**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 | [17 March 2017] | |
| 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 Vancouver, Canada] | |
| Abstract | [IEEE 802.15 Working Group Minutes] | |
| Purpose | [Official minutes of the Working Group Session] | |
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**107th IEEE 802.15 WSN SESSION**

**HYATT REGENCY VANCOUVER**

**VANCOUVER, BC, CANADA**

**March 13-16, 2017**

**Monday, 13 March 2017**

**10:30 AM** The chair, Bob Heile, called the meeting to order (15-17-0111-04)

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

Announcements:

* Don’t forget to register for Daejeon, South Korea

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 15-17-0111-04-0000)* with Thomas Kürner seconding the motion. Following no objection, the agenda was approved.

Ben Rolfe moved *to approve the previous meeting minutes (document 15-17-0044-00-0000)* and Thomas Kürner seconded the motion. Following neither discussion nor objection the minutes were approved. There were no matters resulting from the previous minutes.

R Alfvin informed the group of attendance procedures and requirements.

B Rolfe presented the Treasurer Report (15-17-0156-02). Treasury typically carries about $500,000 in reserves to cover a worst case cancellation.

Future Sessions

* May 7-12, 2017, Daejeon Convention Center, Daejeon Korea, *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 (15-17-0172-00).

**Status Reports**

802.15

Task Group 3d –100Gbps THz PHY

1. Looking for end of WG ballot to go to Sponsor Ballot

Task Group 3e – Complete, awaiting publication

Task Group 4s – Spectrum Resource Utilization (SRU)

* 1. Work on letter ballot comment resolution after ballot ends on 16 March
  2. Looking forward to sponsor ballot

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

* + 1. Complete, awaiting publication

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

* + 1. Complete and published

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

1. In second recirculation of Sponsor Ballot
2. Preparing the RevCom package for unconditional approval

Task Group 7m – Optical Wireless Communications (OWC)

* + 1. Attendance is light, not expecting significant progress this week
    2. Looking forward to starting a letter ballot

Task Group 8 – Peer Aware Communications

* + 1. Letter Ballot comment resolution
    2. Looking to go to Sponsor Ballot very soon

Task Group 9 – Key Management Protocol

* + 1. Complete and published

Task Group 10 – Layer 2 Routing (L2R)

* + 1. Complete and waiting for publication

SG 11 (LiFi)

1. Working to get PAR and CSD approved

SG 3f (60 GE)

1. Extend channel plan for 3c
2. Working to get PAR and CSD approved

Task Group 12 –Upper Layer Interface (ULI)

* + 1. Finished Architecture
    2. Detailing mandatory functions of 15.12

Interest Group HRRC

1. Looking to start on PAR and CSD

Interest Group Dependability

1. Trying to get automotive participants
2. Tutorial anticipated in Berlin

Interest Group LPWA

1. Liaison with ETSI
2. Plan to finish group in Berlin

Standing Committees (SCm, SC IETF, SCwng)

* 1. Maintenance contributions for standards and operation manual
  2. IETF98 agenda items for 6tisch, 6lo, core, roll, and lp-wan, Ace, t2trg
  3. WNG- Two presentations – Layer 2 routing, and an app-based informational broadcast configuration

**11:31 PM** The chair recessed the meeting

**Wednesday, 15 March 2017**

**10:31** Bob Heile, WG chair called the meeting to order.

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

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

* EN300320 is up on the official journal
* Note: 6 GHz activity is picking up

**10:38** TG3d report by Thomas Kürner

* Working on liaison documents
* Worked on PAR for 802.1

Motion: *request that the*  *text proposal contained 15-17-0180-02-003d-WP5A-Mobile-Draft\_Report and 15-17-0194-00-003d-draft-ls-to-wp5a-char-above-275ghz be approved by the WG for further submission to 802.18.*

Moved by: Thomas Kürner

Seconded by: Clint Powell

Upon neither discussion nor objection the motion carries

Motion: *request that the*  *text proposal contained 15-17-0181-02-003d-WP5C-Fixed-Draft\_Report and 15-17-0195-00-003d-draft-ls-to-wp5c-char-above-275ghz be approved by the WG for further submission to 802.18.*

