**IEEE P802.15**

**Wireless Personal Area Networks**

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| --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title |  |
| Date Submitted | [13 Sept 2018] |
| Source | [][][Chicago, IL] | Voice: [+1.847.960.3715]Fax: [+1.847.790.3805]E-mail: [pat.kinney@ieee.org] |
| Re: | [802.15 Interim Meeting in Waikoloa, HI, USA] |
| Abstract | [IEEE 802.15 Working Group Minutes] |
| Purpose | [Official minutes of the Working Group Session] |
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 **IEEE 802.15 Interim Meeting – #109 Joint Opening Plenary**

**Hilton Waikoloa Village**

**Hawaii, USA**

**Sept 10 - 14, 2018**

**Monday, 10 Sept 2018**

**8:02** 802.11, 802.15, 802.18, 802.19, 802.21, and 802.24 Chairs called the joint meeting to order. IEEE 802.15 attendance is included as Annex A.

IEEE 802 Wireless Top 10 (read by Heile) ([IEEE802W-0918-Top10\_Sept7\_DistributionCopy](https://www.regonline.com/custImages/490000/490750/IEEE802W-0918-Top10_Sept7_DistributionCopy.pdf))

General announcements:

* No photography, no audio recording
* Don’t forget, book your room and register for November’s session

Straw Poll of new attendees: 1

**8:08**  IEEE patent policy

802.15 WG chair read the IEEE-SA instructions and displayed the four slides explaining patent policy and informed the attendees that additional information could be found on the PatCom web site: ([**https://standards.ieee.org/about/sasb/patcom/materials.html**](https://standards.ieee.org/about/sasb/patcom/materials.html)**)**.

802.15 WG chair read IEEE anti-trust policy. ([**http://standards.ieee.org/develop/policies/antitrust.pdf**](http://standards.ieee.org/develop/policies/antitrust.pdf))

**8:13** Financial report by J Rosdahl (Qualcomm) docs [11-18-1400-00](https://mentor.ieee.org/802.11/dcn/18/11-18-1400-00-0000-treasurer-report-may-2018-warsaw.pptx),
[15-18-0401-00](https://mentor.ieee.org/802.15/dcn/18/15-18-0401-00-0000-treasurer-report-may-2018-warsaw.pptx)

Total liabilities and equity $705,066.17 (not including this meeting)

The number of people who are currently registered at this meeting is 268

**8:22** Wireless and IMAT announcements by R Alfvin (Linespeed)

**8:23** WG15 Chair informed the group that the Wireless Chairs Standing Committee (WCSC) met yesterday, Sunday at 16:00 local time. Chair noted that this is an open meeting, all are encouraged to attend. Minutes are available at [ec-18-0171-00-WCSG-waikoloa-september-2018-minutes.docx](https://mentor.ieee.org/802-ec/dcn/18/ec-18-0171-00-WCSG-waikoloa-september-2018-minutes.docx)

**8:25** Review future sessions

* November 11-16, 2018, Marriott Marquis Queens Park Bangkok Thailand, 802 Plenary Session.
* January 13-18, 2019 Hilton St. Louis, MO, at the Ballpark (TBC)
* March 10-15, 2019, Hyatt Regency / Fairmont Hotel Vancouver, Vancouver, Canada
* May 12-17, 2019, Grand Hyatt Atlanta in Buckhead, Atlanta, Georgia, USA
* July 14-19, 2019, Austria Congress Centre, Vienna, Austria, 802 Plenary Session.
* September 15-20, 2019 - Marriott Hanoi, Hanoi, Vietnam (TBC)
* November 10-15, 2019, Hilton Waikoloa Village, Kona, HI, USA, 802 Plenary Session
* Future venues 2020 Lisbon Marriott, Budapest Marriott, Vienna Hilton, Athens Hilton, Sorrento Hilton, JW Bucharest.

