**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 802.15.4f Active**  |
| Date Submitted | 19, May 2010 |
| Source | Tim HarringtonWherenet/Zebra | Voice: E-mail: timhr950@yahoo.com |
| Re: | 802.15 Interim Meeting in Beijing, PRC (May 2010 session)  |
| Abstract | IEEE 802.15.4f Active RFID System Task Group Minutes  |
| Purpose | Official minutes of the March 2010 Active RFID System TG Meeting Sessions |
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**IEEE 802.15 Interim Meeting – Session**

**IEEE 802.15.4f Active RFID System TG Session Minutes**

**9th Meeting as an 802.15.4f Task Group**

**Beijing, PRC**

**May 2010**

**Monday 17, May 2010**

**PM1 Session**

***At 14:10 Local Time Tim Harrington opened the meeting***

Regular Chair Michael McGinnis of Boeing was not present. Co-chairman Tim Harrington of Wherenet/Zebra, brought the meeting to order in Function Room 9A.

Instructed group not to use Mentor for downloading documents. Use Newton due to narrow pipe.

Call for patents made and no one made responded about any relevant patents.

Guidelines Document IEEE 15.10-1279 00-004f was presented by Chairman

* Other guidelines of the meeting were communicated to the group.
* Role of chair, PAR scope and purpose reviewed.
* Future project meeting dates were discussed.
* Timeline was reviewed.
* Meeting goals were discussed.
* Schedule of meetings for 4f group this week were announced.

Group was encouraged to review the 4e MAC amendments.

Group was reminded to sign in to get attendance, and how to get attendance errors corrected.

Group encouraged to sign up for email reflector and sign up for next meeting July in San Diego.

Officers of committee were listed. Russ Chandler agreed to be acting as secretary for this meeting.

At 14:35 a presentation was given by Koichuro Hayashu of NYK Logisitcs / Monohakobi Technology Institute, from Tokyo, Japan. Document number 15-10-305-01-004f.

At 15:00 document 802.15-10-304-01-004f was presented by Masahi Shimizu of NTT Japan.

***At 15:23 Announced next session is AM 1 on Tuesday May 18th in conference room 9B. Both sessions in the morning are in 9B. The afternoon session will back in 9A. Went into recess.***

**Tuesday 18, May 2010**

**AM1 Session**

***At 8:15 Tim Harrington opened the meeting in room 9B.***

Call for patents reminder.

Minutes from the March Orlando meeting were put up. Russ Chandler of Ubisense moved to accept. Billy Verso seconded. With no objections the minutes were approved.

At 8:20 first presentation by Jason Y. Liao of Westvalley Digital Inc. – Active RFID & the Internet of things about RTLS in China. Document number 802.15-10-0300-02-004f.

At 8:50 Andy Ward of Ubisense presented document number 802.15-10-0248-01-004f. Information relating to default frequencies for 2.4 GHz PHY.

At 9:00 Tim reminded group to record their attendance in the meeting.

At 9:00 Tim brought up -15-09-0804-11-004f-TG4f-Merged-Proposal-DecaWave-GuardRFID-TimeDomain-et al to review each of the previously TBD items.

At 9:05 Billy Verso moved for a vote to close off the Base Mode PHY field TBD (Slide 12). Seconded by Andy Ward. Discussion took place and modifications were made and will be saved to document 802.15-09-0804-12-004f. Modified version was called to vote and 5 votes were taken with 5 votes yes, 0 no and 0 abstentions. (5-0-0).

At 9:14. Discussed Slide 13 (previously merged with FEC mode Slide 18). Extended Mode PHY Fields.

At 9:16 Tim Harrington temporarily stepped down as chair to participate in discussion – Russ Chandler assumed chair temporarily. Tim Harrington proposed byte alignment for data whitening. Andy Ward proposed dropping in a small number of bits (4 bits?) after aver 16 bytes (128 bits) regardless of whether in base or extended mode. Discussion took place between Tim, Andy, Billy Verso of DecaWave, and Michael McLaughlin of DecaWave.

At 9:32, having reached no consensus, chair recognized Michael McLaughlin who brought up document 802.15-10-249-01-004f. 4 pulses per bit convolutional code. Reviewed performance of 16ary PPM + rate ½ gain against base mode gain (slide 17). Tim Harrington expressed concern about moving away from OOK as base modulation module, which had previously been accepted. There was concern that it could add more complexity to the receivers. Concern was raised of how an OOK receiver would accept the data stream and then handle it in software. Proposed to go with simple 4 to 1 or something like this if OOK receivers can still handle Discussion took place and decision to table this discussion until later was made. Michael McLaughlin agreed to come back and explain how OOK receivers could handle this scheme.

