**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 | [15 Jan 2015] | |
| 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 Atlanta, GA] | |
| Abstract | [IEEE 802.15 Working Group Minutes] | |
| Purpose | [Official minutes of the Working Group Session] | |
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**IEEE 802.15 Interim Meeting – Session #94**

**Hyatt Atlanta**

**Atlanta, Georgia**

**January 12 - 15, 2015**

**Monday, 12 Jan 2015**

**8:05** 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.

General announcements:

* No photography, no audio recording
* Social – no social but Face to Face Events will host a one hour reception
* No lunch is provided, but the food court is a good place to grab a lunch

Straw Poll of new attendees: 1

**8:10**  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.

802.15 WG chair read IEEE anti-trust policy.

**8:14** Financial report by Jon Rosdahl (CSR) docs 11-15-00006-00, 15-15-00xx-00

* slides will be ready later in this week
* reserve amount hasn’t changed

**8:16** Wireless and IMAT announcements by 802.15 Chair

* Verilan is not running the network, Swisscom is.

1. No local document server is available
2. No FTP server is available
3. Drafts usually made available on FTP server, aren’t available in that manner. Attendees without draft access privileges should ask the WG/TG chairs
4. IMAT is the same

**8:19** WG15 Chair informed the group that the 802 EC subgroup met yesterday. Yesterday’s formal motion approved moving the May 2016 Waikoloa venue to September 2016. Chair noted that this is an open meeting, all are encouraged to attend.

**8:28** Review future sessions (document # 15-14-0500-01)

* March 8-13, 2015 Estrel Hotel and Convention Center, Berlin, Germany, Plenary Session.
* May 10-15, 2015 Hyatt Regency Vancouver Interim\*
* July 12-17, 2015, Hilton Waikoloa Village, Kona, HI, USA
* September 13-18, 2015, Centara Hotel, Bangkok, Thailand
* November 8-13, 2015, Hyatt Regency Dallas, Dallas, TX, USA
* January 17-22, 2016, Hyatt Regency Atlanta, Atlanta, GA, USA\*
* March 13-18, 2016, Sands Venetian Hotel Macau, PRC (TBC)
* May 15 – 20, 2016, Hilton Waikoloa Village, Kona, HI, USA
* July 24 – 29 2016, San Diego, CA, USA
* Sept 18-23, 2016, Europe

**8:25 Working Group Updates**

802.11 by Adrian Stephens (Intel), (document 11-14-1563-01)

* 313 voters
* 802.11 revision will be published in 2016 including 802.11aa, 802.11ae, 802.11af, 802.11ac, 802.11ad

802.15 by B Heile (document 15-14-0222-02)

* 97 voters
* 802.15.4 revision will be published in 2015 including 4e, 4f, 4g, 4j, 4k, 4m, 4p

TG3d -100G

TG4n: CMB

TG4q: ULP (Ultra Low Power)

TG4r: ranging standardized

TG4s: spectrum resource utilization

TG 7r1: Optical Wireless Communications

TG8: PAC (Peer Aware Communications) - working on draft document

TG9: KMP (Key Management Protocol) – letter ballot

TG10-L2R: Layer 2 Routing, working on first draft

SG3e: (HRCP) high rate close proximity communication

IG 6tisch

IG Dependability

IG High Rate Rail Communications

802.18 by M Lynch

* 12 voters
* looking a inputs to ITU-R
* review FCC rules on ways of doing business

802.19 S Shellhammer (doc #19-15-005-00)

* 26 voters
* Coexistence Lessons Learned (CLL) Liaison
  + Approved during November Plenary and presented at December 2014 3GPP meeting
* 3GPP Liaison –Dino Flore of 3GPP will be giving a presentation to IEEE 802 this session
* Coexistence in Unlicensed Bands (CUB) Interest Group (IG)
  + Working on specifying work for a Study Group

802.21 Subir Das (doc # 21-15-007-00)

* 19 voters
* TG21d – multicast group management – working on Sponsor Ballot comment resolutions
* TG21m – revision project – discuss document update and changes
* TG21.1 –use cases and services – discuss the draft

802.24 James Gilb

* IoT task group is working on scope document

**AoB**

Other 802 news: OMNI RAN this week is working towards consensus on reference model, WG P&P will be updated and should result in each WG rules changes

**8:51** Joint meeting adjourned

**Working group opening plenary**

**9:32** B Heile (ZigBee Alliance), WG chair called the 802.15 WG plenary to order (15-14-0700-02)

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 0-5 and reading the instructions for the WG Chair. (<http://standards.ieee.org/board/pat/pat-slideset.ppt>).