**8:27 Working Group Updates**

802.11 by Dorothy Stanley (HPE), (documents [11-18-1389-00](https://mentor.ieee.org/802.11/dcn/18/11-18-1389-00-0000-may-2018-working-group-agenda.xlsx), [11-18-1390-00](https://mentor.ieee.org/802.11/dcn/18/11-18-1390-00-0000-may-2018-working-group-agenda.xlsx))

* voters: 322, Nearly 36, Aspirant 85

802.15 by B Heile (document [15-17-0387-02](https://mentor.ieee.org/802.15/dcn/18/15-18-0387-02-0000-802-15-waw-2018-graphic-agenda.xlsx))

* voters: 63, Nearly 9, Aspirant 22
* TG4md 15.4 revision
* TG 15.4w Low Power Wide Area (LPWA)
* TG 15.4x FAN enhancements (FANE)
* TG 15.4y Security Next Generation (SECN)
* TG 15.4z Enhanced impulse radio (EIR)
* TG 7m Optical Wireless Communications
* TG10a Routing Mode Addressing (RMA) amendment
* TG12 Upper Layer Interface (ULI) for 802.15.4
* TG13 Multi-Gigabit OWC

802.18 by J Holcomb ([18-18-0111-00](https://mentor.ieee.org/802.18/dcn/18/18-18-0111-00-0000-agenda-warsaw-interim-8-10-may-2018-rr-tag.pptx))

* voters: 40, Nearly 1, Aspirant 9
* Additional FS Protection ex parte
* 6 (5-7) GHz and single voice from IEEE 802.
* IEEE EU Spectrum Management Statement since July plenary. (Uganda and Ofcom)
* NPRM, Expanding Flexible Use of 3.7 to 4.2GHz Band

802.19 T Baykas ([19-18-0068-00](https://mentor.ieee.org/802.19/dcn/18/19-18-0068-00-0000-sept-2018-opening-report.pptx))

* 36 voters
* New study group on Coexistence in the sub-1GHz bands ([19-19-0069-01](https://mentor.ieee.org/802.19/dcn/18/19-18-0069-01-S1GH-study-group-opening-sllides.pptx))

802.21 Subir Das [(21-18-0045-00)](https://mentor.ieee.org/802.21/dcn/18/21-18-0045-00-0000-session-87-agenda.docx)

* Interest Group on Network Enablers for Seamless HMD based VR content Service

802.24 Tim Godfrey ([24-18-0019-00](https://mentor.ieee.org/802.24/dcn/18/24-18-0019-00-0000-sept-2018-agenda.xlsx))

* 28 voting members
* discussion on liaison activities (IEEE PES and IEC)
* TSN white paper

**AoB**

* R Marks (Huawei) – NENDICA activities
* meeting Tuesday evening

**8:50** Joint meeting adjourned

**Working group opening plenary (116th session of 802.15)** (44 attendees)

**9:27** B Heile, WiSUN Alliance, WG chair called the 802.15 WG plenary to order ([15-17-0387-02](https://mentor.ieee.org/802.15/dcn/18/15-18-0387-02-0000-802-15-waw-2018-graphic-agenda.xlsx))

Announcements:

* IEEE 802 Wireless Top 10 ([IEEE802W-0918-Top10\_Sept7\_DistributionCopy](https://www.regonline.com/custImages/490000/490750/IEEE802W-0918-Top10_Sept7_DistributionCopy.pdf))
* Social is Wednesday
* Network and projectors are from LineSpeed
* There were no first time attendees

Chair reminded attendees that highlights of the IEEE-SA Standards Board Bylaws on Patents in Standards. Chair referred those who wished to review these policies that the IEEE-SA patent policy presentation slides 1-5 and reading the instructions for the WG Chair. ([**https://standards.ieee.org/about/sasb/patcom/materials.html**](https://standards.ieee.org/about/sasb/patcom/materials.html)**)**.

Chair asked participants 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 the use of that standard:

* There were no responses

Chair reminded participants of IEEE anti-trust rules and obligations.

