**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **IEEE 802.15 Positive Train Control Study Group Jacksonville Meeting Minutes** | |
| Date Submitted | [March 17, 2012] | |
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| Abstract | Meeting minutes for the Jacksonville Interim. | |
| Purpose | [Description of what the author wants P802.15 to do with the information in the document.] | |
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Minutes for IEEE 802.15 Positive Train Control Study Group

Waikoloa Plenary Meeting

12 – 15 March 2012

Jon Adams, chair and acting secretary

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| **1** | **Monday PM2- Agenda/Objectives/Minutes/Address PAR/5C comments** |
| **2** | **Tuesday PM3 - Address PAR/5C Comments** |
| **3** | **Wednesday AM1 - Address PAR/5C Comments** |
| **3** | **Wednesday PM1 - PAR/5C Comment Review and Editing** |
| **4** | **Wednesday PM2 - PAR/5C Comment Review and Editing** |
| **5** | **Thursday PM1 - Responses to CfA, Next Steps** |

Monday PM2

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| **1** | **Monday PM2- Agenda/Objectives/Minutes/Address PAR/5C comments** | | | |
| 1.1 | OPEN | Adams | 5 | 4:00 PM |
| 1.2 | Discuss Meeting Objectives/Opening Report and Agenda | Adams | 20 | 4:05 PM |
| 1.3 | Approval of Agenda | Adams | 10 | 4:25 PM |
| 1.4 | Read IEEE-SA Stds. Board Bylaws on Patents in Std's. & Guidelines | Adams | 5 | 4:35 PM |
| 1.5 | Approval of Jacksonville Minutes | Adams | 5 | 4:40 PM |
| 1.6 | PAR/5C Comment Review | All | 75 | 4:45 PM |
| 1.7 | Recess | Adams | 0 | 6:00 PM |

Attendance

Robert Moskowitz (Verizon), Irene Signorino (Microsemi), Clint Chaplin (Samsung), Art Astrin (Astrin Radio), Noriyuki Sato (Oki), Rick Roberts (Intel), Kazayuki Saboda (Sony), Ichirou Ida (Fujitsu), Shusaku Shimada (Yokogawa), Steve Jillings (Semtech), Ben Rolfe (Blind Creek), John Notor (Notor Research), Jon Adams (Lilee Systems).

Item 1.1, 1.2: Document 15-12-0136-00-0ptc PTC Study Group Opening Session

Item 1.3: Motion to approve agenda (15-12-0090-00-0ptc) as published. Astrin moved, Moskowitz second, approved unanimously.

Item 1.4: Went through P&P and Patent slides. No objections or raised hands noted.

Item 1.5: Motion to approve meeting minutes from Jacksonville. Astrin moved, Moskowitz second, approved unanimously.

Item 1.6: Adams went through PAR as approved at Jacksonville. One comment from NesCom (IEEE New Standards Committee) was received so far. It reads:

“Since this project appears to be of vital interest to the Vehicular Technology Society, should VTS be a co-sponsor? If not, how is the working group maintaining close coordination and involvement from VTS?”

Discussed suggested responses. It was noted that Chair has worked with VTS VP Land Transportation Glickenstein (also a SGptc participant) to establish formal relationship with VTS (IEEE Vehicular Technology Society) Board of Governors. Suggested answer to comment/question would be:

* IEEE STD 802.15.4 is a logical home for development of a broad wireless standard for the Positive Train Control RF/PHY/MAC link due to the flexibility of the 802.15.4 standard and the market traction (over 200 MU deployed) that has been established.
  + Strong support has been demonstrated from VTS with respect to the 802.15 work and multiple individuals have worked to develop a smooth coordinated effort.
  + An official liaison relationship has now been established between 802.15 PTC and the VTS Board of Governors, with the chair of IEEE 802.15 PTC as that liaison
  + The vice-president of VTS Land Transportation has become a regular participant in the 802.15 PTC activities.

Some discussion of security aspects of train control systems, and considerations for unique identity and anti-spoofing for wayside devices. Differences between what was done for 802.11p which was developed primarily as an ad-hoc network where security was done at a higher level.

Discussion over differences between SGptc and 802.11p from a network membership point of view: Moskowitz suggests that two models are absolutely opposite, where in SGptc most devices are fixed and in 802.11p most devices are mobile.

In order to make sure that any comments from 802.11 and 802.16 are addressed quickly, Chair will attend the two 802.11 PAR review sessions and the 802.16 PAR review session.

