IEEE P802.11
Wireless LANs

|  |
| --- |
| 802.11 bn PHY ad-hoc minutes November 2024-January 2025 |
| Date: 2024-12-05 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Sigurd Schelstraete | MaxLinear |  |  | sschelstraete@maxlinear.com |

Abstract

This document contains the meeting minutes for the TGbn PHY ad hoc calls held on:

* Thursday December 5, 2024

## Thursday December 5th, 2024 10:00 – 12:00 ET

**Introduction**

1. The Chair (Dongguk Lim, LGE) calls the meeting to order at 10:00am ET.
2. The Chair follows the agenda in 11-24/**1988r3**.
3. The Chair reminds everyone to report their attendance by using IMAT system and by sending an e-mail to the Co-chair, Tianyu Wu (Apple), Sigurd Schelstraete (MaxLinear) or the Chair himself if unable to record attendance via IMAT system.
4. The Chair goes through the IPR policy and asks if anyone is aware of any potentially essential patents. **Nobody speaks up.**
5. The Chair goes through the Copyright policy.
6. Agenda
* PDT presentations
* Straw Polls
* Technical Submissions–Preamble Part 2 + DRU Misc.:
	+ [24/1831](https://mentor.ieee.org/802.11/dcn/24/11-24-1831-00-00bn-uhr-u-sig-and-uhr-sig-common-field-general-design.pptx) UHR U-SIG and UHR-SIG common field general design Juan Fang
	+ [24/1834](https://mentor.ieee.org/802.11/dcn/24/11-24-1834-00-00bn-11bn-non-elr-signaling-design-for-new-features.pptx) 11bn Non-ELR Signaling Design for New Features Alice Chen
	+ [24/1840](https://mentor.ieee.org/802.11/dcn/24/11-24-1840-00-00bn-uhr-mu-ppdu-user-info-field-signaling.pptx) UHR MU PPDU user info field signaling Rui Cao
	+ [24/1864](https://mentor.ieee.org/802.11/dcn/24/11-24-1864-00-00bn-map-ppdu-consideration-and-harmonized-u-sig-signaling.pptx) MAP PPDU Consideration and Harmonized U-SIG Signaling You-Wei Chen
	+ [24/1753](https://mentor.ieee.org/802.11/dcn/24/11-24-1753-00-00bn-signaling-for-dru-in-trigger-frame-follow-up.pptx) Signaling-for-dru-in-trigger-frame-follow-up Eunsung Park
	+ [24/1778](https://mentor.ieee.org/802.11/dcn/24/11-24-1778-00-00bn-distributed-ru-distortion-beamforming-power-control.pptx) Distributed RU Distortion, Beamforming, Power Control Rainer Strobel

**PDT Submissions**

**24/1981r2 PDT ELR (Lin Yang)**

Presenter reviews the proposed text. The proposal is mostly complete, with the following exceptions:

* PE has TBD
* Precorrection req. has TBD and no supporting motion

Discussion

Q: don’t include text that is not agreed – specifically on precompensation

A: Will remove

Q: can you define equation for ELR-STF and ELR-LTF?

A: This PDT describes ELR. If description is common with other formats, it’s not included in this PDT. Can add the equations.

Q: for pilots, can we list the tones explicitly? There are 4 repetitions.

A: we usually use references if things are already defined elsewhere. It’s the same as DL OFDMA with four RUs.

Q: I see comments for the editor. It should be a group’s decision, e.g. by SP.

Q: please use Visio for figures.

Q: don’t see much benefit of including the figures for ELR-MARK.

Q: agree we shouldn’t include not-agreed text, even when indicated in square brackets. There are multiple instances.

PoC will make the requested edits and there will be further offline discussion.

**Straw Polls**

SP1

Do you agree to include the following into the 11bn SFD?

* The UEQM patterns indication for NSS=2, 3 and 4 are as follows:
* NSS=2

|  |  |  |
| --- | --- | --- |
| Index | 1st ss | 2nd SS |
| 0 | M | M-1 |
| 1 | M | M-2 |
| 2-3 | Reserved |

* NSS=3

|  |  |  |  |
| --- | --- | --- | --- |
| Index | 1st ss | 2nd SS | 3rd SS |
| 0 | M | M | M-1 |
| 1 | M | M | M-2 |
| 2 | M | M-1 | M-2 |
| 3 | Reserved |

* NSS=4

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Index | 1st ss | 2nd SS | 3rd SS | 4th SS |
| 0 | M | M | M | M-1 |
| 1 | M | M | M | M-2 |
| 2 | M | M | M-1 | M-2 |
| 3 | M | M-1 | M-1 | M-2 |

* Note: reserved entries will be further categorized as Validate or Disregard, following principles in 11be

*Supporting documents: [24/1772]*

Discussion

Q: we already have motion on patterns. This is about indexing?