***At 10:00 – Meeting went into recess.***

**Tuesday 18, May 2010**

**AM2 Session**

10:40 – Returned from recess. IP/patent reminder made again. UWB PHY Transmissions specification made previously by Adrian Jennings of Time Doman (not present) was reviewed. Discussion took place.

10:55 – Chair recognized Andy Ward who brought up document 802.15-10-0145-04-004f which was previously given by Adrian Jennings at the Atlanta meeting outlining a modulating proposal. Slide 13 Long Range Mode Tx, Long Range Mode Rx – discussed need to change some wording. Andy will get inputs and propose alternative language.

11:05 – TBD for Long range mode PHY fields was discussed. Andy Ward will propose an SFD for this after speaking with Michael McLaughlin. General concepts will be presented at a higher level. Actual simulations will be needed before exact SFD can be proposed in a conference call after the meeting.

11:10 – Long range Mode Tx/Rx discussed again.

11:15 – went into recess so Andy and Michael could prepare presentation on long range mode PHY fields.

11:45 – Returned from recess. Andy to put together proposal outlining a Manchester encoding scheme for extended mode.

11:47 – Slide 17 Postamble – noted that TBD item would be handled in written text later.

11:50 – Text under “6.?? UWB RFID PHY Transmitter Specification” contained in document 802.15-10-0250-00-004f (Adrian’s earlier proposed text) was discussed. Changes were made to the text to describe how this will work for both base and long range modes.

12:25 – Tim reminded everyone to register their attendance.

12:30 Voted on amended text in the 250 document. Billy Verso moved. Andy Ward seconded. Vote was 5-0-0 in favor. Motion passed.

***At 12:30 Meeting went into recess.***

**Tuesday 18, May 2010**

**PM1 Session**

13:45 – Return from recess. Resumed review of 802.15-09-0804-11-004f-TG4f-Merged-Proposal-DecaWave-GuardRFID-TimeDomain-et al to review each of the previously TBD items. Billy Verso called up to review and make edits with group. Reviewed and modified several slides. Extended Mode PHY fields. PHY Header. Changes saved to 802.15-09-0804-12-004f.

15:15 – Andy Ward brought up 802.15-10-192-02-004f for presentation and discussion. Further refinement to be discussed at next session.

***At 15:40 meeting went into recess.***

**Wednesday, 19, May 2010**

**AM1 Session**

8:10 Tim Harrington called meeting to Order. A Call for IP or patents was made and no patents or IP claimed Group was reminded to record attendance.

8:15 Andy Ward presented document 802.15-10-330-00-004f - proposed long range preamble. Discussion ensued. Modifications agreed.

8:30 Tim Harrington passed chairman role to Russ Chandler. Left room.

8:42 Tim Harrington returned resumed as chairman.

8:45 Andy Ward presented revised and presented document 802.15-10-330-01-004f. Reviewed with group and Andy Ward moved to vote. Billy Verso seconded. Votes were unanimous 4-0.

8:48. Document 802.15-09-0804-12-004f was brought up to discuss remaining TBD items. Billy Verso brought up merged document and entire document was reviewed. Revisions were and saved document as 802.15-09-0804-13-004f.

9:40 Tim Harrington temporarily transferred chair to Russ Chandler

9:45 Tim Harrington resumed as chair

10:05 Andy Ward motioned to approve revised merged document.Seconded by Michael McLaughlin. Vote was unanimous 4-0-0. Motion passed.

We established the following teleconference call schedule.

* Weekly, Thursdays, 7am Pacific Time (USA)
	+ June 3, 2010
	+ June 10, 2010
	+ June 17, 2010
	+ June 24, 2010
	+ July 1, 2010
	+ July 8, 2010

 Teleconference call details will be distributed through the TG4f e-mail reflector:

 STDS-802-15-4F@LISTSERV.IEEE.ORG

There was no new business.

There was no old business.

***At 10:10 Russ Chandler made motion to adjourn. There were no objections.***

***Meeting adjourned.***

**IEEE 802.15.4f Administrative Documents:**

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| --- | --- | --- | --- | --- | --- |
| 19-May-10 | 355 | 0 | TG4f Active RFID Minutes - May 2010 Beijing | Tim Harrington (WhereNet / Zebra) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0355-00-004f-tg4f-active-rfid-minutes-may-2010-beijing.docx) |
| 19-May-10 | 347 | 0 | Active RFID Closing Report Beijing China | Tim Harrington (WhereNet / Zebra) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0347-00-004f-active-rfid-closing-report-beijing-china.pptx) |
| 17-May-10 | 279 | 2 | Opening Introduction May 2010 | Tim Harrington (WhereNet/Zebra) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0279-02-004f-opening-introduction-may-2010.pptx) |
| 21-Apr-10 | 247 | 0 | TG4f May Meeting Agenda | Tim Harrington (WhereNet/Zebra) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0247-00-004f-tg4f-may-meeting-agenda.xlsx) |

