**IEEE P802.15**

**Wireless Personal Area Networks**

|  |  |
| --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title |  |
| Date Submitted | [18 January 2013] |
| 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 Vancouver, Canada] |
| 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 #82**

**Hyatt Regency, Vancouver, Canada**

**January 13-17, 2013**

**Monday, 14 January 2013**

**8:02** 802.11, 802.15, 802.16, 802.18, 802.19, 802.21, and 802.22 Chairs called the joint meeting to order. IEEE 802.15 attendance is included as Annex A.

General announcements:

* No photography
* Social – Steamworks Pub
* Straw Poll of new attendees: 1

**8:04** 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.

**8:09** Financial report by Jon Rosdahl (CSR) docs 11-13-0020-00, 15-13-0024-00

Net Worth

* **July 1, 2012 – $433,424.66**
	+ IEEE account: $391,948.68 + $462.69 = $392,411.37
	+ Face-to-Face: $194,868.70+$45,300-$30,209.32+$2,400.09-$171,346.18 = $41,013.29
* **Sept 1, 2012 – $562,733.66**
	+ IEEE account: $392,411.37 + $266.67 = $ 392,678.04
	+ Face-to-Face: $41,013.29+$52,500-$7,816.99 +$106,650 -$22,290 = $170,055.62
* **Oct 31, 2012 – $457,267.69**
	+ IEEE account: $392,678.04 + $87.14= $ 392,765.18
	+ Face-to-Face: $170,055.62 +$53,700 -$7,677.01 +$5,300 -$158,876.10 = $64,502.51
* **Dec 31, 2012 – $599,205.26**
	+ IEEE account: $392,765.18 + 123.43 - $7465.06 + 108.61 = $385,532.16
	+ Face-to-Face: $64,502.51 +90,000- $14,285.23 +105,750.00 – 32,294.18 = $213,673.10

Vancouver Proposed Current

* **Registration Income:** $208,650 $231,000
	+ Hotel Credits $3,500 $ 3,500 (if pickup is >50%)
	+ Registrations 325 343
	+ Meeting Expense Estimate: $227,409 $229,793
	+ AV $17,953 $19,531
	+ Financial Fees $11,433 $12,550
	+ Meeting Planner $39,525 $39,025
	+ Food & Beverage $95,201 $92,000
	+ Network Services $41,897 $42,687
	+ Social $12,500 $14,850
	+ Shipping $ 7,250 $ 7,250
	+ Misc $ 1,650 $ 1,600
* **Surplus/(Deficit) $(15,259) $4,707**

**8:12** Wireless and IMAT announcements by Rick Alfvin (15-13-027-00)

**8:16** Review future sessions

* March 17-21, 2013, Caribe Royale, Orlando, FL, USA, *802 Plenary Session*
* May 12-17, 2013, Hilton Waikoloa Village, Big Island, HI, USA, *802 Wireless Interim Session*\*
* July 14-19, 2013, Geneva*, 802 Plenary Session*
* September 15-20, 2013, Nanjing China, *802 Wireless Interim Session*\*
* November 10-15, 2013, Hyatt Regency Reunion, Dallas, TX, USA, *802 Plenary Session*
* January 19-24, 2014, Hyatt Century Plaza, Los Angeles, CA, USA, 802 Wireless Interim Session\*

**8:18 Working Group Updates**

* 802.1 by T Jeffree

TG interworking

TG time sensitive networking

* 802.11 by B Kraemer (Maxell): 324 voters, 31 potential voters

TGREVmc - REVISION

TGac - VHT <6GHz

TGaf- TVWS

TGah- Sub 1GHz

TGai – Fast Initial Link Setup

TGaj – CMMW

TGak – General Link

TGaq – Pre-Association Discovery

**Standing Committee**

WNG - WIRELESS NEXT GENERATION (2 meetings)

ARCHITECTURE

JTC1

REGULATORY

802.15 by B Heile (125 voters, 18 nearly voters)

TG4j: MBAN (complete)

TG4k: LECIM (passed sponsor ballot, 260 comments)

TG4m: TVWS

TG4n: CMB

TG4p: PTC

TG4q: ULP (Ultra Low Power amendment) just starting

TG8: PAC (Peer Aware Communications) working on technical guidance document

TG9: KMP (Key Management Protocol) early stage draft development

SGl2r: Layer 2 Routing

IG-SRU (Spectrum Resource Utilization)

802.16 by Roger Marks (42 voters, 802.16-13-0015)

