IEEE P802.11  
Wireless LANs

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| UHR SG September 2023 Meeting Minutes | | | | |
| Date: 2023-09-11 | | | | |
| Author(s): | | | | |
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Abstract

This document contains the minutes for the UHR SG September 2023 Meeting Minutes.

Revision history:

* Rev0: initial version.
* Rev1: typo corrected

Abbreviations:

* C: Comment
* A: answer

# 1st Call: Monday, PM2, (16:00-18:00 ET)

1. The Chair, Laurent Cariou (Intel), calls the meeting to order. The Chair notifies the attendees that the agenda is in [11-23-1362r1](https://mentor.ieee.org/802.11/dcn/23/11-23-1362-01-0uhr-uhr-sg-september-2023-meeting-agenda.pptx).
   * Note that this is a hybrid meeting, with some participants in person and some participating online through a webex session
   * Need to pay the registration fee to attend
2. IEEE-SA Policies and Procedure

The chair reviews the IEEE-SA Patent Policy:

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair. Speak up now and respond to this Call for Potentially Essential Patents. **Nobody speaks/writes up**.

1. The chair goes through other guidelines for IEEE WG meetings, Patent-related information, Participation in IEEE 802 Meetings, and Copyright. The Chair asks that it be minuted that the **Copyright Policy** was presented.

* Chair provides an attendance reminder:

3.1. Please record your attendance during the session by using the IMAT system:

* login to [imat](https://imat.ieee.org/attendance)
* select “802 Wireless Interim Session - Mixed mode - Sept 2023”
* select “C/LM/WG802.11 Attendance” entry
* click “UHR SG session that you are attending
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1. Agenda:

* Chair reviews proposed agenda
* Discussion:
  + C: request to group 11-23/1511r0 with the other two contributions of the same topic.
* Agenda approved with unanimous consent.

1. Announcements:

* None

1. Approval of SG Minutes

Move to approve UHR SG minutes listed below:

* July Plenary:
  + - <https://mentor.ieee.org/802.11/dcn/23/11-23-1181-01-0uhr-uhr-sg-july-2023-meeting-minutes.docx>
* Teleconferences July-August:
  + - <https://mentor.ieee.org/802.11/dcn/23/11-23-1313-05-0uhr-uhr-sg-july-august-2023-telecon-minutes.docx>

Move: Ross Jian Yu Second: Alfred Asterjadhi

Discussion:

* None

Result: approved with unanimous consenst

1. Submissions

* [11-23-1447r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1447-00-0uhr-cfo-impact-and-pilot-design-for-dru-follow-up.pptx) CFO Impact and Pilot Design for dRU Follow up Eunsung Park (LG Electronics)
  + - C: Slide 7, DRU has an obvious gain compared with regular RU since there exists frequency diversity. I doubt about it. It is better to double check the results. Reconduct the simulation in AWGN channel.
    - A: I have simulated it. No difference in AWGN channel.
    - C: Simulation conditions, do you do any kind of correction at the Rx?
    - A: At the Rx, use phase tracking per RU.
    - C: not sure if this happens at dRU.
    - A: each dRU use their own pilot tones. Do phase tracking at Rx.
    - C: Do you consider interfernce from neighboring APs?
    - A: will consider them later.
* [11-23-1448r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1448-00-0uhr-further-considerations-on-dru.pptx) Further Considerations on dRU Eunsung Park (LG Electronics)
  + - C: In this summary slide, have you thought about the mixed mode where both dRU and rRU exist? Some of the STAs do not support dRU.
    - A: We can simply apply 20MHz for rRU, and 60MHz for dRU tone plan.
    - C: On the puncturing cases, if for every puncturing case, you will get a new tone plan. That will be more complicated.
* [11-23-1511r1](https://mentor.ieee.org/802.11/dcn/23/11-23-1511-01-0uhr-pilot-tone-allocation-and-other-considerations-of-tone-distributed-rus-for-uhr.pptx) Pilot Tone Allocation and Other Considerations of Tone-Distributed RUs for UHR Mahmoud Kamel (InterDigital)
  + - C: In slide 7, why the simulation results are the same even though when there is no residual CFO? When the residual CFO is zero, should be better than the other cases.
    - A: We don’t turn off the phase tracking algorithm when there is no CFO.
    - C: slide 5, may I know the benefits of using tradtional pilot? For example, Opt3. Why not use -116, 11 not -1160, 10.
    - A: Using the existing tone plan may bring some simplicity. Use the design we already have for rRU. The location of the tones are not changed. Making the distance larger, you could do that. This option is to allow distance large enough for all users. If you have sufficient large gap, you probably will get the same result.
    - C: depends on the detail designs of the dRU.
* [11-23-1374r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1374-00-0uhr-papr-of-ofdma-transmission.pptx) PAPR of OFDMA transmission Xiaogang Chen (Spreadtrum US)
  + - C: slide 5, option 3, is it a set of 1,-1?
    - A: Yes
    - C: some use cases are less likely to happen, 160 MHz, all the RUs are 26. Assuming we are doing dummy OFDMA, if it indeeds happens, and wants optimization, the Q matrix is always proprietary, transparent to spec. Really you don’t need the spec changes.
    - A: I get this comment offline. Defeinitly we can do some proprietary phase rotation. If we know this is an issue and we don’t optimize it, like CSD. This can be applied without affecting standardization. However you may get unintional BF. I think here it is similar.
    - C: yes and no. A lot of cases are not realistic. If you use it, you can try to solve it. CSD, you need to know, the Rx can remove the CSD when do smoothing.
    - A: I am talking about per antenna CSD.
    - C: For pre-HE modulated part, you need to standardize, you cannot use very big CSD. There are a lot of reasons. My overall thought is that it is good finding, not very common use cases, indeed there are some cases, there are methods to solve it. It doesn’t worth to change it.
    - A: Part of your comments I cannot agree. But I know your comments.
* [11-23-1490r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1490-00-0uhr-physical-layer-reliability-improvements.pptx) Physical Layer Reliability Improvements Shimi Shilo (Huawei)
  + - C: slide 8, you want to estimate the interference, you insert a lot of pilots. If you only use the existing pilots, what is the loss?
    - A: It is a tradeoff. Maybe I can show some simulations later.
    - C: For your first approach, slide 5, the main goal is try to improve your Tput. You try to use repeatation and high MCS, if you don’t use repeatation, and lower MCS, what is the difference?
    - A: It depends on what MCS, how narrow the interfenrece is, how strong the interference is. Next time I can show more results.
    - C: for data repeatation, you use the same MCS, or you may use different MCS.
    - A: we assume just replicate the RU, allow RU to enable very simple combining. I am not suggesting that is the only way forward.
    - C: slide 9, the interference model is continuous interference?
    - A: yes. Throughout the packet. Could be OFDM, but not synchronized to the signal. If you have OFDM synchronized, you need less antennas to mitigate. OFDM would be easier for the Rx to cope with.
    - C: high level question on page 4, what exact interference you are dealing with. Both of your approach, you scarfice the performance. If the interference is so random. If your interference is so strong, you fountain is satured. Whatever you do in digital domain, it doesn’t help.
    - A: this figure just shows an idea and has nothing to do with the simulation.
    - C: You can predict the interference whether it is constanly there.
    - A: I think interference is an fact in unlicensed spectrum. These results in my view, they show that you work in a scenario where reliability is important. Perhaps it is worth the effort to pay extra pilot.
* [11-23-1516r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1516-00-0uhr-use-case-for-distributed-rus-in-downlink.pptx) Use case for distributed RUs in Downlink Sigurd Schelstraete (MaxLinear)
  + - C: MCS selection also depends on large scale fading. We still need CQI feedback per RU. I don’t see much benefits.
    - A: We need to talk.
    - C: I am not saying it doesn’t bring any benefits.
    - A: link adaptation for OFDMA becomes very complicated. You fix a STA in a dedicate RU. Or complicated OFDMA link adaptation.
    - C: Slide 11, if you unify the pilots, small bandwidth operating STA will not utilize the pilots.
    - A: Didn’t consider 20MHz STA combine with others.

C: how do you envision the ACK transmission?

A: OFDMA, triggered.

C: triggered the DRU ACK?

A: not neccessarily DRU.

* Recess at 17:59 ET

# 2nd Call: Wednesday, AM1, (08:00-10:00 ET)

1. The Chair, Laurent Cariou (Intel), calls the meeting to order. The Chair notifies the attendees that the agenda is in [11-23-1362r2](https://mentor.ieee.org/802.11/dcn/23/11-23-1362-02-0uhr-uhr-sg-september-2023-meeting-agenda.pptx).
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1. Agenda:

* Chair reviews proposed agenda.
* Discussion:
  + None
* Agenda approved with unanimous consent.

