoT

A(nswer): AMP-IoT can work in lower than 1 mW power consumption, we think 15 cannot satisfy. But this can be studied in the AMP-IoT.

Q(uestion): In the smart Home case, the required data rate?

A(nswer): No much data Rate needed. 100kps would be sufficient. Smart Home can work in even lower data.

Q(uestion): Do you think the camera can work in low data rate.

A(nswer): We may consider camera in next enhancement, now we focus on lower complexity devices for AMP-IoT.

Q(uestion)：AMP IoT market, we should identify how large is it. Then we can decide how to proceed.

A(nswer): The exact market cannot be predicted accurately for the new technologies. But we can use similar technologies like RFID. In slide page 4, we show significantly market value for RFID. We expect AMP-IoT would expand from that value.

 C(omment): More work should be done to show there is a market.

* 1. Presentation of IEEE 802.11-22/0962r0 Potential Techniques to Support AMP IoT Devices in WLAN, by Zhisong Zuo(OPPO)

Q(uestion): What is the signal intended for transmission in page 8?

A(nswer): Narrow band, lower than 1 MHz.

Q(uestion): the AP transmitter's signal would interfere the backscattered signal in the same carrier.

A(nswer): Several ways to deal with the interference. For same carrier reflecting, the AP can do the self-cancellation like full duplex. Or, AMP IOT devices can also do frequency shift to avoid the inferences.

Q(uestion): Sensing signal and back scattering signal would be in different power. Does that mean the AMP IOT have to transmit in different power.

A(nswer): IN that case the power could be different. Or you can let the AP do the sensing and a gap between the sensing and backscattering avoid interference.

Q(uestion): How can the channel sensing be down for back scattering.

A(nswer): One possibility is AP send the sensing signal.

Q(uestion): Cancellation of interference, back scattering and so on, would that require on the modification of existing WLAN hardware?

A(nswer): For AMP-only IoT, some modification is expected.

* 1. Presentation of IEEE 802.11-22/970r0, Feasibility of supporting AMP IoT devices in WLAN, by Weijie Xu (OPPO)

Till slide 5, to be continued in the next session.

Session Chair, Bo Sun, remind that in the next session, we will consider approval of the draft report of IEEE 802.11-22/969r0. Please companies give comments.

## Closing

* 1. The chair announced the session recessed at 9:30 pm ET.
	2. Next session will be on July 14th

# Thursday 14 July 2022 @ 8:00-10:00 am ET

## Opening (IEEE 802.11-22/0860r2)

* 1. Call to order 8:00 pm ET.
	2. Chair instructed members to record attendance in IMAT.
	3. Chair introduced the patent policy and meeting rules (slides 2-8).
	4. No response to the call for patents.
	5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 9-10)
	6. Chair reviewed other Guidelines and new Motion rules for IEEE WG Meetings, and Registration requirements for July mixed-mode Meetings (slides 11-15).
	7. Chair reviewed current AMP TIG Session Plan and updated AMP session Agenda (slides 16-23).

## Agenda (IEEE 802.11-22/0860r2 🡪 11-22/1139r1)

* 1. Chair presented the agenda (which was re-numbered as 11-22/1139r1): https://mentor.ieee.org/802.11/dcn/22/11-22-1139-01-0amp-tig-amp-session-agenda-for-jul-plenary-2022.pptx. (slide 22)
		+ Call meeting to order and remind the group to record attendance on imat.ieee.org
		+ IEEE-SA IPR policies and meeting rules
		+ Appoint executive Secretary
		+ Approval of agenda
		+ Contribution discussion
		+ Teleconference plan
		+ Any other business?
		+ Adjourn
	2. Agenda was approved without objection.

## Contribution discussion

* 1. Presentation of IEEE 802.11-22/970r0, Feasibility of supporting AMP IoT devices in WLAN, by Weijie Xu (OPPO)

Represented from slide 1.

Q(uestion): In the slide 3, it shows several minimum receiving powers as -20dBm to -45dBm. We assume the power should be higher than a threshold to drive circuits (like rectifier). Have you considered it?

A(nswer): There is threshold to meet, -20 and -30 dBm can drive circuits

Q(uestion): How does the Case3 can work.

A(nswer): The case3 is not pure passive, it uses the other power sources like solar.

Q(uestion):In the slide 7, similar as WUR, have you consider to reuse the wake up radio?

A(nswer): Yes, we can consider.

Q(uestion):. In page 3, seems analysis is done only sub1GHz. Can you provide for 2.4GHz？It also consider the antenna size of sub1GHz, small antenna may not reach the values in the analysis.

A(nswer): Yes, we can give for the next meeting. Yes, those antenna size can be considered. Also the 2.4GHz have higher pathloss and also affect energy harvesting.

C(omment): The reusing of low frequency scheme is feasible. Also, the device power efficiency should be optimized for that low power devices.

Q(uestion): What kind of payload for those devices (for IoT) carry.

A(nswer): One is the identification information; another is the sensing data. Also positioning information would be needed.

## Straw Poll

* 1. Do you agree the proposed skeleton of the draft Technical Report on support of AMP IoT devices in WLAN as in doc. IEEE 802.11-22/969r0? asked by Weijie(OPPO).

− Yes: 24

− No: 1

− Abstain: 2

## Future teleconference plan

* 1. Chair propose one more tele con before Sept. The August 16th is suggested by chair.

10:00 am – 11:59 am, August 16th

No objection, time approved.

The Chair also claimed 2 session slots to be arranged in September meeting.

## Closing

* 1. Chair adjourned the session at 9:15pm ET.