**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 | [11 Nov 2016] | |
| Source | [] [] [Chicago, IL] | Voice: [+1.847.960.3715] Fax: [+1.847.790.3805] E-mail: [pat.kinney@ieee.org] |
| Re: | [802.15 Plenary Meeting in San Antonio, Texas] | |
| Abstract | [IEEE 802.15 Working Group Minutes] | |
| Purpose | [Official minutes of the Working Group Session] | |
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**IEEE 802.15 Plenary Meeting – Session #105**

**Grand Hyatt, San Antonio**

**November 7-11, 2016**

**Monday, 25 July 2016**

**10:30 AM** The chair, Bob Heile, called the meeting to order (15-16-0699-07)

The chairasked for new attendees to raise their hands; there were none.

Announcements:

* Don’t forget to register for Atlanta

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>).

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. There were no attendant responses to this call.

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

Ben Rolfe moved to *approve the agenda (document 15-16-0699-08-0000)* with Rick Alfvin seconding the motion. Following no objection, the agenda was approved.

C Powell moved *to approve the previous meeting minutes (document 15-16-0605-01-0000)* and T Godfrey seconded the motion. Following neither discussion nor objection the minutes were approved. There were no matters resulting from the previous minutes.

B Rolfe presented the Treasurer Report (15-16-0762-00).

Future Sessions

* January 15-20, 2017, Grand Hyatt, Atlanta, GA, USA, *802 Wireless Interim Session.*\*
* March 12-17, 2017, Hyatt Regency Vancouver, *802 Plenary Session.*
* May 7-12, 2017, Daejeon Convention Center, Daejeon Korea (TBC), *802 Wireless Interim Session.* \*
* July 9-14, 2017, Estrel Hotel and Convention Center, Berlin, Germany, *802 Plenary Session.*
* September 10-15, 2017, Hilton Waikoloa Village, Kona, HI, USA, 802 Wireless Interim Session. \*
* November 5-10, 2017, Caribe Hotel and Convention Center, Orlando, FL, USA, 802 Plenary Session
* January 14-19, 2018- Hotel Irvine, Newport Beach, *802 Wireless Interim Session.*\*
* March 4-9, 2018, Hyatt Regency O’Hare, Rosemont, Illinois, USA, 802 Plenary
* May 2018 –EU destination: working Lisbon, Eastern EU venues (incl. Vienna), and Iceland
* 2019 - Asia destination: Marriott Hanoi/ Centara/Marriott City Center Shanghai

B Heile presented a report on the EC meeting held just before this meeting (15-16-0774-00).

**Status Reports**

802.15

Task Group 3d –100Gbps THz PHY

1. Review and Discuss technical contributions
2. Update Project Plan/Timeline

Task Group 3e – High Rate Close Proximity (HRCP)

1. Completed 2nd recirc of Sponsor Ballot
2. Seek approval to go to RevCom

Task Group 3m (15-16-768-00)

1. Response to comment from ISO/IEC
2. J Gilb moved, B Rolfe seconded to approve response as stated in 15-16-0768-00 and forward to EC for approval
3. Upon neither discussion nor objections the motion is approved

Task Group 4s – Spectrum Resource Utilization (SRU)

* 1. Work on letter ballot comment resolution
  2. Update Project Timeline

Task Group 4t – 15.4 High(er) Rate PHY (HRP)

* + 1. Sponsor Ballot recirc comment resolution
    2. Update Project timeline

Task Group 4u – PHY for 865-867 band in India

* + 1. Sponsor Ballot comment resolution
    2. Seek conditional approval to forward to RevCom
    3. Update project timeline as needed

Task Group 4v – Add/Update Regional Sub Gig Bands

1. In recirculation, upon completion will be going to Sponsor Ballot

Task Group 7m – Optical Wireless Communications (OWC)

* + 1. Review latest draft
    2. Generate/Update Project Timeline

Task Group 8 – Peer Aware Communications

* + 1. Letter Ballot comment resolution
    2. Update Project Plan/Timeline

Task Group 9 – Key Management Protocol

* + 1. Project complete-awaiting publication

Task Group 10 – Layer 2 Routing (L2R)

* + 1. Sponsor Ballot recirc completion
    2. Seeking approval to go to RevCom

Task Group 12 –Upper Layer Interface (ULI)