1. Announcements:

* None

1. Submissions

* [11-23-1327r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1327-00-0uhr-considerations-on-return-txop-between-aps.pptx) Considerations on return TXOP between APs Si-Chan Noh (Newracom)
  + - C: Slide 6, in this scenario, for the TBD frame, some other frame or CF-end frame, the sharing AP can access the medium SIFS after the frame. Do you still envision the problem exists?
    - A: The CF-end frame. There is no implicit TXOP returning. This problem should remain. If the CF-end frame is extended. It can be a good solution.
    - C: We are defineing UHR behavior. The sharing AP is a UHR AP.
    - C: You only consider UHR device, do you consider legacy devices?
    - A: It is a complicated scheme. Need more discussion for legacy devices.
    - C: AP3 sets NAV based on control frame at the begining. The second step, the shared AP sends CTS. The AP3 sets the NAV again. AP3 sets NAV for two times.
    - A: It depends on AP3’s location. We consider two cases. The first case is this scenario. The second case is APs only hears the sharing AP.
    - C: Non-AP STA associated to shared AP cannot transmit because of the basic NAV. When the TXOP is returned using CF-end, the sharing AP can grab the TXOP right after. We can define the rule. The problem is that when the STA is a legacy STA and being set NAV.
* [11-23-1387r1](https://mentor.ieee.org/802.11/dcn/23/11-23-1387-01-0uhr-txop-sharing-extensions-for-xr-use-cases.pptx) TXOP sharing extensions for XR use-cases Dibakar Das (Intel)
  + - C: slide 7, what is the control signaling?
    - A: Could be a basic trigger frame. Unless you want to optimize further. For non-AP STA, it doesn’t exist today. We can further discuss.
    - C: For motivation, the data from PC to HMD, and HMD to PC. There are many existing mechanisms, like R-TWT.
    - A: Current scheme still needs EDCA mechanism. Anyone can jump in. The transmission flow is delayed. If you group them together, you can share the TXOP.
    - C: slide 7, each figure, we can find the existing solution. Figure 1, can have TXOP sharing or trigger frame. For 2nd figure, can use current RDG. The last figure, we also have TXOP sharing, a STA can allow this AP to use its own TXOP. We already have a lot of existing mechanisms. Should try to implement existing mechanisms in WFA instead of inventing new methods.
    - A: you prefer RDG. We can look into that as an option. For figure 3, the current RDG doesn’t apply.
    - C: we have similar mechanism.
    - C: For the RDG, there are existing implementations for RDG. It is good idea to evaluate what we have are not desirable. In 11be, we introduce TXS. It is good to evaluate what is missing. The other part, when the STA shares the TXOP to AP. Other STAs will have trouble to obtain the TXOP.
    - A: We have done this for AP to AP sharing, kind of the similar problem. It is a tradeoff. The TXOP is to be limited, 3ms.
* [11-23-0908r0](https://mentor.ieee.org/802.11/dcn/23/11-23-0908-00-0uhr-efficient-coordinated-spatial-reuse.pptx) Efficient Coordinated Spatial Reuse Leonardo Lanante (Ofinno)
  + - C: Can you go to slide 3, the sharing AP will indicate Tx power and MCS. How does the sharing AP know what MCS the shared AP will use.
    - A: The assumption is that the sharing AP knows.
    - C: You assume there is some pre-negotiation?
    - A: yes
    - C: A simpler way is the shared AP decides its own power and MCS.
    - A: that could be one use case. The one I was assuming the sharing AP knows the Rx of the shared AP.
    - C: it is not that practical.
    - C: slide 6, agree with the genral procedure. You assume one station per AP. There may be many STAs to join the procedure.
    - A: The assumption here is that the destination is known by the sharing AP.
    - C: the destination is only one?
    - A: yes.
    - C: how could you know the destination STA?
    - A: that could be separated negotiation between sharing AP and shared AP. In this case, it is already done.
    - C: slide 4, AP1 is going to create a subset of STAs in the area. Those will be involved in the measurement phase. There are many other STAs, they are still creating interference. Another thing is that AP1 could communicate with STA1, would try to communicate with STA2. How does AP1 know it can receive signal from STA2.

A: the assumption is that only these STAs are transmitting. Whether some STAs will transmit or not, we can protect the transmission using RTS and CTS. If there are still STAs involve, that’s another problem. Regarding whether AP1 can hear STA2, I am thinking more of a coordinated procedure. This is the exact PPDU that is being assumed. STA1 and STA2, they transmit at the same time. When they receive NDPA. There is no problem regarding AP1 not receiving transmission by STA2.

