IEEE P802.11
Wireless LANs

|  |
| --- |
| Minutes 802.11 be PHY ad hoc – September 2022 Interim meeting  |
| Date: 2022-09-16 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Sigurd Schelstraete | MaxLinear |  |  | sschelstraete@maxlinear.com |

Abstract

This document contains the PHY ad hoc meeting minutes for TGbe teleconferences held during the September 2022 Interim meeting on:

* September 12, 2022, AM2
* September 12, 2022, PM2
* September 13, 2022, PM1
* September 13, 2022, PM2

**Monday September 12th, 2022 16:30 – 18:30 ET**

**Introduction**

1. The Chair (Tianyu Wu, Apple) calls the meeting to order at 16:30 ET.
2. The Chair follows the agenda in 11-22/1246r5.
3. Reminder for registration for the plenary meeting.
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 reminds everyone to report their attendance by using IMAT system and by sending an e-mail to the Co-chair, Sigurd Schelstraete (MaxLinear) or the Chair himself if unable to record attendance via IMAT system.
6. Agenda
* [1101r1](https://mentor.ieee.org/802.11/dcn/22/11-22-1101-01-00be-lb266-cr-for-p802-11be-d2-0-section-36-3-11-12-part-1.doc) CR for P802.11be D2.0 Section 36.3.11.12 - Part 1 Oded Redlich [6C]
* [1384r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1384-00-00be-lb226-cr-for-clause-36-3-4-eht-ppdu-format.docx) CR for clause 36.3.4 EHT PPDU Format Dongguk Lim [7C]
* [1379r1](https://mentor.ieee.org/802.11/dcn/22/11-22-1379-01-00be-cr-for-cid-10745.docx) CR for CID 10745 Mahmoud Kamel [1C]
* [1464r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1464-00-00be-lb266-cr-for-cid-11692-and-11693.docx) cr-for-cid-11692-and-11693 Eunsung Park [2C]
* [1465r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1465-00-00be-lb266-cr-for-cid-12937.docx) cr-for-cid-12937 Eunsung Park [1C]
* [1469r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1469-00-00be-cr-on-36-3-13-5-segment-parser.docx) CR on 36.3.13.5 Segment Parser Bo Gong [5C]
* [1473r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1473-00-00be-cr-on-36-2-3-trigvector-parameters.docx) CR on 36.2.3 TRIGVECTOR parameters Bo Gong [5C]
* [1474r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1474-00-00be-cr-on-cid-10119-and-cid-10120.docx) CR on CID 10119 and CID 10120 Bo Gong [2C]
* [1479r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1479-00-00be-lb266-cr-for-36-1-1-introduction-to-the-eht-phy.docx) CR for 36.1.1 Introduction to the EHT PHY Bo Gong [10C]
* [1547r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1547-00-00be-resolutions-for-cids-in-clause-36-3-2-2-1.docx) Resolutions for CIDs in Clause 36.3.2.2.1 Jianhan Liu [3C]
* [1548r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1548-00-00be-resolution-for-cids-in-clause-36-3-2-2-2.docx) Resolutions for CIDs in Clause 36.3.2.2.2 Jianhan Liu [6C]
* [1549r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1549-00-00be-resolution-for-cids-in-clause-36-3-2-2-3.docx) Resolutions for CIDs in Clause 36.3.2.2.3 Jianhan Liu [27C]

**Submissions**

**1101r1 CR for P802.11be D2.0 Section 36.3.11.12 - Part 1 (Oded Redlich)**

The proposed resolution of 11697 needs further discussion.

After a quick off-line review, the proposed resolution is initially accepted.

SP#2

Do you agree to the resolution of the following CIDs as proposed in 11-22/1101r1?

* CIDs 11220, 11696, 11697, 11974, 12206, 12849

No objection

Note: CID 11697 will be revised. Commenter not satisfied with proposed resolution in 1101r1.

Note: this SP is overridden by SP#2 of the PM2 session

**1384r0 CR for clause 36.3.4 EHT PPDU Format (Dongguk Lim)**

SP#1

Do you agree to the resolution of the following CIDs as proposed in 11-22/1384r0?

