**IEEE 802.15**

**Wireless Specialty Networks (WSN)**

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| --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Specialty Networks (WSN) |
| Title | **802.15 WG & CAC Minutes September 2022 Hybrid Mtg** |
| Date Submitted | [16 September 2022]  |
| Source | [Ann Krieger][U.S. Department of Defense][Clint Powell][ Platforms, Inc.][Chandler, AZ] | email: [AnnKrieger.dod@gmail.com]Voice: [+1.480.586.8457]Fax: [--]email: [cpowell@ieee.org] |
| Re: | [September 802.15 Meeting] |
| Abstract | [IEEE 802.15 Working Group & CAC Minutes] |
| Purpose | [Official minutes of the Working Group Opening/Closing and CAC Sessions] |
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**139th IEEE 802.15 WSN MEETING**

**Held Hybrid from Hilton Waikoloa Village (all times in local)**

**Sept. 11-15, 2022**

# 802.15 WG Opening

# Monday, 12th September 2022

**9:10 AM** WG Chair, Clint Powell (Meta), called the meeting to order and opened the WG Agenda ([*15-22-0445-04-0000*](https://mentor.ieee.org/802.15/dcn/22/15-22-0445-04-0000-september-2022-agenda-for-802-15.xlsx) )

**Announcements**

This meeting, September mtg. will be mixed mode (in-person and remote participants).

Don’t forget to turn on your mic and announce your name and affiliation before you speak. In-person participants were asked to use the mike to speak and if you use WebEx do not attach audio. Remote participants were instructed to use “Music Mode” in WebEx to avoid the audio from disconnecting.

WG Vice-Chair, Phil Beecher (Wi-Sun Alliance) announced the use of DirectVoteLive (DVL) for all WG votes. DVL will only be used at the closing plenary meeting on Thursday, 15 September. All voting members will receive an email link before Thursday. If you think you may be a voting member, let us know. One problem may be if you have different emails, if this is a problem consider using the free IEEE email reflector.

All WG motions (especially those relating to PARS) need to be sent to the Chair (Clint Powell), and Vice-Chair (Phil Beecher) immediately after the close of your last mtg. so that they may be entered into DVL (Direct Vote Live) by the EOD.

WG Chair reviewed the new attendance requirements. 100% attendance will consist of attending 12 sessions. Therefore to achieve the 75% you need to attend 9. Gary Stuebing (Cisco) noted that IMAT is already set up that 12 = 100%. Register you attendance in IMAT and if you have any problems please reach out to Phil Beecher.

WG Chair asked for new participants to speak up, there were none in the room. New remote participants should use the chat window in Webex. Josef Gruber (Infineon AG) – replied in the chat window.

## Legal

WG Chair informed the group of and displayed the IEEE-SA patent policy presentation
slides 0-5 ([*http://standards.ieee.org/board/pat/pat-slideset.ppt*](http://standards.ieee.org/board/pat/pat-slideset.ppt)).

WG Chair asked the participants who wished to declare a Letter of Assurance (LoA) or to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) that the participant believes may be essential for any of the ongoing activities within the 802.15 WG.

No essential patent claims were brought forth.

WG Chair displayed and read the standard IEEE Anti-Trust statement.

WG Chair displayed and read the standard IEEE Copyright Policy, including Code of Ethics.

WG Chair went through the agenda.

## WG Approvals

Tim Godfrey (EPRI) **moved** to *approve the agenda (document#* [*15-22-0445-04-0000*](https://mentor.ieee.org/802.15/dcn/22/15-22-0445-04-0000-september-2022-agenda-for-802-15.xlsx)*)* with Gary Stuebing (Cisco) seconding the motion. Following no objection, the agenda was approved.

Ben Rolfe (BCA) **moved** *to approve the previous meeting minutes (document#* [*15-22-0345-00-0000*](https://mentor.ieee.org/802.15/dcn/22/15-22-0345-00-0000-802-15-wg-cac-mins-july-2022-hybrid-plenary.docx)*)* and Gary Stuebing (Cisco) seconded the motion. Following neither discussion nor objection the minutes were approved. There were no matters resulting from the previous minutes.

No updates from RevCom and NesCom as the SA will be after the close of our meetings.

## General and Administrative

WG Chair presented the general meeting information:

* IMAT will be used for attendance
	+ 75% Attendance = 9 time slots (any 9 of the 12)
* Voters: (voters: 139, nearly: 11, aspirant: 18)
* Webex will be used with all sessions

Ben Rolfe (BCA) gave the treasurers report (verbal) with a full report at the WG closing. Highlights:

* This is the first hybrid wireless interim.
* More attendees than expected, ~250 on site with 227 remote.
* Still making sure we have money in reserve.
* Surplus from May meeting (virtual), increasing fees did not deter attendance.
* Trying to keep fees as low as we can, but hybrid costs $50K-$100K more.