Moved by: Thomas Kürner

Seconded by: Jay Holcomb

Upon neither discussion nor objection the motion carries

Motion: *request that the*  *text proposal contained 15-17-0138-03-003d-draft\_for\_position\_on\_WRC19\_AI1 15 be approved by the WG for further submission to 802.18.*

Moved by: Thomas Kürner

Seconded by: Jay Holcomb

Upon neither discussion nor objection the motion carries

Motion: *request that the PAR and CSD contained in documents 15-17-0199-03 and 15-17-0198-03, respectively, be approved by the IEEE 802.15 WG and that the EC be requested to forward the PAR to NesCom. The 802.15 working group chair and technical editor are authorized to make additional modifications to the PAR and CSD as needed to reflect EC discussion at its closing meeting.*

Moved by James Gilb

Seconded by Thomas Kürner

Upon no discussion the vote was taken with the following results: 30/0/0, motion carries

**10:48** TG4s by S Kitazawa

* Working on comment resolution

**10:50** TG 4v by P Beecher

* Completed Sponsor Ballot
* Creating the RevCom package

**10:52** TG7m by R Roberts

* resolving comments from TG draft review

**10:53** TG8 by M Lee

* Finishing up comment resolution

**10:54** SG11 by Volker Jungnickel

* working on PAR and CSD

**10:58** SG3f report by Ben Rolfe

* B Rolfe presented the PAR and CSD comments resolutions contained in 15-17-0151-00

Motion: *request that comment resolutions contained in document 15-17-0151-00 be approved by the IEEE 802.15 WG and that the PAR and CSD be updated with those resolutions.*

Moved by: Ben Rolfe

Seconded by: Thomas Kürner

Upon no opposition the motion carries with unanimous consent

**11:04** IG HRRC closing report by Junhyeong Kim (15-17-0191-00)

**11:07** IG Dependability closing report by R Kohno

* Discussed having a tutorial at the July session

**11:10** IG LPWA by Jörg Robert

* J Robert presented the liaison letter intended to be sent to ETSI LTN officers

Comments: ETSI was misspelled

Motion: Move *that the 802.15 WG approve forwarding the letter in document 17-0294-01 to ETSI LTN and authorizing the WG chair to make editorial changes as needed*.

Moved by J Robert

Seconded by Thomas Kürner

Upon no further discussion nor opposition the motion carries with unanimous consent.

**11:15** TG 15.12 ULI by P Kinney

Working on the multiplexing mechanisms

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

* SC Maintenance; agreed upon requesting a corrigendum to switch MAC address transmission order back to 802.15.4-2011 and discussed the changes anticipated for the next 802.15.4 revision.
* SC IETF: reviewed 6tisch, 6lo, core, roll, and lp-wan
* SC WNG: two presentations: Two presentations – Layer 2 routing, and an app-based informational broadcast configuration

802.15.4 Corrigendum Motion: *request that the PAR contained in document [15-17-0192-00] be approved by the IEEE 802.15 WG and that the EC be requested to forward the PAR to NesCom*. *The 802.15 working group chair and technical editor are authorized to make additional modifications to the PAR and CSD as needed to reflect EC discussion at its closing meeting.*

Moved by P Kinney

Seconded by T Kürner

Upon no discussion the vote was taken with the results of 29/0/0, motion carries

* P Kinney reviewed the comment resolutions contained in document 15-17-0202-00

Motion: *request that comment resolutions contained in document 15-17-0202-00 be approved by the IEEE 802.15 WG and that the PAR be updated with those resolutions.*

Moved by P Kinney

Seconded by C Powell

Upon no further discussion nor opposition the motion carries with unanimous consent.

**11:33** WG chair recessed the meeting until Thursday evening.

**Thursday, 16 March 2017**

**18:33** WG chair called the meeting to order

**18:35** TG3d closing report by T Kürner (15-17-0201-00)

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the P802.15.3d\_D02 or current version with the following membership: Thomas Kürner (Chair), Iwao Hosako, Monique Brown and Ken Hiraga. The 802.15.3d 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: Thomas Kürner

Seconded By: Clint Powell

Upon neither discussion nor objection the motion carries.