* CIDs 10097, 10336, 11633, 10377, 12841, 12888, 12583

No objection

**1379r1 CR for CID** **10745 (Mahmoud Kamel)**

Q: we have the same structure in 11ax, why do we add this in 11be?

A: there are changes. N\_bpcc needs to be defined

C: don’t think we need these formulas. There were no issues with Wi-Fi 6. This causes confusion and is unnecessary. Keep it simple and in line with 11ax.

C: seems unnecessary. Also, don’t think the equations are correct. Example: MU-MIMO with 3 users. Also, formula has a ceiling of 32. Instead, it should never be allowed to have > 32 symbols.

Needs more scrutiny.

Will continue discussion off-line.

**1464r0 cr-for-cid-11692-and-11693 (Eunsung Park)**

SP#3

Do you agree to the resolution of the following CIDs as proposed in 11-22/1464r0?

* CID 11692, 11693

No objection

**1465r0 cr-for-cid-12937 (Eunsung Park)**

SP#4

Do you agree to the resolution of the following CID as proposed in 11-22/1465r0?

* CID 12937

No objection

**1547r0 Resolutions for CIDs in Clause 36.3.2.2.1 (Jianhan Liu)**

SP#5

Do you agree to the resolution of the following CIDs as proposed in 11-22/1547r1?

* CIDs 10403, 12196, 12569

No objection

**1548r0 Resolutions for CIDs in Clause 36.3.2.2.2 (Jianhan Liu)**

SP#6

Do you agree to the resolution of the following CIDs as proposed in 11-22/1548r1?

* CIDs 10333, 10334, 10405, 11972, 12197, 12840

No objection

**1549r0 Resolutions for CIDs in Clause 36.3.2.2.3 (Jianhan Liu)**

* CIDs 11339 12150 12182 12355 12867 13207 10330 11198 11632 11975 12267 13564 12142 11200 12183 12143 11201 12184 12863 12144 11202 11203 11199 12015 10335 12198 11204

Not finalized. To be continued next session

**Adjourn**

The meeting is adjourned at 18:30 PM ET

**Monday September 12th, 2022 22:00 – 0:00 ET**

**Introduction**

1. The Chair (Tianyu Wu, Apple) calls the meeting to order at 22:00 ET.
2. The Chair follows the agenda in 11-22/1246r7.
3. Reminder for registration for the plenary meeting.
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 reminds everyone to report their attendance by using IMAT system and by sending an e-mail to the Co-chair, Sigurd Schelstraete (MaxLinear) or the Chair himself if unable to record attendance via IMAT system.
6. Agenda
	* [1549r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1549-00-00be-resolution-for-cids-in-clause-36-3-2-2-3.docx) Resolutions for CIDs in Clause 36.3.2.2.3    Jianhan Liu   [27C]
	* 1101r2 CR for P802.11be D2.0 Section 36.3.11.12 - Part 1      Oded Redlich   [6C]
	* 1404r1 Comment Resolutions for 11be D2.0 TXVECTOR/RXVECTOR Parameters Bo Sun [13C]
	* [1469r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1469-00-00be-cr-on-36-3-13-5-segment-parser.docx) CR on 36.3.13.5 Segment Parser    Bo Gong   [5C]
	* [1473r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1473-00-00be-cr-on-36-2-3-trigvector-parameters.docx) CR on 36.2.3 TRIGVECTOR parameters   Bo Gong   [5C]
	* [1474r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1474-00-00be-cr-on-cid-10119-and-cid-10120.docx) CR on CID 10119 and CID 10120   Bo Gong   [2C]
	* [1479r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1479-00-00be-lb266-cr-for-36-1-1-introduction-to-the-eht-phy.docx) CR for 36.1.1 Introduction to the EHT PHY     Bo Gong   [10C]
	* [1550r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1550-00-00be-resolution-for-cids-in-clause-36-3-5.docx) Resolutions for CIDs in Clause 36.3.5      Jianhan Liu   [1C]
	* [1552r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1552-00-00be-resolution-for-cids-in-clause-36-3-13-8.docx) Resolution for CIDs in Clause 36.3.13.8      Jianhan Liu   [4C]
	* [1553r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1553-00-00be-resolution-for-cids-in-clause-36-3-13-9.docx) Resolution for CIDs in Clause 36.3.13.9      Jianhan Liu   [2C]
	* [1551r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1551-00-00be-cr-on-9-4-2-313-4-supported-eht-mcs-and-nss-set-field.docx) cr-on-9.4.2.313.4-Supported EHT-MCS And NSS Set field   Bo Gong    [5C]