The September 802.15 CAC meeting minutes are included in the WG minutes
*(minutes: 15-22-0529-00-0000* – this doc.*)*

The Wireless Chairs Steering Committee meeting minutes are contained in
*(minutes:* [*ec-22-xxxx-xx-WCSG*](https://mentor.ieee.org/802-ec/dcn/22/ec-22-0160-02-WCSG-minutes-july-10-2022.docx)*)*

802.15 still needs a WG Secretary and one more Vice-Chair. These members will have voting rights in the Wireless Chairs Steering Committee. Ann Krieger (U.S. Department of Defense) has agreed to accept the position of 2nd Vice-Chair.

* Ben Rolfe (BCA) **moved** *to confirm Ann Krieger as 802.15 Vice-Chair subject to approval by the EC.* Tim Godfrey (EPRI) seconded the motion. Discussion followed about IEEE letters she would need to provide before the EC could confirm. Motion was approved.

Chair shows 802.15 WG Opening report that was shown at the combined wireless opening previous to this meeting (*document #* [*15-22-0448-02-0000*](https://mentor.ieee.org/802.15/dcn/22/15-22-0448-02-0000-september-2022-opening-report-for-802-15.pptx)*)*

## Status Reports (Goals/Objectives for the Week)

802.15 Status and Activities Planned for the Week

* Task Group 15.3ma (1 meeting)
	+ Monday AM2
	+ Start letter ballot for task group.
	+ In same room as TG 4me
* Task Group 15.4 Cor1 (0 meetings)
	+ Not meeting.
* Task Group 4ab – NG-UWB (8 meetings – 25 presentations)
	+ Aligning PHY features to start drafting text
	+ Continue to hear and discuss PHY & MAC presentations
	+ Want to be able to have a shell document by November.
	+ Several upper layer SDOs are interested.
* Task Group 4me Revision to 2020 (3 meetings)
* Group doesn’t exist yet but will prepare motions for mid-week.
* Phil Beecher **moved** *for confirmation of appointed chair, Gary Stuebing (Cisco).*  Tero Kivinen (self) seconded the motion. Following neither discussion nor objection he was approved.
* Task Group 6ma – (BAN/VAN) (3 meetings)
	+ Hear and discuss presentations
* Task Group 7a – OCC (3 meetings)
	+ Informal comment review period – addressing those comments.
	+ Start initial Letter Ballot by end of the week.
* Task Group 13 – Multi Gigabit/sec OWC (4 meetings)
	+ SA Ballot comment resolution, resolving comments from recirculation.
* Task Group 16t – 802.16 Lic-NB Amendment (3 meetings)
	+ 2 contributions
	+ Discuss a presentation of a ISO similar standard.
* Joint 802.1/802.15 Mtg. (1 meeting)
	+ Number of presentations from other WG. We need to tell them where we do comply with 802.1
* Standing Committee – IETF (1 meeting)
	+ Discuss IETF activities
* Standing Committee – SC-M, Rules (1 meeting)
	+ Work on the standards to be submitted to ISO JTC
* Standing Committee – WNG (1 meeting)
	+ 3 presentations

## Nov. 802 Hybrid Plenary Mtg. Info

802.15 WG will hold its mixed mode plenary session from November 13-18 2022, the in-person part being held at the Marriott Marquis Queen's Park, Bangkok, Thailand.

The 802.15 CAC for the November Plenary will be held at the Marriott Marquis Queen's Park, on Sun. November 13, 2022 5:30pm local time

802 November Plenary Registration Fees & Deadlines have been set at $600 on or before 16 Sept., $800 on or before 31 Oct., and $1000 after 31 Oct.

Every single mtg. requires a Vice-Chair or other designated person to run audio portion of virtual mtg.

* A 2nd computer will work best (hotel or 802 will not supply this, to be brought by designee)
* Training on tool will be provided
* All TG and SC Chairs please inform if neither they or any Vice-Chair will be attending in person this week and send info to Clint & Phil

## New Business

WG Chair asked if there was any new business. None was raised.

## Any Other Business

WG Chair made the following announcements:

* Following the WNG meeting on Wednesday, 802.15 WG will have a group picture taken on the stairs. Please wear your Hawaiian Shirt or any other Hawaiian apparel.
* After the group picture, if you like to be in the competition, stay around for a candid shot. Bob’s family will decide the winners at the Wednesday night social
* Tuesday from 1pm-4pm, a Shave Ice truck will be at the entrance. Make sure you have your red wrist band from check-in.
* Don’t forget about the Social Wednesday night to celebrate Bob Heile

WG Chair asked if there was any other business. None was raised.