Maintenance: 16r3 and 16.1-2012

Grid: 16n, 16.1a (sponsor ballot recirc comment resolution)

TG: 802.16q (heterogeneous)

TG: 802.16.r

SG: 802.16.3 (metrology)

802.18 by M Lynch (8 voters)

* TVWS

802.19 Steve Shellhammer (Qualcomm) (48 voters) doc 19-13-0012

* TVWS Coexistence WG ballot comment resolution

802.21 Subir Das (22 voters) doc 21-13-009-00

* TG21c – single radio handover – finalize comment resolution
* TG21d – multicast group management – proposal discussion
* OmniRAN ECSG (Max Riegel)– just started

802.22 Mody (33 voters)

* TGa – Enhanced MIBS expected completion is Dec 2013
* TGb - Enhanced Broadband Services and Monitoring Applications
* SG – advanced beaconing

802.24 Gilb (27 voters) 24-13-004-02

* Response to ITU-R question 236 /1
* Review changes to PAP2 section 6.7
* Review new SIF contributions from 802.22, 802.11
* Develop publicity plan

**8:44** Joint meeting adjourned

**9:33** B Heile (ZigBee Alliance), WG chair called the 802.15 WG plenary to order (15-12-0681-01)

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, to which there were no responses.

Chair reminded participants of anti-trust rules and obligations.

Approve/modify joint opening agenda (15-12-0681-01-0000)

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

Review and approve 802.15 WG minutes from the San Antonio session (15-12-0596-00-0000)

* Moved by J Adams, seconded by A Astrin. Upon neither discussion nor objection the joint minutes were approved.

**9:38** Wireless Network Updates by Rick Alfvin (15-13-0027-00)

* 125 voters and 18 nearly voters
* Rick described the attendance requirements for the week, 13 meetings must be attended to obtain credit for this session

**9:44** WG recessed

**Wednesday 16 Jan 2013**

**802.15 mid-session plenary meeting**

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

**802.18** by J Notor

* Follow-on submission on public safety related standard
* 3.5 GHz NPRM issue
* replied comments on TVWS

**TG4j (MBAN)** closing reportby Ray Krasinski (15-13-0062-00)

**TG4k (LECIM)** by Pat Kinney

* Sponsor Ballot results

|  |  |
| --- | --- |
| BALLOT OPEN DATE: | 14-Dec 2012 |
| BALLOT CLOSE DATE: | 13-Jan-2013 |
| TYPE: | New |
| DRAFT #: | P802.15.4k-d3 |
| COMMENTS: | 260 |
| MUST BE SATISFIED COMMENTS: | 123 |
| Voter Pool | 138 |
| Respondents | 111 (80%) |
| Affirmative votes: | 92 (92%) |
| Negative votes | 7 |
| Abstentions | 11 (10%) |

* finishing up Sponsor Ballot comment resolution

**TG4m (TVWS)** by SangSung Choi

* finished PHY portion of draft, MAC is next

**TG4n (CMB)** by Art Astrin

* five presentations
* two more presentations this week

**TG4p (PTC)** by Jon Adams

* text drafting, should be complete by end of month

**TG4q (ULP)** by Shahriar Emami

* developed the schedule
* hearing presentations
* motion: *that 802.15 WG affirms Shahriar Emami as chair of TG4q*
* moved by Ed Callaway, seconded by Clint powell
	+ upon neither discussion nor objection the motion carries with unanimous consent

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

* working on the technical guidance document

**TG9 (KMP)** by R Moskowitz (Verizon)

* working on the technical draft

**SGL2R** closing reportby C Powell (15-13-0060-00)

**IG SRU by**

* heard two presentations

**SC Maintenance** by P Kinney

* Attendees approved two corrective actions for the impending corrigenda

**SC WNG** by P Kinney

* no presentation

**AoB** none

**10:51** Recessed until Thursday at 18:30

**Thursday, 17 January 2013**

**18:31** 802.15 WG chair called the meeting to order (agenda 15-12-0681-01)

**18:36** TG4k (LECIM) Closing Report by Pat Kinney (15-13-0082-00)

* Move that *802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the WG balloting of the 802.15.4k draft standard with the following membership: Shu Kato, Pat Kinney, Ben Rolfe, Cristina Seibert, Monique Brown, Steve Jillings, Tuncer Baykas, Wun-Cheol Jeong, David Howard, James Gilb, Chang Sub Chin, Mi-Kyung Oh, Youcy Yang, Seong-Soon Joo, Xiang Wang (Wilson), M. Al Ameen, and Jussi Haapola. The 802.15.4k BRC is authorized to approve comment resolutions and to approve the start of recirculation ballots of the 802.15.4k draft. 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 Clint Powell
	+ Upon neither discussion nor objection the motion carries with unanimous consent
	+ WG chair approved Pat Kinney as BRC chair