* [11-23-1454r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1454-00-0uhr-cross-interference-during-coordinated-spatial-reuse.pptx) Cross Interference during Coordinated Spatial Reuse Leonardo Lanante (Ofinno)
  + - C: slide 8, looking at the CDF. It troubles me. I would expect some part better and some part worse, 50-50.
    - A: This CDF, it measures the maximum interference across subcarriers within that TXOP. The maximum can be higher. If I plot the CDF of all interfenrece, it can be much closer.
    - C: that makes more sense. Maybe this is not the most important metric. It doesn’t necessarlily lead to the coding failure.
    - A: we can decide the simulation scenario.
* [11-23-1461r1](https://mentor.ieee.org/802.11/dcn/23/11-23-1461-01-0uhr-considerations-on-multi-ap-operation.pptx) Considerations on Multi-AP Operation Jiayi Zhang (Ofinno)
  + - C: slide 5, you mention multi-AP setup. What is the detailed procedure?
    - A: Need to exchange BSS information to form candidate set.
    - C: May have security issue?
    - A: Need some authentication procedures.
    - C: Can you move to slide 6, I like your approach the sharing AP will give the shared AP some notification. I am quite aligned with you on early notification. For confirmation frame, it could simplify the case. We don’t need to have confirmation frame. It can help AP2 know it is selected. Multi-AP trigger fame serves the same function.
    - A: Yes, could be. This shows the selection phase. There may be other examples.
    - C: suggest to take it offline.
* [11-23-1499r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1499-00-0uhr-proposed-amendments-for-multi-ap-coordination-language-in-eht-sfd.pptx) Proposed Amendments for Multi-AP Coordination Language in EHT SFD Brian Hart (Cisco Systems)
  + - C: Are there any bounds to EHT SFD?
    - A: We can choose process whether to involve it or not. It could be.
    - C: slide 7, when you say per TXOP. What do you mean?
    - A: This is related to when you have the sharing and shared AP. By definiation, sharing AP is setting the TXOP.
    - C: there is some case you have coordination between the same groups. Sharing AP is a role which may change per TXOP.
    - A: we are on the same page.
    - C: would be cooridantion between APs. Would be more on the AP side.
    - A: this is a good question. This is not trying to exclusionary. For TXOP sharing, it is not just APs, but STAs.
    - C: You mention vendor specific extension. It is in data field or control field?
    - A: C-TWT is coordination between APs. It can be generalized. Out of band coordination, probably in MPDUs, potentially in control frame. Over the air, control frame.
    - A: could be vendor specific action frame, vendor specific element. For control frame, it is more sentative. We could use trigger frame. By default, it will be between APs.
    - C: There is some case not coordination in time domain. Could exclude some case of coordination?
    - A: it seems we are in the same page. It is not to limit the discussion.
    - C: sharing AP and shared AP is per TXOP.
    - A: do you have a different mind?
    - C: the AP initiates the triggered transmission, is the sharing AP. It has nothing to do with the TXOP.
    - A: Within a TXOP, the sharing AP would not be the TXOP holder. There may be other examples.
    - C: what is out-of-band?
    - A: two APs in the same band. That’s in-band coordination. Another example is for mesh, also has a third channel that is purely for AP coordination.
    - C: not limited by one hop?
    - A: in a mesh, if you want to do C-TWT. The first AP, second AP, third AP, that could be the whole mesh.
    - C: you consider coordinated UL-MU-MIMO in R2, in slide 7?
    - A: That’s the language from EHT.
* Recess at 09:57 ET

# 3rd Call: Thursday, AM2, (10:30-12:30 ET)

1. The Chair, Laurent Cariou (Intel), calls the meeting to order. The Chair notifies the attendees that the agenda is in [11-23-1362r2](https://mentor.ieee.org/802.11/dcn/23/11-23-1362-02-0uhr-uhr-sg-september-2023-meeting-agenda.pptx).
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1. Agenda:

* Chair reviews proposed agenda
  + Discussion
* None
* Agenda approved with unanimous consent.