## WG Recess

**10:10 PM** WG Chair recessed the meeting

# 802.1 / 802.15 Joint Mtg.

# Tuesday, 13th September 2022

**11:30 AM** 802.15 WG Chair Clint Powell (Meta) and 802.1 WG Chair Glenn Parsons (Ericsson) called the meeting to order. 802.1 was meeting at another location.

This activity is looking at 802.1 features/concepts that can be applied to the various 802.15 standards. At the last meeting, 802.15 discussed where things do NOT line up with 802.1, but after the presentation from 802.11, 802.15 would like to discuss where we do align with 802.1. We are going to start with discussing 802.15.4

**11:37 am**: Phil Beecher (Wi-Sun Alliance) presented (*document #* [*15-22-0491-01*](https://mentor.ieee.org/802.15/dcn/22/15-22-0491-01-0mag-802-15-4-architecture-overview.pptx))

* Purpose – summarize IEEE Std 802.15.4™-2020 use of the IEEE Std 802 Overview and Architecture and use of the LLC, MAC address formats and MSDU formats are described.
* 802.15.4 MAC services and protocols use 64-bit MAC addresses
* 802.15.4 frame based transmission. Original 15.4 spec did not have an ethertype, but that has been rectified. Ethertype protocol discrimination is supported indirectly using 802.15.9
* Summary: 802.15.4 standard uses several components of 802 architecture
	+ LLC, MAC address formats, MSDU formats, used with 802.15.9, enables implementation of IETF IP based protocols (6lowpan)
	+ 802.15.4 + 802.15.9 enables 802.1X security framework, enabling use of IETF EAP protocols and multiple credential types

Glenn had a few questions:

1. Information element in 15.9 – indirect support for that? What is meant by that?
	1. Ben Rolfe (BCA) answered: We define a means to do protocol differentiation.
	2. Phil: indirect is not the right term. We did not think of using protocol differentiation in 15.4
2. Good to have some detail about 802.15.9
	1. Phil: in next revision of the document, we will show where each bit sits.
3. When we discussed this in July, did 802.15 provide a template?
	1. Clint – I don’t think we did. We will do this using 802.15.4 and then when that is complete, we will use this as a template for the others in .15 (.3, .6, .7, .8, .13)
4. What is your timeline for adding 802.15.9?
	1. We will endeavor to get it done sooner than later, before November.

Clint asked that if anyone in 802.1 has specific things they would like us to add, to please let us know.

Follow on – actions or missing pieces from a .15 to support a .1 functionality. In order to support TSN – MAC address (15.4 is 64 bit) others use 48-bit. Bridging across 48 to 64 bits.

Next Joint mtg. w/ 802.1 at Nov. 802 Plenary in Bangkok – time TBD

**12:04pm** 802.15 Chair & 802.1 Chair adjourned the meeting

# 802.15 WG Mid-week

# Wednesday, 14th September 2022

**10:34 AM** WG Chair, Clint Powell (Meta) called the meeting to order displaying (document #[*15-22-0445-04-0000*](https://mentor.ieee.org/802.15/dcn/22/15-22-0445-04-0000-september-2022-agenda-for-802-15.xlsx) )

Announcements:

* Closing session is PM2 – please send all motions to Clint and Phil ASAP. Direct Vote Live will be used for all motions at closing.
* Mixed meeting mode similar to July (12 sessions = 100%, 9 = 75%)
* Working on November agenda. Closing of 802.15 is Thursday evening 1, 6-8pm. EC meeting on Friday – everyone is invited.
* Reminder: WNG is immediately following this mid-week – and then following that, 802.15 WG photo – at the grand staircase. And individual shots if you want to be in the contest.
* Social starting at 6:30, closing at 9pm. Water’s edge ballroom. At the end of the evening, go to the grand staircase – flame throwing etc.
* Still looking for a full-time secretary and third Vice-Chair.

No Polls

Upcoming Meetings:

* November in Thailand – only 2 days left for early bird.
* January 2023 in Baltimore MD (US) – there will be a change of venue.

Task group chairs give verbal mid-week status updates. We expect WG motions at the closing plenary from:

* TG3ma
* TG7a

All SC’s gave a quick verbal status update

No new business.

**11:01 802.15 Midweek recessed by Clint Powell**

**11:02 802.15 WNG Called to order by Ben Rolfe (BCA)**

The WNG slides were presented (*document #* [*15-22-0513-00*](https://mentor.ieee.org/802.15/dcn/22/15-22-0513-00-wng0-meeting-slides-and-agenda-sept-2022.pptx) )

**11:10** Presentation by Dries Neirynck (Ultra Radio Ltd), Jim Lansford (Qualcomm) (*document #* [*15-22-0505-00*](https://mentor.ieee.org/802.15/dcn/22/15-22-0505-00-wng0-uwb-regulatory-worldwide.pptx) ) on UWB Regulatory Considerations.

