IEEE P802.11
Wireless LANs

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| Minutes of the IEEE P802.11 Full Working Group Session |
| Date: 2025-07-28 |
| Author(s): |
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Abstract

This document contains the minutes of the IEEE 802.11 Working Group for the May 2025 Plenary session in Warsaw, Poland.

Please note that all attendees at this session and their affiliations are shown in Annex D.

Revision history:

R0: initial version for review by WG members

R1: revised after comments from WG leadership

R2: included the attendance list for May

Abbreviations:

Q: Question

C: Comment

A: Answer

SP: Straw Poll

**IEEE 802.11 Interim Session #211**

**May 11th – 16th, 2025, Warsaw, Poland**

# IEEE 802.11 Opening Plenary, Monday May 12th, 2025

1. **Opening** (WG Chair Opening Report: [11-25/0594r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0594-01-0000-2025-may-working-group-chair-opening-report.pptx))

## Meeting Call to Order

The session was called to order at 9:03 CET by the Chair, Robert Stacey (Intel) who declared quorum for the session.

## Officer and IEEE SA staff introduction

Chair: Robert Stacey Intel

1st Vice-chair: Jon Rosdahl Qualcomm

2nd Vice-chair: Stephen McCann Huawei Technologies Co., Ltd

Secretary: Volker Jungnickel Fraunhofer Heinrich Hertz Institute

IEEE SA Staff present: Christy Bahn

There were 112 people attending in person altogether in the room, 295 were recorded online (09:32) and 363 registered in the attendance tool (IMAT).

Please note that this session requires a registration fee to be paid.

## Meeting Decorum

Chair: Please, note the information about the session decorum.

Are there any members of the press present?

* + - None.

## Review and approve 802.11 session agenda (WG Agenda [11-25/0593r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0593-02-0000-2025-may-wg11-agenda.xlsx))

This is a summary of the May Interim. Please, note the schedule for this session on the separate tab “Schedule Graphic”.

There were a few updates from yesterday’s Chair’s Advisory Committee (CAC) meeting. The chair highlighted one changes for the meeting slots: Split WNG TUES AM1 between WNG and TGbn There is a single credit available for that slot, either WNG or TGbn.

Subgroup Chairs, please contact Stephen to obtain the teleconference host keys.

**Move to approve the agenda** [**11-25/0593r2**](https://mentor.ieee.org/802.11/dcn/25/11-25-0593-02-0000-2025-may-wg11-agenda.xlsx) **for the Monday opening plenary.**

Mover: Nikola Serafomovski, 2nd: Lei Wang

**No objection to approving by unanimous consent.**

## Review and approve March 2025 WG session minutes

**Move to approve the March 2025 WG session minutes document [11-25/0229r1.](https://mentor.ieee.org/802.11/dcn/25/11-25-0229-01-0000-minutes-working-group-march-2025.docx)**

Mover: Jim Lansford, 2nd: Nikola Serafimovski

**No objection to approving by unanimous consent.**

## New attendees

**Straw Poll: Are you a new attendee to IEEE 802.11?**

Yes: 7 (in the room) and 20 (online).

There will be a New Members meeting at this session on Monday May 12th at AM2 10:30 local time in room Baltic III, 3rd floor. Everyone is welcome to join this meeting.

1. Announcements

## Policies and procedures (2nd Vice Chair Report: [11-25/0562r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0562-00-0000-2nd-vice-chair-report-may-2025.pptx))

### Review Patent Policy Slides (slides 3-7)

The current PatCom rules were read out, including the call for essential patents information, as shown by <https://development.standards.ieee.org/myproject/Public/mytools/mob/patut.pdf>

There were no responses to the call for essential patents.

There is a request from Hitachi Morioka (SRC Software). The Chair is following up with him.

### Review Copyright Slides (slides 8-9)

The current IEEE SA copyright policy slides were presented.

### IEEE SA Participation Slides (slides 10-12)

The current IEEE SA meeting participation slides were read.

### IEEE SA Policy Documents (slide 13)

The current IEEE SA policy documents were read. No questions.

### IEEE SA Rules Documents (slide 14)

The current IEEE SA rules documents were read.

### 802 Ground Rules (slide 15)

The current IEEE 802 ground rules were read.

### IEEE 802 Rules Documents (slide 16)

The current IEEE 802 rules documents were read.

### IEEE 802.11 Operations Manual (slide 17-18)

Latest version of 802.11 Operations Manual is doc. [11-22/1638r4](https://mentor.ieee.org/802.11/dcn/22/11-22-1638-04-0000-802-11-operations-manual.docx) from July 2024. Please respond to WG ballots to avoid loss of voting rights. If a WGLB fails, the length is one. Don’t forget to respond.

### Voting rule reminder (slides 19)

Remember to record your attendance for this session. To achieve 75%, which counts towards a voting credit for this session, you must attend 13 meeting slots. Take care of losing voting rights and do your ballots. There is also a reminder about the abstain vote (“lack of expertise” as the only allowed reason).

### Email reflectors (slides 20-21)

Email reflectors were explained. You need to obtain write permission on Mentor by 75% attendance at one session. If you want to change your email address, please contact the WG officers.

### Posting documents (slides 22)

All submissions presented to and all minutes shall be posted to the 802.11 document server. Erroneous documents can be corrected by the 802.11 working group officers. Please, send them an email. There are a number of pending documents. Ask WG Chairs to delete them if they are not needed anymore. Secretaries should put “Minutes” in the lower left corner of the document.

### IEEE Event Conduct and Safety (Slide 23-25)

The corresponding slides were read.

Close captioning during Teleconferences is available.

No questions concerning 2.1.2 to 2.1.12.

## Incoming liaisons (WG Chair Opening Report: [11-25/0594r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0594-01-0000-2025-may-working-group-chair-opening-report.pptx))

### Summary of new and pending liaisons and processing this week (slide 4)

* Liaison from ITU-T SG15 on G.wmci

There is a new [Liaison from ITU-T SG15](https://mentor.ieee.org/802.11/dcn/25/11-25-0649-00-0000-liaison-from-itu-sg15-consent-on-g-9949.docx) on Recommendation of G.9949, formerly named [G.wmci (WLAN management control interface - WMCI)](https://mentor.ieee.org/802.11/dcn/25/11-25-0649-00-0000-liaison-from-itu-sg15-consent-on-g-9949.docx)

The G.wmci interface conveys wireless coordination information to control the Wi-Fi AP. Group starts “Last Call” for comments.

ITU-T Q3/15 is looking forward to any comments from the IEEE 802.11 on the coordination of Wi-Fi access points over wired (fibre) backhaul.

<https://grouper.ieee.org/groups/802/11/Liaisons/Liaisons-and-External-Communications.html>

## Report on 802 LMSC or IEEE SA Standards Board decisions (slides 5-6)

* March 2025: P802.11bf and P802.11bk (conditional) to RevCom, P802.11br PAR to NesCom
* July 2025: P802.11bi PAR extension
* March 24-28, 2025 – NesCom/RevCom/SASB (Feb 15, 2025, submission deadline): P802.11br PAR
* May 7, 2025, NesCom/RevCom telecon (Mar 28, 2025, submission deadline): P802.11bk and P802.11bf, both recommended for approval; awaiting SASB ballot result
* June 16-20, 2025, NesCom/RevCom/SASB (May 9, 2025, submission deadline): Nothing
* September 8-10, 2025 – NesCom/RevCom/SASB (July 31, 2025, submission deadline): P802.11bi PAR extension
1. Logistics, key events/activities (WG Chair Opening [11-25/0594r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0594-01-0000-2025-may-working-group-chair-opening-report.pptx))

## Working group session documents (see slide 7)

## Joint meetings & reciprocal credit with IEEE 802 groups (slides 8-10)

Attendance at the May 2025 session DOES count toward maintaining 802.11 voting rights. Attending 13 timeslots achieves the 75% threshold for a “qualifying attendance”.

If you are an 802.11 voter and a voter in one of the following groups, then you will receive reciprocal attendance credit: 802.18, 802.19, 802.24, 802.1, and 802 JTC1 SC.

If you attend an 802.11 meeting, you will receive credit in the other group, and if you attend a meeting in the other group, you will receive 802.11 credit. For 802.18, this only applies to the timeslots when 802.18 meets. For the other groups, any timeslot gives reciprocal credit.

802.18 (Radio Regulatory TAG) agenda was shown. There is an invited speech by Dr. Steve Leach from OFCOM, which the chair highlighted and asked people to join TUES AM2.

802.19 (Wireless Coexistence) has meetings on MON PM2 and THUR 6:30pm. The agenda covers CAD ballots for 802.15.4ab, which failed, and 802.15.6ma.

## Session information (Things to Know - 2025 May 802W Interim - Warsaw: [ec-25/0106r0](https://mentor.ieee.org/802-ec/dcn/25/ec-25-0106-00-WCSG-things-to-know-2025-may-802w-interim-warsaw.pptx))

The following material was presented in the order of slides, not as listed in the agenda.

Audio-Visual (Slide 4).

Newcomer Training (Slide 5): 10:30am – 12:30am MON May 12, BALTIC III, 3rd Floor. Combined Schedule (slide 6).

Program App (slide 7): Log in details for the IEEE 802 Wireless Interim Meeting App with combined schedule information is available on the back of your name badge. Network information and local file server access. WLAN SSID: IEEE802 (WPA2), IEEE 802 (WPA3). Password: ieeeieee.

IEEE 802 Documents: Local Document Server <http://ieee802.linespeed.com/> (Slide 8).

## Meeting room locations

See Floor Plans (slide 2-3).

## Meeting registration (slide 11)

The REGISTRATION DESK will be located on Level 2 foyer, times are given on slide 11.

For any Questions, please, see Daniel or Sara at the registration desk!

## Recording attendance (slide 6)

ATTENDANCE TOOL (IMAT): <https://imat.ieee.org/>

## Local file server (slide 8)

Local Document Server for IEEE 802W Documents: <http://ieee802.linespeed.com/>.

The network provider for the IEEE 802 Wireless Interim is Linespeed, who is located in Nysa Room on Level 3 during the meeting.

Details on how to log into the network are printed on the back of your badge.

## Breakfast, breaks, social logistics (slides 11-12)

Breakfast: is included in your hotel room rate if you booked at the Presidential using the meeting link.

Morning & Afternoon Tea will be served from the foyer areas on levels 2 & 3.

Lunch: MON - THUR: will be served in the foyer areas on Levels 2 & 3.

WEDNESDAY SOCIAL: WED May 14, 2025.

Location: Concept 13 Restaurant, is on the roof of the Vitkac luxury department store (Level 5) and is a Michelin-recommended restaurant.

Transport: The Restaurant is 1 km away from the Hotel. Coach:

Meet at 6:30pm outside Warsaw Presidential Hotel for a coach Transfer. Walk: 1 km/0.62 miles to the restaurant (approx. 10 min).

Please arrive at the restaurant no later than 18:50.

Return coaches will be provided to the Presidential Hotel from 21:00. Food: “Alternate served sit down dinner.”

Drinks included. (No outside food or drinks permitted).

No questions.

1. Opening reports, activities and plans

## WG reports

### IEEE 802.11 groups ([11-25/0594r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0594-01-0000-2025-may-working-group-chair-opening-report.pptx))

Overview of subgroups (Slide 12). Note the new task group TGbr on Enhanced Light Communication (ELC) and the new PAR study group on Post Quantum Cryptography (PQC) which started operating via Teleconferences after the Merch meeting.

### 802.11 PARs

TGbi PAR expires in 2025, to be renewed (slide 13).

### Appointed positions and officers (Slides 14-15)

Chen Cheng is the new editor of TGbq.

Nikola Serafimovski is appointed chair of TGbr.

Stephen Orr is appointed chair of the PQC PAR study group.

### Standards pipeline and 802.11 revisions (slides 16-17)

TGbr and PQC SG start in May 2025.

Some groups have no approved draft yet.

TGbi has draft in letter ballot phase.

### Summary of ballots and comment collections (Slide 18).

Two ballots were approved (TGbk, TGbf).

### Membership summary (Slide 19).

Updated following March session. 802.11 has 677 voting members now.

### Standards pipeline and 802.11 revisions (slides 16-17)

Historic peak greater than 802.11n (Slide 20).

Membership by affiliation (slide 21).

Telecon attendance (January to March, slide 22).

### Timeline reports

All timelines can be found at <https://www.ieee802.org/11/Reports/802.11_Timelines.htm>. Subgroup Chairs, please send updates to the 2nd Vice Chair.

### WG Technical Editor ([11-25/0560r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0560-02-0000-may-2025-snapshot-slides.pptx), Slide 3)

March report in [11-25/0456r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0456-01-0000-march-2025-editors-meeting.pptx).

Meeting slot on TUES 7:00-8:00 a.m..

May agenda in [11-25/0746r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0746-00-0000-may-2025-editors-meeting.pptx).

Roll Call / Contacts / Reflector.

Brief status report.

Amendment alignments and draft development snapshot.

Review publication process.

Publication review committees and status.

Main topic: 802.11bh-2024 publication review.

Editorial Style guide updates and issues for feedback.

ANA number spaces.

No questions.

### WG ANA report ([11-25/0560r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0560-02-0000-may-2025-snapshot-slides.pptx), slide 4)

The latest database is [11-11/0270r78](https://mentor.ieee.org/802.11/dcn/11/11-11-0270-78-0000-ana-database.xls) (April 2025).

Changes since January 2025:

Updated table numbering to match P802.11-2024.

TGbk assignment with new extension. Pending changes (10 days review): None.

No questions.

## Standing committee reports ([11-25/0560r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0560-02-0000-may-2025-snapshot-slides.pptx))

### AIML Artificial Intelligence/Machine Learning SC (slide 5)

March meeting minutes [11-25/0606r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0606-00-aiml-aiml-sc-mar-2025-plenary-meeting-minutes.doc).

One meeting slot on TUES PM1.

Agenda in [11-25/0591r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0591-00-aiml-aiml-sc-may-2025-warsaw-meeting-agenda.pptx).

One technical contribution: Multi-AP Coordination (Co-SR).

One technical report proposal.
No questions.

### ARC Architecture SC (slides 6-7)

March meeting minutes in [11-25/0251r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0251-00-0arc-arc-sc-mixed-mode-minutes-march-2025-plenary.docx).

3 meeting slots MON AM2, TUES PM2, WED AM2.

Agenda in [11-25/0609r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0609-01-0arc-arc-sc-agenda-may-2025.pptx).

Topics: Annex G: Discussion of way forward – MON, TUES.

New topic: Review MIB attribute conventions ([11-25/0780r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0780-01-0arc-issues-with-mib-truthvalue-usage-patterns.docx)) – WED.

IEEE Std 802 revision project update effects on 802.11 – WED.

Continue technical discussions on next slide (if/as there is time).

On hold, pending contribution: MLME-RESET, versus MLME-JOIN, MLME-START, MLME-SCAN and MLME-END.

One aspect is how MAC address is set/controlled – related to IEEE 1609/TGbd. Liaison from WBA on QoS, and L4S – Deferred until TGbn and REVmf consider this topic.

IEEE Std 802 updates.

No questions.

### COEX Coexistence SC (slide 8)

March meeting minutes in [11-25/0473r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0473-00-coex-march-2025-minutes.docx).

2 meeting slots TUES PM1, WED PM2.

802.11 Coex SC / 802.15.4 Joint: TUES EVE t.b.c.

Agenda in [11-25/0617r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0617-00-coex-coex-sc-agenda-may-2025.xlsx).

Topics: ETSI BRAN

Update, 802.15.4ab NB Status Update,

Other topics – please respond to the call for submissions / contact the chair.
No questions.

### PAR Project Authorization Request Review SC (Slide 9)

March meeting report in [11-25/0246r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0246-00-0PAR-par-review-sc-mtg-agenda-and-comment-slides-2025-atlanta.pptx).

No meeting in May.

Will meet in July 2025 to review proposed PAR documents.

Upcoming Submission deadlines are listed on the slide.

No questions.

### WNG Wireless Next Generations SC (Slide 10)

Minutes from March meeting: [11-25/0463r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0463-00-0wng-wng-meeting-minutes-2025-march-atlanta-meeting.docx).

Agenda for May in [11-25/0605r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0605-00-0wng-agenda-for-wng-sc-2025-may.pptx).

One meeting slot TUES AM1.

There will be 1 presentation for this interim: “Field measurements of EDCA characteristics,” Jim Lansford, Jimmy Nolan, Ben Nowatny (University of Colorado).

The meeting slot and room will be shared between WNG (first 30 minutes) and TGbr MAC afterwards.

See the meeting agenda.

You can only get one credit for either of these meetings.

No questions.

* + 1. JTC SC1 (Slides 11-13)

March meeting minutes in [ec-25/0070r2](https://mentor.ieee.org/802-ec/dcn/25/ec-25-0070-02-JTC1-minutes-of-mixed-mode-meeting-in-march-2025.docx). One meeting slot TUES PM2 in Baltic III. Agenda in [ec-25-0090r02](https://mentor.ieee.org/802-ec/dcn/25/ec-25-0090-02-JTC1-agenda-for-may-2025-mixed-mode.pptx).

Review the status of PSDO process.

Review liaisons & notifications of projects to SC 6.

Review status of ballots. But also: Restarting submission of IEEE 802.11 standards. Issues holding back may be less relevant under ISO process.

Document updates for how to use the PSDO process.