**18:40** TG4m (TVWS) Closing Report by Phil Beecher (15-13-0079-00)

Move that *802.15 WG start a WG Letter Ballot requesting approval to forward document #15-12-0575-01-004m, edited in accordance with the instructions in document #15-13-0072-00-004m, to Sponsor Ballot pending the completion and inclusion of the edits in the draft*.

Moved: Clint Powell

Seconded: Cristina Seibert

Upon neither discussion nor objection the motion carries with unanimous consent

**18:43** TG4n (CMB) Closing Report by Art Astrin (15-13-0073-00)

**18:49** TG4p (PTC) Closing Report by Jon Adams (15-13-0063-00)

**18:51** TG4q by Shariar Emami (15-13-0087-00)

**18:53** TG8 (PAC) by Myung Lee (15-13-0088-00)

**18:55** TG9 (KPM) by Peter Yee (15-13-0068-00)

**18:59** IGSRC by Shoichi Kitazawa (15-13-0078-00)

**19:01** SCMaintenance closing report by Pat Kinney (15-13-0084-00)

**19:04** 802.11 liaison report by Clint Chaplin (15-13-0077-00)

**19:11** 802.18 liaison report by John Notor (15-13-0083-01)

**19:13** 802.24 by James Gilb

* Joint meeting with 802.18
* Approved 2 SIFs
* Reviewed PAP2 effort

**19:16** Motion *to adjourn* was made by Rick Alfvin, seconded by Jay Ramasastry, upon no objection the motion carried, this session is adjourned.

