**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 | 16 March, 2012 |
| Source | [][Kinney Consulting, LLC][Chicago, IL] | Voice: [1.847.960.3715]Fax: []E-mail: [pat.kinney@ieee.org] |
| Re: | 802.15 Plenary Meeting in Waikoloa |
| Abstract | IEEE 802.15 Working Group Minutes |
| Purpose | Official minutes of the Working Group Session |
| Notice | This document has been prepared to assist the IEEE P802.15. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein. |
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**IEEE 802.15 Plenary Meeting – Session #77**

**Hilton Waikoloa Village, Waikoloa, Hawaii, USA**

**March 11-16, 2012**

**Monday, 12 March 2012**

**11:00 AM** The chair, Bob Heile, called the meeting to order (15-12-112-00)

The chairasked for new attendees to raise their hands; there were two.

Announcements:

* Social on Wednesday at 18:30

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.

Rick Alfvin stated the information (IEEE 802.15-12-019-01) on registration requirements and the network information. Basic topics covered were:

* Registration requirements
* Network information
* Attendance sheets
* Voting Tokens
* Voting Rights
* Meeting Video Audio recording – not allowed

802.15 Work Group Membership status:

* 187 voting members
* 30 nearly voters
* 94 aspirants

Future Sessions (15-12-0112-00)

* 13-18 May, 2012, Hyatt Regency Atlanta, Atlanta, GA, USA
* 15-20 July, 2012, Grand Hyatt Manchester, San Diego, CA, USA
* 16-21 September, 2012,Hyatt Grand Champion, Palm Springs, CA USA
* 11-16 November, 2012, Grand Hyatt San Antonio, San Antonio, TX,
* 13-18 January , 2013, Hyatt Regency Vancouver, BC, CA, 802 Wireless Interim Session
* 17-21 March, 2013, Caribe Royale, Orlando, FL, USA, 802 Plenary
* 12-17 May, 2013, Hilton Waikoloa Village, Big Island, HI, USA, 802 Wireless Interim Session
* 14-19 July, 2013, Geneva, CHE, 802 Plenary Session
* 15-20 Sept, 2013 ZhongShan Hotel, Nanjing, China

Chair presented the EC Meeting Report (IEEE 802.15-12-0131-00)

C Chaplin presented the Treasurer Report (IEEE 802.15-12-0124-00)

* September 18, 2011 - $391,736.35
	+ IEEE Account: $340,599.69 + $247.24 - $18,515.00 = $322,331.93
	+ Face-to-Face: $69,404.42 = $69,404.42
* November 06, 2011 - $431,742.15
	+ IEEE Account: $322,331.93 + $137.80 + $39,985.00 = $362,454.73
	+ Face-to-Face: $69,404.42 - $117 = $69,287.42
* December 30, 2011 - $562,934.39
	+ IEEE Account: $362,454.73 - $37266.95 + $150.84 + $185.83 = $325,524.45
	+ Face-to-Face: $69,287.42 + $168,122.52 = $237,409.94
* March 05, 2012 – $465,777.50
	+ IEEE account: $325,524.45 +$31,115.55 + $50,000 +$176.94 + $150.96 = 406,967.90
	+ Face-to-Face: $237, 409.94 -95,581.29 + 48,950 -140,169.03 + 10,200 = 58,809.62

802.18 by John Notor

* ITU-R question 236/1 asking technical and operation features of smart grid wireless, etc.

Phil Beecher moved to *approve the agenda (document IEEE 15-12-0085-02-0000)* with Clint Powell seconding the motion. Following no objection the agenda was approved.

Rick Alfvin moved *to approve the previous meeting minutes (document 15-12-0022-0000)* and Art Astrin seconded the motion. Following neither discussion nor objection the minutes were approved. There were no matters resulting from the previous minutes

802 Architecture report by James Gilb

* Two meetings this session: Tuesday AM1, Thursday AM1 to resolve comments from letter ballot

802.18 Radio regulatory by John Notor

* Progeny request for waiver in 900 MHz ISM band that would jeopardize Part 15 device operation
* PTC spectrum
* NIST draft guidelines for securing WLANs
* License exempt wireless telegraphy
* Smart Grid
* Cross band operation of devices

Task group reports follow:

TG4g (SUN) closing report by Phil Beecher (15-12-0128-004g)

Phil Beecher moved *to affirm the decisions arising made by the 12 Mar 2012 AM1 TG4g meeting* and Clint Powell seconded the motion. Following neither discussion nor objection the minutes were approved.