A large number of IEEE 802 submissions ought to be in the PSDO balloting & publication process – but IEEE 802 has 110 standards in or through the PSDO pipeline, with 29 in-process (Slide 13).

No questions.

## Task Group reports

### TGmf 802.11 Maintenance Project (Slide 14)

March meeting minutes [11-25/0470r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0470-00-000m-minutes-for-revmf-2025-march-plenary-atlanta.docx).

Minutes of April 28 Telcon: [11-25/0730r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0730-00-000m-minutes-for-revmf-2025-april-28-telecon.docx).

3 meeting slots MON, WED & THUR PM2.

Agenda in [11-25/0590r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0590-00-000m-revmf-agenda-may-2025-session.pptx).

Status: IEEE 802.11-2024 has been published on April 28th.

P802.11bh and P802.11be are also in the process of being published as amendments – Targeted for later this month.

Objectives: Discuss contributions on modifications to the REVme D7.0 draft – for consideration in the initial REVmf draft.

Discuss contributions on topics involving other amendments under publication.

Approve an initial working group letter ballot out of the May meeting.

No questions.

### TGbf WLAN Sensing (Slides 15)

March meeting minutes in [11-25/0482r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0482-01-00bf-ieee-802-11bf-march-2025-plenary-meeting-minutes.docx).

No Telco.

No meeting in May.

Status: The 4th SA Ballot Recirculation for P802.11bf is now closed, and it passed. Open date 25 Mar 2025, close date 04 Apr 2025. Approval rate: 98%. Received 0 comments.

Goals for May: **TGbf Work Completed — Thank You All!**

A personal gift for all TGbf members: Paperweight. Some of you may have already received it during the last meeting in Atlanta. If you haven’t received yours yet, please contact me

### TGbi Enhanced Service with Data Privacy Protection (slide 16)

Minutes for March [11-25/0444r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0444-01-00bi-tgbi-minutes-for-march-2025-plenary-meeting.docx).

Minutes of 5 Telecons in [11-25/0543r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0543-00-00bi-tgbi-teleconference-minutes-march-2025-april-2025.docx).

5 meeting slots: MON PM1, TUES PM1, WED AM1, THUR AM1 & PM2.

Agenda in [11-25/0625r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0625-01-00bi-tgbi-may-2025-meeting-agenda.pptx).

Status: TGbi has an approved draft.

Received 1072 comments in the comment collection:16 CID are unassigned, 968 assigned, 123 ready for motion, 88 resolutions approved.

We will discuss having an ad hoc between this session and the July session for comment resolution.

More discussions about how to resolve all comments.

### TGbk 320 MHz Positioning (Slide 17)

Minutes for March in [11-25/0650r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0650-00-00bk-minutes-for-march-2025-plenary.docx).

Minutes for Telcos in [11-25/0727r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0727-01-00bk-minutes-for-telecons-in-march-april2025.docx).

No meeting in May.

Status: 2nd recirculation SA ballot closed Mar. 30th:

Approval rate: 98%. Returned ballots: 84%. 1 technical and 2 editorial comments received and resolved without changes to draft.

On the agenda for May 7th REVcom meeting.

Last steps in May: Approve meeting minutes motions from the March meeting and subsequent telecons.

SASB approval of post REVcom recommendation.

No questions.

### TGbn Ultra-High Reliability (UHR, slides 18-19)

March joint meeting minutes in [11-25/0647r3](https://mentor.ieee.org/802.11/dcn/25/11-25-0647-03-00bn-tgbn-march-2025-meeting-minutes.docx),

Held 12 telcos between March and May.

Ad-hoc telco agenda and minutes in [11-25/0504r17](https://mentor.ieee.org/802.11/dcn/25/11-25-0504-17-00bn-mar-may-tgbn-teleconference-agenda.docx) and [11-25/800r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0800-01-00bn-tgbn-march-april-may-2025-teleconferences-minutes.docx), respectively.

18 meeting slots in May (3x Joint, 8x MAC, 7x PHY) MON AM2 (Joint), MON PM1 (PHY/MAC), TUES AM2 & PM1 & PM2 (PHY/MAC), WED AM1 & AM2 & PM2 (PHY/MAC), THUR AM1 (PHY/MAC), THUR PM1 & PM2 (Joint).

May meeting agenda [11-25/0568r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0568-01-00bn-tgbn-may-2025-meeting-agenda.pptx).

Status: Discussed ~25 submissions, ~70 PDT/CRs, ran ~5 straw polls covering a variety of topics:.

* Coordinated spatial reuse (CSR), non-primary channel access (NPCA), multi-AP framework (MAP), TXOP sharing,
* Distributed resource units (DRUs), coordinated RTWT, coordinated TDMA (C-TDMA), roaming, sounding, coexistence,
* Coordinated beamforming (CBF), AP and STA power save, MLME, enhanced long range (ELR), control frames, low latency,
* Dynamic subchannel operation (DSO), PHY header/PPDU format, modulation and coding schemes (MCS), prioritized (P-) EDCA.

Resolved ~550 CIDs from CC50 on TGbn D0.1 (11-25/0296).

* Either motioned or ready for motion.

Targets for May:

* Presentation of proposed draft texts (PDTs),comment resolution (CR), and technical submissions.
	+ ~250 pending submissions (of which ~60 PDTs/CRs) and ~20 pending SPs on presented submissions,
* Conclude populating the TGbn SFD with approved concepts.
* Complete transition into incorporating technical concepts into the TGbn draft only.
* Work towards delivering TGbn D1.0.

### TGbp Ambient Power (slide 20)

March meeting minutes in [11-25/0447r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0447-00-00bp-2025-03-plenary-meeting-minutes.docx).

1 Telcos held since March session, agenda in [11-25/0610r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0610-00-00bp-tg-bp-tc-agenda-till-may-2025.pptx) and minutes in [11-25/0630r1.](https://mentor.ieee.org/802.11/dcn/25/11-25-0630-01-00bp-teleconference-minutes-april-may-2025.docx)

8 meeting slots in May: MON AM2 & PM2, TUES AM2 & PM1, WED AM1 & AM2, THUR AM1 & PM1.

Agenda in [11-25/0611r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0611-00-00bp-tg-bp-meeting-agenda-for-may-interim-2025.pptx).

Telco focused on review of updated SFD and 11bp spec skeleton discussion.

Goal for the TGbp meeting this week:

* Open technical discussion and improve SFD documents based on consensus.
* The timeline is unchanged.
* Next milestone is in July (slide 21).

### TGbq Integrated Millimeter-Wave (IMMW, slide 22)

March meeting minutes in [11-25/0499r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0499-01-00bq-tgbq-march-2025-plenary-meeting-minutes.docx).

4 teleconference calls were held in April 2025. Telco meeting minutes in [11-25/0576r5](https://mentor.ieee.org/802.11/dcn/25/11-25-0576-05-00bq-tgbq-april-2025-teleconference-call-meeting-minutes.docx).

4 meeting slots in May: MON PM3, TUES PM1 & PM3, THURS PM1.

Agenda in [11-25/0515r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0515-00-00bq-tgbq-agenda-2025-may-wireless-interim.xlsx).

Status: 7 technical presentations were received during teleconferences.

Objectives for May:

* Confirm timeline for the task group.
* Confirm selection procedure for draft development.
* Discuss technical contributions.

### TGbr Enhanced Light Communications (ELC, slide 23)

March ELC SG meeting minutes [11-25/0461r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0461-00-0elc-elc-2025-03-minutes.docx).

3 meeting slots as TGbr in May: MON PM1, WED AM2, THUR AM1.

Agenda in [11-25/0616r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0616-00-00br-may-2025-tgbr-agenda.pptx).

Goals for May:

* Officer selection on WED AM2.
* Timeline for moving forward.
* Technical submissions and discussions: Two contributions.

## Study Group, Technical Interest Group, Ad-hoc Group reports

### Post Quantum Cryptography PAR SG (PQC, slide 24)

No Meeting in March.

3 teleconferences between March and May.

* Agendas in [11-25/0510r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0510-02-0PQC-pqc-sg-agenda-03-27-2025.pptx), [11-25/0596r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0596-02-0PQC-pqc-sg-agenda-04-07-2025.pptx) and [11-25/0671r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0671-00-0PQC-pqc-sg-agenda-04-21-2025.pptx).

2 meeting slots in May: TUES AM2, THURS PM2.

Agenda in [11-25/0861r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0861-01-0PQC-pqcsg-may-2025-meeting-agenda.pptx).

Goals for May:

* Work on PAR and CSD:
* PQC Draft proposed PAR, Juan Carlos Zuniga (Cisco) ([11-25/0597r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0597-02-0PQC-pqc-draft-proposed-par.docx)),
* PQC Draft Proposed CSD, Juan Carlos Zuniga (Cisco) ([11-25/0598r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0598-02-0PQC-pqc-draft-proposed-csd.docx)),
* Motion to approve PAR and CSD.
* New submissions:
	+ ML-KEM in 802.11, Jay Yang (ZTE) ([11-25/0722r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0722-00-0PQC-ml-kem-in-802-11.pptx)),
	+ A PQC PAKE, Dan Harkins (HPE) ([11-25/0770r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0770-01-0PQC-a-pqc-pake.pptx)).

### AUTO TIG Automotive (slide 25)

Minutes for March [11-25/0489r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0489-00-auto-minutes-2025-03-10-auto-tig-meeting-atlanta.docx).

1 meeting slot: MON PM2.

Agenda in [11-25/0604r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0604-00-auto-agenda-for-automotive-tig-2025-may.pptx).

Goals for May: Discuss 3 contributions::

* “[Location Information Assisted AP Discovery](https://mentor.ieee.org/802.11/dcn/25/11-25-0896-01-auto-location-information-assisted-ap-discovery.pptx),” Hitoshi Morioka (SRC Software)
* “[Thoughts on Throughput Improvement for high-mobility STAs](https://mentor.ieee.org/802.11/dcn/25/11-25-0733-00-auto-thoughts-on-throughput-improvement-for-high-mobility-stas.potx),” Azin Neishaboori (General Motors)
* “[Follow-up on proposed IEEE 802.11 Automotive TIG Technical Report Text](https://mentor.ieee.org/802.11/dcn/25/11-25-0832-00-auto-follow-up-on-proposed-ieee-802-11-automotive-tig-technical-report-text.doc),” Jing Ma (Toyota)

Call for submissions - July 2025.

Timeline review.

1. Selected Liaison Report

None.

1. New Business

## Individual experts:

* Emily Qi, Self, Editors
* Mathy Vanheuf, KU Leuven, TGmf

## Intend to reset the process in JTC1 SC related to ISO PSDO process

If we send them the new/y approved standards, we can remove all the old standards from their agenda.

## How to get reciprocal credit from attending 802 meetings

The Chair explained how to do this in IMAT. Just select your working group when you mark your attendance for 802.

## How to include 802.11 calendar into Outlook (slide 27).

Found way to reduce the size of that file as explained in the following [link](https://calendar.google.com/calendar/ical/802.11calendar%40gmail.com/public/basic.ics?start-min=2025-01-01). You can select to open a new calendar or integrate it into your existing one.

6.5 Reminder on Affiliations:

Take care that you have the correct affiliation.

You can have different affiliations for different subgroups.

1. Recess

Chair: We are now in recess.

The meeting recessed at 10:12 CEST.

**IEEE 802.11 Mid-week Plenary, Wednesday, May 14th, 2025**

1. Opening

##  Call to order

The meeting was called to order at 13:35 EST by the Chair, Robert Stacey (Intel).

## WG Officer and IEEE SA staff introduction

Chair: Robert Stacey Intel

1st Vice-chair (VC1): Jon Rosdahl Qualcomm

2nd Vice-chair (VC2): Stephen McCann Huawei Technologies Co., Ltd

Secretary: Volker Jungnickel Fraunhofer Heinrich Hertz Institute

IEEE SA Staff present: Christy Bahn IEEE SA

There were 112 people attending in person (in the room), 425 (Webex) and 451 recorded in the attendance tool (IMAT).

##  Review and approve agenda, incl. agenda graphic (Meeting agenda [11-25/0593r3](https://mentor.ieee.org/802.11/dcn/25/11-25-0593-03-0000-2025-may-wg11-agenda.xlsx))

Chair: There have been some schedule changes to the agenda since the opening plenary. Depending on PQC Motion some slots may be released.

TGbr adjourned. Thursday AM1 is released.

The graphics part will be approved at the end of the meeting.

Chair went through the agenda. There is an Overview of the Wi-Fi Alliance and Motions for TGbf and TGbk minutes approval and PQC PAR and CSD at the end.

**Approve the agenda for today’s meeting as shown in** [**11-25/0593r3**](https://mentor.ieee.org/802.11/dcn/25/11-25-0593-03-0000-2025-may-wg11-agenda.xlsx)

Mover: Tuncer Baykas, Second: Marc Emmelmann

**No objection to approving by unanimous consent.**

1. **Announcements** (WG Chair Supplementary [11-25/0595r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0595-00-0000-2025-may-working-group-chair-supplementary-material.pptx))

## Policies and Procedures (slides 4-8)

The Chair reminded the group about the Code of Ethics and Conduct and the IEEE-SA Standards Board Bylaws.

## Call for essential patents(slide 9)

The Chair read the Call for Essential Patents.

No statements were made.

The Chair received an indication earlier this week, mentioned in the Opening Plenary.

## Meeting decorum (slide 10)

The Chair introduced rules for proper decorum during the meeting.

Do not take photos during the meeting.

No press in the room.

Check Audio settings if you are in-person, don’t connect.

No questions.

Use the Webex Chat to enter the queue.

##  Session-specific additional designated experts (slide 11)

* Emily Qi, Self, Editors
* Mathy Vanhoef, KU Leuven, TGmf

## Announcements (Slide 12)

Attendance at the May 2025 session DOES count toward gaining and maintaining 802.11 voting rights.

Attending 13 timeslots achieves the 75% threshold for a “qualifying attendance”.

See also the reciprocal credit rules on Slide 12.

IETF liaison for 802 (Slide 13).

Dorothy Stanley will step down as IETF liaison for 802 in July.

Therefore, a new volunteer is required for this position. The role is to manage the interface between the IETF and the IEEE 802.

If you are interested in being the IETF liaison for 802, please talk to me for more information. Or, let James Gilb (802 LMSC Chair) know that you are interested in the position.

Note that in July, there will be a joint IETF/IEEE 802 workshop on the Saturday before the start of the IEEE 802 plenary.

IEEE awards nomination is open (Slide 14). IEEE SA Governance Participation (Slide 15).

IEEE Elections are open (Slide 16).

* There are two candidates from 802 (Gary Stubing, Dorothy Stanley).
* If you are IEEE SA member, please cast your vote.

## Timeline reminder (<https://www.ieee802.org/11/Reports/802.11_Timelines.htm>)

The 2nd Vice Chair reminds the subgroup chairs to update their timelines after THUR CAC. The 2nd VC showed the webpage changes after publication of 802.11-2024, which means that all rolled-in amendments are superseded by the new baseline standard.

The long lists of dependencies of new drafts wrt. previous amendments among standards are collapsed.

The list is based on the chronological order and does not reflect the amendment order in the Editors group.

Subgroup chairs, please, check there are no errors on the website.

## Social Event ([ec-25/0106r0](https://mentor.ieee.org/802-ec/dcn/25/ec-25-0106-00-WCSG-things-to-know-2025-may-802w-interim-warsaw.pptx), slide 10)

Location: Concept 13 Restaurant, is straight down the street, on the roof of the Vitkac luxury department store (Level 5) and is a Michelin-recommended restaurant.

Transport: The Restaurant is 1 km away from the Hotel. Coach:

Meet at 6:30pm outside Warsaw Presidential Hotel for a coach Transfer.

Walk: 1 km/0.62 miles to the restaurant mets at 6:30 in front of the hotel (approx. 10 min).

Please arrive at the restaurant no later than 18:50.

Return coaches will be provided to the Presidential Hotel from 21:00.

Food: “Alternate served sit-down dinner.”

Drinks are included. (No outside food or drinks permitted).

Should be a fun night, with a panoramic view.

C: If you are vegetarian or vegan, please ask at the entrance.

A: Don’t ask for vegetarian or vegan, if you did not order this with your registration. The number is limited and already booked.

1. Liaison reports

## External liaisons

### Wi-Fi Alliance

Will come later (see 4.1.).

### IETF Internet Engineering Task Force ([11-25/0928r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0928-00-0000-may-2025-liaison-to-ietf-report.pptx))

Upcoming meetings:

* July 19-25, 2025 in Madrid,
* November 1-7, 2025 in Montreal, QC, CA.
* IETF meeting remote fee waivers seem to be available unlimited.
* This makes it free to attend.

Newcomer training: <https://www.ietf.org/about/participate/get-started/>

Joint meetings, agenda and presentations:

 <http://www.iab.org/activities/joint-activities/iab-ieee-coordination/>

Proceedings: <https://datatracker.ietf.org/iabasg/ietfieee/meetings/>

Coordination topics include: Layer 2/Layer 3 Interaction for Time-Sensitive Traffic, Development of YANG models in the IEEE 802, Capability Discovery, MADINAS.

There has been an IETF-IEEE 802 coordination teleconference: February 19, 2025.

IETF protocol use with 802.11 technology:

* [RFC 9724](https://www.rfc-editor.org/info/rfc9724) (State of Affairs for Randomized and Changing Media Access Control (MAC) Addresses) has been published.