**Motion:** *Approve/modify joint opening agenda* ([15-17-0387-02](https://mentor.ieee.org/802.15/dcn/18/15-18-0387-02-0000-802-15-waw-2018-graphic-agenda.xlsx))

* Moved by T Harrington,
* Seconded by C Perkins.
* Following neither discussion nor objection the agenda was approved.

**Motion:** *Review and approve 802.15 WG minutes from the March session* ([15-18-0322-00-0000](https://mentor.ieee.org/802.15/dcn/18/15-18-0322-00-0000-minutes-from-san-diego-july-2018.docx))

* Moved by C Perkins,
* Seconded by R Alfvin.
* Upon neither discussion nor objection the WG minutes were approved.

**9:35** Network and attendance information by R Alfvin, Linespeed ([http://ieee802.linespeed.io/)](http://ieee802.linespeed.io/%29)

**9:36** Treasury report by Ben Rolfe, BCA ([15-18-0401-00](https://mentor.ieee.org/802.15/dcn/18/15-18-0401-00-0000-treasurer-report-may-2018-warsaw.pptx))

**9:48** WG recessed

**Wednesday 12 Sept 2018**

**802.15 mid-session plenary meeting**

**10:30** Bob Heile called the meeting to order.

Announcements:

* Please don’t use 802.15 as your affiliation
* Reminder to book your room and register for the November plenary

**802.18 liaison** by Jay Holcomb

* Discussed:
	+ Finished Google waiver discussion, they have backed off in key areas
	+ 6 GHz questions: FCC’s 4.9 GHz – 6 GHz NPRM may come out in October which may cause some 802.18 conference calls

**TG4md (revision)** by G Steubing

* resolved 118 editorial comments

**TG 15.4w** (lpwan)by Jörg Robert

* reviewed proposals
* start drafting standard

**TG 15.4x (FANE)** closing reportby M Gillmore (15-18-0452-02)

**Motion:** *that the 802.15 WG start a WG Recirculation Letter Ballot requesting approval to forward document P802.15.4x-D1 to Sponsor Ballot*

* Moved: Matt Gillmore
* Second: Ben Rolfe
* Upon neither discussion nor objection the motion carries with unanimous consent

**Motion:** *that 802.15 WG authorize the chair to request approval from the EC during the next EC call to submit the latest balloted revision draft amendment to Sponsor Ballot either conditionally or unconditionally.*

* Moved: Matt Gillmore
* Second: Gary Stuebing
* Upon no discussion, the vote was taken with the results: 27/0/0, motion carries

**Motion:** *that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the ballot of P802.15.4x-D1 with the following membership: Matt Gillmore (serving as chair), Kunal Shah, Chris Calvert, Ruben Salazar, Phil Beecher, Gary Stuebing. The 802.15.4x BRC 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 by: Matt Gillmore
* Seconded by: Kunal Shah
* Upon neither discussion nor objection the motion carries with unanimous consent

**TG 15.4z (EIR)** closing reportby T Harrington

* 3 presentations yesterday with 4 more today
* continued discussions on coexistence with 802.11ax

**TG7m** by Yeong Min Jang

* Sponsor ballot will close on 22 Sept

**IG VAT** by Yeong Min Jang

* 6 contributions

**TG10a** closing reportby C Perkins(15-18-0449-00)

**Motion:** *that 802.15 WG start a WG Letter Ballot recirculation, requesting approval of document CSD document ec-18-0004-00-ACSD-802-15-10a and P802-15-10a\_D02 and to forward document P802-15-10a\_D02 to Sponsor Ballot.*

Moved by C Perkins

Seconded by B Rolfe

Upon neither discussion nor objection the motion carries with unanimous support.