TG4j report by Ray Krasinski:

* Expectation is to go to WG ballot by end of week

TG4k report by Pat Kinney:

* Discussions on draft text (15-12-0089-02)

TG4m by Sangsung Choi

* Link budget effort

TG6 BAN by Art Astrin (15-12-0120-00)

TG9 KMP by Robert Moskowitz

* 802.1 concerns
* start drafting KMP document

SG CMB by Clint Powell

* will work on comments on PAR and 5C

SG PAC by Myung Lee

* will work on comments on PAR and 5C

SG PTC by Jon Adams

* will work on comments on PAR and 5C

IG THZ by Tomas Kürner

* results from WRC
* presentation on application and technical aspects

IG SRU by Shoichi Kitazawa (15-12-0121-01)

SC WNG by P Kinney

* Four presentations:
	+ Ultra low power (ULP) technologies that can be applied to wireless sensor networks (WSN)
	+ Presentation/discussion exploring joint work between 802.21 and 802.15
	+ Enhancement of IEEE 802.15.7 Specification for LBS (location-based service) Applications
	+ Overview and Applications of LED-ID System and Visible RFID System

802 Architecture by James Gilb

* First ballot received 26% approval and second ballot received 74% approval, comment resolution will be held this week

March 2012 Officer Elections

* Bob Heile stated his intention to run again for Chair position
* Rick Alfvin and Pat Kinney stated their intention to run for the 802.15 vice-Chair positions
* Motion *to approve the slate of officers* moved by Clint Powell and seconded by Clint Chaplin. Following no discussion, the vote was taken with the results of 43/1/0, the motion carries

802.15 Treasurer

* Clint Chaplin is vacating his position of 802.15 treasurer to become the 802 treasurer, Ben Rolfe will assume the 802.15 treasurer position at the end of this session
* motion to affirm Ben Rolfe as 802.15 treasurer made by Rick Alfvin seconded by Clint Powell

Presentation on Chinese-HealthCare-IOT-Development-Opportunities (15-12-0110-01-0scwng) by Dr. GAO Yanjie and interpreted by Liang Li

AoB - none

**12:28 PM** The chair recessed the meeting

Wednesday, 14 March 2012

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

WG Chair made announcements concerning social and logistics.

**10:34** WG18 liaison by J Notor

* Progeny LMS waiver issue is being discussed again
* 802.22 has a position paper on TV whitespace that they’re asking WG18 to review

10:35 TG4j by R Krasinski

* Working on getting draft ready for WG ballot

10:36 TG4k by Pat Kinney

* Completing remaining TBDs in preliminary draft

**10:37** TG4m by Sangsung Choi

* Working to complete technical requirements document

**10:38:** 802.15.4 Revision

* Chair reviewed the PAR document for the revision of 802.15.4-2011
* Motion to *that 802.15 WG request that 802 EC forward PAR, document 15-12-0149-00, to NesCom*
* Moved by Ben Rolfe, seconded by Clint Powell
* Upon no discussion the vote was taken with the following results: 41/0/0, the motion carries.

**10:43** TG9 (KMP) by Robert Moskowitz

* Hearing technical presentations
* Working on processes for moving ahead

**10:45** CMB SG by Clint Powell

* Resolved all PAR and 5C comments
* Revised PAR and 5C documents

Motion: *request that the PAR and Five Criteria contained in documents 15-12-0005-06 and 15-12-0007-06 respectively be approved by the IEEE 802.15 WG and that the EC be requested to forward the PAR to NesCom*.

* Moved by Clint Powell, and seconded by Liang Li
* Upon no discussion the vote was taken with the following results: 46/0/0, the motion carries.

Motion: request *that the 802.15 WG empowers its WG chair to, at the Chair’s discretion, amend the proposed PAR and Five Criteria stated in 15-12-0005-06 and 15-12-0007-06 with any combination of the following changes:*

1. *minor content changes to the PAR and Five Criteria in response to EC discussion*
2. *modification of the title to include frequency bands*
* Moved by Clint Powell, and seconded by Liang Li
* Upon no discussion the vote was taken with the following results: 49/0/0, the motion carries.