Birds-of-a-feather (BOF) groups at IETF 122, March 15-21, 2025 (slide 6).

* nasr Network Attestation for Secure Routing
* skex Symmetric Key Establishment and Exchange

IETF/IRTF groups being (re-)chartered (slide 7).

Yet Another Next Generation (YANG) model catalog (slide 8).

IoT-related work:

6LO and 3 Updates (see slide 9),

ROLL, CORE, IoT Directorate (slide 10).

Updates on working groups:

MADINAS (MAC Address Device Identification for Network and Application Services WG, slide 11):

* Published as RFC 9724: Randomized and Changing MAC Address State of Affairs: <https://datatracker.ietf.org/doc/draft-ietf-madinas-mac-address-randomization/> (March 2025).
* In RFC Editor’s queue: Randomized and Changing MAC Address Use Cases and Requirements: <https://datatracker.ietf.org/doc/draft-ietf-madinas-use-cases/> (December 2024).

 EAP (Extensible Authentication Protocol) Method Update (EMU, slide 12):

* Updates.

Operations Area Working Group (slide 13):

* Several Updates.

Internet Area Working Group (Slide 14):

* Revised: Communicating Proxy Configurations in Provisioning Domains: <https://datatracker.ietf.org/doc/draft-ietf-intarea-proxy-config/> (March 2025).

Transport Layer Security (TLS) (slide 15):

* Updates.

Deterministic Networking (DETNET, slide 16):

* In RFC Editor’s queue (missing reference): Reliable and Available Wireless Technologies: <https://datatracker.ietf.org/doc/draft-ietf-raw-technologies/> (April 2025),
* Waiting for WG Chair Go-Ahead: Reliable and Available Wireless Architecture: <https://datatracker.ietf.org/doc/draft-ietf-raw-architecture/> (Feb-2025),

Autonomic Networking Integrated Model and Approach (ANIMA, slide 17):

* Two Updates.

### WBA Wireless Broadband Alliance

No report this time

## Internal (802) liaisons

### IEEE 802.18 Radio Reg. TAG ([11-25/0876r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0876-00-0000-802-18-liaison-report-may-2025.pptx))

RR-TAG at a glance (slide 2)

* 65 voters (including 10 on LMSC)
* 6 nearly voters
* 14 aspirants

Progress since March 2025:

* Reviewed the [latest ongoing consultations](https://mentor.ieee.org/802.18/documents?is_dcn=0001&&is_group=0000&&is_year=2024).
* Approved the following IEEE 802 LMSC submissions:
	+ Australia ACMA: [Five-year spectrum outlook 2025–30 and 2025–26 work program](https://mentor.ieee.org/802.18/dcn/25/18-25-0024-05-0000-draft-response-to-lithuania-rrt-s-consultation-re-the-upper-6-ghz-band.pdf).
	+ Lithuania RRT: [Public survey on the prospects for the use of the radio frequency band 6425-7125 MHz](https://mentor.ieee.org/802.18/dcn/25/18-25-0024-05-0000-draft-response-to-lithuania-rrt-s-consultation-re-the-upper-6-ghz-band.pdf).
	+ UK Ofcom: Proposals for AFC in Lower 6 GHz and mobile / Wi-Fi sharing in Upper 6 GHz.
	+ Australia ACMA: [Remaking the low interference potential devices class licence](https://mentor.ieee.org/802.18/dcn/25/18-25-0030-04-0000-draft-response-to-australia-acma-s-consultation-remaking-the-low-).
	+ USA FCC: [Promoting the Development of Positioning, Navigation, and Timing Technologies and Solutions](https://mentor.ieee.org/802.18/dcn/25/18-25-0042-08-0000-draft-response-fcc-noi.pdf) (WT Docket No. 25-110).
* Discussed the latest topics related to spectrum and regulation in Europe, North America, and Asia Pacific.

Objectives this week:

* Review and approve draft responses to the following consultations:
	+ Iraqi CMC: [Draft regulation on Short Range Devices (SRD) and UWB.](https://cmc.iq/ar/%D8%A7%D8%B3%D8%AA%D8%B4%D8%A7%D8%B1%D8%A9-%D8%B9%D8%A7%D9%85%D8%A9-%D9%85%D8%B3%D9%88%D8%AF%D8%A9-%D8%A7%D9%84%D9%84%D8%A7%D8%A6%D8%AD%D8%A9-%D8%A7%D9%84%D8%AA%D9%86%D8%B8%D9%8A%D9%85%D9%8A%D8%A9-2/)
	+ South Africa ICASA: [Draft regulations on dynamic spectrum access and opportunistic spectrum management in the innovation spectrum 3800-4200 MHz and 5925-6425 MHz](https://www.icasa.org.za/legislation-and-regulations/draft-regulations-on-the-dynamic-spectrum-access).
	+ South Africa ICASA: [National radio frequency plan 2025 (NRFP)](https://www.icasa.org.za/legislation-and-regulations/draft-radio-frequency-plan-2025-nrfp).
* Discuss the latest topics related to spectrum and regulation in Europe, North America, and Asia Pacific, including ETSI BRAN May 2025 update.

There is an invited presentation from Dr. Steve Leach (Principal Spectrum Engineer, Ofcom): Moving forward with 6 GHz band for commercial mobile and Wi-Fi services: update on UK and CEPT progress.

### IEEE 802.19 Coexistence WG (11-25/0961r1)

Letter ballot results:

* IEEE P802.15.4ab CAD: Y:23 N:20 A:1, LB failed
* IEEE P802.15.6ma CAD, Y:21 N:4 A: 2, LB Passed

802.19.3a TG (slide 4)

* updates and expands coexistence recommendations to address new market requirements, increasing data traffic, greater device density of devices, and increased potential for congestion based on both IEEE Std 802.11-2020 and IEEE Std 802.15.4 sub-1 GHz standards.
* Makes recommendations with respect to new devices, as well as compatibility with deployed legacy devices. The group currently plans coexistence experiments between IEEE 802.15.4g and IEEE 802.11ah (see doc. [19-25-0031r0](https://mentor.ieee.org/802.19/dcn/25/19-25-0031-01-003a-plan-of-coexistence-experiment-between-ieee-802-15-4g-and-ieee-802-11ah-systems.pptx)).

Reminder for Standards Awards announcement (Slide 6),

IEEE Elections (slide 7).

CSCN 2025, deadline 15 June 2025. (slide 8)

* Unfortunately, CSCN overlaps with both 802.11 and 3GPP meetings this year.

Encourage consideration of applying for IEEE Senior Member (slide 9)

1. New Business

## Wi-Fi Alliance Liaison May 2025 Update ([11-25/0966r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0966-00-0000-wi-fi-alliance-liaison-may-2025-update.pdf))

WiFi alliance looks at seamless integration of new technologies with existing devices.

6 GHz Wi-Fi fuels next generation connectivity (slide 3).

More than 60 countries use 6 GHz. Global introduction of Wi-Fi 6e. Recent trial of 6 GHz Wi-Fi in real healthcare environment shows future connectivity Un-congested 6 GHz band can support enhanced medical service. A full band is needed for optimal performance 3x network throughput, 5x reduced latency, 3x improved user satisfaction (slide 4).

Wi-Gi certified HaLow co-marketing drives further adoption. Waived certification fee. LinkedIn campaigns. Feature contents in Blog posts. Joint webinars (slide 5).

Updates (slides 6-8):

* 2024 updates to Wi-Fi certified: Regulatory compatibility. Forward compatibility testing. Wi-Fi test simplification reduces complexity and time by 50%.
* Wi-Fi 8 task group formation. Wi-Fi 7 certified additional capabilities added, 20 MHz only, 6 GHz class compatibility. Wi-Fi 6 updates to support XR market. Ongoing maintenance work

Reference (slide 9).

Upcoming testing events (slide 10).

## TGbf minutes

**Approve the TGbf March 2025 plenary minutes as contained in document** [**11-25-0482r1**](https://mentor.ieee.org/802.11/dcn/25/11-25-0482-01-00bf-ieee-802-11bf-march-2025-plenary-meeting-minutes.docx)**.**

Moved by Tony Xiao Han, Second: Lei Wang

Result: unanimous.

**Motion passes.**

## TGbk minutes

**Approve the TGbk March 2025 plenary meeting minutes as contained in document** [**11-25-0650r0**](https://mentor.ieee.org/802.11/dcn/25/11-25-0650-00-00bk-minutes-for-march-2025-plenary.docx) **and March to April 2025 teleconference minutes as contained in document** [**11-25-0727r1**](https://mentor.ieee.org/802.11/dcn/25/11-25-0727-01-00bk-minutes-for-telecons-in-march-april2025.docx)**.**

Moved by Jonathan Segev, Second: Jim Lansford

Result: unanimous. **Motion passes.**

## PQC PAR / CSD approval

PQC SG Chair walks the group through the PAR doc. [11-25/0597r5](https://mentor.ieee.org/802.11/dcn/25/11-25-0597-05-0PQC-pqc-draft-proposed-par.docx) and explains the main intended features.

Chair: Editorial change: This amendment changes IEEE Std 802.11 … (in 5.2b). The Chair will do these requested editorial changes.

PQC SG Chair walks the group through the [11-25/0598r3](https://mentor.ieee.org/802.11/dcn/25/11-25-0598-03-0PQC-pqc-draft-proposed-csd.docx). Broad market potential. Government requests to implement PQC into products. Take care that 802.11 is in line with where industry is going. 1.2.3.: 2nd sentence was highlighted. Technical feasibility: Algorithms will use what has been approved by NIST. Classical algorithms will be integrated into the framework. 1.2.5: d) was highlighted. References: CNSA 2.0 document was highlighted.

No questions to the PAR and CSD.

**Believing that the PAR contained in the document referenced below meets IEEE-SA guidelines,**

**Request that the PAR contained in** [**11-25-0597r5**](https://mentor.ieee.org/802.11/dcn/25/11-25-0597-05-0PQC-pqc-draft-proposed-par.docx) **be posted to the IEEE 802 LMSC agenda for LMSC approval to submit to NesCom, granting the WG chair editorial license.**

[PQC SG: Moved: Jouni Malinen, 2nd: Dan Harkins, Result: 54/0/1]

Moved by Stephen Orr on behalf of PQC SG, Seconded: Jouni Malinen

Result: Yes: 150, No: 0, Abstain: 7

**Motion passes.**

**Believing that the CSD contained in the document referenced below meets IEEE-SA guidelines,**

**Request that the CSD contained in** [**11-25-0598r3**](https://mentor.ieee.org/802.11/dcn/25/11-25-0598-03-0PQC-pqc-draft-proposed-csd.docx) **be posted to the IEEE 802 LMSC agenda for LMSC approval, granting the WG chair editorial license.**

[PQC SG: Moved: Tuncer Baykas, 2nd: Mark Hamilton, Result: 44/0/2]

Moved by Stephen Orr on behalf of PQC SG, Second: Tuncer Baykas

Result: Yes: 140, No: 0, Abstain: 8

**Motion passes.**

## AoB

C: Due to the results, PQC will adjourn. Removed from the agenda.

C: Joint session TGbn THUR. Asking for another slot. TGbq Chair essential members whould be in the TGbq meeting. If TGbn can avoid doing Motions during that time. Others TGbi, TGbp are fine with that.

C: I do not know what the Operations Manual says about this. There is an absolute blocking of one TG for all the others.

Chair: One of the slots every day was not occupied.

1st VC: I also think 3 slots per day are enough.

A: TGbn Chair explains the time will be used for presentations related to comment resolutions.

Chair: TGbn goes into the large room. TGbq moved to 2nd largest room. Which is fine with both TG Chairs.

C: Would the presentation be used to change PDT?

A: No, we will not get ready. A joint meeting will be used to go over that text and have all people in the room.

### **Motion to change the agenda**.

**Motion: Add TGbn (Joint) Thursday PM1 to the agenda as displayed in** [**11-25/0593r3**](https://mentor.ieee.org/802.11/dcn/25/11-25-0593-03-0000-2025-may-wg11-agenda.xlsx)**.**

Moved by Alfred Asterjadhi, Seconded by Pelin Salem

Result: Yes: 89, No: 110, Abstain: 32

**Motion fails.**

Chair reversed the changes to the agenda.

1. Recess

Chair: We are now in recess.

Meeting recessed at 15:18 CEST.

# IEEE 802.11 Closing Plenary, Friday, May 16th, 2025

1. Opening

## Call to order

The meeting was called to order at 8:01 CEST time by the Chair, Robert Stacey (Intel).

## Officer and IEEE SA staff introduction

Chair: Robert Stacey Intel

1st Vice-chair (VC1): Jon Rosdahl Qualcomm

2nd Vice-chair (VC2): Stephen McCann Huawei Technologies Co., Ltd

Secretary: Volker Jungnickel Fraunhofer Heinrich Hertz Institute

IEEE SA Staff present: Christy Bahn

There were 82 people in the meeting (in the room, 8:26) 253 online (8:14) and 282 recorded in the attendance tool (IMAT).

## Review and approve agenda (WG 11 agenda [11-26/0593r5](https://mentor.ieee.org/802.11/dcn/25/11-25-0593-03-0000-2025-may-wg11-agenda.xlsx))

Chair: There have been some minor changes to the agenda since the mid-week plenary.

**Approve the agenda for today’s meeting as shown in** [11-26/0593r5](https://mentor.ieee.org/802.11/dcn/25/11-25-0593-03-0000-2025-may-wg11-agenda.xlsx)**.**

Moved: Jim Lansford. Second: Ben Rolfe.

**No objection to approving by unanimous consent.**

1. **Announcements** (WG Chair’s Supplementary Material [11-25/0595r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0595-01-0000-2025-may-working-group-chair-supplementary-material.pptx))

##  Policies and procedure reminder (slides 18-20)

The Chair went through participant behavior, code of ethics & conduct and IEEE Standards Boards bylaws and IEEE SA “Individual process”.

Please, can you all remember these slides and understand that everyone is here as an individual subject matter expert.

##  Call for Essential Patents (slide 21)

This is the Call for Essential Patents. No statements. No questions.

##  Meeting Decorum (slide 22)

These are some rules for the meeting decorum. No questions.

##  Next session and CAC meetings (slide 23)

The next session of the IEEE 802.11 working group will be from July 27 - August 1, 2025, Melia Castilla Madrid, Madrid, Spain. [Registration](https://touchpoint.eventsair.com/2025-may-ieee-802-wireless-interim-session) is open. It will be a mixed mode session.

Please be aware of the chair’s committee meetings (CAC), the first one of which will be on Monday 2025-06-23, then on Monday 2025-07-21, both at 09:00 ET. There is another one on Sunday 2025-07-27 at 18:00 Madrid, Spain, immediately before the May session. Subgroup chairs, please note the deadline for the sub-group agendas.

## Announcements (slide 24)

Chair: Individual experts this time:

* Emily Qi, Self, Editors
* Mathy Vanhoef, KU Leuven, TGmf

## Reminder to get minutes to WG secretary

Secretary: Please can all sub-group chairs remember that their minutes should be posted to the server within 30 days of the completion of this session. No questions.

## Letters of Assurance (LoA) received (slide 25)

There is a link to the PatCom list of LoAs. 2 LoAs have been requested. The recent status (updated 2024-05-12) can be found in [11-15/1489r24](https://mentor.ieee.org/802.11/dcn/15/11-15-1489-24-0000-register-of-loa-requests.docx). Recent changes are indicated on slide 21. No questions.

## Drafts for sale in IEEE Shop (slide 26)

This is the current list of items available in the IEEE store, what drafts are in the members area and published by 802 and ISO (checked on 2025-05-02).

## Drafts to liaise with ISO/JTC/SC6 (slide 27)

Published 2022 July: IEEE Std 802.11-2020 as ISO/IEC/IEEE 8802-11:2022

Since 2021, 14 drafts have been submitted, but all are currently stalled due to IPR concerns.

We will attempt a reset with the liaison of IEEE Std 802.11-2024, IEEE Std 802.11bh-2024 and IEEE Std 802.11be-2024 since these subsume all previous standards

Drafts are sent to JTC1/SC6 during SA ballot to solicit comments. Approved drafts may also be sent during working group ballot. Any comments received from ISO are processed by the comment resolution committee. All drafts are liaised subject to LMSC approval.

## Press release status (slide 28)

In March 2025, there was an IEEE Computer Society Webinar on Advancing Wi-Fi Technology. In April 2025, there was an Wi-Fi Now presentation. They both go to the digital library and will then be available to everyone.

## IEEE 802 Public Visibility Standing Committee (slide 29)

Scope: The group is designed to raise industry awareness in a timely fashion of IEEE 802 WG/TAG activities. Develop social media content. LinkedIn – <https://www.linkedin.com/company/ieee802>. IEEE-SA 802 - <https://standards.ieee.org/featured/802/index.html>.

Content: Review Pre 802 Plenary sessions for social media messaging: PARs to be considered, Tutorials, [802.3] Call-for-Interests. New Task Force formations. Review Post 802 Plenary sessions for social media messaging: Study Group formations, IEEE 802 Position Approvals. Other 802 related material for social media: Press Releases, White Paper publications, Other 802 approved news, 802 WG / TAG Activities with IEEE-SA. IEEE-SA Standards Board Related - PAR Approvals, Standards Approval, Standards Publication.

Membership in the Standing Committee is open to anyone that wishes to participate (ideally at least one participant from each 802 WG and TAG).