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.

Approve/modify joint opening agenda (15-14-0700-02)

* Moved by C Powell, seconded by T Kivinen. Following neither discussion nor objection the agenda was approved.

Review and approve 802.15 WG minutes from the San Diego session (15-14-0637-01-0000)

* Moved by C Powell, seconded by Myung Lee. Upon neither discussion nor objection the joint minutes were approved.

**9:41** Wireless Network Updates by WG Chair

* Since Swisscom is providing the network this week there is no local server, nor FTP server.
* Drafts are available to session attendees, attendees should see the WG/TG chair for a draft copy

**9:50** WG recessed

**Wednesday 14 Jan 2015**

**802.15 mid-session plenary meeting**

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

**TG3d (100G)** by I. Hosako

* 7 presentations were heard
* ready to start the TRD

**TG4n (CMB)** Closing Report by Kenichi Mori (15-15-063-00)

* Getting ready to go to Sponsor Ballot

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the Sponsor balloting of the 802.15.4n draft standard with the following membership: Arthur Astrin (chair), Liang Li, Shinsuke Hara, WeiXia Zou and Kenichi Mori. The 802.15.4n BRC is authorized to approve comment resolutions and to approve the start of recirculation ballots of the 802.15.4n 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 at least 30 days in advance.*

Moved by Kenichi Mori Seconded by Ben Rolfe

Upon neither discussion nor objection the motion carries

**TG4q (ULP)** by Chu Ngo

* Working on comment resolutions

**TG4r (ranging)** by Ben Rolfe

* Cancel today’s meeting
* Working on TGD

**TG4s (SRU)** by Shoichi Kitazawa

**TG7r1 by R Roberts**

* Main task is to get timeline and officers in place

**TG8 (PAC)** by Myung Lee (CUNY)

* Working on draft

**TG9 (KMP)** by R Moskowitz (Verizon) (15-14-004-02)

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the 802.15.9 draft recommended practice with the following membership: Robert Moskowitz, Tero Kivinen, Kunal Shah, Peter Yee, Subir Das, Brian Weis. The 802.15.9 BRC is authorized to approve comment resolutions and to approve the start of recirculation ballots of the 802.15 WG. Comment resolution between sessions will be conducted via reflector email and via teleconferences announced to the reflector at least 30 days in advance.*

Moved by: Robert Moskowitz Seconded by Tero Kivinen

Upon neither discussion nor objection the motion carries

**TG10 (L2R)** by C Powell

* Completing technical aspects of draft

**SG3e** by Andrew Estrada

* Working on PAR and CSD

**IG dep** Closing Reportby J Haapola (15-15-0051-00)

**IG HRRC** by R Heile

* 4 presentations were heard

**IG 6tisch** by P Kinney

* meeting at PM1 on Monday
* discussed IETF 6tisch status and issues

**SC Maintenance** by P Kinney

* 168 open comments as of this morning
* working the issues from new amendments
* 3 meetings tomorrow

**SC WNG** by P Kinney

* Overview of TG4s Spectrum Resource Usage by Shoichi Kitazawa  
  (15-15-0028-01)

**Next Generation Mobile Alliance** by B Heile

* Working on coordination effort

**Augmented Reality Enterprise** **Alliance** by B Heile

* Three areas of interest: 15.7, 15.6, 15.4

**AoB**

**11:05** Recessed until Thursday at 18:30

**Thursday, 15 Jan 2015**

**18:35** 802.15 WG chair called the meeting to order

**18:38** Treasury Report by B Rolfe (15-15-0031-00)

**18:42** TG3d by I. Hosako (15-15-00-59-01)

**18:45** TG4q (ULP) by C Ngo (15-15-0079-00)

*Move that the 802.15.4q TG requests 802.15 WG to approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the 802.15.4q draft standard with the following membership: Shahriar Emami, Allan Zhu, Hendricus De Ruijter, Chandrashekhar Thejaswi PS, Jinesh Nair, Kiran Bynam, Youngsoo Kim and Chiu Ngo. The 802.15.4q BRC is authorized to approve comment resolutions on behalf of the 802.15 WG. Comment resolution between sessions will be conducted via reflector email and via teleconferences announced to the reflector at least 30 days in advance.*