**Submissions**

**1549r0 Resolutions for CIDs in Clause 36.3.2.2.3 (Jianhan Liu)**

SP#1

Do you agree to the resolution of the following CIDs as proposed in 11-22/1549r1?

* CIDs 11339, 12150, 12182, 12355, 12867, 13207, 10330, 11198, 11632, 11975, 12267, 13564, 12142, 11200, 12183, 12143, 11201, 12184, 12863, 12144, 11202, 11203, 11199, 10335, 12198, 11204

Note: CID 12015 is deferred

No objection

**1101r2 CR for P802.11be D2.0 Section 36.3.11.12 - Part 1 (Oded Redlich)**

The resolution of CID 11697 was further revised compared to 1101r1.

SP#2

Do you agree to the resolution of the following CIDs as proposed in 11-22/1101r2?

* CIDs 11220, 11696, 11697, 11974, 12206, 12849

Note: this overrides SP#2 of the AM2 session

**1404r1 Comment Resolutions for 11be D2.0 TXVECTOR/RXVECTOR Parameters (Bo Sun)**

SP#3

Do you agree to the resolution of the following CIDs as proposed in 11-22/1404r1?

* CIDs: 10373, 10739, 10740, 10741, 10766, 11215, 11335, 11336, 12014, 12534, 12573, 12577, 13563

No objections

**1469r0 CR on 36.3.13.5 Segment Parser (Bo Gong)**

SP#4

Do you agree to the resolution of the following CIDs as proposed in 11-22/1469r1?

* CIDs 10374, 10397, 11293, 11294, 13112

No objections

**1473r0 CR on 36.2.3 TRIGVECTOR parameters (Bo Gong)**

SP#5

Do you agree to the resolution of the following CIDs as proposed in 11-22/1473r0?

* CIDs 10956, 12181, 12866 11216, 11217

No objections

**1474r0 CR on CID 10119 and CID 10120 (Bo Gong)**

SP#6

Do you agree to the resolution of the following CIDs as proposed in 11-22/1474r0?