## Wireless Chairs meeting

The wireless chairs meeting makes decisions related to the operation of the wireless interim sessions, such as location and cost. The meeting is open to all. If you are interested in these topics, please attend. The wireless chairs meeting is at 4:00pm local time on the Sunday of 802 Plenary and Wireless Interim in-person sessions and, as scheduled, via teleconference for electronic sessions.
Upcoming telecons: Sunday July 27, 2025, 3PM CET (at the July plenary).
Call details will be posted here: <http://ieee802.org/802tele_calendar.html>.

## Next sessions

* July 27-Aug 1, Melia Castilla Madrid, Madrid, Spain.
* September 14-19, Hilton Waikoloa Village, Waikoloa, Hawaii, USA.
* These sessions will count towards voting rights.
* Paid registration is required. For session information and registration links, see <http://www.ieee802.org/11/Meetings/Meeting_Plan.html>
1. Closing reports

## Working group reports

### Treasurers report ([ec-25/0001r5](https://mentor.ieee.org/802-ec/dcn/25/ec-25-0001-05-WCSG-wireless-treasurer-report-2025.pptx))

As of May 1, $736k are in the bank account, and we have assets totaling USD$1,066,039.44. (slide 3).

The 2025 Income/Expense report has a Net value of $-208,672 (slide 4).

Side 5 shows how it is related to the various meetings. Note 2025-MISC $6,000 = 2023 Audit Charges in the Finance Fees.

* One deadbeat from 2025 January. (slide 8) –
Weili, Liu, Shenzen University.

May registration report (Slide 9):

* 616 total people registered, 337 of which registered in person. 279 Remote.
* For this meeting, some expenses went up and down from the planned budget.

Report on type of Registrations paid (Slide 10):

* How many people paid early bird? – 88% - 540.
* If we get worried about shortage/overrun, we can change direction fast.with change to registration fees.

Warsaw meeting: Asia-Pacific 42%, Americas 39%, Europe 19% (Slide 11).

One interesting thing is how people register (slide 13). It is pretty consistent (Kobe meeting is an bit of an outlier in absolute numbers). We can use these percentages to predict how many people will attend.

Budget report (Slide 14:). There is a deficit planned, but if we look over the years (slide 15), we are still trying to balance over 2-3 years. Future meeting fees are decided by the IEEE 802W Exec Committee (slide 16). This will be updated. Take care for deadbeats (slide 17-19).

Actual attendance (Slide 20). We are coming back after the pandemic. Before the pandemic, it was in-person only.

Q: One of the consequences is that hotel prices are increased. Will we see a decrease in reservations?

A: Currently we are seeing an increase of reservations, but we will monitor this.

### Straw Polls regarding sessions ([11-25/0559r5](https://mentor.ieee.org/802.11/dcn/25/11-25-0559-05-0000-may-2025-working-group-motions.pptx), slides 10)

Only people present in the room were asked to participate in the following straw polls. These will be compiled into a statistic for all events, hopefully in 2025.

1. How many people would like to come back to this venue? 68Y / 0N
2. Did you go to the social? 45Y / 16N
3. If you attended the social, did you enjoy it? 34Y / 4N
	* 1. Future Venues Insight ([ec-25-0002r5](https://mentor.ieee.org/802-ec/dcn/25/ec-25-0002-05-WCSG-wireless-venue-manager-report-2025.pptx))

Slides 3-4 show the status of the future plenary and interim venues, respectively, as of May 14, 2025.

There is a conference in Germany next week where Face to Face Events is looking for an alternative Asian venue location for March 2027. We will be back in May 2028 at The Warsaw Presidential Hotel in May 2028.

Slide 5-6: Comparison of other bids with the bid from The Warsaw Presidential Hotel, Warsaw for 2028.

Presidential in Warsaw. The Warsaw Presidential Hotel has made an offer and the IEEE 802 LMSC Wireless Chairs approved bid to the return (see slide 8).

We will have a full RFP prepared for the Sept/Oct 2026 timeframe to be reviewed for selection in November 2026.

Side 9 shows the combined 2028 schedule.

* 1st VC explains some details. We have targets for either Asia or Europe for March and November, depending also on IETF.
* We are trying to help Minimize traveling if possible.

If someone is interested in venue selection: On behalf of James Gilb, I wanted to ask you if someone is interested in taking over. I have many hats, so contact me if you are interested in taking on one or more responsibility.

* + 1. Timelines (<https://www.ieee802.org/11/Reports/802.11_Timelines.htm>)

2nd Vice Chair: Verbally. Chart has small changes, as shown on the website.

There are tentative updates for TGbq and TGbr.

Subgroup chairs: Please get minutes to the WG secretary within 30 days.

Please, update your websites to make people aware of recent achievements.

VC#2 will also populate the teleconference schedule after the meeting.

* + 1. Attendance report ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slide 3-6)

Clear uptrend in membership (voting members only) reaching 677.

There is a breakdown by affiliation (shows where new members come from), by subgroup, by telecon attendance and by breakout. Attendance by Subgroup between January and March.

Large numbers of members registered for the WNG and TGbn slots on TUES. There was a crash on Mentor with a small chance to click on both. We are aware of this and check this after the meeting. Attendance by break-out in March: Almost 500 people attended the Opening Plenary.

* + 1. Editors report ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slides 7-13)

Held one meeting slot. Meeting report in [11-25/0746r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0746-01-0000-may-2025-editors-meeting.pptx).

Volunteer editor contacts (Slide 9).

Roundtable status report (Slide 10).

Amendment order and page count as discussed in May are both unchanged (Slide 11).

Dates are editor’s views, may not be consistent with TG timelines. Draft development snapshot (Slide 12).

We will have TGbi in WG letter ballot. Publication review committees and status (Slide 13). Main issue was 802.11bh-2024 Publication Review (Slide 15):

Carol & Robert lead the discussion. Incorporated Mark Hamilton’s changes into the marked-up PDF. Robert will forward to Michelle.

11be is in progress, people are reviewing it looking for errors.

ANA managed number spaces (unchanged, Slide 16).

Editors must be aware of this and should not assign numbers which are on this list.

11bn questions on style (Slide 16). Not hyphenate acronyms.

Q: In TGbi, there are some things which are not under ANA control.

A: Potential for multiple drafts using the same. Please, contact Carol to avoid this.

## Standing committee reports

### AIML Artificial Intelligence Machine Learning SC ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slides 17-18)

Agenda: [11-25/0591r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0591-00-aiml-aiml-sc-may-2025-warsaw-meeting-agenda.pptx). One meeting slot. SP + Motions: [11-24/0765r5](https://mentor.ieee.org/802.11/dcn/24/11-24-0765-05-aiml-aiml-sc-motion-booklet.pptx). Minutes: [11-25/1013r0](https://mentor.ieee.org/802.11/dcn/25/11-25-1013-00-aiml-aiml-sc-may-2025-interim-meeting-minutes.doc).

Achievements: One technical presentation. One was postponed to July. Interesting presentation related to TGbn regarding MAPC Co-SR scheduling.

Plans for July 2025: No Telco planned. Generate the 1st Annual technical report. Additional results, exploration and feasibility for existing use cases, Additional AIML use cases.

### ARC Architecture SC ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), slides 20-25)

Agenda [11-25/0609r3](https://mentor.ieee.org/802.11/dcn/25/11-25-0609-03-0arc-arc-sc-agenda-may-2025.pptx).

Held two meeting slots.

Minutes: [11-25/0911r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0911-00-0arc-arc-sc-mixed-mode-minutes-may-2025-interim.docx).

Continued discussion on the proposal to replace Annex G with tutorial/informational material on: “Frame exchange sequence” (and its relationship to/meaning for other behaviors like power save/doze, off-channel scanning, etc.).

Relation of frame exchange sequence to medium protection (NAV, etc.).

The definition/extent of an instance of the Wireless Medium.

Relation of wireless medium to beamforming, sectorization, MU operation, etc.[11-23/0880r8](https://mentor.ieee.org/802.11/dcn/23/11-23-0880-08-0arc-revised-annex-g-containing-example-frame-exchange-sequences.docx), [11-25/0738r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0738-00-0arc-wms-protection-mechanisms-and-frame-exchange-sequences.pptx). Will continue discussion in July.

Allocating 2 meeting slots worked well – will do that again in July, to try to sort out these terms and concepts.

New topic in relation to the work in TGbn:

Review MIB attribute conventions (and more): [11-25/0780r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0780-01-0arc-issues-with-mib-truthvalue-usage-patterns.docx).

What does “a feature is implemented” mean? Is “supported” the same thing? How does it differ from “activated”? How much should 802.11 describe management interactions (beyond/sideways from over-the-air interoperability)? Relates to discussion on MLME-RESET, MLME-START versus MLME-JOIN, MLME-END. Maybe even the scope/use of the PICS is related. Will continue this discussion in July, also.

Std 802 update impacts on 802.11: Some of their concepts impact ours. Ran out of time, and didn’t get to this.

Will pick up on a teleconference, and then in July.

Contribution in the queue: [11-25/0923r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0923-01-0arc-proposed-changes-to-802-11-definitions-based-on-802-2024.pptx).

Continue review of [11-25/0150r4](https://mentor.ieee.org/802.11/dcn/25/11-25-0150-04-0arc-initial-thoughts-on-arc-misc-802-topics.docx) also.

Plans through July:

* Plan for 1 teleconference, on Std 802 topic.
* Continue Annex G replacement.
* Continue MIB conventions discussion.
* Continue EPD/LPD clean-up,
* other Std 802 alignment.
* Four meeting slots requested in July and see if that helps.

### COEX Coexistence SC ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), slides 25-32)

Agenda in [11-25/0617r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0617-01-coex-coex-sc-agenda-may-2025.xlsx).

One meeting slot. Minutes in [11-25/0935r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0935-00-coex-may-2025-minutes.docx).

ETSI BRAN Update to 802.11 (slide 27): EN 303 687 (Wireless Access System/Radio Local Area Network (WAS/RLAN) in the license-exempt 6 GHz band). EN 303 687 only active work item. Draft 1.1.7 published. Discussion items: Client-to-Client (C2C) operation. Medium access for Narrowband Frequency Hopping (NB FH) devices: Discussions related to operating NB FH with or without Listen-before-Talk (LBT) continued. [New measurement results](https://www.ieee802.org/11/private/ETSI_documents/BRAN/05-CONTRIBUTIONS/2025/BRAN%2825%29129021) related to C2C discussed: Measurements of outdoor signal strength of IEEE 802.11 indoor transmissions.

Information updates: 802.15.4ab NB Status Update: 802.15.4ab is going through comment resolution. Coex-related comments not (yet) discussed (as of May 11). 802.15.6ma CAD (802.15.6ma UWB PHY). Section 7.1.1 hints on potential coexistence issues with .11 and concludes that "Further study of coexistence impacts is needed …”. Members of Coex SC are encouraged to look at the document and decide if Coex SC should monitor. 15.6ma SA ballot pool is open. Activities or if additional actions for collaboration are considered useful. Future of BT SIG Updates: No BT SIG update this week. Rich Kennedy will attend the July meeting in person. He will retire and July will likely be his last meeting as a BT SIG representative. Any other members volunteering to update us on BT SIG? Directly reporting from BT SIG? Resulting input to ETSI BRAN as part of ETSI BRAN report?

Plans for July (slide 30):

* One dot11 Coex (only) slot. WED PM2.
* One joint session with 802.15.4ab Tuesday PM3.
* Attention: If there are no announced submissions for the joint slot by Sunday 14.00h local meeting time (right before the session week), the slot will be cancelled. Topics:
* Update on ETSI BRAN.
* Update on Bluetooth SIG.
* Technical submissions.

No Telco.

### WNG Wireless Next Generation SC ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slides 33-34)

Agenda in [11-25/0605r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0605-00-0wng-agenda-for-wng-sc-2025-may.pptx).

One meeting slot. Minutes in [11-25/0947r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0947-00-0wng-wng-meeting-minutes-2025-may-warsaw-meeting.docx).

1 Presentation: “[Field measurements of EDCA characteristics](https://mentor.ieee.org/802.11/dcn/25/11-25-0897-00-0wng-field-measurements-of-edca-characteristics.pptx),” Jim Lansford, Jimmy Nolan, Ben Nowatny (University of Colorado).

Got a lot of feedback for next year.

Plans for July:

Call for presentations in July will be sent out in June.

I have already two presentations, so if you have anything, contact me.

No motions in the SC, no straw polls.

### IEEE 802 LMSC JTC1 SC ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slides 35-37)

Agenda in [ec-25/0090r04](https://mentor.ieee.org/802-ec/dcn/25/ec-25-0090-04-JTC1-agenda-for-may-2025-mixed-mode.pptx). One meeting slot. Minutes in [ec-25/0109r0](https://mentor.ieee.org/802-ec/dcn/25/ec-25-0109-00-JTC1-minutes-of-mixed-mode-meeting-in-may-2025.docx).

IPR issue (slide 36):

* Negative LoAs under IEEEs patent policy.
* We will be submitting IEEE 802 standards with negative LoAs under IEEE policy to see if different LoAs are submitted under ISO’s policy.
* It is not impossible as 802.3 shows.
* Next steps: Send IEEE 802.11-2024 to JTC 1/SC 6 for information.
* Look for response to LMSC letter sent to IEEE SA President expressing the impacts of ISO/IEC IPR impasse and requesting closer coordination.
* Observe how IEEE 802.3 fares in the on-going ITU-T SG15 process.
* There might be an alternative process, we will figure this out.

Plans for July (slide 37):

* Execute PSDO process.
* The following standards are currently in ballot: IEEE 802.1Qdy (60-day pre-ballot), IEEE 802-REVc (60-day pre-ballot), IEEE 802.1DC (FDIS), IEEE 802.1Qdj (FDIS), and IEEE 802.15.7-2018 (FDIS).
* Monitor ISO/IEC JTC 1/SC 6 activities.
* Report back on relevant outcomes from JTC 1/SC 6’s June plenary.
* Review response to IEEE 802 LMSC chair’s letter from IEEE SA President, if any.

## Task Group reports

### TGmf 802.11 - Revision Project ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slides 38-42)

Agenda in [11-25/0590r4](https://mentor.ieee.org/802.11/dcn/25/11-25-0590-04-000m-revmf-agenda-may-2025-session.pptx). 3 meeting slots. Motions in [11-25/1925r6](https://mentor.ieee.org/802.11/dcn/24/11-24-1925-06-000m-revmf-motions.pptx). Minutes [11-25/0999r3](https://mentor.ieee.org/802.11/dcn/25/11-25-0999-00-000m-minutes-for-revmf-2025-may-interim-warsaw.docx).

Discussed contributions on modifications REVme D7.0 and TGbe.

Approved motion to go to initial letter ballot on D1.0 which includes: P802.11bh-2024 roll-in, P802.11be-2024 roll-in and approved modifications to IEEE Std 802.11-2024 (see motion on later slide).

Plans for July(slide 42).:

* Teleconferences scheduled: None.
* 4 slots in July.
* Objectives: Begin comment resolution on comments received from the initial letter ballot on D1.0 Timeline is essentially unchanged.
* A Motion will be discussed in the end of today’s meeting to initate WG LB

### TGbi - Enhanced Data Privacy (EDP) ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx) , slides 43-46)

Agenda in [11-25/0625r8](https://mentor.ieee.org/802.11/dcn/25/11-25-0225-07-00bi-tgbi-march-plenary-agenda.pptx). TGbi had 5 meeting slots. Minutes in [11-25/0939r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0939-00-00bi-tgbi-minutes-for-may-2025-interim-meeting.docx).

TGbi continued working through comment resolutions, had around 1000 comments to go through. Motioned 383 comment resolutions, with additional comment resolutions reviewed but not yet motioned. TGbi will have weekly teleconferences between now and the July plenary meeting: Wednesday 10:00-12:00 EDT, Dates: May 28, June 4, 18, 25, July 16, 23.

TGbi is requesting a virtual ad hoc in July (see slide 45).

* Where: Virtual!
* When: July 7, 8, 9, 10, 4 hours a day. 8am EDT – 12:15pm EDT.
* What: Comment resolution!
* Note that TGbi will follow its teleconference practices in these ad hoc sessions with straw polls to gauge support for submissions.
* The accumulated comment resolutions will be motioned in the July Plenary.

Small changes in the timeline, red marked items are shifted from July to August (see slide 46). 2nd VC mentioned that there will be a Motion on the Ad-hoc at the end.

### TGbn - Ultra High Reliability (UHR) ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slides 47-50)

Agenda is available in [11-25/0568r14](https://mentor.ieee.org/802.11/dcn/25/11-25-0568-14-00bn-tgbn-may-2025-meeting-agenda.pptx). 11 for meeting slots in May.

Motions are available in [11-25/0014r22](https://mentor.ieee.org/802.11/dcn/25/11-25-0014-22-00bn-tgbn-motions-list-part-2.pptx).

TGbn PHY and MAC ad-hoc Minutes in [11-25/0998r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0998-00-00bn-802-11-bn-phy-ad-hoc-minutes-warsaw-may-2025-interim-meeting.docx) and [11-25/0796r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0796-01-00bn-802-11bn-may-2025-mac-ad-hoc-minutes.doc),

TGbn all minutes in [11-25/1060r1](https://mentor.ieee.org/802.11/dcn/25/11-25-1060-01-00bn-tgbn-may-2025-meeting-minutes.docx).

