IEEE P802.11  
Wireless LANs

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| 802.11 AMP SG meeting minutes for August 2023 Teleconference | | | | |
| Date: 2023-8-30 | | | | |
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Abstract

This document includes minutes of AMP SG Sessions of IEEE August 2023 Teleconference.

Version Tracking:

R0: Creating the minutes.

# Tuesday 29 August 2023 @ 10:00-12:00 am ET

## Opening (IEEE 802.11-23/1347 r0)

* 1. Call to order 10:00 am ET.
  2. Chair, Bo Sun (Sanechips), 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, Participation and Guideline for Straw Polls (slides 11-13).
  7. Chair reviewed the teleconference plan till Sep Interim session and the submission list (slides 14-16).
  8. Hao Wang (Tencent) is the secretary.
  9. Chair call for approval of the agenda of the AMP teleconference (slide 18).

## Agenda (IEEE 802.11-23/ 1347 r0)

* 1. Chair presented the agenda: https://mentor.ieee.org/802.11-23-0931-00-0amp-amp-sg-meeting-agenda-for-jul-plenary-2023. (slides 19)
     + Call meeting to order and remind the group to record attendance on imat.ieee.org
     + IEEE-SA IPR policies and meeting rules
     + Approval of agenda
     + Contribution discussion
       - 11-23/1354, AMP Device Channel Occupancy Analysis, Yinan Qi (OPPO)
       - 11-23/1355, Further Discussion on AMP PAR, Yinan Qi (OPPO)
       - 11-23/1356, Discussion on AMP Power link, Weijie Xu (OPPO)
       - 11-23/1379, AMP Interference example, Amichai Sanderovich (Wiliot)
     + Any other business?
     + Adjourn
  2. No objection, Agenda approved.

## Contribution discussion

* 1. Presentation of IEEE 802.11-23/1354, AMP Device Channel Occupancy Analysis, Yinan Qi (OPPO)

Q(uestion): Data transmission and energy harvest are on the same 2.4 Ghz band?

A: Energizer is not relevant here.

Q: For data communication, number seems reasonable, not causing coexistence issue. But how to avoid STA with a battery transmitting much more data? How to avoid the risk?

A: AMP devices have the unique feature as low power transmission and low power consumption relying on energy harvest by which the energy is limited. These are not designed for higher data rate and large payload.

Q: Regarding indoor position, 0.1/h seems too low considering the navigation use case.

A: We assume position is triggered by some event. The AMP device will transmit on demand not in period.

Q: Maybe we need to take moving speed into account.

A: We only need to measure the relative position. Plus, only part of AMP devices will be awake during positioning.

Comment: The target use case for AMP device, the payload and transmit interval is low. The market will select suitable tech based on the actual use case.

* 1. Presentation of IEEE 802.11-23/1355, Further Discussion on AMP PAR, Yinan Qi (OPPO)

Q: I have concerns on energizer operating on 2.4Ghz band. It will be on constantly for long time and cause jam issues.

A: The energizer can work on Sub-1Ghz and 2.4Ghz. The TIG report shows benefit for the Sub-1Ghz energizer. It’s open for discussion.

Q: Question on the architecture on slides 4. The device should be Wi-Fi compliant?

A: If you are talking about the device communicating in 11b or 11n protocol, it will be Yes.

Q: That’s my concern. Maintain legacy communication would require much more power consumption. I suggest to remove it from the PAR.

A: I agree, and additional power saving method is needed.

A: The requirement is not mandatory for all AMP devices. It is suggested that in some scenario, AMP device can talk to legacy Wi-Fi. We can work on the language.

Q: In the architecture, which device can generate the wake up signal?

A: Based on pervious discussion, the wake up signal can be generated by energizer and AP.

Q: how much overhead will be added to the legacy?

A: It should be very small. The signal only needs to contain the device ID.

* 1. Presentation of IEEE 802.11-23/1356, Discussion on AMP Power link, Weijie Xu (OPPO)

Q: What is the conclusion? The power link needs fully control?

A: Yes, at least, there are scenarios which require intermediate node and control the power link. And backscatter needs to specify the reasonable timing of power node. We need to define the power link to meet the regulation.

* 1. Presentation of IEEE 802.11-23/1379, AMP Interference example, Amichai Sanderovich (Wiliot), presented by Solomon Trainin

Q: Slides 8, AP power is -35dBm, what will happen if AP power is at -70dBm?

A: Not to comment on the specific number. The mobile device may move near the AMP device and cause interference. If the signal is at -70dBm level, there will be no impact.

Comment: I think the received power difference between AMP device and legacy. AMP may transmit at -20dBm, but for legacy Wi-Fi may transmit higher than 10dBm. In backscatter case, the transmit power is even lower.

Q: If the received AMP power is at -70dBm, it will cause a new noise floor. It will cost more AP to gain enough SINR.

A: In general, you can’t control the sensitivity.

Comment in chat: activity level, percent of the activity, need to consider, not constant tx at -70.

Comment: Echo to the previous commentor, the AMP device only raise the noise floor when AP and device transmit at the same time. But in actual case, it will rarely happen because of the long duty cycle.

Q: Slides 6, how long need for transmit the 200 bits? And who is doing the CCA?

A: not clear at this point.

Comment: This scenario is a special deployment. In general, AMP only transmits at low power level, the co-existence shouldn’t be an issue.

Comment in chat: such MAC enhancements of having the AP take the burden of channel reservation, etc have been discussed. But those are under discussion.

## Adjourn

* 1. The chair announced the session recessed at 11:45 am ET.