* + 1. Finishing up Architecture
    2. Detailing mandatory functions of 15.12

Interest Group THz:

* + 1. Hear contributions relating to THz comms.
    2. Review ongoing mission/goals/new project potential

Interest Group Dependability

* + Discuss Contributions
  + Evaluate if Study Group is warranted

Interest Group LPWA

* Finalize objectives of group and use cases

Standing Committees (SCm, SC IETF, SCwng)

* 1. Maintenance contributions for standards and operation manual
  2. IETF97 agenda items for 6tisch, 6lo, core, roll, and lp-wan
  3. WNG- no presentations

**AoB**

* 802.18 – discussion on ETSI changes, WRC 19 report, CEPT meetings

**11:18 PM** The chair recessed the meeting

**Wednesday, 9 Nov 2016**

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

WG Chair made announcements concerning social, logistics, and registration for Atlanta, GA.

**10:33** 802.18 Tag liaison by J Holcomb

* Discussed FCC bi-annual review (1920 – 1930 MHz band will have some comments)
* WRC19 IEEE position paper – considering it

**10:35** TG3d report by Thomas Kürner

* Working towards a merged proposal

**10:37** THZ IG closing report by T Kürner (15-16-0803-00)

**10:37** TG 3e by Andrew Estrada

* Recirc in sponsor ballot, 24 comments will be resolved and 2 will be rejected, seeking conditional approval to go to RevCom

**10:38** TG3m by J Gilb (15-16-0768-00)

* Motion by J Gilb, second by B Rolfe to “approve response as stated in 15-16-0768-00, slide 5 and forward to EC for approval.” Upon no discussion the vote was taken with the result of 34/0/0, motion carries.

**10:44** TG4s by Yokota

* Working on comment resolution

**10:45** TG4t by C Powell

* Concluded comment resolution and approved comment database

*Working on comment resolution*

**10:55** TG10 by C Powell (15-16-0780-01)

Motion for WG Approval to Form TG10 BRC

* *Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the Sponsor Balloting of the TG10 draft recommended practice with the following membership:* Clint Powell, Verotiana Rabarijaona, Fumihide Kojima, Noriyuki Sato, Kiyoshi Fukui, Soo-Young Chang, Jaehwan Kim, SangSung Choi, Charlie Perkins. *The 802.15 TG10 BRC is authorized to approve comment resolutions and to approve the start of recirculation ballots of the TG10 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: Clint Powell Second: B Rolfe
* Upon neither discussion nor objection the motion carries
* Motion for WG to Seek Unconditional Approval from EC to forward to RevCom.

*Motion: that 802.15 WG reviewed and approves the CSD [15-13-0232-04] and requests unconditional approval from the EC to submit P802.15-10/D10 to RevCom.*

* Moved: Clint Powell Second: R Alfvin
* Upon no discussion the vote was taken with the results of33/0/0, motion carries

**10:51** TG 4v by P Beecher

* 100 % approval, comment resolution is complete, recirc on updated draft, seeking conditional approval to go to Sponsor Ballot

**10:52** TG7.1 LED by Yeong Min Jang

* resolving comments from TG draft review

**10:53** TG8 by M Lee

* Working on comment resolution

**10:54** IG LPWA by Jörg Robert

* Meetings are complete, closing report at closing plenary

**10:56** IG Dependability closing report by R Kohno (15-16-0795-01)

**10:56** TG 15.12 ULI by P Kinney

Working on the architecture and multiplexing mechanisms

**11:00** SC reports by P Kinney

* SC Maintenance; meeting tomorrow
* SC IETF: reviewed 6tisch, 6lo, core, roll, and lp-wan
* SC WNG: two presentations:
  + "Long Range Optical Wireless Communication for Automotive applications (15-16-0793-01) from Yeong Min Jang

**11:04** Review of ITU-T SG 20 submission (15-16-0753-00) from 802.15 by P Kinney

* document was reviewed and edited, with changes captured in 15-16-0753-01.