Specification framework including Motions passed in May in [11-25/0014r22](https://mentor.ieee.org/802.11/dcn/25/11-25-0014-22-00bn-tgbn-motions-list-part-2.pptx).

Achievements in May:

* Discussed proposed draft texts (PDTs), comment resolution (CR) docs.
* Resolved around 1300 comments from CC50 and plenty of TBDs.
* Approved over 45 motions that added additional concepts to the TGbn SFD, and spec text to the latest TGbn draft.
* Ran a motion to approve the creation of TGbn D1.0 and initiate a WG letter ballot which did not go well.
* Instructed the TGbn Editor to create TGbn D0.3.

Goals for July:

* Continue resolving comments from CC50.
* Complete inclusion of PDTs to TGbn draft.
* Target approving delivery of TGbn D1.0.

TGbn will organize a MAC/PHYC ad-hoc meeting between 23 and 25 July 2025 at the Nokia Campus in Espoo (~15 km from Helsinki city center)

* Location: Karakaari 7, 02610 Espoo, Finland.

Teleconferences (slide 56):

May **29**, June 5, **12**, 19, **26\***, July 3, **10\*** (Thursday) 10:00-12:00 ET, May 26, June 2, 9, 16, 23, 30, July 7 (Monday) 19:00-21:00 ET, **bold**: joint, otherwise: MAC/PHY, \*: Motions.

Also planning a TGbn MAC/PHY ad-hoc (mixed mode) meeting in San Diego, CA, USA between 10-12 Sept. 2025 prior to the Hawaii session.

Timeline is changed (Slide 50). Next milestone is D1.0 for July 2025.

### TGbp - Ambient Power Communications (AMP) ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slides 51-54)

Agenda in [11-25/0611r7](https://mentor.ieee.org/802.11/dcn/25/11-25-0611-07-00bp-tg-bp-meeting-agenda-for-may-interim-2025.pptx). 8 TGbp meeting slots held during May. Minutes in [11-245/0921r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0921-00-00bp-2025-05-interim-meeting-minutes.docx).

Achievements in May:

* TGbp approved the updated [SFD](https://mentor.ieee.org/802.11/dcn/24/11-24-1613-08-00bp-specification-framework-for-tgbp.docx) documents incorporating approved motions in Mar 2025.
* A total of 33 tech contributions were presented and discussed, on PHY/MAC solutions, Wireless Power Transmission and security issues. Lots of technical Motions for SFD were approved as captured in [11-25/0611r7](https://mentor.ieee.org/802.11/dcn/25/11-25-0611-07-00bp-tg-bp-meeting-agenda-for-may-interim-2025.pptx) (slide 69).
* Consensus on duty-cycle, power-save, security, sync field design, S1G communication, channel access, WPT design, chip duration, etc.
* Next milestone is July for D0.1.

Goal of future TGbp work:

* Continue developing FRD and SFD based on consensus.
* PDT development based on approved SFD.
* Still keep open technical discussion and prepare for PDT development.

3 teleconferences are planned after May interim session.

May 27, June 17, July 8 (Tuesday), 10:00am, ET, 2 hours; Webex

Timeline is unchanged (slide 53).

### TGbq Integrated Millimeter Wave (IMMW) ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0215-04-0000-march-2025-session-report.pptx), Slides 55-57)

Agenda in [11-25/0515r7](https://mentor.ieee.org/802.11/dcn/25/11-25-0515-07-00bq-tgbq-agenda-2025-may-wireless-interim.xlsx). 2 meeting slots held in March. Minutes in [11-25/0921r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0921-00-00bp-2025-05-interim-meeting-minutes.docx).

Work completed in May: Confirmed the selection procedure for draft development. Confirmed the following timeline of the task group:

D0.1: July 2026.

D1.0: March 2027.

D2.0: Sept. 2027.

D3.0: March 2028.

D4.0: Sept. 2028.

Final 802.11 WG approval: May 2029.

IEEE 802 LMSC approval: May 2029.

RevCom and SASB approval: July 2029.

Reviewed several technical contributions.

Objectives for July: Review and discuss technical contributions. 4 Telecons scheduled for contributions: TUES, 3, 10, 17, 24 9:30am ET to 11:00am ET.

Q: D3.0 is SA ballot.

A: No. LMSC meets in July. Have a conversation with Eduard to clarify this.

### TGbr Enhanced Light Communication (ELC) ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slides 58-60)

Agenda in [11-25/0616r3](https://mentor.ieee.org/802.11/dcn/25/11-25-0616-03-00br-may-2025-tgbr-agenda.pptx). Held 2 meeting slots. Motion deck in [11-25/0974r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0968-00-00br-tgbr-motions-strawpolls-deck.pptx). Minutes in [11-25/0974r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0974-00-00br-tgbr-may-2025-meeting-minutes.docx).

Achievements in May:

* TGbr considered a number of contributions and approved:
* Specification Framework Document (doc. 11-25/0941r0). Work plan (doc. 11-25/0912r0).Officers (Vice-Chairs, Technical Editor, Secretary).
	+ 4 Contributions discussed included:Technical Proposals for Consideration (doc. 11-25/0830r0). PAPR reduction considerations (doc. 11-25/0945r0).
* On the timeline for TGbr (doc. 11-25/0956r0). Proposal for Addition to SFD (doc. 11-25/0962r0).

TGbr work plan for further consideration (slide 61). No telco. 3 slots requested in July.

## PAR SG/TIG/AHG reports

### PQC SG ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), Slides 61-63)

Agenda in [11-25/0861r3](https://mentor.ieee.org/802.11/dcn/25/11-25-0861-03-0PQC-pqcsg-may-2025-meeting-agenda.pptx). One meeting slot in May. Minutes in [11-25/0987r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0987-00-0PQC-pqc-sg-may-2025-interim-meeting-minutes.docx).

Achievements in May:

* Approved PAR and CSD in study group.
* Latest PQC Draft PAR [11-25/0958r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0958-00-0PQC-draft-p802-11bt-par.pdf).
* PQC Draft [CSD 11-25/0598r3](https://mentor.ieee.org/802.11/dcn/25/11-25-0598-03-0PQC-pqc-draft-proposed-csd.docx).
* Two technical presentations:
	+ ML-KEM in 802.11, Jay Yang (ZTE) ([11-25/0722r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0722-00-0PQC-ml-kem-in-802-11.pptx)).
	+ A PQC PAKE, Dan Harkins (HPE) ([11-25/0770r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0770-01-0PQC-a-pqc-pake.pptx)).
* Working Group approved PAR and CSD during Midweek Plenary.

Plan for July:

Start to work as a task group.

Telecons to be scheduled for July.

Three usual slots and to respond to PAR comments.

Chair: Project will be assigned P802.11bt. That is the project number the PAR was submitted to IEEE SA NesCom.

### AUTO TIG Automotive ([11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0215-04-0000-march-2025-session-report.pptx), Slides 64-65)

Agenda in [11-25/0604r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0604-00-auto-agenda-for-automotive-tig-2025-may.pptx). One meeting slot in May. Minutes in [11-25/0943r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0943-02-auto-auto-tig-meeting-minutes-2025-may.docx).

Presentation of submissions:

* “[Location Information Assisted AP Discovery](https://mentor.ieee.org/802.11/dcn/25/11-25-0896-01-auto-location-information-assisted-ap-discovery.pptx),” Hitoshi Morioka (SRC Software).
* “[Thoughts on Throughput Improvement for high-mobility STAs](https://mentor.ieee.org/802.11/dcn/25/11-25-0733-00-auto-thoughts-on-throughput-improvement-for-high-mobility-stas.potx),” Azin Neishaboori (General Motors).
* “[Follow-up on proposed IEEE 802.11 Automotive TIG Technical Report Text,](https://mentor.ieee.org/802.11/dcn/25/11-25-0733-00-auto-thoughts-on-throughput-improvement-for-high-mobility-stas.potx)” Jing Ma (Toyota)

 Plans for July: Presentations on use cases and requirements and KPIs.

No motions or teleconferences.

Will have motion to request the IEEE 802.11 WG to extend the Automotive TIG until January 2026.

## Liaison reports

## 3.5.1. 802.15 Liaison report (update in [11-25/0561r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0561-01-0000-may-2025-session-report.pptx), slides 66-83)

802.15 WG agenda: [15-25/0167r3](https://mentor.ieee.org/802.15/dcn/25/15-25-0167-03-0000-may-2025-802-15-agenda.xlsx) . Opening report: [15-25/0168r3](https://mentor.ieee.org/802.15/dcn/25/15-25-0168-03-0000-may-2025-802-15-opening-report.pptx)

Subgroups closing reports (Slide 68). 802.15 Overview (Slide 69).

802.15.4 Projects overview on 15.4ab/ac/ad/ae, 802.15.16ma and 802.15.9a (Slides 70-79).

- 15.4ab (NG-UWB [15-25/0272r0](https://mentor.ieee.org/802.15/dcn/25/15-25-0272-00-04ab-tg4ab-may-2025-closing-report.pptx)): Recirc comment resolution. Second recirc in August.

- 15.4ac (Enhanced Privacy [15-25/0215r1](https://mentor.ieee.org/802.15/dcn/25/15-25-0215-01-04ac-may-opening-and-closing.pptx)) Randomized addresses, and exchanges that support session continuity. WG recirc. and comment resolution. Asking for SA ballot in July (??)

- 15.4ad (NG SUN PHYs [15-25/0219r0](https://mentor.ieee.org/802.15/dcn/25/15-25-0219-00-04ad-tg4ad-agenda-opening-and-closing-report-may-2025.pptx)): Pre-draft development, Considering 15 new technical contributions and proposals. Far away from draft development. Timeline on slide 75.

- 15.4ae (Ascon encryption [15-25/0216r1](https://mentor.ieee.org/802.15/dcn/25/15-25-0216-01-04ae-may-opening-and-closing.pptx)): Very low power, low complexity: Reviewed comments NIST received. Reviewed pre-letter ballot comments. Created draft ready for letter ballot. Start letter ballot after this meeting.

- 15.6ma (Revision on 15.6, [15-25/0265r0](https://mentor.ieee.org/802.15/dcn/25/15-25-0265-00-006a-tg15-6ma-closing-report-for-may-2025.pptx)): Draft in WGLB. Completed 2nd Recirc. Resolved comments. Preparing for 3rd recirculation. Graphical timeline (slide 78).

- 15.9a (KMP Transport [15-25/0217r1](https://mentor.ieee.org/802.15/dcn/25/15-25-0217-01-009a-may-opening-and-closing.pptx)). Complete an initial WG ballot. Resolve comments. Initial recirc.

IG Access: It is almost like an SC. Contributions on [CCA modes for suspendable CSMA\_CA](https://mentor.ieee.org/802.15/dcn/25/15-25-0243-01-acss-cca-modes-for-suspendable-csma-ca.pptx) and in [802.15.4 Spectrum Resource management features](https://mentor.ieee.org/802.15/dcn/25/15-25-0245-01-acss-overview-of-srm-function.pptx). Plan for May: Move forward with possible MAC enhancement project (802.15.4).

15.16t (Licensed Narrowband): Approved, in publication.

TG16me (revision of 802.16-2017): Revision PAR approved. First meeting as TG. Beginning revision work. Timeline on Slide 83. Closing report in [15-25/0271r0](https://mentor.ieee.org/802.15/dcn/25/15-25-0245-01-acss-overview-of-srm-function.pptx).

3.5.2. 802.24 Vertical Applications TAG Liaison report ([24-25/0015](https://mentor.ieee.org/802.24/dcn/25/24-25-0015-00-0000-may-2025-interim-meeting-closing-report.pptx), slides 96-100)

Shows closing report ([24-25/0015](https://mentor.ieee.org/802.24/dcn/25/24-25-0015-00-0000-may-2025-interim-meeting-closing-report.pptx)). Two slots: TUES PM2, WED PM2.

Discussed IoT White paper (Slide 6). New Draft: [24-25/0014r0](https://mentor.ieee.org/802.24/dcn/25/24-25-0014-00-IoTg-internet-of-things-white-paper-2025.docx).

Discussed Smart Grid White Paper. New draft: [24-24/0014r7](https://mentor.ieee.org/802.24/dcn/24/24-24-0014-07-sgtg-802-24-smart-grid-white-paper-2024-update.docx) (slide 7).

AFV Ancillary communication to vehicles. Two contributions (one was teleconference). New document: [24-24/0027r1](https://mentor.ieee.org/802.24/dcn/24/24-24-0027-01-0000-proposed-an-extended-outline-for-adding-use-cases-of-integrated-charging-infrastructure-with-distributed-energy-resources-building-and-grid-level-energy-management-systems-in-clause-3-of-the-afv-draft-outline-doc-24-24-0025-00-0000.docx).

Discussion on 802.11 Auto TIG collaboration. Possible joint meetings later in 2025.

Future activities (slide 13):

Use Cases for sub-1 GHz standards 802.15.4g and 802.11ah using mechanisms in 802.19.3. Possible follow-up on AFV. TSN – movement of 802.1 and 802.3 towards specific profiles.

1. Motions (WG Motions [11-25/0559r5](https://mentor.ieee.org/802.11/dcn/25/11-25-0559-05-0000-may-2025-working-group-motions.pptx))

## Working Group Motions

None.

## Standing Committee Motions

* + 1. Liaison to ISO/IEC JTC1 (slide 11)

**IEEE 802.11 WG requests IEEE 802 LMSC approval to forward IEEE Std. 802.11-2024, IEEE Std. 802.11be-2024 and IEEE Std. 802.11bh-2024 to ISO/IEC JTC1/SC 6 for adoption as an ISO/IEC/IEEE standard under the ISO/IEEE PSDO agreement.**

Moved: Stephen McCann, Seconded: Peter Yee

Result: Yes: 100, No: 2, Abstain: 3

**Motion passes.**

Q: This will be forwarded.

A: This will go onto the July LMSC agenda or on its telecon. Forwarding to the IEEE 802 LMSC will depend on publication of be and bh.

## Task Group Motions

### TGbr chair/vice-chair (slide 12)

**Confirm Nikola Serafimovski as the IEEE 802.11br task group chair. Confirm Stefan Videv and Mohamed Islim as IEEE 802.11br task group vice-chairs.**

Moved: Volker Jungnickel, Seconded: Marc Emmelmann

Result: Unanimous. Approved by acclimation.

**Motion passes.**

### TGmf initial letter ballot (slide 13)

**Instruct the editor to prepare REVmf D1.0 and**

**Approve at least a 30 day Working Group Technical Letter Ballot that will complete no earlier than July 25th, 2025, asking the question “Should REVmf D1.0 be forwarded to SA Ballot?”**

**Note: REVmf D1.0 will include the roll-in of 802.11bh-2024 and 802.11be-2024, and the content of approved motions in document** [**11-24/1925r6**](https://mentor.ieee.org/802.11/dcn/24/11-24-1925-06-000m-revmf-motions.pptx)**.**

[TGmf: Moved: Stephen McCann, 2nd: Jon Rosdahl, Result: 20/0/0]

Moved by Mike Montemurro on behalf of TGmf

Result: Yes: Unanimous. Approved by acclimation.

**Motion passes.**

C: Wanted to ensure this is finished by JulyPlenary. If the draft is available earlier, the ballot will be extended and start earlier.

### TGbi July Ad-hoc (slide 14)

**Approve a TGbi ad-hoc meeting on July 7, 8, 9, and 10, held in a virtual format for the purpose of TGbi comment resolutions and consideration of document submissions.**

**Length 4 days, structured 2 two hour blocks (8am-10am EDT, 10:15am-12:15pm EDT)**

**[TGbi: Moved: Jerome Henry, 2nd: Po-Kai Huang, Result: Unanimous consent – 39 in meeting]**

Moved by Carol Ansley on behalf of TGbi

Result: Unanimous.

**Motion passes.**

2nd VC: as it is approved, I will populate the calendar with the dial-in information.

### TGbn September 2025 Ad-hoc (slide 15)

**Approve a TGbn MAC/PHY (mixed mode) ad-hoc meeting on 10 to 12 September 2025, in San Diego, CA, USA for the purpose of TGbn comment resolution and consideration of document submissions.**

**• PHY ad-hoc in the last two days EDT**

Moved by Alfred Asterjadhi, Second: Srini Kandala

Result: Unanimous. Approved by acclimation.

**Motion passes.**

### AUTO TIG extension (slide 16)

**Approve an extension to the AUTO TIG through January 2026 session.**

Moved: Jim Lansford, Seconded: Xiaofei Wang

Result: Unanimous. Approved by acclimation.

**Motion passes.**

## Study Group / Technical Interest Group Motions

None.

1. New Businesses

## Teleconference schedule

The teleconference schedule is on the 802.11 Working Group website <https://ieee802.org/11/>.

1. Closing formalities

## Reminder about Wireless Chairs meeting ([11-25/0595r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0595-02-0000-2025-may-working-group-chair-supplementary-material.pptx), slide 30)

The wireless chairs meeting makes decisions related to the operation of the wireless interim sessions, such as location and cost.

The meeting is open to all. If you are interested in these topics, please attend at 4:00 p.m. local time on the Sunday of 802 Plenary and Wireless Interim in-person sessions. As scheduled via teleconference for electronic sessions.

Upcoming telecon: Wednesday June 2025 – to be announced, Sunday July 27, 2025, 4 p.m. CET. Call details will be posted here: <http://ieee802.org/802tele_calendar.html>.