Moved by C Ngo, seconded by C Powell

Upon neither discussion nor objection the motion carries with unanimous consent

**18:52** TG4r (Ranging) by B Rolfe (15-15-0078-01)

**18:56** TG4s (SRU) by S Kitazawa (15-15-0092-00)

**18:59** TG7r1 (OWC) by Yeong Min Jang (15-15-0087-00)

Motion: *802.15 WG affirms Yeong Min Jang as TG7r1 chair*

Moved by G Stuebing, seconded by B Rolfe

Upon neither discussion nor objection the motion carries with unanimous consent

**19:05** TG8 (PAC) by Myung Lee (15-15-0075-00)

**19:10**TG9 (KMP) by R Moskowitz (15-15-0071-00)

**19:14** TG10 (L2R) by Clint Powell (15-15-0067-00)

**19:18** SG 3e(HRCP) by Andrew Estrada (15-15-0091-01)

*Motion: request that the 802.15 WG seek 802 EC approval at the March 2015 Plenary to forward the SG3e PAR (dcn 15-14-0715-04) and CSD (dcn 15-14-0716-04)  to NesCom, and additionally authorize the 802.15 WG Chair to make any necessary changes to these docs required to support the submission.*

Moved by J Gilb Seconded by B Rolfe

Following no discussion the vote was taken with the results 31/0/2, motion carries.

**19:30** IG6tisch by Pat Kinney (15-15-0025-00)

**19:30** SCclosing report by Pat Kinney (15-15-0023-01)

*Move that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the 802.15.4 Revision draft standard with the following membership: Pat Kinney James Gilb, Benjamin Rolfe, Clint Powell, Billy Verso, Kunal Shah, Phil Beecher, Fumihide Kojima, and Jeritt Kent. The 802.15.4 Revision BRC is authorized to approve comment resolutions and to approve the start of balloting the 802.15.4 Revision 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 at least 7 days in advance.*

Moved by Pat Kinney Seconded by Ben Rolfe

Upon neither discussion nor opposition, the motion carries

**19:45** 802.11 Liaison by C Chaplin (15-15-0094-02)

**19:52** 802.18 by J Notor (15-15-0081-00)

**19:53** 802.24 by James Gilb

* prepare presentation draft of smart grid
* approved IoT task group scope
* new white paper contrasting 802.11ah versus 802.15.4 among others

**AoB**

**20:04** Motion *to adjourn* was made by Clint Powell, seconded by Ben Rolfe, upon no objection the motion carried, this session is adjourned.