**11:49** Presentation by Tero Kivinen (doc number # [*15-22-0477-00*](https://mentor.ieee.org/802.15/dcn/22/15-22-0477-00-wng0-802-15-4-privacy-issues.pptx)) on IEEE 802.15.4 Privacy Issues.

* Straw poll – would you be interesting in forming a SG in this privacy area.
	+ Yes (12 in room – 2 on-line )
	+ Opposed (0)
* Volunteer to lead study group: Tero Kivinen – affirm in closing.

**12:12** WNG Adjourned by Ben Rolfe

# 802.15 WG Closing

# Thursday, 15th September 2022

**4:04 PM** WG Chair, Clint Powell (Meta) called the meeting to order

## Announcements

WGChair reiterated the need to be registered for this meeting.

WG Vice-Chair Phil Beecher (Wi-Sun Alliance) did an attendance check in IMAT and several people did not have the 75% attendance (9 out of 12 meetings). After the reminder the ones who were close achieved that mark.

Direct Vote Live (DVL) will be used for all votes. You should have received an email with a link. If you did not, please let Clint or Phil know. All votes are recorded below as Y/N/A (Yes/No/Abstain)

802.15 is still in need for one more WG vice chair and secretary.

**Future Meetings**

The next plenary will be in November in Bangkok, the details were discussed in the opening and mid-week. The R0 schedule has been posted, please look at it. Notice that the 802.15 closing will be Thursday PM1 (6:30-8:30 local time). Please plan your travel accordingly.

## Closing Reports

**4:10 PM 802.15 WG** Closing Agenda by Clint Powell (Meta) : [*15-22-0445-05*](https://mentor.ieee.org/802.15/dcn/22/15-22-0445-05-0000-september-2022-agenda-for-802-15.xlsx)

**802.15 WG - Motion to affirm Ann Krieger as WG Vice Chair**

Motion: Move that the 802.15 Working Group affirms the appointment of Ann Krieger as 802.15 WG Vice Chair.

Moved: Phil Beecher

Seconded: Ben Rolfe

After discussion the motion was withdrawn. She was appointed as Temporary vice chair until an election can be held.

**TG3ma Closing Report**: Thomas Kurner presents: [*15-22-461-01*](https://mentor.ieee.org/802.15/dcn/22/15-22-0461-01-03ma-tg3mb-closing-plenary-slides-meeting-september-2022.pptx) (needs 4 slots at Plenary)

**802.15 TG3ma - Initiate Letter Ballot**

Motion: Move that 802.15 WG start a WG Letter Ballot requesting approval of CA document 15-22-0462-02-03ma-coexistence-assurance.doc and document P802-15-3-RevB-D1 and to forward document P802-15-3-RevB-D1 to Standards Association ballot

Moved: Thomas Kürner

Seconded: Phil Beecher

No discussion, DVL vote: **39/0/0** (Y/N/A)

**802.15 TG3ma - Form CRG**

Motion: Move that 802.15 WG approve the formation of a Comment Resolution Group (CRG) for the WG balloting of the P802.15.3-RevB-D1 with the following membership: Thomas Kürner (Chair), Iwao Hosako, Monique Brown, Josep Jornet, Shoichi Kitazawa and Jörg Robert. The 802.15.3mb CRG is authorized to approve comment resolutions and to approve the start of recirculation ballots of the revised draft on behalf of the 802.15 WG. Comment resolution on recirculation ballots between sessions will be conducted via reflector email and via teleconferences announced to the reflector as per the LMSC 802 WG P&P

Moved: Thomas Kürner

Seconded: Phil Beecher

After discussion, motion was withdrawn.

**SC THz Closing Report:** did not meet (needs 1 session in Nov.)

**TG4ab Closing Report**: Ben Rolfe presents [*15-22-0526-00*](https://mentor.ieee.org/802.15/dcn/22/15-22-0526-00-04ab-tg4ab-september-closing-report.pptx)(needs 8 sessions in Nov.)

**TG4me Closing Report**: Gary Stuebing verbal report (needs 5 sessions in Nov.)

**TG6ma Closing Report**: Ryuji Kohno presents [*15-22-0522-02*](https://mentor.ieee.org/802.15/dcn/22/15-22-0522-02-006a-tg15-6ma-closing-report-september-2022.pptx)(needs 3 sessions in Nov.)

**TG7a Closing Report:** Sangsung Choi presents [*15-22-0528-00*](https://mentor.ieee.org/802.15/dcn/22/15-22-0528-00-007a-15-7a-occ-tg-closing-report-september-2022.pptx) (needs 3 sessions in Nov.)