## Next sessions reminder ([11-25/0595r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0595-02-0000-2025-may-working-group-chair-supplementary-material.pptx) slide 31)

The next 802 Plenary session is scheduled for July 27-Aug 1 in the Melia Castilla Madrid, Madrid, Spain.

Next Interim session is from September 14-19, Hilton Waikoloa Village, Waikoloa, Hawaii, USA.

Note that these sessions will count towards your voting rights. Paid registration is required. For session information and registration links, see <http://www.ieee802.org/11/Meetings/Meeting_Plan.html>.

## Announcements

Congratulations to Dorothy for being inducted to Wi-Fi Hall of Fame during the Wi-Fi Now event (Long Applause).

C: Note there is a change to the schedule (telco) for the Wireless Chairs (check previous slide, will be updated by the chair).

## Adjourn

Having completed the agenda, the Chair announced the meeting adjourned at 9:50 EST time.

Annex A: Links to Minutes

This Annex contains references to all IEEE 802.11 SC/TG/SG & Ad Hoc Committee (AHC) minutes from this session. Please note that they are NOT subject to the approval of these minutes but are confirmed and approved by their individual group in the opening meeting at their next session.

|  |  |  |
| --- | --- | --- |
| WG |  | 11-25/0904r0 |
| TGmf | TG | [11-25/0999r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0999-00-000m-minutes-for-revmf-2025-may-interim-warsaw.docx)  |
| TGbi | TG | [11-25/0939r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0939-00-00bi-tgbi-minutes-for-may-2025-interim-meeting.docx) |
| TGbn | TG | [11-25/1060r1](https://mentor.ieee.org/802.11/dcn/25/11-25-1060-01-00bn-tgbn-may-2025-meeting-minutes.docx) |
| TGbp | TG | [11-25/0447r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0447-00-00bp-2025-03-plenary-meeting-minutes.docx) |
| TGbq | TG | [11-25/0921r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0921-00-00bp-2025-05-interim-meeting-minutes.docx) |
| TGbr | TG | [11-25/0974r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0974-00-00br-tgbr-may-2025-meeting-minutes.docx) |
| AUTO | TIG | [11-25/0943r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0943-02-auto-auto-tig-meeting-minutes-2025-may.docx) |
| PQC | PAR SG | [11-25/0987r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0987-00-0PQC-pqc-sg-may-2025-interim-meeting-minutes.docx) |
| AIML | SC | [11-25/1013r0](https://mentor.ieee.org/802.11/dcn/25/11-25-1013-00-aiml-aiml-sc-may-2025-interim-meeting-minutes.doc) |
| ARC | SC | [11-25/0911r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0911-00-0arc-arc-sc-mixed-mode-minutes-may-2025-interim.docx) |
| COEX | SC | [11-25/0935r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0935-00-coex-may-2025-minutes.docx) |
| PAR | SC | none |
| WNG | SC | [11-25/0947r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0947-00-0wng-wng-meeting-minutes-2025-may-warsaw-meeting.docx) |
| JTC 802 | SC | [ec-25/0109r0](https://mentor.ieee.org/802-ec/dcn/25/ec-25-0109-00-JTC1-minutes-of-mixed-mode-meeting-in-may-2025.docx) |
| ITU | AH | [none](https://mentor.ieee.org/802.11/dcn/24/11-24-1273-01-immw-immw-meeting-minutes-for-july.docx) |

# Annex B: Working Group Officers

**Working Group**

|  |  |  |
| --- | --- | --- |
| Name (Affiliation) | Position | Contact Details |
| Robert Stacey(Intel Corporation) | IEEE 802.11 Working Group Chair | +1 (503) 712 4447robert.stacey@intel.com |
| Jon Rosdahl(Qualcomm) | 1st Vice Chair (Venues and meeting planning)Treasurer | +1 (801) 492-4023jrosdahl@ieee.org |
| Stephen McCann(Huawei Technologies Co., Ltd) | 2nd Vice Chair (Rules and reflectors)IEEE 802 (LMSC) EC delegate | stephen.mccann@ieee.org |
| Volker Jungnickel (Fraunhofer Heinrich Hertz Institute)  | Secretary | +49 162 255 7256volker.jungnickel@hhi.fraunhofer.de |
| Robert Stacey(Intel Corporation) | Co-Technical Editor | +1 (503) 712 4447robert.stacey@intel.com |
| Carol Ansley(Cox Communications) | ANA authority | carol@ansley.com  |

**Standing Committees**

|  |  |  |
| --- | --- | --- |
| Name (Affiliation) | Position | Contact Details |
| Jim Lansford(Qualcomm) | Wireless Next Generation (WNG) Standing Committee Chair | +1-719-286-8660jim.lansford@ieee.org |
| Mark Hamilton(Ruckus Wireless) | Architecture (ARC) Standing Committee Chair | +1 (303) 818-8472mark.hamilton2152@gmail.com |
| Jon Rosdahl(Qualcomm) | Project Authorization Request (PAR) Standing Committee Chair | +1 (801) 492-4023jrosdahl@ieee.org |
| Marc Emmelmann(Self) | Coexistence (Coex) Standing Committee Chair | marc.emmelmann@me.com  |
| Xiaofei Wang(InterDigital) | Artificial Intelligence/Machine Learning (AIML) | Xiaofei.Wang@interdigital.com  |

**Task Groups**

|  |  |  |
| --- | --- | --- |
| Name (Affiliation) | Position | Contact Details |
| Michael Montemurro (Huawei Technologies Co., Ltd) | TGmf Chair802.11 revision project - P802.11REVmf | montemurro.michael@gmail.com  |
| Carol Ansley(Cox Communications) | TGbi ChairEnhanced Data Privacy (EDP) | carol@ansley.com  |
| Alfred Asterjadhi(Qualcomm) | TGbn ChairUltra High Reliability (UHR) | aasterja@qti.qualcomm.com |
| Bo Sun(Sanechips) | TGbp ChairAmbient Power (AMP) | sun.bo1@sanechips.com.cn  |
| Edward Au (Huawei Technologies Co., Ltd) | TGbq ChairIntegrated Millimeter Wave | edward.ks.au@gmail.com |
| Nikola Serafimovski (University of Cambridge) | TGbr ChairEnhanced Light Communications (ELC) | nikola.s@lasercue.co.uk  |
|  |

**Study Groups (SG), Topic Interest Groups (TIG)**

|  |  |  |
| --- | --- | --- |
| Name (Affiliation)  | Position | Contact Details |
| Stephen Orr(Cisco Systems Inc.) | Post Quantum Cryptography (PQC) SG | sorr@cisco.com  |
| Jim Lansford (FaraFir Consulting) | Automotive (AUTO) TIG | jim.lamsford@ieee.org  |

**Ad-Hoc Groups (AHG)**

|  |  |  |
| --- | --- | --- |
| Name (Affiliation)  | Position | Contact Details |
| Hassan YAGHOOBI(Intel) | ITU Ad-Hoc | hassan.yaghoobi@intel.com  |

**Liaison Officials to non-IEEE 802 organizations**

|  |  |  |
| --- | --- | --- |
| Name (Affiliation) | Position | Contact Details |
| Peter Yee(Akayla) | Liaison to IETF(Internet Engineering Task Force) | peter@akayla.com |
| Srinivas Kandala (Samsung) | Liaison to WFA(Wi-Fi Alliance) | srini.k1@samsung.com  |

**Liaison Officials to IEEE organizations**

|  |  |  |
| --- | --- | --- |
| Name (Affiliation) | Position | Contact Details |
| Benjamin Rolfe (Blind Creek Associates)  | Liaison to IEEE 802.15 | ben.rolfe@ieee.org  |
| Edward Au(Huawei Technologies Co., Ltd) | Liaison to IEEE 802.18 | edward.ks.au@gmail.com  |
| Tuncer Baykas(Ofinno) | Liaison to IEEE 802.19 | tbaykas@ieee.org  |