**Annex A** Attendance = 81

|  |  |  |
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| **Last Name** | **First Name** | **Affiliation** |
| Achir | Mounir | Canon Research Centre France |
| Akiyama | Keiji | Sony Corporation |
| Aoyama | Hideki | Panasonic Corporation |
| Beecher | Philip | Wi-SUN Alliance |
| Cha | Jaesang | Seoul National University of Science and Technology(Seoul Tech) |
| Chang | Soo-Young | California State University, Sacramento (CSUS) |
| Chaplin | Clint | Imagicon |
| Chitrakar | Rojan | Panasonic Corporation of North America |
| Choi | Sangsung | Electronics and Telecommunications Research Institute (ETRI) |
| Chung | Hee-Sang | Electronics and Telecommunications Research Institute (ETRI) |
| De Ruijter | Hendricus | Silicon Laboratories |
| Dotlic | Igor | National Institute of Information and Communications Technology (NICT) |
| Estrada | Andrew | Sony Corporation |
| Fukui | Kiyoshi | Oki Electric Industry Co., Ltd. |
| Godfrey | Tim | Electric Power Research Institute, Inc. (EPRI) |
| Haapola | Jussi | Centre for Wireless Communications / University of Oulu |
| Hara | Shinsuke | Osaka City University (OCU) |
| Harrington | Timothy | Zebra Technologies |
| Heide | Carolyn | Ruckus Wireless |
| Heile | Robert | ZigBee Alliance |
| Hernandez | Marco | National Institute of Information and Communications Technology (NICT) |
| Hiraga | Ken | NTT |
| Holcomb | Jay | Itron Inc. |
| Hong | Seung-Eun | Electronics and Telecommunications Research Institute (ETRI) |
| Horisaki | Koji | TOSHIBA Corporation |
| Hosako | Iwao | National Institute of Information and Communications Technology (NICT) |
| Hui | Bing | Electronics and Telecommunications Research Institute (ETRI) |
| Inoue | Yasuhiko | Nippon Telegraph and Telephone Corporation (NTT) |
| Iwaoka | Mitsuru | Yokogawa Electric Corporation |
| Kang | Hyunduk | Electronics and Telecommunications Research Institute (ETRI) |
| Kang | Minsoo | Electronics and Telecommunications Research Institute (ETRI) |
| Kent | Jeritt | Analog Devices Inc. |
| Kim | Junhyeong | Electronics and Telecommunications Research Institute (ETRI) |
| Kinney | Patrick | Kinney Consulting |
| Kitazawa | Shoichi | ATR Wave Engineering Laboratories |
| Kivinen | Tero | INSIDE Secure |
| Kojima | Fumihide | National Institute of Information and Communications Technology (NICT) |
| Kwak | Byung-Jae | Electronics and Telecommunications Research Institute (ETRI) |
| Lee | Myung | CUNY - City University of NY |
| Li | Huan-Bang | National Institute of Information and Communications Technology (NICT) |
| Li | Qing | InterDigital, Inc. |
| Maekawa | Itaru | Japan Radio Co., Ltd. |
| Marin | James | Nokia Networks |
| Matsumura | Hiroyuki | Sony Corporation |
| Mcinnis | Michael | The Boeing Company |
| Mori | Kenichi | Panasonic Corporation |
| Moskowitz | Robert | HTT Consulting |
| Nair | Jinesh | SAMSUNG |
| Nejatian | Alireza | Ericsson AB |
| Ngo | Chiu | SAMSUNG |
| Notor | John | Notor Research |
| Ogawa | Hiroyo | Association of Radio Industries and Businesses (ARIB) |
| Okada | Kenichi | Tokyo Institute of Technology |
| Oshima | Mitsuaki | Panasonic Corporation of North America |
| P S Bhat | Chandrashekhar | SAMSUNG |
| Perkins | Charles | Futurewei Technologies |
| Petrick | Albert | Jones-Petrick and Associates, LLC. |
| Powell | Clinton | Powell Wireless Consulting, LLC |
| Rabarijaona | Verotiana | National Institute of Information and Communications Technology (NICT) |
| Rakanovic | Demir | u-blox Italia |
| Randall | Karen | NSA/IAD |
| Roberts | Richard | Intel Corporation |
| Rolfe | Benjamin | Blind Creek Associates |
| Russell | Paul | InterDigital, Inc. |
| Sasaki | Shigenobu | Niigata University |
| Sato | Noriyuki | Oki Electric Industry Co., Ltd. |
| Serafimovski | Nikola | pureLiFi |
| Shah | Kunal | Silver Spring Networks Inc. |
| Shimada | Shusaku | Schubiquist Technologies Guild |
| Shimizu | Masashi | Nippon Telegraph and Telephone Corporation (NTT) |
| Sihn | Gyung Chul | Electronics and Telecommunications Research Institute (ETRI) |
| Stuebing | Gary | Cisco Systems, Inc. |
| Sturek | Don | Silver Spring Networks Inc. |
| Takada | Takuma | NTT DoCoMo, Inc. |
| Togashi | Kou | TOSHIBA Corporation |
| Toshimitsu | Kiyoshi | TOSHIBA Corporation |
| Uysal | Murat | Ozyegin University |
| Verso | Billy | DecaWave |
| Yaita | Makoto | Microsystem Integration Laboratories NTT |
| Yee | Peter | NSA/IAD |
| Yokota | Hidetoshi | Landis Gyr Group Worldwide |