**802.15 TG7a - Initiate Letter Ballot**

Motion: Move that the 802.15 WG start a WG Letter Ballot requesting approval of CA document [15-22-0292-r1] and document P802-15-7a\_D2 and to forward document P802-15-7a\_D2, to Standards Association ballot, pending approval of the Working Group Technical Editor.

Moved by: Sangsung Choi

Seconded by: Phil Beecher

DVL vote: **30/1/2** (Y/N/A)

**802.15 TG7a - Form CRG**

Motion: Move that the 802.15 WG approves the formation of a Comment Resolution Group (CRG) for the WG balloting of the P802.15.7a\_D2 with the following membership: Yeong Min Jang(Chair), Sang-Kyu Lim, Sangsung Choi, Ryuji Kohno. The 802.15.7a CRG is authorized to approve comment resolutions, edit the draft according to the comment resolutions, and to approve the start of recirculation ballots of the revised draft on behalf of the 802.15 WG. Comment resolution on recirculation ballots between sessions will be conducted via reflector email and via teleconferences announced to the reflector as per the LMSC 802 WG P&P.

Moved by: Sangsung Choi

Seconded by: Phil Beecher

After discussion, motion was withdrawn.

**TG13 Closing Report:** Tuncer Baykas presents *15-22-0527-00*(needs 2 sessions in November)

**802.15 TG13 - SA Ballot recirculation**

Move that 802.15 WG start a Standards Association Recirculation Ballot of document P802.15.13-D8 (as edited in accordance with the instructions in document 15-22-0442-04) pending the completion and inclusion of the edits in the draft.

(M) Tuncer Baykas
(S) Tero Kivinen

No discussion, DVL vote: **27/0/0** (Y/N/A)

**802.15 TG13 - Form CRG**

Move that 802.15 WG approves the formation of a Comment Resolution Group (CRG) for the Standards Association balloting of the P802.15.13\_D8 with the following membership: Volker Jungnickel as Chair, Tuncer Baykas, Sang-Kyu Lim, Tero Kivinen. The 802.15.13 CRG is authorized to approve comment resolutions, edit the draft according to the comment resolutions, and to approve the start of recirculation ballots of the revised draft on behalf of the 802.15 WG. Comment resolution on recirculation ballots between sessions will be conducted via reflector email and via teleconferences announced to the reflector as per the LMSC 802 WG P&P.

(M) Tuncer Baykas
(S) Phil Beecher

No discussion, DVL vote: **24/0/1** (Y/N/A)

**TG16t Closing Report:** Tim Godfrey presents [*15-22-0472-04*](https://mentor.ieee.org/802.15/dcn/22/15-22-0426-00-016t-july-2022-plenary-closing-report.pptx)(Need 3 sessions in Nov.)

**SC-IETF Closing Report:** Tero Kivinen gives a verbal report (Need 1 session in Nov.)

**SC-Maintenance:** Phil Beecher presents [*15-22-0495-01*](https://mentor.ieee.org/802.15/dcn/22/15-22-0495-01-0mag-scm-opening-and-closing-report-plenary-september-2022.pptx)(Need 2 sessions in Nov.)

**802.15 SC Maintenance- Seek approval of the 802 EC to send IEEE 802.15.7-2018 to JTC1**

Motion: Move that the IEEE 802.15 WG requests that IEEE 802 EC submit IEEE Std 802.15.7-2018 to ISO/IEC JTC1 SC6 for adoption under the PSDO agreement.

Moved: Phil Beecher

Seconded: Ben Rolfe

No discussion, DVL vote: **21/0/0** (Y/N/A)

**802.15 SCM - Approve Operations Manual R31**

Motion: Move that IEEE 802.15 Working Group approves Operations Manual revision 31, doc # 15-10-0235-31-0000-802-15-operations-manual

Moved: Phil Beecher

Seconded: Tero Kivinen

After discussion, motion was withdrawn.

**WNG Closing Report**: Ben Rolfe discussed verbally (Need 1 session in November)

**802.15 WNG formation of Study Group**

Motion: That the 802.15 Working Group seeks approval from the 802 EC to form a study group in 802.15 to develop the PAR and CSD documents for “Privacy” and additionally authorize the 802.15 WG Chair to make any necessary changes to these docs required to support the submission.

Moved: Tero Kivinen

Seconded: Phil Beecher

No discussion, DVL vote: **22/0/1** (Y/N/A)

**Liaison Reports**

**802.24 Liaison Report –** Tim Godfrey gives verbal report

**802.18 RRTAG Liaison Report –** Edward Au presents liaison report**:** [*15-22-0437-01-0000*](https://mentor.ieee.org/802.15/dcn/22/15-22-0437-01-0000-802-18-to-802-15-liaison-report-september-2022.ppt)

**802.19 Coexistence TAG Liaison Report –** Ben Rolfe gives verbal report

**No liaison from 802.11**

## AOB

A remote user mentioned that the audio from the people in the room was low. There was a discussion to let the chair know during the meetings so it can be corrected. One problem was that some people are very soft spoken who did not get close to the mic.