B. Heile needs all finished resolutions to comments, in the form of a powerpoint document, using exact words (if email) or duplicated document sheets (if powerpoint or word) with resolutions interspersed, by 1600 local time Wednesday so that he has time to compile as a single document and send by 1700 Wednesday. So will have to finish all work by end of PM1 Wednesday.

Item 1.7: Meeting recessed.

Tuesday PM3 Session canceled.

Wednesday AM1

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| **3** | **Wednesday AM1 - Address PAR/5C Comments** |  |  |  |
| 3.1 | OPEN | Adams | 5 | 8:00 AM |
| 3.2 | Work on comment resolution | All | 115 | 8:05 AM |
| 3.3 | Recess | Adams | 0 | 10:00 AM |

Item 3.1 Open.

Item 3.2 Chair displayed all questions and comments on PAR. There were none on 5C document. There were 8 comments in total from 802.11, none from 802.16, and one individual comment. The 802.11 comments were mostly use of grammar or syntactical differences.

802.11 Comments

5.2 Scope

* typo: PHYsical should probably be Physical.
  + Agree
* Insert “Std.” to IEEE 802.15.4….
  + Agree
* typo: lower case the Medium Access Control….
  + Agree
* What is the range of the channel Bandwidth limits?
  + as narrow as 5khz and potentially as high as 20-30 MHz, consistent with any applicable regulations. (discretion to B Heile)
* Consider changing “accommodates transmit power levels greater than the 1 watt typical of US FCC Part 15 devices” to indicate the standard that you will actually be using (are you targeting Part 80 and/or Part 90 devices?)
  + Prefer to revise by eliminating entire clause. (discretion to B. Heile)
* Change “and to meet United States” to “, primarily to meet United States”
  + Decline. In addition to the subsequent comment, this standard is intended to be applicable worldwide.
* And delete “and similar regulatory requirements in other parts of the world.”
  + Decline. In addition to the previous comment, this standard is intended to be applicable worldwide.

5.5 Need for the Project

* Insert “Std.” to IEEE 802.15.4….
* Agree.

Individual Comment (S. Shellhammer)

* The 802.15.4p PAR uses the phrase "positive train control" in both the title and the scope, however, the phrase is not defined. Please add a definition of "positive train control" to the explanatory notes section.
* Answer
  + We decline the comment, we don’t think the definition belongs in the PAR.
  + A reasonable definition of the term “positive train control” in this context is:
    - The term “Positive Train Control” refers to a positive stop feature of the train control system. It requires an automatically enforced stop at wayside signals displaying a "stop signal“.
  + The term is used in the US law known as the “Railroad Safety Improvement Act of 2008”. The phrase “positive train control system” is defined in US CFR 49, Subtitle V, Part A, Chapter 201, Subchapter II, paragraph 20157 (i) (3) as:
    - Positive train control system.— The term “positive train control system” means a system designed to prevent train-to-train collisions, over-speed derailments, incursions into established work zone limits, and the movement of a train through a switch left in the wrong position.
  + Discretion to B. Heile wrt section 8.1 inclusion.

Changes were drafted into a revised version of the PAR.

* Move to approve changes to document and to empower B. Heile to make adjustments as necessary
  + Moved: John Notor (Notor Research)
  + Second: Clint Chaplin (Samsung)
  + Unanimously approved.

Two further motions were constructed for presentation at the mid-week plenary at Wednesday AM2.

* Motion #1: *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: Jon Adams (Lilee Systems)
  + Second: John Notor (Notor Research)
* Motion #2:  *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: Jon Adams (Lilee Systems)
* Second: Steve Jillings (Semtech)

Mid-week plenary presentation “SGptc Response to PAR-5C Comments” 15-12-0136-01 drafted.

Item 3.3 Recess.

Wednesday PM1

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| **4** | **Wednesday PM1 - PAR/5C Comment Review and Editing** | |  |  |
| 4.1 | OPEN | Adams | 5 | 1:30 PM |
| 4.2 | Finalize comment resolution | All | 115 | 1:35 PM |
| 4.3 | Recess | Adams | 0 | 3:30 PM |

Item 4.1 Open.

Item 4.2 Motions presented in mid-week plenary were approved. Motion #1 approved 38/0/1, Motion #2 approved 43/0/0

Since there is no more work needed to be done for PAR/5C comment review, and since there are no further CfA presentations scheduled for this session, moved and approved to adjourn.

Item 4.3 Adjourn