* CIDs 10119, 10120

No objections

**1479r0 CR for 36.1.1 Introduction to the EHT PHY (Bo Gong)**

* CIDs 11214, 11235, 11281, 11329, 11629, 12195, 12296, 12572, 11327, 11328

Not completed – to be revisited in PM1, Tue

**Adjourn**

The meeting is adjourned at 23:59 PM ET

**Tuesday September 13th, 2022 19:30 – 21:30 ET**

**Introduction**

1. The Chair (Tianyu Wu, Apple) calls the meeting to order at 19:30 ET.
2. The Chair follows the agenda in 11-22/1246r11.
3. Reminder for registration for the plenary meeting.
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 reminds everyone to report their attendance by using IMAT system and by sending an e-mail to the Co-chair, Sigurd Schelstraete (MaxLinear) or the Chair himself if unable to record attendance via IMAT system.
6. Agenda
	* [1479r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1479-00-00be-lb266-cr-for-36-1-1-introduction-to-the-eht-phy.docx) CR for 36.1.1 Introduction to the EHT PHY Bo Gong [10C]
	* 1549r1 Resolution for CIDs in Clause 36.3.2.2.3 Jianhan Liu [1C]
	* [1550r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1550-00-00be-resolution-for-cids-in-clause-36-3-5.docx) Resolutions for CIDs in Clause 36.3.5 Jianhan Liu [1C]
	* [1552r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1552-00-00be-resolution-for-cids-in-clause-36-3-13-8.docx) Resolution for CIDs in Clause 36.3.13.8 Jianhan Liu [4C]
	* [1553r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1553-00-00be-resolution-for-cids-in-clause-36-3-13-9.docx) Resolution for CIDs in Clause 36.3.13.9 Jianhan Liu [2C]
	* [1551r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1551-00-00be-cr-on-9-4-2-313-4-supported-eht-mcs-and-nss-set-field.docx) cr-on-9.4.2.313.4-Supported EHT-MCS And NSS Set field Bo Gong [5C]
	* [1557r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1557-00-00be-lb266-cr-for-cid-13577.doc) LB266 CR for CID 13577 Ross Jian Yu [1C]
	* [1513r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1513-00-00be-lb266-cr-on-subclause-36-3-19-transmit-specification.docx) LB266 CR on subclause 36.3.19 Transmit specification Yapu Li [9C]
	* [1514r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1514-00-00be-lb266-cr-on-subclause-36-3-19-1-transmit-spectral-mask.docx) LB266 CR on subclause 36.3.19.1 Transmit spectral mask Yapu Li [5C]
	* [1590r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1590-00-00be-d2-0-comment-resolution-for-section-36-3-15-non-ht-duplicate-transmission.docx) D2.0 Comment Resolution for Section 36.3.15 Rui Cao [1C]
	* [1546r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1546-00-00be-eht-su.docx) EHT SU Youhan Kim [1C]

**Submissions**

**1479r1 CR for 36.1.1 Introduction to the EHT PHY (Bo Gong)**

SP#1

Do you agree to the resolution of the following CIDs as proposed in 11-22/1479r2?

* CIDs 11235, 11281, 11329, 11629, 12195, 12296, 12572, 11327, 11328

Note: CID 11214 is removed from 11-22/1479r2

No objection

**1549r1 Resolution for CIDs in Clause 36.3.2.2.3 (Jianhan Liu)**

One CID (12015) needs to be revisited.

SP#2

Do you agree to the resolution of the following CID as proposed in 11-22/1549r1?

* CIDs 12015

No objection

**1550r2 Resolutions for CIDs in Clause 36.3.5 (Jianhan Liu)**

SP#3

Do you agree to the resolution of the following CID as proposed in 11-22/1550r2?

* CID 12586

No objection

**1552r1 Resolution for CIDs in Clause 36.3.13.8 (Jianhan Liu)**

SP#4

Do you agree to the resolution of the following CID as proposed in 11-22/1552r2?

* CIDs 10761, 10838, 10839, 10964

No objection

**1553r0 Resolution for CIDs in Clause 36.3.13.9 (Jianhan Liu)**

SP#5

Do you agree to the resolution of the following CID as proposed in 11-22/1553r0?

* CIDs 11295, 13116

No objection

**1551r0 cr-on-9.4.2.313.4-Supported EHT-MCS And NSS Set field (Bo Gong)**

SP#6

Do you agree to the resolution of the following CID as proposed in 11-22/1551r0?

* CIDs 11101, 11232, 11312, 12546, 13053

No objection

**1557r0 LB266 CR for CID 13577 (Ross Jian Yu)**

SP#7

Do you agree to the resolution of the following CID as proposed in 11-22/1557r0?

* CID 13577

No objection

**1513r0 LB266 CR on subclause 36.3.19 Transmit specification (Yapu Li)**

SP#8

Do you agree to the resolution of the following CID as proposed in 11-22/1513r0?

* CIDs 11300, 11301, 11973, 11303, 11634, 11635, 12346, 12348, 12349

No objection

**1514r0 LB266 CR on subclause 36.3.19.1 Transmit spectral mask (Yapu Li)**

Some figures need updating, using negative offsets to the “left” of the band edge.

Revised contribution will be uploaded later. SP deferred until new revision is available.

SP#10

Do you agree to the resolution of the following CID as proposed in 11-22/1514r1?

* CIDs 11299,11302, 12029, 12030, 13846.