**Motion:** *that 802.15 WG has reviewed and approved the CSD [15-15-0683-01-003d-tg3d-csd-change-1] and requests unconditional approval from the EC to submit P802.15.3d-D02 (or current revision) to Sponsor Ballot.*

Move: Thomas Kürner

Second: Clint Powell

Following no discussion the vote was taken with the results of 22/1/0.

**18:42** TG4s closing report by Shoichi Kitazawa (15-17-0214-00)

***Motion for TG Approval to Form a TG4s BRC.***

*TG4s requests that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the P802.15.4s-D02 with the following membership: Shoichi Kitazawa, Hidetoshi Yokota, Ben Rolfe, Dr. James Gilb, and Chris Calvert. The 802.15 TG4s 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: Shoichi Kitazawa Seconded by: Clint Powell*
* Upon neither discussion nor objection the motion carries.

**18:47** TG4v closing report by P Beecher (15-17-0178-01)

*Motion: 802.15 WG has reviewed and approves the CSD [15-16-0131-01-0000] and requests unconditional approval from the EC to submit P802.15.4v\_D05 to RevCom.*

Moved By: Phil Beecher Seconded By: Clint Powell

Following no discussion the vote was taken with the results of 28/0/0.

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the Sponsor ballot recirculation of the P802.15.4v-D4 with the following membership: Phil Beecher (Chair), Kunal Shah, 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: Clint Powell*

Upon neither discussion nor objection the motion carries.

**18:55** TG7m closing report by R Roberts (15-17-0212-02)

**19:02** TG8 closing report by Myung Lee (15-17-0217-01)

*802.15 has reviewed and approved the 5C [15-12-0158-00-0pac-draft-pac-five-criteria.rtf] and requests conditional approval from the EC to submit P802.15.8-D03 or current revision to Sponsor Ballot.*

* *Moved by: Myung Lee*
* *Seconded by: Clint Powell*

How many comments on the last draft? 9

Upon no further discussion the vote was taken with the results of 27/0/0, the motion carries.

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the P802.15.8-D03 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: Clint Powell*

Upon no discussion nor objection, the motion carries.

**19:08** SG11 by Volker Jungnickel (15-17-0233-00)

Motion: *Request that the working group approve the comment resolutions contained in document 15-17-0177-04 and approve the CSD in document 15-17-0075-01 and PAR in document 15-17-0076-03.*

* Moved by Volker Jungnickel
* Seconded by Mike McInnis

Comment that the title should state “3 m” instead of “3 meters”

Upon no further discussion nor objection, the motion carries.

Motion: *Request that the PAR and CSD contained in documents 15-17-0076-03 and 15-17-0075-01, respectively, be approved by the IEEE 802.15 WG and that the EC be requested to forward the PAR to NesCom. The 802.15 working group chair and technical editor are authorized to make additional modifications to the PAR and CSD as needed to reflect EC discussion at its closing meeting*.

* Moved by Volker Jungnickel
* Seconded by Mike McInnis

Upon no further discussion the vote was taken with the results of 28/0/0, the motion carries.

**19:20** SG3f by Ben Rolfe

Motion: *request that the PAR and CSD contained in documents 15-17-0055-02 and 15-17-0049-01, respectively, be approved by the IEEE 802.15 WG and that the EC be requested to forward the PAR to NesCom. The 802.15 working group chair and technical editor are authorized to make additional modifications to the PAR and CSD as needed to reflect EC discussion at its closing meeting.*

Moved by: Ben Rolfe Seconded by Clint Powell

Upon no discussion the vote was taken with the results of 28/0/0, motion carries

**19:25** IG LPWA by Jörg Robert (15-16-0839-00)

**19:27** TG 12 (ULI) closing report by P Kinney (15-17-0110-02)

**19:29** Standing Committee closing report by P Kinney (15-17-0169-01)

Motion: *request that the PAR contained in document 15-17-0106-03 be approved by the IEEE 802.15 WG and that the EC be requested to forward the PAR to NesCom. The 802.15 working group chair and technical editor are authorized to make additional modifications to the PAR as needed to reflect EC discussion at its closing meeting.*

Moved by a beleaguered Pat Kinney and seconded by Clint Powell

Upon no discussion the vote was taken with the results of 26/0/1, motion carries

**19:37** 802.11 liaison report by A Petrick (15-17-0230-00)

**19:51** 802.18 liaison report by J Holcomb (15-17-0208-00)

**19:58** 802.24 liaison by T Godfrey

* Finishing of sub-GHz white paper
* Joint TSN whitepaper with 802.1

**20:00** Motion *to adjourn* was made by Clint Powell. Upon hearing no objection, the motion carries; the session is adjourned.