**Motion:** *that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the P802-15-10a\_D02 with the following membership: Kiyoshi Fukui, Jörg Robert, Clint Powell, Tero Kivinen, and Charlie Perkins (serving as chair). The 802.15.10a BRC 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 by C Perkins

Seconded by B Rolfe

Upon neither discussion nor objection the motion carries with unanimous support.

**TG13** by Volker Jungnickel

* Discussion on MAC architecture
* TG motion approved

**TG12 (ULI)** by P Kinney

* Profile architecture is sufficiently complete to continue working on primitives

**SC maintenance** by P Kinney

* One comment concerning 802.15.4-2015 received via the SC maintenance process was resolved and will be forwarded to TG4md.

**SC WNG** by P Kinney

* + There will be one presentation, “Overview of IETF [lpwan] Working Group SCHC specification”, document 15-18-0149-02, by C Perkins and J Robert.

**802.19** Liaison by B Rolfe

* + Discussion on coexistence issues 802.11ax and UWB
	+ Discussion on coexistence recommended practice between 802.15.4 and 802.11ah

**AoB**

**11:06** Recessed until Thursday at 16:00

**Thursday, 13 Sept 2018**

**16:00** 802.15 WG chair called the meeting to order (32 attendees)

**16:01** 802.18 liaison report by J Holcomb (15-18-0456-00)

**16:08** 802.11 liaison report by A Petrick (15-18-0480-01)

**16:17** TG4m closing report by G Stuebing (15-18-0403-01)

**Motion**: *that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the P802.15.4-REVd-D01 with the following membership: Gary Stuebing (serving as Chair), Don Sturek, Shoichi Kitazawa, Kunal Shah, Ruben Salazar, Tero Kivinen, Phil Beecher, and Clint Powell. The 802.15.4md BRC 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 by: Gary Stuebing

Seconded by: Matt Gillmore

Upon neither discussion nor objection the motion carries with unanimous consent.

**16:25** TG 4w (LPWAN) closing report by Jörg Robert (15-18-0469-00)

**16:29** TG 15.4x (FANE) CSD motionby M Gillmore (15-18-0452-05)

**Motion***: that the 802.15 WG has reviewed and approved of the 802.15.4x CSD 15-17-0622-05*

Moved: Matt Gillmore

Second: Tim Harrington

Upon no discussion, the vote was taken with the results of 23/0/0, motion carries

**16:31** TG 4z (ELR) closing reportby T Harrington (15-18-0455-00)

**16:36** TG7a closing report by Yeong Min Jang (15-18-0481-00)

**Motion:** *Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the Sponsor balloting of the P802.15.7m- D3a with the following membership: Yeong Min Jang (serving as Chair), Rick Roberts, Jaesang Cha, Soo-Young Chang, Vinayagam Mariappan and Van Trang Nguyen. The 802.15 TG7m BRC is authorized to approve comment resolutions and to approve the start of sponsor 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: Yeong Min Jang

Seconded by: Rick Alfvin

Upon neither discussion nor objection the motion carries with unanimous consent.

**Motion***: that 802.15 WG has reviewed and affirms the CSD [15-14-0216-05-007a-draft-csd-for-ieee-802-15-sg7a] and requests approval from the EC to submit P802-15-7r1-D2 (or current revision) to RevCom either conditionally or unconditionally.*

Moved byYeong Min Jang,

Seconded by Rick Alfvin

Upon no discussion, the vote was taken with the results of 21/0/0, motion carries

**16:40** IG VAT closing report by Yeong Min Jang (15-18-0482-00)

**16:42** TG10a motion to go to Sponsor Ballot byC Perkins

**Motion***: Move that 802.15 WG has reviewed and affirms the CSD [ec-18-0004-00-ACSD-802-15-10a] that 802.15 WG authorize the chair to request approval from the EC during the next EC call to submit the latest balloted revision draft amendment to Sponsor Ballot either conditionally or unconditionally.*

Moved by C Perkins,

Seconded by T Harrington

Upon no discussion, the vote was taken with the results of 20/0/0, motion carries

**16:48** TG13closing report by Volker Jungnickel (15-18-0483-01)

**16:53** TG12 ULI closing report by Pat Kinney (15-18-0427-01)

**16:55** Standing Committeesclosing report by Pat Kinney (15-18-0428-01)

**AoB**

**17:00** **Motion** *to adjourn* was made by Rick Alfvin (Linespeed), seconded by Gary Stuebing (Cisco), upon no objection the motion carried, this session is adjourned.