# Annex C: Revisions and Standards Pipeline





# Annex D: Attendance & Affiliation

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Affiliation | Attended ≥ 75% | Status |
| Stanley, Dorothy | Hewlett Packard Enterprise | YES | Voter |
| Aboulmagd, Osama | Huawei Technologies Co., Ltd | YES | Voter |
| Chaplin, Clint | Samsung | NO | ExOfficio |
| Kohno, Ryuji | YNU/YRP-IAI | NO | Non-Voter |
| Riegel, Maximilian | IEEE member / Self Employed | YES | Voter |
| Zuniga, Juan Carlos | Cisco Systems, Inc. | NO | Voter |
| Hsu, Yungping | MediaTek Inc. | YES | Voter |
| Asai, Yusuke | NTT | YES | Voter |
| Levy, Joseph | InterDigital, Inc. | YES | Voter |
| YAGHOOBI, HASSAN | Apple Inc. | YES | Voter |
| Rosdahl, Jon | Qualcomm Technologies, Inc | YES | Voter |
| Wang, Lei | Futurewei Technologies/Huawei Technologies | YES | Voter |
| Stacey, Robert | Intel Corporation | YES | Voter |
| Adachi, Tomoko | TOSHIBA Corporation | YES | Voter |
| Awater, Geert | Qualcomm Technologies Netherlands B.V. | YES | Voter |
| EMMELMANN, MARC | SELF | YES | Voter |
| Liu, Der-Zheng | Realtek Semiconductor Corp. | YES | Voter |
| Shellhammer, Stephen | Qualcomm Incorporated | NO | Voter |
| Halasz, David | Morse Micro | YES | Voter |
| Stuebing, Gary | Cisco Systems, Inc. | NO | Voter |
| Li, Qinghua | Intel Corporation | YES | Voter |
| Kandala, Srinivas | Samsung | YES | Voter |
| Montemurro, Michael | Huawei Technologies Co., Ltd | YES | Voter |
| Hiertz, Guido | Ericsson GmbH | YES | Voter |
| Jones, Vincent Knowles IV | Qualcomm Incorporated; Qualcomm Technologies, Inc | YES | Voter |
| Sherlock, Ian | Texas Instruments Inc. | YES | Voter |
| Van Nee, Richard | Qualcomm Incorporated | YES | Voter |
| Fischer, Matthew | Broadcom Corporation | YES | Voter |
| Yee, James | MediaTek Inc. | YES | Voter |
| Trainin, Solomon | Wiliot | YES | Voter |
| Kim, Yongho | Korea National University of Transportation | YES | Voter |
| Hart, Brian | Cisco Systems, Inc. | YES | Voter |
| Au, Kwok Shum | Huawei Technologies Canada; Huawei Technologies Co., Ltd | NO | ExOfficio |
| Van Zelst, Allert | Qualcomm Technologies Netherlands B.V. | YES | Voter |
| Lou, Hui-Ling | NXP Semiconductors | NO | Voter |
| Kakani, Naveen | Qualcomm Incorporated; Qualcomm Technologies, Inc | YES | Voter |
| Pare, Thomas | MediaTek Inc. | YES | Voter |
| Taori, Rakesh | Infineon Technologies | YES | Voter |
| McCann, Stephen | Huawei Technologies Co., Ltd | YES | Voter |
| Chu, Liwen | NXP Semiconductors | YES | Voter |
| Malinen, Jouni | Qualcomm Technologies, Inc | YES | Voter |
| Zhang, Hongyuan | NXP Semiconductors | NO | Voter |
| Wang, Qi | Apple Inc. | YES | Voter |
| Batra, Anuj | Apple Inc. | YES | Voter |
| Erceg, Vinko | Broadcom Corporation | YES | Voter |
| Lee, Hyeong Ho | Netvision Telecom Inc. | YES | Voter |
| Rolfe, Benjamin | Blind Creek Associates | NO | Voter |
| Smith, Graham | SRT Wireless | YES | Voter |
| Bajko, Gabor | MediaTek Inc. | YES | Voter |
| Park, Minyoung | Apple Inc. | YES | Voter |
| Venkatesh, Narasimhan | Silicon Labs | YES | Voter |
| Lansford, James | Farafir, SRL | YES | Voter |
| Kneckt, Jarkko | Apple Inc. | YES | Voter |
| Nagai, Yukimasa | Mitsubishi Electric Corporation | YES | Voter |
| Baykas, Tuncer | Self | YES | Voter |
| Cordeiro, Carlos | Intel Corporation | YES | Voter |
| Seok, Yongho | Apple Inc | NO | Voter |
| Varshney, Prabodh | Nokia | YES | Voter |
| Yee, Peter | NSA-CSD | YES | Voter |
| de Vegt, Rolf | Qualcomm Incorporated; Qualcomm Technologies, Inc | YES | Voter |
| Borges, Daniel | Apple Inc. | YES | Voter |
| Li, Huan-Bang | National Institute of Information and Communications Technology (NICT) | NO | Non-Voter |
| Harkins, Daniel | Aruba Networks, Inc. | YES | Voter |
| Wentink, Menzo | Qualcomm Incorporated; Qualcomm Technologies, Inc | NO | Voter |
| Yong, Su Khiong | Apple Inc. | NO | Voter |
| Bims, Harry | Bims Laboratories, Inc. | YES | Voter |
| Liu, Yong | Apple Inc. | NO | Voter |
| Morioka, Hitoshi | SRC Software | YES | Voter |
| Bahn, Christy | IEEE STAFF | NO | Non-Voter |
| Hernandez, Marco | National Institute of Information and Communications Technology (NICT); Yokosuka Telecom Research Park, Inc | NO | Non-Voter |
| Aldana, Carlos | Meta Platforms; PWC, LLC | YES | Voter |
| Anwyl, Gary | Mediatek Inc | YES | Voter |
| Hamilton, Mark | Ruckus/CommScope | YES | Voter |
| Cho, Hangyu | LG ELECTRONICS | YES | Voter |
| Grigat, Michael | Deutsche Telekom AG | YES | Voter |
| Zhou, Lei | New H3C Technologies Co., Limited | YES | Voter |
| Li, Yanchun | Huawei Technologies Co., Ltd | YES | Voter |
| Doostnejad, Roya | ofinno | YES | Voter |
| Lee, Wookbong | Apple Inc. | YES | Voter |
| Porat, Ron | Broadcom Corporation | YES | Voter |
| Kim, Sang Gook | LG ELECTRONICS | YES | Voter |
| Huang, Lei | Huawei International Pte Ltd | NO | Voter |
| Sambasivan, Sam | AT&T | YES | Voter |
| Lu, kaiying | MediaTek Inc. | YES | Voter |
| Cariou, Laurent | Intel | YES | Voter |
| Liu, Jianhan | MediaTek Inc. | YES | Voter |
| Petrick, Albert | Jones-Petrick and Associates | YES | Voter |
| Sun, Bo | Sanechips Technology Co., Ltd | YES | Voter |
| Kitazawa, Shoichi | Muroran IT | NO | Voter |
| Lanante, Leonardo | Ofinno | YES | Voter |
| Coffey, John | Realtek Semiconductor Corp. | YES | Voter |
| Kim, Jeongki | Ofinno | YES | Voter |
| Cheng, Paul | MediaTek Inc. | YES | Voter |
| Godfrey, Tim | Electric Power Research Institute, Inc. (EPRI) | NO | ExOfficio |
| Son, Ju-Hyung | WILUS Inc. | YES | Voter |
| Kim, Youhan | Qualcomm Technologies, Inc. | YES | Voter |
| Wei, Dong | Guangdong OPPO Mobile Telecommunications Corp.,Ltd | YES | Voter |
| Shaw, Amit | Infineon Technologies | YES | Voter |
| DeLaOlivaDelgado, Antonio | InterDigital, Inc. | YES | Voter |
| Vermani, Sameer | Qualcomm Technologies, Inc. | YES | Voter |
| Stott, Noel | Keysight Technologies | YES | Voter |
| Carney, William | Sony Group Corporation | YES | Voter |
| Derham, Thomas | Broadcom Corporation | YES | Voter |
| Merlin, Simone | Qualcomm Inc | YES | Voter |
| Hedayat, Ahmadreza | Apple Inc. | YES | Voter |
| Henry, Jerome | Cisco Systems, Inc. | YES | Voter |
| Yang, Xun | Huawei Technologies Co., Ltd | NO | Aspirant |
| Wu, Tianyu | Apple Inc. | YES | Voter |
| Pulikkoonattu, Rethnakaran | Broadcom inc | YES | Voter |
| Schelstraete, Sigurd | MaxLinear | YES | Voter |
| Rison, Mark | Samsung Cambridge Solution Centre | YES | Voter |
| Wee, Gaius | Panasonic Holdings Corporation | YES | Voter |
| Chitrakar, Rojan | Huawei International Pte Ltd | NO | Voter |
| Dong, Xiandong | Xiaomi Communications Co., Ltd. | YES | Voter |
| Ghosh, Chittabrata | Apple Inc. | YES | Voter |
| Li, Weiyi | Spreadtrum Communication USA, Inc | YES | Voter |
| Li, Yunbo | Huawei Technologies Co., Ltd | YES | Voter |
| Ho, Duncan | Qualcomm Technologies, Inc | YES | Voter |
| Baik, Eugene | Qualcomm Incorporated; Qualcomm Technologies, Inc | YES | Voter |
| SUH, JUNG HOON | Huawei Technologies Canada; Huawei Technologies Co., Ltd | YES | Voter |
| Segev, Jonathan | Intel Corporation | YES | Voter |
| Choi, Jinsoo | LG ELECTRONICS | YES | Voter |
| Lee, Jack | SAMSUNG ELECTRONICS | YES | Voter |
| Bhandaru, Nehru | Broadcom Corporation | YES | Voter |
| Wicaksana, Harya | Espressif Systems Co., Ltd. | YES | Non-Voter |
| Li, Jialing | Qualcomm Technologies, Inc | YES | Voter |
| Asterjadhi, Alfred | Qualcomm Incorporated; Qualcomm Technologies, Inc | YES | Voter |
| Wang, Chao Chun | Mediatek Inc | YES | Voter |
| Tian, Bin | Qualcomm Incorporated; Qualcomm Technologies, Inc | YES | Voter |
| Naik, Gaurang | Qualcomm Technologies, Inc | YES | Voter |
| Lim, Dong Guk | LG ELECTRONICS | YES | Voter |
| Raissinia, Alireza | Qualcomm Incorporated; Qualcomm Technologies, Inc | YES | Voter |
| Robert, Joerg | FAU Erlangen-Nuernberg / Fraunhofer IIS | YES | Voter |
| Harrison, Edward | Anritsu Company | YES | Aspirant |
| Kishida, Akira | NTT | YES | Voter |
| Yseboodt, Lennart | Signify | YES | Non-Voter |
| Sun, Yanbin | Huawei Technologies Co., Ltd | YES | Voter |
| Grossmann, Diana | Google | YES | Aspirant |
| Lalam, Massinissa | SAGEMCOM BROADBAND SAS | YES | Voter |
| Yuan, Liquan | ZTE Corporation | YES | Voter |
| Choi, Jin Seek | Hanyang Univerisity | YES | Voter |
| Wilhelmsson, Leif | Ericsson AB | YES | Voter |
| Yu, Chinghwa | Amlogic | YES | Voter |
| Li, Bo | Northwestern Polytechnical University | YES | Voter |
| Jiang, Jinjing | Apple Inc. | YES | Voter |
| Huang, Po-Kai | Intel Corporation | YES | Voter |
| Zhang, Yan | Apple Inc. | YES | Voter |
| Shirakawa, Atsushi | SHARP CORPORATION | YES | Voter |
| LEE, JOONSOO | Newracom Inc. | YES | Voter |
| Wang, Hao | Tencent | YES | Voter |
| Ansley, Carol | Cox Communications Inc. | YES | Voter |
| Park, Eunsung | LG ELECTRONICS | YES | Voter |
| Yu, Jian | Huawei Technologies Co., Ltd | YES | Voter |
| Jeffries, Timothy | Futurewei Technologies | YES | Voter |
| Chen, Xiaogang | Spreadtrum Communications | NO | Voter |
| Xin, Yan | Huawei Technologies Canada; Huawei Technologies Co., Ltd | YES | Voter |
| Kim, Myeong-Jin | SAMSUNG | YES | Voter |
| Ahn, Woojin | KNUT | YES | Voter |
| Patil, Abhishek | Qualcomm Incorporated | NO | Voter |
| Wang, Xiaofei | InterDigital, Inc. | YES | Voter |
| Szott, Szymon | AGH University of Krakow | NO | Non-Voter |
| baron, stephane | Canon Research Centre France | YES | Voter |
| Carty, Clark | Juniper Networks, Inc. | YES | Voter |
| Sun, Li-Hsiang | MediaTek Inc. | NO | Voter |
| Cao, Rui | NXP Semiconductors | YES | Voter |
| Sanderovich, Amichai | Wiliot | YES | Voter |
| Monajemi, Pooya | Apple Inc. | YES | Voter |
| YANG, RUI | InterDigital, Inc. | YES | Voter |
| Serafimovski, Nikola | University of Cambridge | YES | Voter |
| VIGER, Pascal | Canon Research Centre France | YES | Voter |
| Hsu, Chien-Fang | MediaTek Inc. | YES | Voter |
| Wang, Huizhao | NXP Semiconductors | YES | Voter |
| Tanaka, Yusuke | Sony Corporation | YES | Voter |
| Handte, Thomas | Sony Group Corporation | YES | Voter |
| Nezou, Patrice | Canon Research Centre France | YES | Voter |
| Jungnickel, Volker | Fraunhofer Heinrich Hertz Institute | NO | Voter |
| LIU, CHENCHEN | Huawei Technologies Co., Ltd | YES | Voter |
| Yan, Min | Huawei Technologies Co., Ltd | YES | Voter |
| GUIGNARD, Romain | Canon Research Centre France | YES | Voter |
| Ma, Jing | Toyota Motor Corporation | YES | Voter |
| Motozuka, Hiroyuki | Panasonic Holdings Corporation | YES | Voter |
| Urabe, Yoshio | Panasonic Holdings Corporation | YES | Voter |
| Akhmetov, Dmitry | Intel | YES | Voter |
| Johnsson, Kerstin | Nokia | YES | Voter |
| He, Linhai | Qualcomm Incorporated | NO | Voter |
| Sun, Yanjun | Apple Inc | YES | Voter |
| Shilo, Shimi | Huawei Technologies Co., Ltd | NO | Voter |
| Gan, Ming | Huawei Technologies Co., Ltd | YES | Voter |
| Berger, Christian | NXP Semiconductors | NO | Voter |
| Ciochina, Dana | Sony Corporation | YES | Voter |
| Tsodik, Genadiy | Huawei Technologies Co., Ltd | YES | Voter |
| Strickland, Stuart | Hewlett Packard Enterprise | YES | Non-Voter |
| Perez, Javier | Ofinno | YES | Voter |
| Guo, Yuchen | Huawei Technologies Co., Ltd | YES | Voter |
| HAN, Xiao | Huawei Technologies Co., Ltd | YES | Voter |
| Lin, Wei | Xiaomi Communications Co., Ltd. | YES | Voter |
| Redlich, Oded | Huawei Technologies Co., Ltd | NO | Voter |
| ElSherif, Ahmed | Qualcomm Incorporated | YES | Voter |
| Yang, Mao | Northwestern Polytechnical University | YES | Voter |
| Yan, Zhongjiang | Northwestern Polytechnical University | YES | Voter |
| Aio, Kosuke | Sony Corporation | YES | Voter |
| da Silva, Claudio | MediaTek Inc. | YES | Voter |
| Sumi, Takenori | Mitsubishi Electric Corporation | NO | Non-Voter |
| Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) | YES | Voter |
| Kennedy, Smith | HP Inc. | YES | Non-Voter |
| Goto, Fumihide | DENSO CORPORATION | YES | Voter |
| Kumar, Manish | NXP Semiconductors | NO | Voter |
| Chen, Cheng | Intel Corporation | YES | Voter |
| Zeng, Yan | Huawei Technologies Co., Ltd | YES | Voter |
| Ji, Chenhe | Huawei Technologies Co., Ltd | YES | Voter |
| Sevin, Julien | Canon Research Centre France | YES | Voter |
| Hirata, Ryuichi | Sony Corporation | YES | Voter |
| Sundman, Dennis | Ericsson AB | YES | Aspirant |
| Fletcher, Paul | Samsung Cambridge Solution Centre | YES | Voter |
| Ng, Boon Loong | Samsung Electronics | YES | Voter |
| Adhikari, Shubhodeep | Broadcom Corporation | YES | Voter |
| Verma, Sindhu | Broadcom | YES | Voter |
| Jang, Insun | LG ELECTRONICS | YES | Voter |
| Costa, D.Nelson | HaiLa Technologies | YES | Voter |
| Patwardhan, Gaurav | Hewlett Packard Enterprise | YES | Voter |
| Abouelseoud, Mohamed | Apple Inc. | YES | Voter |
| Bredewoud, Albert | Broadcom Corporation | YES | Voter |
| Das, Dibakar | Intel Corporation | YES | Voter |
| Hervieu, Lili | CableLabs | YES | Voter |
| Yuan, Fangchao | Huawei Technologies Co., Ltd | YES | Voter |
| liu, dekun | Huawei Technologies Co., Ltd | NO | Voter |
| Sand, Stephan | German Aerospace Center (DLR) | YES | Voter |
| Karthik, S. G. | SAMSUNG ELECTRONICS | YES | Voter |
| Klein, Arik | Huawei Technologies Co., Ltd | YES | Voter |
| Boldy, David | Broadcom Corporation | YES | Voter |
| Prabhakaran, Dinakar | Broadcom Corporation | YES | Voter |
| Huang, Guogang | Huawei Technologies Co., Ltd | YES | Voter |
| MORGAN, PHILIP | NC-Expert | NO | Non-Voter |
| Max, Sebastian | Ericsson AB | YES | Voter |
| Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd. | YES | Voter |
| Fang, Juan | Intel Corporation | YES | Voter |
| Chung, Bruce | Realtek Semiconductor Corp. | YES | Voter |
| Minotani, Jun | Panasonic Holdings Corporation | YES | Voter |
| Yang, Steve TS | MediaTek Inc. | YES | Voter |
| Xu, Yanchao | Amlogic | YES | Voter |
| Smith, Luther | Cable Technology Laboratories, Inc. | NO | Voter |
| Levitsky, Ilya | NRU HSE | YES | Voter |
| Pettersson, Charlie | Ericsson AB | YES | Voter |
| Lee, Hong Won | LG ELECTRONICS | YES | Voter |
| Inohiza, Hirohiko | Canon Research Centre France | YES | Voter |
| Noh, Si-Chan | Newracom Inc. | YES | Voter |
| Kim, Sanghyun | WILUS Inc. | YES | Voter |
| Hsieh, Hung-Tao | Mediatek Inc | YES | Voter |
| Du, Zhenguo | Huawei Technologies Co., Ltd | YES | Voter |
| Xin, Liangxiao | Guangdong OPPO Mobile Telecommunications Corp.,Ltd | YES | Voter |
| cheng, phoebe | MediaTek Inc. | YES | Voter |
| Hu, Mengshi | Huawei Technologies Co., Ltd | YES | Voter |
| Ben Arie, Yaron | Huawei | YES | Voter |
| MELZER, Ezer | Toga Networks, a Huawei company | YES | Voter |
| Uln, Kiran | Infineon Technologies | YES | Voter |
| Regev, Dror | Huawei | YES | Voter |
| REICH, MOR | HUAWEI | YES | Voter |
| Yan, Aiguo | SAMSUNG ELECTRONICS | YES | Voter |
| Lou, Hanqing | InterDigital, Inc. | YES | Voter |
| Omar, Hassan | Huawei Technologies Co., Ltd | YES | Voter |
| Orr, Stephen | Cisco Systems, Inc. | YES | Voter |
| Moelker, Dignus-Jan | Broadcom Corporation | YES | Voter |
| Baek, SunHee | LG ELECTRONICS | YES | Voter |
| Mehrnoush, Morteza | Apple Inc | YES | Voter |
| Yoshikawa, Yuki | Canon Inc. | YES | Voter |
| Yang, Lin | Qualcomm Incorporated; Qualcomm Technologies, Inc | YES | Voter |
| Rai, Kapil | Qualcomm Incorporated; Qualcomm Technologies, Inc | YES | Voter |
| Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. | YES | Voter |
| Kadampot, Ishaque Ashar | Qualcomm Technologies, Inc. | NO | Voter |
| Chen, Cheng-Ming | Qualcomm Incorporated | YES | Aspirant |
| Wu, Kanke | Apple Inc. | YES | Voter |
| Rezk, Meriam | Qualcomm Technologies, Inc | YES | Voter |
| Verenzuela, Daniel | Sony Group Corporation | YES | Voter |
| Bankov, Dmitry | NRU HSE | YES | Voter |
| Lorgeoux, Mikael | Canon Research Centre France | YES | Voter |
| Martinez Vazquez, Marcos | MaxLinear inc | YES | Voter |
| AbidRabbu, Shaima' | VESTEL | YES | Voter |
| Haider, Muhammad Kumail | Meta Platforms, Inc. | NO | Voter |
| Tomoyuki, Takada | Canon | YES | Non-Voter |
| Jeon, Eunsung | SAMSUNG ELECTRONICS | YES | Voter |
| Kamel, Mahmoud | InterDigital, Inc. | YES | Voter |
| Balakrishnan, Hari Ram | NXP Semiconductors | YES | Voter |
| Roy, Sayak | NXP Semiconductors | YES | Voter |
| Chung, Chulho | SAMSUNG | YES | Voter |
| Loginov, Vyacheslav | NRU HSE | YES | Voter |
| Sethi, Ankit | NXP Semiconductors | YES | Voter |