1. Submissions

* [11-23-1205r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1205-00-0uhr-multi-link-devices-with-receive-only-stas-for-uhr.pptx) Multi-link devices with receive-only STAs for UHR Thomas Handte (Sony)
  + - C: for this Rx only link, is there beacon?
    - A: Assuming rx only is at STA side, there will be beacon.
    - C: slide 5, you mention the 3rd bullet, could you clarify network scan?
    - A: see what is going on in a particular link.
* [11-23-1365r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1365-00-0uhr-discussions-on-non-primary-channel-access.pptx) Discussions on Non-primary Channel Access John (Ju-Hyung) Son (WILUS)
  + - C: how should we differentiate non-primary channel access and MLO?
    - A: There are many contributions on non-primary channel access. By using MLO concept, the concept still remains. Just change the link concept, channel access is the same.
    - C: Do you think MLO in 11be is sufficient for the STA to initiate the transmission on secondary channel?
    - A: in my understanding, within 11be, at the STA side, this overlapping channel link concept is not allowed. Other than that, no much difference.
* [11-23-1414r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1414-00-0uhr-secondary-channel-usage-follow-up.pptx) secondary channel usage follow up Liwen Chu (NXP)
  + - C: slide 8, you said priority for non-primary channel, do you mean backoffs on multiple non-primary channels?
    - A: switch to second subchannel, when subchannel 2 gets zero, will check other subchannels. You also check other 20 MHz channels. PIFS before your transmission. Only use one non-primary channel, not combine with other channels, the dynamic bandwidth negotiation would be simpler.
    - C: slide 7 is quite interesting. There is limitation, has to allocate up to 80 MHz subchannels. How about multiple RUs in different channels?
    - A: That’s difficult to implement. If we have multiple primary subchannels, the RU indexes, switch to subchannel 2, to allocate RU index, we need to define rules, which backoff channels are used to define RU index. Another issue is some STAs already switch secondary subchannels. Some STA doesn’t switch, assume primary channel is idle. Difficult for AP to allocate RUs for those STAs. 242-tone RU in P80, this 80MHz STA already switches to subchannel 2. Somehow the STA needs to switch back, this needs additional time. Difficult to implement. That’s why I think a simple solution is when there is subchannel swith, we only allow single subchannel.
* [11-23-1419r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1419-00-0uhr-nonprimary-channel-access-discussions.pptx) Nonprimary channel access discussions Gaurang Naik (Qualcomm)
  + - C: Under this topic, if AP switches to a non-primary channel. The AP will not take care of the PPDU on primary channel, right?
    - A: Yes.
    - C: for the STA side, I assume the AP asked the STA to switch to another channel, it will be still within the STA’s bandwidth, right?
    - Yes.
    - C: The conclusion without the need for concurrent packet detection/CCA capabilities. The standard should not rule this out.
    - A: The point is that it can add complexities. To keep the feature simple, to have uniform design. If you want more, it becomes more and more complicated.
    - C: should not rule this out. Depends on the architecture. Only allowing one non-primary channel access, that should also be capabity.
    - A: If you have hidden node, if you have multiple non-primary channel access, there will be more coordinating loss.
    - C: this setup 2 is below ED. The legacy AP already finds good opporturnity for spatial reuse scenario. There is no MCS loss due to interference of spatial reuse.
    - A: Gains of nonprimary channel access are scenario-specific.
    - C: the STA has to follow the baseline, could you explain what is the baseline?
    - A: -72dBm PD for secondary channel. Initiate the transmission using RTS/CTS. Exactly what we have in 11be.
* [11-23-1444r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1444-00-0uhr-non-primary-channel-access-evaluations-followup.pptx) Non-primary channel access evaluations\_followup Dibakar Das (Intel)
  + - C: I see the performance depends on the configuration, should not conclude that the design should be very simple. Should allow different AP and non-AP architectures.
    - A: We need to discuss and investiage more.
* [11-23-1496r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1496-00-0uhr-emlsr-dynamic-subband-operation.pptx) EMLSR Dynamic Subband Operation Yongho Seok (MediaTek)
  + - C: Negotiation of the DSO channel should be a bitmap?
    - A: The bitmap is reasonable.
* Recess at 12:28 ET

# 4th Call: Thursday, PM2, (16:00-18:00 ET)

1. The Chair, Laurent Cariou (Intel), calls the meeting to order. The Chair notifies the attendees that the agenda is in [11-23-1362r3](https://mentor.ieee.org/802.11/dcn/23/11-23-1362-03-0uhr-uhr-sg-september-2023-meeting-agenda.pptx).
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3.1. Please record your attendance during the session by using the IMAT system:

* login to [imat](https://imat.ieee.org/attendance)
* select “802 Wireless Interim Session - Mixed mode - Sept 2023”
* select “C/LM/WG802.11 Attendance” entry
* click “UHR SG session that you are attending
  1. If you are unable to record your attendance contact Laurent Cariou (laurent.cariou@intel.com) and Ross Jian Yu (ross.yujian@huawei.com) for assistance

1. Agenda:

* Chair reviews proposed agenda
* Discussion
  + some comments on revisions update.
* Agenda approved with unanimous consent.