**Annex A** Attendance = 60

|  |  |  |
| --- | --- | --- |
| **Last Name** | **First Name** | **Affiliation** |
| Arokkiam | Jerome |  |
| Baer | Bernd | Marquardt |
| Barras | David | 3db Access AG |
| Baykas | Tuncer | Istanbul Medipol University |
| Beecher | Philip E | Wi-SUN Alliance |
| Berens | Friedbert | FBConsulting Sarl |
| Bims | Harry | Bims Laboratories, Inc. |
| Bober | Lennert | Fraunhofer Heinrich Hertz Institute |
| Cepni | Gurkan | Apple, Inc. |
| Chang | Matthew | Apple, Inc. |
| Choi | Sangsung | Woosong University |
| Darmon | Luc | DecaWave |
| De Ruijter | Hendricus | Silicon Laboratories |
| Dewberry | Brandon | Apple, Inc. |
| Fagan | Anthony | DecaWave |
| Fischer | Michael | NXP Semiconductors |
| Gilb | James | Gilb Consulting, Inc. |
| Gillmore | Matthew | Itron Inc. |
| Guo | Jianlin | Mitsubishi Electric Research Labs (MERL) |
| Hammerschmidt | Joachim | Apple, Inc. |
| Harrington | Timothy | Pro-ID |
| Heile | Robert | Wi-SUN Alliance |
| Hett | Christopher | Landis Gyr Group Worldwide |
| Holcomb | Jay | Itron Inc. |
| Ibrahim | Brima | NXP Semiconductors |
| Jang | Yeong Min | Kookmin University |
| Jungnickel | Volker | Fraunhofer Heinrich Hertz Institute |
| Kettle | Paul | Decawave |
| Kinney | Patrick | Kinney Consulting LLC |
| Kitazawa | Shoichi | Muroran IT |
| Kivinen | Tero | Self Employed |
| Leong | Frank | NXP Semiconductors |
| Li | Huan-Bang | National Institute of Information and Communications Technology (NICT) |
| Li | Qiang | HUAWEI |
| Lorbach | Thomas | NXP Semiconductors |
| Maqbool | Masood | Apple, Inc. |
| Marquez | Alejandro | Apple, Inc. |
| Nagakubo | Sakie | Toshiba |
| Naguib | Ayman | Apple, Inc. |
| Ng | Boon Loong |  |
| Nguyen | Trang | Kookmin University |
| Niewczas | Jaroslaw | DecaWave |
| Noshad | Mohammad | VLNComm |
| Perkins | Charles | Futurewei Technologies |
| Polland | Joe | CommScope, Inc. |
| Robert | Jörg | University of Erlangen-Nuremberg |
| Roberts | Richard | Intel Corporation |
| Rolfe | Benjamin | Blind Creek Associates |
| Salazar Cardozo | Ruben E | Landis Gyr Group Worldwide |
| Sarris | Ioannis | u-blox |
| Sauer | Peter | Microchip Technology, Inc. |
| Serafimovski | Nikola | pureLiFi |
| Shah | Tushar | Apple, Inc. |
| Stuebing | Gary | Cisco Systems, Inc. |
| Verso | Billy | DecaWave |
| V Padaki | Aditya |  |
| Wang | Xu | VLNComm |
| Wechsler | Johannes | Fraunhofer Institute for Integrated Circuits IIS |
| Yeo | Kunmin | ETRI |
| Yokota | Hidetoshi | Landis Gyr Group Worldwide |