| feng, Shuling | MediaTek Inc. | YES | Voter |
| Ma, Li | MediaTek Inc. | YES | Voter |
| Xia, Qing | Sony Corporation | YES | Voter |
| White, Gregory | Cable Technology Laboratories, Inc. | NO | Voter |
| Gong, Bo | Huawei Technologies Co., Ltd | YES | Voter |
| Tsai, Tsung-Han | MediaTek Inc. | YES | Voter |
| Moon, Juseong | Korea National University of Transportation | YES | Voter |
| Avital, Ziv | Maxlinear | YES | Voter |
| Gu, Xiangxin | Spreadtrum Communications (Shanghai) Co., Ltd. | YES | Voter |
| Fang, Yonggang | Mediatek Inc | YES | Voter |
| Tadahal, Shivkumar | Broadcom Corporation | YES | Voter |
| Liu, Ying | NXP Semiconductors | NO | Voter |
| Wang, Steven Qi | Huawei Technologies Co., Ltd | YES | Voter |
| Arlandis, Diego | Maxlinear Corp | YES | Voter |
| Di Taranto, Rocco | Ericsson AB | YES | Voter |
| Thakur, Sidharth | Apple Inc | YES | Voter |
| Tsujimaru, Yuki | Canon | YES | Voter |
| Hawkes, Philip | Qualcomm Incorporated | NO | Non-Voter |
| Xiao, Bo | ZTE Corporation | YES | Voter |
| Zhou, Pei | TCL | YES | Voter |
| Joh, Hanjin | KT Corp. | YES | Voter |
| Shafin, Rubayet | Samsung Electronics | YES | Voter |
| li, yun | ZTE Corporation | YES | Voter |
| Koundourakis, Michail | Samsung Cambridge Solution Center | YES | Voter |
| LU, Yuxin | TCL Industries | YES | Voter |
| Keren, Rani | Huawei Technologies Co., Ltd | YES | Voter |
| Ha, Taeyoung | Samsung Electronics Co., Ltd. | NO | Voter |
| yaodong, zhang | ZTE Corporation | YES | Potential Voter |
| Ratnam, Vishnu | SAMSUNG ELECTRONICS | YES | Voter |
| Nayak, Peshal | Samsung Research America | YES | Voter |
| Li, Yan | ZTE Corporation | YES | Voter |
| Ma, Yongsen | SAMSUNG ELECTRONICS | YES | Voter |
| Hu, Shengquan | MediaTek Inc. | NO | Voter |
| Ryu, Kiseon | WILUS Inc. | YES | Voter |
| Guo, Ziyang | Huawei Technologies Co., Ltd | YES | Voter |
| Kuo, Chih-Chun | MediaTek Inc. | YES | Voter |
| HUANG, CHIHAN | MediaTek Inc. | YES | Voter |
| Peng, Ronny | MediaTek Inc. | YES | Voter |
| Chang, Chen-Yi | MediaTek Inc. | YES | Voter |
| Kang, HaoHua | MediaTek Inc. | YES | Voter |
| Wu, Wayne | MediaTek Inc. | YES | Voter |
| Koo, Jonghoe | SAMSUNG ELECTRONICS | YES | Voter |
| Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd | YES | Voter |
| Peng, Lan | Huawei Technologies Co., Ltd | YES | Voter |
| Bansal, Ankur | SAMSUNG ELECTRONICS | YES | Non-Voter |
| Jung, Insik | LG ELECTRONICS | YES | Voter |
| Fan, Shuang | Sanechips Technology Co., Ltd. | YES | Voter |
| Pakrooh, Pooria | Qualcomm Inc | NO | Voter |
| So, Youngwan | Samsung Electronics Co., Ltd. | YES | Voter |
| Gupta, Binita | Cisco Systems, Inc. | YES | Voter |
| Gangur, Trivikram | Infineon Technologies | YES | Voter |
| Kasargod, Sudhir | Infineon Technologies | YES | Voter |
| Kancherla, Sundeep | Infineon Technologies | YES | Voter |
| Seo, Sangho | Broadcom Corporation | YES | Voter |
| Wang, Zisheng | ZTE Corporation | YES | Voter |
| Thota, Sri Ramya | Infineon Technologies | YES | Voter |
| Sood, Ayush | Infineon Technologies | YES | Voter |
| Huang, Qisheng | ZTE Corporation | YES | Voter |
| Hsu, Ostrovsky | Xiaomi Communications Co., Ltd. | YES | Voter |
| Chappell, Matthew | Cox Communications Inc. | YES | Aspirant |
| Zhang, Jiayi | Ofinno | YES | Voter |
| Nogami, Toshizo | SHARP CORPORATION | YES | Voter |
| Zhou, Renlong | Sanechips Technology Co., Ltd. | YES | Voter |
| QIAN, BIN | Huawei Technologies Co., Ltd | NO | Voter |
| Erkucuk, Serhat | Ofinno | YES | Voter |
| Mutgan, Okan | Nokia | YES | Voter |
| Gee, Thomas | Qorvo | YES | Voter |
| Krebs, Alexander | Apple Inc | NO | Voter |
| Park, Sungjin | Senscomm | YES | Voter |
| Xu, Weijie | Beijing OPPO telecommunications corp., ltd; | YES | Voter |
| Xu, Fangxin | Longsailing Semiconductor | YES | Voter |
| Chen, You-Wei | MediaTek Inc. | YES | Voter |
| He, Chuanfeng | Beijing OPPO telecommunications corp., ltd | YES | Voter |
| Namvar, Nima | Charter Communications | YES | Voter |
| Ku, Chung-Ta | MediaTek Inc | YES | Voter |
| Fujimori, Yuki | Canon Research Centre France | YES | Voter |
| CHENG, yajun | Xiaomi Communications Co., Ltd. | YES | Voter |
| Quan, Yingqiao | Spreadtrum | YES | Voter |
| Ma, Yunsi | Huawei Technologies Co., Ltd | YES | Voter |
| Rajashekar, Rakshith | Broadcom Corporation | YES | Voter |
| Zhang, Rong | Apple Inc | YES | Voter |
| Halna du Fretay, Tristan | Canon Research Centre France | YES | Aspirant |
| Bai, Jiyang | TCL | YES | Voter |
| Qi, Yinan | Guangdong OPPO Mobile Telecommunications Corp.,Ltd | YES | Voter |
| siaud, isabelle | Orange | YES | Voter |
| Val, Inaki | MaxLinear, Inc. | YES | Voter |
| Qi, Yue | SAMSUNG ELECTRONICS | YES | Voter |
| Mantha, Abhishek | Broadcom Corporation | YES | Voter |
| Yoon, Yelin | LG ELECTRONICS | YES | Voter |
| Yan, Peng | Wi-Fi Alliance | YES | Voter |
| Chou, Tzu-Hsuan | Qualcomm Incorporated | YES | Voter |
| Lovison, Federico | Cisco Systems, Inc. | YES | Voter |
| Strobel, Rainer | Maxlinear | YES | Voter |
| Kim, Geon Hwan | LG ELECTRONICS | YES | Voter |
| Dinan, Esmail | Ofinno | YES | Voter |
| Bao, Zhanjing | TCL | YES | Voter |
| Gu, Junrong | Clourney Semiconductor | YES | Voter |
| Cui, Yaoshen | TP-Link Systems Inc. | YES | Voter |
| Tang, Zhuqing | Huawei Technologies Co., Ltd | YES | Voter |
| Pottigari, Sachin | NXP Semiconductors | YES | Voter |
| Talha, Mohd. | NXP Semiconductors | YES | Voter |
| Bansal, Priyanka | NXP Semiconductors | YES | Voter |
| Rodriguez, Stephen | Cisco Systems, Inc. | YES | Voter |
| CHERIAN, GEORGE | Qualcomm Incorporated; Qualcomm Technologies, Inc | NO | Voter |
| Helmy, Ahmed | Apple Inc. | NO | Voter |
| Zhao, Yue | Huawei Technologies Co., Ltd | YES | Voter |
| zhang, zhigang | ZTE Corporation | NO | Potential Voter |
| Xu, Yue | Huawei Technologies Co., Ltd | YES | Voter |
| Cha, Dongju | LG ELECTRONICS | YES | Voter |
| Neishaboori, Azin | General Motors Company | YES | Voter |
| SUZUKI, Shuntaro | Yamaha Corporation | YES | Voter |
| huang, kaikai | Nokia | YES | Voter |
| Contreras Albesa, Javier | Cisco Systems, Inc. | YES | Voter |
| Maman, Mickael | STMicroelectronics | NO | Non-Voter |
| Ficara, Domenico | Cisco Systems, Inc. | YES | Voter |
| Li, Xin | Huawei Technologies Co., Ltd | YES | Voter |
| Wu, Xuming | Huawei Technologies Co., Ltd | YES | Voter |
| Wang, Bo | Huawei Technologies Co., Ltd | YES | Voter |
| Yang, Jay | ZTE Corporation | YES | Voter |
| Zhou, Chengzhi | Apple Inc. | NO | Voter |
| Ganji, Mehdi | Charter Communications | YES | Voter |
| Bian, Tong | Panasonic Corporation | YES | Voter |
| Campiglio, Ugo | Cisco Systems, Inc. | YES | Voter |
| Jiang, Wu | iTenest | YES | Voter |
| Luo, Hui | Infineon Technologies | YES | Voter |
| Shayovitz, Shachar | Huawei Technologies Co., Ltd | YES | Voter |
| Zhang, Maolin | Huawei Technologies Co., Ltd | YES | Voter |
| Zhu, Yu | TP-Link Systems Inc. | YES | Voter |
| Nakamura, Osamu | SHARP CORPORATION | YES | Aspirant |
| Lee, Gwangho | Korea National University of Transportation | YES | Voter |
| Mohamed Hassan Salem, Nedime Pelin | Cisco Systems, Inc. | NO | Voter |
| Ke, Wang | Beijing OPPO telecommunications corp., ltd; Guangdong OPPO Mobile Telecommunications Corp.,Ltd | YES | Potential Voter |
| Qian, Yurong | ZTE Corporation | YES | Voter |
| Cao, Bo | ZTE Corporation | YES | Voter |
| Karamyshev, Anton | NRU HSE | YES | Voter |
| Yang, Hui | Huawei Technologies Co., Ltd | YES | Voter |
| Tretiakov, Anton | NRU HSE | YES | Voter |
| Talarico, Salvatore | Nokia Technologies | YES | Voter |
| Helwa, Sherief | Qualcomm Technologies, Inc | NO | Voter |
| Kalamkar, Sanket | Qualcomm Technologies, Inc | NO | Voter |
| Li, Haozheng | TP-Link System Inc. | YES | Voter |
| Chen, Junbin | TP-Link Systems Inc. | YES | Voter |
| Chisci, Giovanni | Qualcomm Technologies, Inc | YES | Voter |
| shi, shuyu | TP-Link Systems Inc. | YES | Voter |
| Singh, Aditi | Charter Communications | YES | Voter |
| Wu, Ming | MediaTek Inc. | YES | Voter |
| Jiang, Zhiping | Xidian University | YES | Voter |
| xiang, Huangfu | Xidian University | YES | Voter |
| Cheng, Nan | Xidian University | YES | Voter |
| Mukherjee, Suprojit | Infineon Technologies | YES | Voter |
| Fu, Qingwei | TP-Link Systems Inc. | YES | Voter |
| Ralle, Helene | Orange | YES | Voter |
| Lungu, Alexandru | SAMSUNG ELECTRONICS | YES | Non-Voter |
| LIU, QINGLAI | Panasonic Holdings Corporation | YES | Voter |
| Zhong, Ke | Ruijie Networks Co., Ltd. | YES | Voter |
| Wang, Ying | InterDigital, Inc. | YES | Voter |
| Che, Hui | Ruijie Networks Co., Ltd | YES | Voter |
| Gu, Jaheon | Samsung Electronics Co., Ltd. | YES | Voter |
| Byeon, Seongho | SAMSUNG ELECTRONICS | YES | Voter |
| Sadiq, Bilal | Samsung Research America | YES | Voter |
| Luo, Sixian | SHARP CORPORATION | YES | Voter |
| CHEN, YI-HSUAN | Acer, Inc. | YES | Voter |
| Doppler, Klaus | Nokia | YES | Voter |
| Rosenzweig Arbel, Gil | Renesas Electronics Corporation | YES | Voter |
| Choi, JinHo | SAMSUNG ELECTRONICS | YES | Voter |
| Bethapudi, Shirly | NXP Semiconductors | YES | Voter |
| Li, Panpan | Huawei Technologies Co., Ltd | YES | Voter |
| Mourtada, Yasser | Ofinno | YES | Voter |
| Chaturvedi, Abhishek | Samsung Electronics | YES | Voter |
| Ekkundi, Manasi | SAMSUNG ELECTRONICS | YES | Voter |
| Kim, Jungjun | Samsung Electronics | YES | Voter |
| Sahyoun, Walaa | Canon Research Centre France | YES | Voter |
| Hasabelnaby, Mahmoud | Huawei Technologies Canada; Huawei Technologies Co., Ltd | YES | Voter |
| Yang, Hang | Ruijie Networks Co., Ltd. | YES | Voter |
| Quan, Li | ZTE Corporation | YES | Voter |
| Tseng, Yen Hsiung | MediaTek Inc. | YES | Voter |
| Roy, Rishabh | SAMSUNG ELECTRONICS | YES | Voter |
| Jee, Anand | SAMSUNG ELECTRONICS | YES | Voter |
| HAN, DONG | Apple Inc. | NO | Voter |
| Amtmann, Franz | NXP Semiconductors | YES | Voter |
| Pan, Ju Yan | Huawei Technologies Co., Ltd | YES | Voter |
| Bajaj, Ian | Huawei International Pte Ltd | YES | Voter |
| Jia, Boqi | Huawei Technologies Co., Ltd | YES | Voter |
| Abeywickrama, Tharindu | Huawei Technologies Co., Ltd | YES | Voter |
| Sakamoto, Ryunosuke | SHARP CORPORATION | YES | Voter |
| Inoue, Kyosuke | SHARP CORPORATION | YES | Voter |
| Xiao, Tong | Xiaomi Communications Co., Ltd. | YES | Voter |
| Kim, Suhwook | SAMSUNG ELECTRONICS | YES | Voter |
| Sung, Hyeonjun | WILUS Inc. | YES | Voter |
| Yang, Haorui | China Mobile (Hangzhou) Information Technology Co., Ltd | YES | Voter |
| shen, wendi | National Taiwan University | YES | Voter |
| Gupta, Ankit | NXP Semiconductor | YES | Voter |
| Schneider, Ben | Siemens AG; Siemens Corporation | YES | Aspirant |
| Zhou, RenFang | TP-Link Systems Inc. | YES | Voter |
| Yang, Yunpeng | TP-Link Systems Inc. | YES | Voter |
| Shi, Zhenpeng | Huawei Technologies Co., Ltd | YES | Voter |
| Nomura, Tetsuya | DENSO TEN Limited | NO | Non-Voter |
| Deshmukh, Mrugen | Ofinno | YES | Voter |
| Videv, Stefan | Kyocera SLD Laser | YES | Voter |
| Chen, Wei-Han | MediaTek Inc. | YES | Voter |
| Dezfouli, Behnam | Nokia | YES | Voter |
| Dunna, Manideep | Qualcomm | YES | Voter |
| CHEN, CHENG | pureLiFi Ltd | YES | Voter |
| Islim, Mohamed Sufyan | Purelifi | YES | Voter |
| Zhou, Huixuan | Guangdong OPPO Mobile Telecommunications Corp., Ltd. | YES | Potential Voter |
| Yang, Zigui | SAMSUNG ELECTRONICS | YES | Voter |
| Zhao, Xuwen | TCL | YES | Voter |
| Portier, Fabrice | Silicon Labs | NO | Non-Voter |
| Qureshi, Haneya | General Motors Company | YES | Voter |
| Chang, Yu Hsien | Mediatek | YES | Voter |
| Liubogoshchev, Mikhail | Nokia | YES | Voter |
| Das, Sovan | Kyocera SLD Laser Inc | YES | Voter |
| Friedl, Stephan | Cisco Systems, Inc. | YES | Voter |
| S R, Perumal Raj | Synaptics | NO | Non-Voter |
| Shabdanov, Samat | Mediatek | YES | Voter |
| Zhang, Lyutianyang | Huawei Technologies Co., Ltd | NO | Voter |
| Gulati, Kapil | NXP Semiconductors | NO | Voter |
| Ishihara, Susumu | Shizuoka University; Ministry of Internal Affairs and Communications, Japan | NO | Non-Voter |
| Gaeremynck, Robbe | Ghent University - imec | YES | Non-Voter |
| Wang, Zhongyi | ZTE Corporation | YES | Voter |
| Tsao, Wilson | Mediatek Inc | YES | Voter |
| Manoharan, Jegan | Cisco Systems, Inc. | YES | Voter |
| Ali, Kamran | General Motors | YES | Voter |
| Swartz, Matt | Cisco Systems, Inc. | YES | Voter |
| Genc, Eda | Nokia | YES | Voter |
| Huang, Chun | ZTE corporation | YES | Voter |
| Dumdei, Alan | Cisco Systems | YES | Voter |
| Alcantara, Carlos | Cisco Systems, Inc. | YES | Voter |
| Wong Mosquera, Blanca | Cisco Systems, Inc | YES | Voter |
| CHEN, JIANQIANG | ZTE Corporation | NO | Voter |
| Georgiev, Zahari | Cisco Systems, Inc. | YES | Voter |
| Zimmer, Ethan | Cisco Systems, Inc. | YES | Voter |
| Procyk, Ian | Cisco Systems | YES | Voter |
| Yin, Shirley | Clourney Semiconductor | YES | Potential Voter |
| Scott, David | Cisco Systems, Inc. | YES | Voter |
| Kim, chan woo | Cisco systems | YES | Voter |
| Yuanjian, Zhang | ZTE Corporation | YES | Potential Voter |
| xu, haidong | ZTE Corporation | YES | Aspirant |
| Nishat, Muhammad Kamran | HaiLa Technologies | YES | Voter |
| Siyao, Tai | Ningbo University | YES | Aspirant |
| QingLiang, shou | ZTE corporation | YES | Voter |
| Pereira da Costa, Mario | Nokia | YES | Potential Voter |
| Lee, Jihye | Samsung Electronics Co., Ltd. | YES | Potential Voter |
| Xu, Haifeng | ZTE Corporation | NO | Non-Voter |
| nan, lu | ZTE Corporation | NO | Non-Voter |
| Xiao, Ding | Guangdong OPPO Mobile Telecommunications Corp.,Ltd | YES | Potential Voter |
| WANG, XIAO | Guangdong OPPO Mobile Telecommunications Corp.,Ltd | YES | Aspirant |
| KERGOURLAY, Gerald | Canon Research Centre France | YES | Aspirant |
| Hou, Justin | TP-Link Systems Inc. | YES | Aspirant |
| SHI, YONGSHENG | Guangdong OPPO Mobile Telecommunications Corp.,Ltd; Innopeak Technology | YES | Potential Voter |
| Kalyankar, Shravan | Huawei Technologies Co., Ltd | YES | Potential Voter |
| Hussein, Abdalla | Huawei Technologies Canada; Huawei Technologies Co., Ltd | YES | Potential Voter |
| Shi, Jiacheng | TCL | YES | Potential Voter |
| Renno, Raquel | Article 19 | NO | Aspirant |
| Krischer, Mark | Cisco Systems, Inc. | YES | Potential Voter |
| Chen, Xu | Xiaomi Communications Co., Ltd. | YES | Aspirant |
| Okumoto, Yusuke | Advanced Telecommunications Research Institute International (ATR) | YES | Aspirant |
| Ding, Qian | TP-Link Systems Inc. | YES | Aspirant |
| Kamendje, Guy | HaiLa Technologies Inc. | NO | Non-Voter |
| Silverman, Matt | Cisco Systems, Inc. | YES | Aspirant |
| Busser, Ryan | Blue Halo | YES | Aspirant |
| Epstein, Avner | MaxLinear | YES | Aspirant |
| Dharap, Anuj | Cisco Systems, Inc. | YES | Aspirant |
| Lee, JeongHoon | Samsung Electronics Co., Ltd. | NO | Non-Voter |
| Shatil, Ohad | Zebra Technologies | YES | Aspirant |
| Karmakar, Anirban | Cisco Systems, Inc. | YES | Aspirant |
| Rashid, Mohammad Mamunur | Apple Inc. | YES | Aspirant |
| Ni, Jiqing | Beijing OPPO telecommunications corp., ltd; Guangdong OPPO Mobile Telecommunications Corp.,Ltd | YES | Non-Voter |
| Wang, Kaidong | Huawei Technologies Co., Ltd | YES | Non-Voter |
| Li, Hao | TP-Link Systems Inc. | YES | Non-Voter |
| Liu, Xu | ZTE Corporation | YES | Non-Voter |
| Xiang, Wenxiang | ZTE Corporation | NO | Non-Voter |
| Yu, Haipeng | ZTE Corporation | NO | Non-Voter |
| Barannikov, Andrey | NRU HSE | YES | Non-Voter |
| Schindler, Daniel | BSH Hausgerate GmbH; Robert Bosch GmbH | NO | Non-Voter |
| Ross, Rony | Huawei Technologies Co., Ltd | YES | Non-Voter |
| Leather, Paul S. | Self Employed; Unaffiliated | YES | Non-Voter |
| Sun, Baoyu | Espressif Systems Co., Ltd | YES | Non-Voter |
| Rich, Ken | Hewlett Packard Enterprise | YES | Non-Voter |
| Hoque, Safi Shams Muhtasimul | Ofinno | YES | Non-Voter |
| Schulz-Zander, Julius | Fraunhofer Heinrich Hertz Institute | YES | Non-Voter |
| Krishnamoorthy, Aravindh | University of Cambridge | YES | Non-Voter |
| Liu, Lumin | Huawei Technologies Co., Ltd | YES | Non-Voter |
| Shukai, Wang | southwest jiaotong university; southwest jiaotong university | YES | Non-Voter |
| Balaji, Rakesh | Synaptics Inc | YES | Non-Voter |
| Lin, Alfred | Sony Corporation | YES | Non-Voter |
| Ross, Rony | Huawei Technologies Co., Ltd | NO | Non-Voter |