**WG Adjourn**

**6:06 PM** The WG Chair Clint Powell adjourned the meeting

# Annex A Total attendance (in-person + remote) = 119

|  |  |  |
| --- | --- | --- |
| **Last Name** | **First Name** | **Affiliation** |
| Aldana | Carlos | Facebook |
| Andre | Jean-Marie | ST micro |
| Anzai | Daisuke | Nagoya Institute of Technology |
| Bahn | Christy | IEEE Staff |
| Bansal | Ankur | Samsung Electronics Co., Ltd. |
| Barras | David | 3db Access AG |
| Baykas | Tuncer | Kadir Has University |
| Beecher | Philip E | Wi-SUN Alliance |
| Behnamfar | Firouz | Apple Inc. |
| Bettesh | Ido | Apple Inc. |
| Bims | Harry | Bims Laboratories, Inc. |
| Brown | Monique | National Institute of Info. and Comms. Tech. (NICT) |
| Chaplin | Clint | Self |
| Chen | Run | New Radio Technology Co., Ltd. |
| Cho | Hangyu | LG Electronics |
| Choi | Sangsung | Kookmin University |
| Clanney | Nathan | Siemens Mobility, Inc. |
| Corbalan Pelegrin | Pablo | NXP Semiconductors |
| da Silva | Claudio | Meta Platforms, Inc. |
| De Ruijter | Hendricus | Silicon Laboratories |
| Dotlic | Igor | Qorvo |
| Ekrem | Ersen | Google, LLC |
| Ghosh | Chittabrata | Facebook, Inc. |
| Gilb | James | University of San Diego |
| Godfrey | Tim | Electric Power Research Institute, Inc. (EPRI) |
| Golshan | Robert | Apple, Inc. |
| Granhaug | Kristian | novelda |
| Grosswindhager | Bernhard | NXP Semiconductors |
| Gruber | Josef | Infineon Technologies |
| Guimond | Raphael | SPARK Microsystems |
| Guo | Jianlin | Mitsubishi Electric Research Labs (MERL) |
| Guo | Ziyang | Huawei Technologies Co., Ltd |
| Ha | Taeyoung | Samsung Electronics Co., Ltd. |
| Haasz | Jodi | IEEE Standards Association (IEEE-SA) |
| Henry | Jerome | Cisco Systems, Inc. |
| Hernandez | Marco | National Institute of Info. and Comms. Tech. (NICT) |
| Hirata | Masayuki | Osaka Univ. Grad. School of Med., Dept of Neurological Diag. & Rest. |
| Hjortland | Haakon | Novelda AS |
| Hosako | Iwao | National Institute of Info. and Comms. Tech. (NICT) |
| Hotchkiss | Ron | IEEE STAFF |
| Huang | Lei | Huawei Technologies Co., Ltd |
| Jiang | Jinjing | Apple Inc. |
| Jornet | Josep Miquel | Northeastern University |
| Jungnickel | Volker | Fraunhofer Heinrich Hertz Institute |
| Juntunen | Juha | Meteor Communications Corp. |
| Kabbinale | Aniruddh | SAMSUNG |
| Kalkundrikar | Vishal | Ondas Networks |
| Kasamatsu | Akifumi | National Institute of Info. and Comms. Tech. (NICT) |
| Keren | Rani | Huawei Technologies Co., Ltd |
| Kerry | Stuart | OK-Brit; Self |
| Kim | Minsoo | YRP International Alliance Institute |
| Kitazawa | Shoichi | Muroran IT |
| Kivinen | Tero | Self Employed |
| Kobayashi | Takumi | Yokohama National University |
| Kohno | Ryuji | YNU/CWC UofOulu; YNU/YRP-IAI |
| Krebs | Alexander | Apple Inc. |
| Krieger | Ann | US Department of Defense |
| Kristem | Vinod | Apple Inc. |
| Kuechler | Wolfgang | NXP Semiconductors |
| Kuerner | Thomas | TU Braunschweig |
| Lansford | James | Qualcomm Incorporated |
| Lee | Mingyu | Samsung Electronics Co., Ltd. |
| Lemsitzer | Stefan | NXP Semiconductors |
| Leong | Frank | NXP Semiconductors |
| Li | Huan-Bang | National Institute of Info. and Comms. Tech. (NICT) |
| Lim | Sang-Kyu | Electronics and Telecommunications Research Institute (ETRI) |
| Lin | Wei | Huawei Technologies Co., Ltd |
| Liu | Chenchen | Huawei Technologies Co., Ltd |
| Liu | Yong | Apple, Inc. |
| Lopez | Miguel | Ericsson AB |
| Luo | Xiliang | Apple, Inc. |
| Ma | Yongsen | Redpoint Positioning |
| Megahed | Abdelfattah | Renesas Electronics Corporation |
| Mueller | Robert | Technische Universitaet Ilmenau |
| Murray | Carl | Qorvo |
| Nabki | Frederic | SPARK Microsystems |
| Nagai | Yukimasa | Mitsubishi Electric Corporation |
| Neirynck | Dries | Ultra Radio Ltd |
| Niewczas | Jaroslaw | Qorvo |
| Pakrooh | Pooria | Qualcomm Technologies, Inc. |
| Palmer | Clark | Meteorcomm LLC |
| Parthasarathi | Srivathsa Masthi | NXP Semiconductors |
| Patel | Tushar | Teradyne, Inc. |
| Peng | Xiaohui | Huawei Technologies Co., Ltd |
| Pirhonen | Riku | NXP Semiconductors |
| Powell | Clinton | Meta Platforms, Inc. |
| Qi | Yinan | Guangdong OPPO Mobile Telecom. Corp.,Ltd |
| Qian | Bin | Huawei Technologies Co., Ltd |
| Rahmani | Mohammad | SPARK Microsystems |
| Redlich | Oded | Huawei Technologies Co., Ltd |
| Rolfe | Benjamin | Blind Creek Associates |
| Saito | Hiroki | ARIS Inc. |
| Sand | Stephan | German Aerospace Center (DLR) |
| Sayrafian | Kamran | National Institute of Standards and Technology |
| Schweizer | Benedikt | Apple Inc. |
| Segev | Jonathan | Intel corporation |
| Sekine | Norihiko | National Institute of Info. and Comms. Tech. (NICT) |
| Shahar | Menashe | Ondas Networks |
| Shellhammer | Stephen | Qualcomm Incorporated |
| Shilo | Shimi | Huawei Technologies Co. |
| So | Youngwan | Samsung Electronics Co., Ltd. |
| Sosack | Robert | Molex Incorporated |
| Stuebing | Gary | Cisco Systems, Inc. |
| Sun | Li | Huawei Technologies Co., Ltd |
| Suzuki | Takafumi | National Institute of Info. and Comms. Tech. (NICT) |
| Tian | Bin | Qualcomm Incorporated |
| Verma | Lochan | Apple, Inc. |
| Verso | Billy | Qorvo |
| Wilhelmsson | Leif | Ericsson AB |
| Wisland | Dag | Novelda AS; University of Oslo |
| Wu | Kanke | Qualcomm Incorporated |
| Wu | Kuan | Huawei Technologies Co. |
| Xiao | Libra | NewRadio Technology Co., Ltd. |
| Yang | Shang-Te | Apple, Inc. |
| Yang | Xun | Huawei Technologies Co., Ltd |
| Ye | Zhenzhen | Red Point Positioning |
| Yong | Su Khiong | Apple, Inc. |
| Yoon | Kangjin | Meta |
| Zou | Qiyue | Meta |