No objection

**1590r0 D2.0 Comment Resolution for Section 36.3.15 (Rui Cao)**

SP#9

Do you agree to the resolution of the following CID as proposed in 11-22/1590r1?

* CID 10331

No objection

**1546r0 EHT SU (Youhan Kim)**

Submission proposed new terminology (EHT SU transmission) to replace the somewhat inconsistent and cumbersome terminology that is used in the current draft.

Discussion

Q: should we define a SU PPDU as a sub-variant of e.g. MU PPDU format?

Q: prefer to also mention SU transmission in the PPDU format section? Make it self-contained in the PHY section.

C: Support compromise proposal. No new PPDU type. Will require too many changes. Refer to baseline to see definition of SU. Define as transmission to a single user, without reference to PSDU – might be more future safe.

A: looking for definition that applies to EHT. Do we go with “SU transmission” or “SU PPDU”?

C: see e.g. 21.2

Q: where does def of SU PPDU come from?

A: from REVme

C: we decided to have a single format for both SU and MU. Want to keep that differentiation from 11ax. Prefer “SU transmission”, and use simple definition.

C: prefer EHT SU transmission, otherwise SIG fields may need change. Don’t use definition that relies on sending a single PSDU.

C: SU transmission is better term

C: also prefer SU transmission.

To be continued

**Adjourn**

Meeting is adjourned at 21:30 ET.

**Tuesday September 13th, 2022 22:00 – 0:00 ET**

**Introduction**

1. The Chair (Tianyu Wu, Apple) calls the meeting to order at 22:00 ET.
2. The Chair follows the agenda in 11-22/1246r12.
3. Reminder for registration for the plenary meeting.
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 reminds everyone to report their attendance by using IMAT system and by sending an e-mail to the Co-chair, Sigurd Schelstraete (MaxLinear) or the Chair himself if unable to record attendance via IMAT system.
6. Agenda
	* [1546r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1546-00-00be-eht-su.docx) EHT SU Youhan Kim [1C]
	* [1604r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1604-00-00be-lb266-cr-on-eht-phy-introduction-2.docx) LB266 CR on EHT PHY Introduction-2 Kanke Wu  [13C]
	* [1606r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1606-00-00be-lb266-cids-in-9-4-2-313-eht-capabilities-element.docx) LB266 CIDs in 9-4-2-313 EHT Capabilities Element Kanke Wu  [18C]

**Submissions**

**1604r0 LB266 CR on EHT PHY Introduction-2 (Kanke Wu)**

SP#1

Do you agree to the resolution of the following CID as proposed in 11-22/1604r1?

* CIDs 12575, 11630, 11631, 12576, 12529, 12134, 12547, 11330, 11331, 12518, 12519, 11334

No objections

Note: CID 11333 is deferred. It is revisited in 1604r2.

SP#4

Do you agree to the resolution of the following CID as proposed in 11-22/1604r2?

* CID 11333

No objections

**1606r0 LB266 CIDs in 9-4-2-313 EHT Capabilities Element (Kanke Wu)**

SP#2

Do you agree to the resolution of the following CID as proposed in 11-22/1606r1?

* CIDs 13065, 11305, 12001, 11228, 11306, 11140, 11854, 11229, 12002, 11230, 11231, 11310, 12003, 11311, 11855, 11856, 11233, 10003

No objections

**1546r0 EHT SU (Youhan Kim)**

Continued from previous session.

Previous sessions expressed preference for the use of “SU transmission”.

The author goes over all occurrences where the new terminology needs to be introduced. A new section with the definition of “EHT SU Transmission” is added to the spec.

SP#3

Do you agree to the resolution of the following CID as proposed in 11-22/1546r3?

* CID 13113

Q: is there anything in the MAC sections that needs changing?

A: MAC clauses have been updated as part of this submission.

Q: have some CRs passed that do not use this terminology.

A: there may be further iterations needed.

No objections

Wed PM1 sessions is cancelled. Thu AM2 sessions remains on the agenda.

**Adjourn**

Meeting is adjourned at 23:35 ET.