A: yes

Result

No objection

SP2

Do you support the following signaling design for MU MIMO ~~u~~User ~~info~~ field in UHR-SIG as shown in the below figure?



* ~~When~~ Also, when Coding field indicates LDPC, then 2XLDPC indication:
	+ Bit22 set to 1: TX encode LDPC using code size as 2x1944
	+ Bit22 set to 0: TX encode LDPC using code size of 648, 1296, or 1944.

*Supporting documents: [24/1695r1]*

Discussion

Q: this is only about bit 22?

A: SP includes all the fields.

Q: should we delete figure?

A: intent is to agree on the full User field.

Q: maybe SP text can be changed

A: SP text change to reference figure (see highlight in SP2)

Q: 2x LDPC bit was motivated by e.g. Broadcast. This does not apply to MU-MIMO. What is the benefit?

A: we discussed the benefits in the supporting contribution

Q: please add “UHR-SIG” in the text

Q: User info field should be “User field”

Q: believe 23 bits have drawbacks and proposal is inefficient. No need for a poll count if there are no other objections.

Result

No objection

SP3

Do you support the following signaling design for non-MU MIMO ~~u~~User ~~info~~ field as shown in the below figure?

* UEQM indication
	+ Bit19 set to 1: UEQM is applied, B20-21 are redefined to indicate UEQM patterns.
	+ Bit19 set to 0: EQM is applied. (B20 and B21 are Bfed and Coding bits)
* Also, w~~W~~hen Coding field indicates LDPC, then 2XLDPC indication:
	+ Bit22 set to 1: TX encode LDPC using code size as 2x1944
	+ Bit22 set to 0: TX encode LDPC using code size of 648, 1296, or 194



 *Supporting documents: [24/1695r1]*

Discussion

Q: not an efficient design. Just expressing opinion, not asking for a count.

Result

No objection

**Technical submission**

**24/1831 UHR U-SIG and UHR-SIG common field general design (Juan Fang)**

Shows how newly agreed features impact the U-SIG and UHR-SIG design.

COBF and CSR U-SIG design is proposed.

Interference mitigation (IM) is also discussed. IM should only be considered for SU.

Common field is reduced by 1 bit.

Discussion

Q: need further discussion on some SPs

Q: why reduce by 1 bit? Also for OFDMA?

A: for SU, common field is combined with first User field. Try to keep it within one OFDM symbol.

Q: Remove text on single user in SP1.

A: maybe run SP2 instead.

Q: OK with SP1 &2, need further discussion on U-SIG

SP4

Do you agree to include the following to the 11bn SFD?

* Keep other fields except the disregard bits in Common field for non-OFDMA transmission in UHR-SIG to be the same as that in common field for non-OFDMA transmission in EHT-SIG as following.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **B0-B3** | **B4-B5** | **B6-B8** | **B9** | **B10-B11** | **B12** | **B13-B15** | **B16-B18** |
| Spatial Reuse | GI+LTF Size | Number of UHR-LTF Symbols | LDPC Extra Symbol Segment | Pre-FEC padding Factor | PE Disambiguity | Disregard | Number of non-OFDMA Users |

Discussion

Q: result of increasing User field to 23 bits. Would have been better to keep sizes aligned with EHT.

Result

No objection

SP5

* Do you agree to Keep the Common field format of UHR-SIG for OFDMA transmission adheres to the Table 36-33 of 11be D7.0

Note: The entries defined for OFDMA + MU-MIMO in RU Allocation table may be updated

Result

No objection

**24/1834 11bn Non-ELR Signaling Design for New Features (Alice Chen)**

No new NDP defined. Reuse EHT NDP instead.

TB-PPDU U-SIG proposal and Preamble changes in MU PPDU are discussed.

Not finalized due to lack of time – Q&A to be continued on the next call.

**Recess**

The meeting is Recessed at 12:01 pm ET.