**May 2010 Presentation documents in IEEE 802.15.4f:**

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| --- | --- | --- | --- | --- | --- |
| 18-May-10 | 804 | 13 | TG4f Merged Proposal: Decawave, Guard RFID, Time Domain, Ubisense, ZES | Michael McLaughlin (Decawave), Dalibor Pokrajac (GuardRFID), Adrian Jennings begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Time Domain), Andy Ward begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Ubisense), Tim Harrington (Zebra Enterprise Solutions) | [Download](https://mentor.ieee.org/802.15/dcn/09/15-09-0804-13-004f-tg4f-merged-proposal-decawave-guard-rfid-time-domain-ubisense-zes.pptx) |
| 18-May-10 | 330 | 1 | Long-range mode preamble design | Andy Ward begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Ubisense) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0330-01-004f-long-range-mode-preamble-design.ppt) |
| 18-May-10 | 330 | 0 | Long-range mode preamble design | Andy Ward begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Ubisense) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0330-00-004f-long-range-mode-preamble-design.ppt) |
| 18-May-10 | 250 | 1 | Draft Oscillator Specification Text | Adrian Jennings begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Time Domain) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0250-01-004f-draft-oscillator-specification-text.docx) |
| 18-May-10 | 804 | 12 | TG4f Merged Proposal: Decawave, Guard RFID, Time Domain, Ubisense, ZES | Michael McLaughlin (Decawave), Dalibor Pokrajac (GuardRFID), Adrian Jennings begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Time Domain), Andy Ward begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Ubisense), Tim Harrington (Zebra Enterprise Solutions) | [Download](https://mentor.ieee.org/802.15/dcn/09/15-09-0804-12-004f-tg4f-merged-proposal-decawave-guard-rfid-time-domain-ubisense-zes.pptx) |
| 18-May-10 | 192 | 5 | Integration lengths for extended-range PHY | Andy Ward begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Ubisense) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0192-05-004f-integration-lengths-for-extended-range-phy.ppt) |
| 18-May-10 | 192 | 4 | Integration lengths for extended-range PHY | Andy Ward begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Ubisense) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0192-04-004f-integration-lengths-for-extended-range-phy.ppt) |
| 17-May-10 | 248 | 2 | Information relating to default channel frequency selection for 802.15.4f 2.4GHz PHY | Andy Ward begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Ubisense) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0248-02-004f-information-relating-to-default-channel-frequency-selection-for-802-15-4f-2-4ghz-phy.ppt) |
| 17-May-10 | 248 | 1 | Information relating to default channel frequency selection for 802.15.4f 2.4GHz PHY | Andy Ward begin\_of\_the\_skype\_highlighting     end\_of\_the\_skype\_highlighting (Ubisense) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0248-01-004f-information-relating-to-default-channel-frequency-selection-for-802-15-4f-2-4ghz-phy.ppt) |
| 17-May-10 | 304 | 1 | Data rate availability in 433MHz with in Japanese RR | Masashi Shimizu NTT | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0304-01-004f-data-rate-availability-in-433mhz-with-in-japanese-rr.ppt) |
| 17-May-10 | 305 | 1 | Real use situation 2.4GHz in Typical Japanese Container Yards | Koichiro Hayashi (NYK Line) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0305-01-004f-real-use-situation-2-4ghz-in-typical-japanese-container-yards.ppt) |
| 17-May-10 | 305 | 0 | Real use situation 2.4GHz in Typical Japanese Container Yards | Koichiro Hayashi (NYK Line) | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0305-00-004f-real-use-situation-2-4ghz-in-typical-japanese-container-yards.ppt) |
| 17-May-10 | 304 | 0 | Data rate availability in 433MHz with in Japanese RR | Masashi Shimizu NTT | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0304-00-004f-data-rate-availability-in-433mhz-with-in-japanese-rr.ppt) |
| 16-May-10 | 300 | 1 | Interactive RFID Technolog | Jason Liao Ph.D Changzheng Sun Wenfeng wang | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0300-01-004f-interactive-rfid-technolog.doc) |
| 16-May-10 | 300 | 0 | Interactive RFID Technolog | Jason Liao Ph.D Changzheng Sun Wenfeng wang | [Download](https://mentor.ieee.org/802.15/dcn/10/15-10-0300-00-004f-interactive-rfid-technolog.doc) |

End.