**10:54** PAC SG by Myung Lee (15-12-0159-00)

* Resolved all PAR and 5C comments
* Revised PAR and 5C documents

Motion: *request that the PAR and Five Criteria contained in documents 15-12-0157-00 and 15-12-0158-00 respectively be approved by the IEEE 802.15 WG and that the EC be requested to forward the PAR to NesCom*.

* Moved by Myung Lee, and seconded by Jon Adams
* Upon no discussion the vote was taken with the following results: 46/0/0, the motion carries.

Motion: request *that the 802.15 WG empowers its WG chair to, at the Chair’s discretion, amend the proposed PAR and Five Criteria stated in 15-12-0157-00 and 15-12-0158-00 respectively with any combination of the following changes:*

1. minor content changes to the PAR and Five Criteria in response to EC discussion
2. addition of “reduction of signaling overhead” in PAR subclause 5.2
3. deletion of the explanatory note in PAR subclause 8.1
* Moved by Myung Lee, and seconded by Jon Adams
* Upon no discussion the vote was taken with the following results: 48/0/0, the motion carries.

**11:16** SGPTCby Jon Adams

* Resolved all PAR and 5C comments
* Revised PAR and 5C documents

Motion: *request that the PAR and Five Criteria contained in documents 15-11-0821-10 and 15-11-0876-07 respectively be approved by the IEEE 802.15 WG and that the EC be requested to forward the PAR to NesCom*

* Moved by Jon Adams, and seconded by John Notor
* Upon no discussion the vote was taken with the following results: 38/0/1, the motion carries.

and

Motion: *that the 802.15 WG empowers its WG chair to, at the Chair’s discretion, amend the proposed PAR and Five Criteria stated in 15-11-0821-10 and 15-11-0876-07 respectively with any combination of the following changes:*

* *minor content changes to the PAR and Five Criteria in response to EC discussion*
* *changes to the range of channel bandwidth limits*
* *change or eliminate the following clause in the 5.2 scope: “accommodates transmit power levels greater than the 1 watt typical of US FCC Part 15 devices”*
* *include the definition of positive train control into section 8.1*
* Moved by Jon Adams, and seconded by Steve Jillings
* Upon no discussion the vote was taken with the following results: 43/0/0, the motion carries.

**11:12** IG SRU by Shoichi Kitazawa

* Will hear two presentations at next meeting

**11:24** WG chair recessed the meeting until Thursday evening.

**Thursday, 15 March 2012**

**18:29** WG chair called the meeting to order

**18:32** TG4j (MBAN) closing report by Ray Krasinski (15-12-0178-01)

*Move that 802.15 WG start a WG Letter Ballot requesting approval to forward document d1P802-15-4j\_Draft\_Standard.pdf, pending the completion and inclusion of edits in accordance with document 15-11-0836-05-004j, to Sponsor Ballot.*

Moved by Ray Krasinski, seconded by Liang Li.

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

**18:36** TG4k **(**LECIM) closing report by Pat Kinney (15-12-0181-00)

**18:38** TG4m **(**4TV) closing report by Sangsung Choi (15-12-188-00)

**18:41** TG9 (KMP) closing report by Peter Yee (15-12-0153-01)

**18:45** Closing report for TG6 by A Astrin (15-12-0132-00)

* Chair informed group of an appeal on 802.15.6, currently forming an appeals panel

**18:49** SG PAC closing report by Myung Lee (15-12-0185-00)

Motion: *to the WG to extend the SGPAC for the next cycle*

Moved by Myung Lee and seconded by Art Astrin

Upon no discussion the vote was taken with the results of 31/0/0, the motion carries.

**18:53** SG CMB closing report by Clint Powell (15-12-0179-00)

Motion: *to the WG to extend the SGCMB for the next cycle*

Moved by Clint Powell and seconded by Art Astrin

Upon no discussion the vote was taken with the results of 35/0/0, the motion carries.