**Annex A** Attendance = 106

|  |  |  |
| --- | --- | --- |
| **Last Name** | **First Name** | **Affiliation** |
| Adams | Jon | Lilee Systems |
| Alfvin | Richard | Verilan |
| Ameen | Moshaddique | Inha University |
| Astrin | Arthur | Astrin Radio |
| Beecher | Philip | Wi-SUN Alliance |
| Beer | Frederik | University of Erlangen-Nuremberg, Fraunhofer IIS |
| Bottomley | Andrew | Microsemi Corporation |
| Bradley | Peter David | Zarlink Semiconductor, Inc. |
| Bynam | Kiran | SAMSUNG |
| Callaway | Edgar | ARM, Ltd. |
| Canchi | Radhakrishna | Kyocera Communications Inc. |
| Chang | Kuor-Hsin | Elster Solutions |
| Chang | Soo-Young | California State University, Sacramento (CSUS) |
| Chaplin | Clint | Samsung Information Systems America, Inc. |
| Cheong | Minho | Electronics and Telecommunications Research Instititute (ETRI) |
| Cho | Seungkwon | Electronics and Telecommunications Research Instititute (ETRI) |
| Cho | Sungrae | Chung-Ang University |
| Choi | Jinsoo | LG ELECTRONICS |
| Choi | Sangsung | Electronics and Telecommunications Research Instititute (ETRI) |
| Chung | Myung-Ae |  |
| De Ruijter | Hendricus | Silicon Laboratories |
| Deb | Ashok |  |
| Diamond | Patrick | Semtech Ltd |
| Dotlic | Igor | National Institute of Information and Communications Technology (NICT) |
| Eggert | Dietmar | Atmel Corporation |
| Emami | Shahriar | Samsung Information Systems America, Inc. |
| Evans | David | Philips Electronics |
| Flynn | David | ARM, Ltd. |
| Fukui | Kiyoshi | Oki Electric Industry Co., Ltd. |
| Funada | Ryuhei | National Institute of Information and Communications Technology (NICT) |
| Gilb | James | Tensorcom, Inc. |
| Gillmore | Matthew | Itron Inc. |
| Golmie | Nada | National Institute of Standards and Technology (NIST) |
| Haapola | Jussi | Centre for Wireless Communications / University of Oulu |
| Hara | Shinsuke | Osaka City University (OCU) |
| Heile | Robert | ZigBee Alliance |
| Herbst | Thomas | Silver Spring Networks Inc. |
| Hernandez | Marco | National Institute of Information and Communications Technology (NICT) |
| Holcomb | Jay | Itron Inc. |
| Huh | Jae Doo | Electronics and Telecommunications Research Instititute (ETRI) |
| Hur | Junbeom | Chung-Ang University |
| Jeong | Wuncheol | Electronics and Telecommunications Research Instititute (ETRI) |
| Jillings | Steven | Semtech Corporation |
| Jin | Sunggeun | Electronics and Telecommunications Research Instititute (ETRI) |
| Joo | Seong-Soon | Electronics and Telecommunications Research Instititute (ETRI) |
| Kang | Hyunduk | Electronics and Telecommunications Research Instititute (ETRI) |
| Kent | Jeritt | Analog Devices Inc. |
| Kim | Jaehwan | Electronics and Telecommunications Research Instititute (ETRI) |
| Kim | Jinkyeong | Electronics and Telecommunications Research Instititute (ETRI) |
| Kim | Suhwook | LG ELECTRONICS |
| Kim | Wan Seok  | Electronics and Telecommunications Research Instititute (ETRI) |
| Kinney | Patrick | Kinney Consulting LLC |
| Kitazawa | Shoichi | ATR Wave Engineering Laboratories |
| Kivinen | Tero | INSIDE Secure |
| Kojima | Fumihide | National Institute of Information and Communications Technology (NICT) |
| Krasinski | Raymond | Philips Electronics |
| Kuroda | Masahiro | National Institute of Information and Communications Technology (NICT) |
| Kwak | Byung-Jae | Electronics and Telecommunications Research Instititute (ETRI) |
| Kwak | Kyung Sup | Inha University |
| Lan | Zhou | NICT |
| Lee | Hyungsoo | Electronics and Telecommunications Research Instititute (ETRI) |
| Lee | Jae Seung | Electronics and Telecommunications Research Instititute (ETRI) |
| Lee | Jae-Ho |  |
| Lee | Myung | CUNY - City University of NY |
| Li | Liang | Vinno Technologies Inc. |
| Lynch | Michael | Nortel Networks |
| McInnis | Michael | The Boeing Company |
| Mori | Kenichi | Pansonic Corporation |
| Moskowitz | Robert | Verizon |
| Nair | Jinesh | SAMSUNG |
| Nam | Hong Soon | Electronics and Telecommunications Research Instititute (ETRI) |
| Ngo | Chiu | SAMSUNG |
| Notor | John | Silver Spring Networks Inc. |
| Ohba | Yoshihiro | TOSHIBA Corporation |
| Park | Seung-Hoon | Samsung |
| Park | Taejoon | Electronics and Telecommunications Research Instititute (ETRI) |
| Poegel | Frank | Atmel Corporation |
| Powell | Clinton | PWC, LLC |
| Powell | Richard | Microsemi Corporation |
| Pyo | Chang-Woo | National Institute of Information and Communications Technology (NICT) |
| Rakanovic | Demir | u-blox Italia |
| Randall | Karen | NSA/IAD |
| Reede | Ivan | AmeriSys Inc. |
| Rolfe | Benjamin | Blind Creek Associates |
| Salazar Cardozo | Ruben | Landis Gyr Group Worldwide |
| Sato | Noriyuki | Oki Electric Industry Co., Ltd. |
| Schwoerer | Jean | France Telecom |
| Seibert | Cristina | Silver Spring Networks Inc. |
| Shimada | Shusaku | Yokogawa Co. |
| Shin | ChangSub | Electronics and Telecommunications Research Instititute (ETRI) |
| Umehira | Masahiro | Ibaraki University |
| VanPuijenbroek | Cornelis | RF Consultants BV |
| VanWyk | Hartman | Itron Inc. |
| Verso | Billy | DecaWave |
| Villardi | Gabriel | National Institute of Information and Communications Technology (NICT) |
| Wang | Xiang | Wuxi SensingNet Industrialisation Research Institute |
| Winkel | Ludwig | Siemens AG |
| Xing | Tao | Shanghai institute of microsystem and information technology |
| Yang | Yang | Wuxi SensingNet Industrialisation Research Institute |
| Yee | Peter | NSA/IAD |
| Yoon | Chanho | Electronics and Telecommunications Research Instititute (ETRI) |
| Zeira | Eldad | InterDigital, Inc. |
| Zhang | Ke | Shanghai institute of microsystem and infomation technology |
| Zhao | Mu | Huawei Technologies Co. Ltd |
| Zhou | Mingtuo | National Institute of Information and Communications Technology (NICT) |
| Zhu | Chunhui | SAMSUNG |