1. Submissions

* [11-23-1434r2](https://mentor.ieee.org/802.11/dcn/23/11-23-1434-02-0uhr-discussions-on-low-latency-traffic-delivery-in-uhr.pptx) Discussions on Low Latency Traffic Delivery in UHR Zinan Lin (InterDigital)
  + - C: slide 6 and 7, you mention 3 examples. You assume STA1 is AP side. You are missing non-AP STA is TXOP holder. AP has low latency traffic or another STA has low latency traffic.
    - A: That’s possible.
    - C: slide 7, in scenario 2, how do you make group of STAs for preemption.
    - A: Needs some prior knowledge. We are thinking.
    - C: The capabilities of AP and STA could be different. In reality, scenario 1 may be combined with scenario 5. We can discuss further offline.
* [11-23-0816r1](https://mentor.ieee.org/802.11/dcn/23/11-23-0816-01-0uhr-enhancements-for-latency-sensitive-traffic-and-in-device-coexistence.pptx) Enhancements for latency sensitive traffic and in-device-coexistence Shubhodeep Adhikari (Broadcom)
  + - C: how often do you need this adjust?
    - A: In case IDC constrant is predictable, that can be semi-static. But there are also non-predictable IDC constraints, for example UWB. That cannot be indicated semi-staticly.
    - C: There is a tutorial of this topic, train, car and bicycle. It is hard for me that Wi-Fi should adapt. The other technology should adapt.
    - A: The chip vendor has to adapt what the user is asking for. It depends on the use case. The market decides who adjusts to whom.
    - C: If you make it easier for Wi-Fi to shut down. We create an environment where Wi-Fi is more and more constraint.
    - A: We are already adapting to prevent Wi-Fi interference to UWB and BT.
* [11-23-1103r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1103-00-0uhr-in-device-interference-discussion.pptx) in-device interference discussion Huizhao Wang (NXP)
  + - C: Either predictable or non-predictable technologies. Lot of interference technology. Provide information or it is predictable based.
    - A: Hopefully to be got predictable information, 802.15 stack to go to 802.11 stack. Like broadcasting beacon, to announce non-Wi-Fi service period. Try to avoide to collide with each other, between the Tx and Rx.
    - C: You said AP can broadcast periodical SPs, it may disclose privacy information to the 3rd party.
    - A: Those information, similar like 11v, we could have mechanism, the AP solicits and the STA feedbacks. The AP aggregates those information. It could be a coordinated effort like beacon report.
    - C: in your proposal, AP broadcasts user’s information, may disclose privacy.
    - A: may broadcast RF characteristic and timing charactieristic, the impact per 20 MHz, doesn’t reveal specific information.
* [11-23-1424r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1424-00-0uhr-follow-up-on-peer-to-peer-p2p-communication-for-uhr.pptx) Follow-up on peer-to-peer (P2P) communication for UHR Rubayet Shafin (Samsung Research America)
  + - C: I like the proposal.
* [11-23-1173r1](https://mentor.ieee.org/802.11/dcn/23/11-23-1173-01-0uhr-tsn-and-time-sensitive-wireless.pptx) TSN and Time-Sensitive Wireless Inaki Val (Maxlinear)
  + - C: I think I kind of agree with the direction. In the beginning of 11be, there are tutorials from 802.1 about TSN. There are a piece of topics. One thing I feel it is always hard with lack of some deterministic KPI. Your contribution differentiates wired and wireless TSN. The future step may be to define the objective of wireless TSN. Identify the gap, and transists the gap to some features of UHR.
    - C: Slide 14, the last bullet, current technologies used by 802.1 for low latency, ultra high reliable. You want to define some interface?
    - C: There may be some gap. Try to reduce the gap.
* [11-23-1530r1](https://mentor.ieee.org/802.11/dcn/23/11-23-1530-01-0uhr-evaluation-of-supported-low-latency-services.pptx) Evaluation of Supported Low-Latency Services Liuming Lu (OPPO)
  + - No Q&A

1. Goals for November 2023

* Transition to 802.11bn

1. Teleconference/ad-hoc plan

* SASB meeting on September 21st after Nescom meeting
  + Decision on 11bn PAR
* No telecon plans for now
* Will announce them with 10 days notice

1. AoB
   * None
2. Adjourn at 17:55 ET