**Annex A** Attendance = 60

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

|  |  |  |
| --- | --- | --- |
| Alfvin | Richard | Linespeed Events, LLC |
| Aoyama | Hideki | Panasonic Corporation |
| BEECHER | PHILIP E | Wi-SUN Alliance |
| Calvert | Chris | Landis Gyr Group Worldwide |
| Chang | Soo-Young | California State University, Sacramento (CSUS) |
| De Ruijter | Hendricus | Silicon Laboratories |
| Estrada | Andrew | Sony Corporation |
| Fischer | Michael | NXP Semiconductors |
| Gilb | James | Gilb Consulting, Inc. |
| Gillmore | Matthew | Itron Inc. |
| Godfrey | Tim | Electric Power Research Institute, Inc. (EPRI) |
| Haapola | Jussi | Centre for Wireless Communications / University of Oulu |
| Hara | Shinsuke | Osaka City University (OCU) |
| Heile | Robert | Wi-SUN Alliance |
| Hernandez | Marco | National Institute of Information and Communications Technology (NICT) |
| Hett | Christopher | Landis Gyr Group Worldwide |
| Holcomb | Jay | Itron Inc. |
| HOSAKO | IWAO | National Institute of Information and Communications Technology (NICT) |
| Ikegami | Tetsushi | Meiji University |
| Jiang | Dan | Philips Electronics |
| Joo | Seong-Soon | Electronics and Telecommunications Research Institute (ETRI) |
| Jungnickel | Volker | Fraunhofer Heinrich Hertz Institute |
| Kim | Junhyeong | Electronics and Telecommunications Research Institute (ETRI) |
| KINNEY | PATRICK | Kinney Consulting LLC |
| Kitazawa | Shoichi | Koden Techno Info /Muroran IT |
| Kohno | Ryuji | YNU/CWC-Nippon |
| Krieger | Ann | US Department of Defense |
| Kuerner | Thomas | TU Braunschweig |
| Lee | Hyeong Ho | Electronics and Telecommunications Research Institute (ETRI) |
| Lee | Myung | CUNY - City University of NY |
| Lee | Sunghee | Electronics and Telecommunications Research Institute (ETRI) |
| Leicht | Suzanne | National Security Agency |
| Li | Huan-Bang | National Institute of Information and Communications Technology (NICT) |
| Lieske | Hendrik | University of Erlangen-Nuremberg |
| Lynch | Michael | Nortel Networks |
| McInnis | Michael | The Boeing Company |
| Mourad | Alaa | BMW Group |
| Noshad | Mohammad | VLNComm |
| Oshima | Mitsuaki | Panasonic Corporation |
| Park | Taejoon | Electronics and Telecommunications Research Institute (ETRI) |
| Patil | Gaurav | VLNComm |
| Perkins | Charles | Futurewei Technologies |
| Polland | Joe | CommScope, Inc. |
| Powell | Clinton | Powell Wireless Consulting, LLC |
| Rabarijaona | Verotiana | National Institute of Information and Communications Technology (NICT) |
| 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. |
| Serafimovski | Nikola | pureLiFi |
| Shah | Kunal | Silver Spring Networks Inc. |
| Stuebing | Gary | Cisco Systems, Inc. |
| Sturek | Don | Silver Spring Networks Inc. |
| Verso | Billy | DecaWave |
| Wang | Hao | Fujitsu Research & Development Center |
| Yee | Peter | NSA/IAD |
| Yi | Su | Fujitsu Research & Development Center |
| Yokota | Hidetoshi | Landis Gyr Group Worldwide |
| Zuniga | Juan Carlos | SIGFOX |