**18:58** SG PTC closing report by Jon Adams (15-12-0182-02)

Motion: *to the WG to extend the SGPTC for the next cycle*

Moved by Jon Adams and seconded by Art Astrin

Upon no discussion the vote was taken with the results of 33/0/0, the motion carries.

**19:03** IGTerraHz by ThomasKürner(15-12-0144-00)

**19:06** IG SRU by Shoichi Kitazawa (15-12-191-00)

**19:08** SC WNG closing report by Pat Kinney (15-12-0173-00)

* Motion: *that the 802.15 Working Group seeks approval from the 802 EC to form a study group to develop the PAR and 5c documents for an Ultra Low Power PHY amendment to IEEE 802.15.4.*
	+ Moved by Art Astrin and seconded by Ben Rolfe
	+ Upon no discussion the vote was taken with the results of 30/0/0, the motion carries.
* Chair announced that SG ULP would be chaired by Shariar Emami (Samsung)

**19:12** Architecture by James Gilb

* all comments from the recirculation ballot have been resolved
* goal is to have Sponsor ballot before July session to allow comment resolution during July session

**19:15** 802.11 liaison report by C Chaplin (15-12-847-00)

**19:23** 802.18 liaison by J Notor (15-12-0190-02)

**19:26** Motion to adjourn was made by Jon Adams and seconded by Ben Rolfe. Upon hearing no objection, the motion carries; the session is adjourned.