**11:35** WG chair recessed the meeting until Thursday evening.

**Thursday, 10 Nov 2016**

**18:30** WG chair called the meeting to order

**18:30** TG3d closing report by T Kürner (15-16-0836-00)

**18:32** TG3e closing report by A Estrada (15-16-844-00)

*Motion: that 802.15 WG has reviewed and approves the CSD [15-14-0716-07-003e] and requests conditional approval from the EC to submit P802.15.3e-D07 (or current revision) to RevCom.*

Moved by A Estrada Seconded by C Powell

Upon no discussion the vote was taken with the results of 25/0/0.

*Move that 802.15.3e WG approve the formation of a Ballot Resolution Committee (BRC) for the Sponsor balloting of P802.15.3e-D07 (or current revision) with the following membership: Andrew Estrada (Chair), Ko Togashi, Itaru Maekawa, Jae Seung Lee, Keitarou Kondou, Keiji Akiyama, and Ken Hiraga. The 802.15.3e 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: A. Estrada*

*Seconded By: T Kürner*

Upon neither discussion nor opposition the motion carries.

**18:37** TG4s closing report by Hidetoshi Yokota (15-16-0849-01)

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the P802.15.4s-D01 with the following membership: Shoichi Kitazawa, Hidetoshi Yokota, and Shusaku Shimada. The 802.15.4s 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: H Yokota Seconded By R Alfvin*

Upon neither discussion nor opposition the motion carries.

**18:48** TG4t closing report by C Powell (15-16-0781-02)

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the Sponsor Balloting of the P802.15.4t/D04 with the following membership: Clint Powell, Henk de Ruijter, Monique Brown, Ed Callaway, Koorosh Akhavan. The 802.15 TG4t BRC is authorized to approve comment resolutions and to approve the start of recirculation ballots of P802.15.4t/D06 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: Clint Powell Second: T Kürner

Upon neither discussion nor objection the motion carries.

*Motion: that 802.15 WG reviewed and approves the CSD [15-15-0739-02] and requests conditional approval from the EC to submit P802.15.4t/D06 (or current revision) to RevCom.*

Moved: Clint Powell Second: T Godfrey

Upon no discussion the vote was taken with the results of 27/0/0.

**18:42** TG4v closing report by P Beecher (15-16-0788-01)

*Move that the 802.15 WG start a WG Letter Ballot requesting approval to forward document P802.15.4v-D1 to Sponsor Ballot*

Moved By: Phil Beecher Seconded By: R Alfvin

Upon neither discussion nor objection the motion carries.

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the Sponsor ballot recirculation of the P802.15.4v-D1 with the following membership: Phil Beecher (Chair), Kunal Shah, Amarjeet Kumar, Chris Calvert, Clint Powell, Jay Holcomb and Gary Stuebing. The 802.15.4v 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: Phil Beecher Seconded By: R Alfvin

Upon neither discussion nor objection the motion carries.

*802.15 has reviewed and approved the CSD [*15-16-0131-01-0000\_15.4v-sub-GHz-CSD*] and requests conditional approval from the EC to submit P802.15.4v-D04 (or current revision) to Sponsor Ballot.*

Moved by: Phil Beecher Seconded by: R Alfvin

Upon no discussion the vote was taken with the results of 27/0/0.

**18:55** TG7r1 closing report by Yeong Min Jang (15-16-0850-00)

**19:00** TG8 closing report by Myung Lee (15-16-0837-000)

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the P802.15.8-D01 with the following membership: Myung Lee (chair), Huan-bang Li, BJ Kwak, Marco Hernandez, Billy Verso, and Seong-Soon Joo. The 802.15.8 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: Myung Lee Seconded By: C Powell

Upon discussion the vote was taken with the results of the motion carries.

**19:03** IG LPWA by Jörg Robert (15-16-0839-00)

**19:06** IG HRRC by J Kim (15-16-0840-00)

**19:12** TG 12 (ULI) closing report by P Kinney (15-16-0761-01)

**19:14** SC maintenance closing report by P Kinney (15-16-0759-02)

**19:15** SC WNG closing reportbyP Kinney (15-16-0759-02)

**19:16** SC IETF closing report by P Kinney (15-16-0759-02)

Motion: *Move that the 802.15 WG approve the submission of document   
15-16-0753-02 to ITU-T SG 20 and IEEE 802.24.*

Moved by Pat Kinney Seconded by B Verso

Upon no discussion the vote was taken with the results of 23/0/0.