# 802.15 CAC Mtg.

# Sunday, 11th September 2022

## Attendance

Phil Beecher

Tim Godfrey

Tero Kivinen

Ann Krieger

Ryuji Kohno

Thomas Kurner (on-line)

Clint Powell

Ben Rolfe

Clint Chapman

Volker Jungnickel

## Minutes

**5:34 pm**: WG Chair, Clint Powell (Meta) called the mtg. to order and presented the agenda ([*15-22-0445-04-0000*](https://mentor.ieee.org/802.15/dcn/22/15-22-0445-04-0000-september-2022-agenda-for-802-15.xlsx) )

General Announcements:

* Social on Wednesday night will be in the Waters Edge Ballroom. 802.15 will gather after the mid-week/WNG on Wednesday for a group photo at the staircase.
* Attendance for 802.15 in the September interim is as follows
	+ 12 slots are deemed as 100%, therefore 75% is 9 slots.
* No updates on NesCom or RevCom.

September Sessions:

* 802 Wireless Chairs (WCSC) meeting: 4pm to 5:30pm on Sun. Sept. 11, 2022
* Opening 802.15 WG CAC meeting: 5:30pm to 6:30pm on Sun. Sept 11, 2022
* Opening Wireless Joint meeting: 8:00am to 9:00am on Mon. Sept 12, 2022
* Opening 802.15 WG meeting: 9:00am to 10:00am on Mon. Sept 12, 2022
* Mid-Week 802.15 WG CAC meeting: 7:30am to 8:30am on Wed. Sept. 14, 2022
* Mid-Week 802.15 WG meeting: 10:30am to 11:30am on Wed. Sept. 14, 2022
* Closing 802.15 WG meeting: 4pm to 6pm on Thurs. Sept 15, 2022

Subgroup Status and Objectives for September Wireless Interim.