**Annex A**

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| 114 Attendees |  |

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| --- | --- | --- |
| **Last** | **First**  | **Affiliation** |
| Adams | Jon | Lilee Systems |
| Ajito | Katsuhiro | NR |
| Alfvin | Richard | Verilan |
| Ameen | Moshaddique | Inha University |
| Astrin | Arthur | Astrin Radio |
| Batra | Anuj | Texas Instruments Incorporated |
| BEECHER | PHILIP | BCC |
| Boucachard | Philippe | Canon Research Centre France |
| Boytim | Mathew | Sensus |
| Buffington | John | Itron Inc. |
| Bynam | Kiran | SAMSUNG |
| Canchi | Radhakrishna | Kyocera Communications Inc. |
| Cardozo | Ruben Salazar | Landis Gyr Group Worldwide |
| Chang | Soo-Young | California State University, Sacramento (CSUS) |
| Chaplin | Clint | SAMSUNG |
| Cheong | Minho | Electronics and Telecommunications Research Instititute (ETRI) |
| Chilton | Paul | NXP Semiconductors |
| De Ruijter | Hendricus | Silicon Laboratories |
| Dotlic | Igor | National Institute of Information and Communications Technology (NICT) |
| Du | JiaDong | China Academy of Telecommunication Research (CATR) |
| Emami | Shahriar | 802.15 IEEE Work Group for WPAN |
| Evans | David |
| Flammer | George | Silver Spring Networks Inc. |
| Fukui | Kiyoshi | Oki Electric Industry Co., Ltd. |
| Gilb | James | Tensorcom, Inc. |
| Gong | Daning | China Academy of Telecommunication Research (CATR) |
| Gurtov | Andrei | Centre for Wireless Communications / University of Oulu |
| Haapola | Jussi | Centre for Wireless Communications / University of Oulu |
| Heile | Robert | ZigBee Alliance |
| Herbst | Thomas | Silver Spring Networks Inc. |
| Hernandez | Lizardo | Landis Gyr Group Worldwide |
| Hernandez | Marco | National Institute of Information and Communications Technology (NICT) |
| Ho | Jin-Meng | Texas Instruments Incorporated |
| Hosako | Iwao | National Institute of Information and Communications Technology (NICT) |
| Howard | David | On-Ramp Wireless, Inc. |
| Ida | Ichirou | FUJITSU |
| Inoko | Takuya | Niigata University |
| Inoue | Yasuhiko | Nippon Telegraph and Telephone Corporation (NTT) |
| Iso | Akio | National Institute of Information and Communications Technology (NICT) |
| 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) |
| Kambayashi | Toru | TOSHIBA Corporation |
| Kang | Hyunduk | Electronics and Telecommunications Research Instititute (ETRI) |
| Kang | Sungweon | Electronics and Telecommunications Research Instititute (ETRI) |
| Kasamatsu | Akifumi | National Institute of Information and Communications Technology (NICT) |
| Kim | Daegyun | SAMSUNG |
| Kim | Suhwook | LG ELECTRONICS |
| Kim | Yongsun | Electronics and Telecommunications Research Instititute (ETRI) |
| Kim | Youngsoo | SAMSUNG |
| Kinney | Patrick | Kinney Consulting LLC |
| Kitazawa | Shoichi | ATR Wave Engineering Laboratories |
| Kivinen | Tero | AuthenTec |
| Krasinski | Raymond | Philips Electronics |
| Kuerner | Thomas | TU Braunschweig |
| Kuroda | Masahiro | National Institute of Information and Communications Technology (NICT) |
| Kwak | Kyung Sup | Inha University |
| Lee | Donghun | Electronics and Telecommunications Research Instititute (ETRI) |
| Lee | Jae Seung | Electronics and Telecommunications Research Instititute (ETRI) |
| Lee | Myung | CUNY - City University of NY |
| Li | Huan-Bang |
| Li | Liang | Vinno Technologies Inc. |
| Li | Qing | InterDigital, Inc. |
| Li | Yong | ChongQing University of Posts and Telecomunications |
| Liru | Lu | National Institute of Information and Communications Technology (NICT) |
| Mori | Kenichi | Panasonic Corporation of North America |
| Moskowitz | Robert | Verizon |
| Nagai | Yukimasa | Mitsubishi Electric Corporation |
| Naganuma | Ken | Toko America Inc. |
| Ngo | Chiu | SAMSUNG |
| Notor | John | Notor Research |
| Ogawa | Hiroyo | Association of Radio Industries and Businesses (ARIB) |
| Ohba | Yoshihiro | TOSHIBA Corporation |
| Olson | David | Landis Gyr Group Worldwide |
| Park | Seung-Hoon | Samsung |
| Park | Taejoon | Electronics and Telecommunications Research Instititute (ETRI) |
| Ping | Xu Ping | Southeast University, China |
| Pope | Steve | Self Employed |
| Powell | Clinton | PWC, LLC |
| Priebe | Sebastian | TU Braunschweig |
| Ramasastry | Jayaram | Silver Spring Networks Inc. |
| Randall | Karen T. | NSA/IAD |
| Roberts | Richard | Intel Corporation |
| Rolfe | Benjamin | blind |
| Sasaki | Shigenobu | Niigata University |
| Sato | Naotaka | Sony Corporation |
| Sato | Noriyuki | Oki Electric Industry Co., Ltd. |
| Schwoerer | Jean | france telecom |
| Seibert | Cristina | Silver Spring Networks Inc. |
| Shao | Huairong | Samsung Information Systems America, Inc. |
| Shellhammer | Stephen | Qualcomm Incorporated |
| Shen | Jie | Wuxi SensingNet Industrialisation Research Institute |
| Sherman | Matthew | BAE Systems |
| Shimada | Shusaku | Yokogawa Co. |
| Shin | ChangSub | Electronics and Telecommunications Research Instititute (ETRI) |
| Song | Chunyi | National Institute of Information and Communications Technology (NICT) |
| Song | Ho-Jin | Nippon Telegraph and Telephone Corporation (NTT) |
| Struik | Rene | INDEPENDENT |
| Sun | Chen | National Institute of Information and Communications Technology (NICT) |
| Tabroff | Ronald | Mueller Systems |
| Takahashi | Nobuyuki | Niigata University |
| Tanaka | Hirokazu | TOSHIBA Corporation |
| VanWyk | Hartman | Itron Inc. |
| Villardi | Gabriel | National Institute of Information and Communications Technology (NICT) |
| Wang | Junyi | National Institute of Information and Communications Technology (NICT) |
| Wang | Xiang | Wuxi SensingNet Industrialisation Research Institute |
| Watanabe | Hidenori | Niigata University |
| Xing | Tao | Shanghai institute of microsystem and infomation technology |
| XU | JiDong |  |
| Yang | Yang | Wuxi SensingNet Industrialisation Research Institute |
| Zeira | Eldad | InterDigital, Inc. |
| ZHAO | Bingxuan |  |
| Zhu | Chunhui | SAMSUNG |