**19:17** 802.11 liaison report by A Petrick (15-16-0834-01)

**19:23** 802.18 liaison report by J Holcomb (15-16-0797-00)

**19:28** 802.24 liaison by T Godfrey

* Finishing of sub-GHz white paper
* P2413 update plan to come up with a thin draft in 2017

**19:32** Motion *to adjourn* was made by Clint Powell. Upon hearing no objection, the motion carries; the session is adjourned.

**Annex A** Attendance = 66

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| **Last Name** | **First Name** | **Affiliation** |

|  |  |  |
| --- | --- | --- |
| Akhavan | Koorosh | Qualcomm Incorporated |
| Akiyama | Keiji | Sony Semiconductor Solutions Corporation |
| Alfvin | Richard | Linespeed Events, LLC |
| Aoyama | Hideki | Panasonic Corporation |
| Beecher | Philip E | Wi-SUN Alliance |
| Buffington | John | Itron Inc. |
| Calvert | Chris | Landis Gyr Group Worldwide |
| Canchi | Radhakrishna | Kyocera International Inc. |
| Cha | Jaesang | SNUT |
| Chang | Soo-Young | California State University, Sacramento (CSUS) |
| Choi | Jaehyung | Korea University |
| De Ruijter | Hendricus | Silicon Laboratories |
| Estrada | Andrew | Sony Corporation |
| Finch | Robert | Select Spectrum |
| Fischer | Michael | NXP Semiconductors |
| Gilb | James | Gilb Consulting, Inc. |
| Godfrey | Tim | Electric Power Research Institute, Inc. (EPRI) |
| Hara | Shinsuke | Osaka City University (OCU) |
| Heile | Robert | Wi-SUN Alliance |
| Hernandez | Marco | NICT |
| Hett | Christopher | Landis Gyr Group Worldwide |
| Hiraga | Ken | NTT |
| Holcomb | Jay | Itron Inc. |
| Hosako | Iwao | NICT |
| Jang | Yeong Min | Kookmin University |
| Jeong | SangKwon | JoyFun Inc., |
| Joo | Seong-soon | ETRI |
| Jungnickel | Volker | Fraunhofer Heinrich Hertz Institute |
| Kim | Junhyeong | ETRI |
| Kinney | Patrick | Kinney Consulting LLC |
| Kohno | Ryuji | YNU/CWC-Nippon |
| Kondou | Keitarou | Sony Corporation |
| Krieger | Ann | US Department of Defense |
| Kuerner | Thomas | TU Braunschweig |
| Kwon | JaeHong | Korea University |
| Le | Namtuan | Kookmin University |
| Lee | Jae Seung | ETRI |
| Lee | Myung | CUNY - City University of NY |
| Lee | Sunghee | ETRI |
| Li | Huan-Bang | NICT |
| Li | Qiang | HUAWEI |
| Lim | Byungju | Korea University |
| Lynch | Michael | Nortel Networks |
| Mano | Hiroshi | Koden Techno Info K.K. |
| Mariappan | Vinayagam | SNUT |
| Nekoui | Mohammad | Olympus Communication Technology of America, Inc. |
| Nguyen | Trang | Kookmin University |
| Oshima | Mitsuaki | Panasonic Corporation |
| Park | Junhwan | Telecommunications Technology Association (TTA) |
| Perkins | Charles | Futurewei Technologies |
| Polland | Joe | CommScope, Inc. |
| Powell | Clinton | Powell Wireless Consulting, LLC |
| Rakanovic | Demir | u-blox |
| Rhee | Eunjun | ETRI |
| Robert | Joerg | University of Erlangen-Nuremberg |
| Roberts | Richard | Intel Corporation |
| Rolfe | Benjamin | Blind Creek Associates |
| Salazar Cardozo | Ruben E | Landis Gyr Group Worldwide |
| Sato | Noriyuki | Oki Electric Industry Co., Ltd. |
| Shimada | Shusaku | Schubiquist Technologies |
| Sturek | Don | Silver Spring Networks Inc. |
| Togashi | Kou | TOSHIBA Corporation |
| Verso | Billy | DecaWave |
| Wilhelmsson | Leif | Ericsson AB |
| Yokota | Hidetoshi | Landis Gyr Group Worldwide |
| Zuniga | Juan Carlos | SIGFOX |