* Task Group 3ma (1 session)
	+ Short meeting TG motion for Letter Ballot
* Study Group THz (not meeting)
* Task Group 15.4 2020 Cor1 – closed
* Task Group 4ab – NG-UWB (8 sessions)
	+ Aligning PHY features to start drafting text
	+ Continue to hear and discuss PHY & MAC presentations
* Task Group 4me Revision to 2020 (2 sessions)
	+ What do we want to accomplish?
* Task Group 6ma – (BAN/VAN) (2 sessions)
	+ Hear and discuss presentations
* Task Group 7a – OCC (1 session)
	+ No one there to speak.
* Task Group 13 – Multi Gigabit/sec OWC (2 sessions)
	+ PAR was extended
	+ Resolved comments
	+ Form CRG and hope to have 2 recerts before November
* Task Group 16t – 802.16 Lic-NB Amendment (3 sessions)
	+ Spec text development
	+ Continue draft development
	+ Wrinkle with work being done in ISO (JTC1) on this work.
* Joint 802.1/802.15 Mtg (1 session)
	+ Changed our presentation from July – tell them how we work WITH 802.1
* Standing Committee – IETF (1 session)
	+ Discuss IETF meeting from July 2022
* Standing Committee – SC-M, Rules (1 session)
	+ Haven’t received any requests for things that are broken.
	+ Looking through the standards to see what should go to ISO JTC.
* Standing Committee – WNG (1 session)
	+ 3 presentations

Upcoming Meetings:

* November 2022 – Plenary in Bangkok
* January 2023 – Wireless Interim in Baltimore, MD – venue will change.

**6:28pm** WG chair adjourned the CAC meeting.

# 802.15 Mid-Week CAC Mtg.

# Wednesday, 14th September 2022

## Attendance

Phil Beecher

Tim Godfrey

Tero Kivinen

Ann Krieger

Ryuji Kohno

Thomas Kurner (on-line)

Clint Powell

Ben Rolfe

Clint Chapman

Volker Jungnickel

## Minutes

**7:37pm**: WG Chair, Clint Powell (Meta) called the mtg. to order and presented the agenda ([*15-22-0445-04-0000*](https://mentor.ieee.org/802.15/dcn/22/15-22-0445-04-0000-september-2022-agenda-for-802-15.xlsx) )

General Announcements:

* Social on Wednesday night will be in the Waters Edge Ballroom, wear your Hawaiian shirt. 802.15 will gather after the mid-week/WNG on Wednesday for a group photo at the staircase.
* Attendance for 802.15 in the September interim is as follows
	+ 12 slots are deemed as 100%, therefore 75% is 9 slots.
* TG chairs, mention how voting rights work. – 1 plenary w/in span of last 4 plenaries.
* Still need a WG sec & 1 WG vice-chair
* No updates on NesCom or RevCom until next week.

Subgroup Status and Objectives for September Wireless Interim.

* Task Group 3ma
	+ Closing motions – Yes (1)
	+ EC Agenda items – No
	+ PAR extension needed – No
* Task Group 15.4 2020 Cor1 – in editor
* Task Group 4ab – NG-UWB
	+ Closing motions – No
	+ EC Agenda items – No
	+ PAR extension needed – No
* Task Group 4me Revision to 2020
	+ Closing motions – No
	+ EC Agenda items – No
	+ PAR extension needed – No
* Task Group 6ma – (BAN/VAN)
	+ Closing motions – No
	+ EC Agenda items – No
	+ PAR extension needed – No
* Task Group 7a – OCC
	+ Closing motions – No
	+ EC Agenda items – No
	+ PAR extension needed – No
* Task Group 13 – Multi Gigabit/sec OWC
	+ Closing motions – Yes (2)
	+ EC Agenda items – No
	+ PAR extension needed – No
* Task Group 16t – 802.16 Lic-NB Amendment
	+ Closing motions – No
	+ EC Agenda items – No
	+ PAR extension needed – No
* Joint 802.1/802.15 Mtg
	+ Closing motions – No
	+ EC Agenda items – No
* Standing Committee – IETF
	+ Closing motions – No
	+ EC Agenda items – No
* Standing Committee – SC-M, Rules
	+ Closing motions – No
	+ EC Agenda items – No
* Standing Committee – WNG
	+ Closing motions – No
	+ EC Agenda items – No

Any Other Business:

* Direct Vote Live will be used for voting. 802.11 uses Webex, but it is subject to audit.
* November 2022 – Plenary in Bangkok, started working on draft agenda

**8:28am** WG chair adjourned the CAC meeting.