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**IEEE P802.15**  
**Wireless Personal Area Networks**

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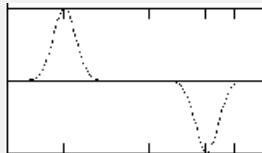
Project	IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)	
Title	Task Group 4z meeting minutes for Sept 2018	
Date Submitted	13-Sep-18	
Source	[Benjamin Rolfe] [Blind Creek Associates] [Benjamin A. Rolfe] [BCA]	E-mail: [ben.rolfe @ ieee.org ]
Re:	Meeting minutes	
Abstract	Task Group minutes	
Purpose	Document task group meeting	
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**IEEE Project 802**  
**Working Group 15, Task Group 4z**  
**Meeting Minutes: Sept 2018 802 Wireless Interim**  
**Kona, Hi, USA**

Task Group Recording Secretary: Benjamin A. Rolfe (Blind Creek Associates)

Task Group Chair: Tim Harrington (Pro-ID Consulting)

# Task Group 4z



## Enhanced Impulse Radio

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**Monday, September 10 2018 (AM2)****Called to Order**

TG4z is called to order at 10:40 Local Time (San Diego). Chair and Recording secretary are present.

**Opening Report and Meeting Preamble**

Chair presents Meeting preamble slides, document # 15-18-0424-01.

**Agenda**

Agenda: Review and approved the agenda Document 15-18-0397-02.

<https://mentor.ieee.org/802.15/dcn/18/15-18-0397-02-004z-tg4z-agenda-sept-2018.xlsx>

Motion to approve agenda document 15-18-0397-02

Moved by: Tushar Shah; Second: Frank Leong.

Approved by unanimous consent.

**IEEE Patent and Meeting Conduct Presentation**

Chair presents the IEEE patent policy information. (<https://mentor.ieee.org/802.15/dcn/18/15-18-0317-01-004z-tg4z-opening-slides.ppt>)

Chair directs attendees to review the meeting preamble slides via the link on the 802.15 home page: <http://standards.ieee.org/board/pat/pat-slideset.ppt>.

Chair presents slides 1-5. Attendees are informed that:

- The IEEE's patent policy is consistent with the ANSI patent policy and is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
- Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
- There may be Essential Patent Claims of which the IEEE is not aware. Additionally, neither the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.

The foregoing information was provided; the chair provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard: No responses were heard.

## Presentations and Discussion

### **Discussion: 6 GHz Coexistence**

Tim leads a discussion on coexistence issues and possibilities. Straw poll: Do you believe that technical strategies and techniques to achieve acceptable coexistence between 802.11 and 802.15-UWB in the 6 GHz band? Yes: 7; no: 0; not sure: 2.

Discussion on various possibilities. Developing use cases would be helpful evaluate what sort of techniques might work where.

Summary: Tim recommends we hold some ad-hoc meetings to work on coexistence strategies. Tim suggests we provide some time later in the week to discuss specific actions after people have had time to think about it.

Pat suggests 3 support topics be developed into documents:

1. Justification for UWB current and near term forecasts – size of UWB opportunity;
2. What are the impacts if 802.11 allowed to operate (Billy's doc)
3. Elevator pitch

Ad-hoc discussions on how to get these done.

Action: Specific actions to be decided in a subsequent session.

### **Presentation: Suggested changes to include CH #3 for enhancing LRP UWB**

<https://mentor.ieee.org/802.15/dcn/18/15-18-0432-00-004z-suggested-changes-to-include-ch-3-for-enhancing-lrp-uw-b.pptx>

Presented by Huan-Bang Li (NICT). Further details on proposal in July which was accepted into the baseline. Identifies specific changes to 802.15.4-2015 required; Provides input to technical editor to incorporate into the draft. Several clarifications identified, will be made in r1.

Action: Editor to incorporate (r1) into the draft.

### **Prior minutes**

Approval of May meeting minutes, document 15-18-0320-00.

<https://mentor.ieee.org/802.15/dcn/18/15-18-0320-00-004z-tg4z-may-2018-minutes.pdf>

Following neither discussion nor objection, approved by unanimous consent.

**Recess**

Recess @ 0012:29 local.

**Tuesday, September 10 2018 (AM1)**

Called to order 08:40 local. Chair and recording secretary are present.  
Meeting reminder given (review scope and conduct).

**Presentations and Discussion**

***Presentation: Spectrum sharing and payload capacity***

<https://mentor.ieee.org/802.15/dcn/18/15-18-0408-01-004z-spectrum-sharing-and-payload-capacity.pptx>

Presented by David Barras (3db Access).

***Presentation: Figure of Merit for HRP UWB data modulations***

<https://mentor.ieee.org/802.15/dcn/18/15-18-0438-00-004z-figure-of-merit-for-hrp-uwb-data-modulations.pptx>

Presented by Tony Fagan (Decawave).

**Schedule Note**

AM2 will start after end of 802.18 meeting so that people can attend both.

**Recess**

Recess @ 10:00 local.

**Tuesday, September 10 2018 (AM2)**

Meeting called to order: 11:30. Chair and recording secretary are present.

**Presentations and Discussion**

***Presentation: 11ax documents***

Ben leads review of the latest from 802.11, presenting the following:

A proposed set of resolutions to CAD comments:

<https://mentor.ieee.org/802.11/dcn/18/11-18-1532-00-00ax-tgax-coexistence-assurance-document-comments.docx>

The updated revision of the coexistence assurance document:

<https://mentor.ieee.org/802.11/dcn/16/11-16-1348-04-00ax-coexistence-assurance.docx>

Technical discussion follows (Q&A). General conclusions:

- Revised CAD adds only a regulatory reference, not specific mention of coexistence in the presence of 802.15.4 UWB
- Perceived as not responsive to the comments
- Comment resolutions do not address the specific comments provided
- It is noted (numerous times) by Ben that this is a work in progress

Actions: Ben to review 802.19 recirculation process.

Recess @ 12:30 local.

### **Wednesday, Sept 12 2018 (AM1)**

Called to order at 08:35 local. Chair and recording secretary are present.  
Meeting reminder given (review scope and conduct).

#### **Agenda Discussion**

Reviewed agenda, presentation order, additional presentation requests. Rev 3 posted.  
Motion to approve amended agenda:  
Moved Ben, second: Frank.  
Following neither discussion nor objection motion carries by unanimous consent.

#### **Presentations and Discussion**

##### ***Presentation: Inclusion of UWB Secure Service Information Element***

Document # 15-18-0458, Aditya V Padaki (Samsung Research America)  
<https://mentor.ieee.org/802.15/dcn/18/15-18-0458-00-004z-inclusion-of-uwb-secure-service-information-element.ppt>  
Technical discussion follows.

##### ***Presentation: Adaptive Preamble Length Mode for UWB HRP Ranging***

Document # 15-18-0459, Aditya V Padaki (Samsung Research America)  
<https://mentor.ieee.org/802.15/dcn/18/15-18-0459-00-004z-adaptive-preamble-length-mode-for-uwb-hrp-ranging.ppt>  
Technical discussion follows.

##### ***Presentation: EIRP Considerations***

<https://mentor.ieee.org/802.15/dcn/18/15-18-0457-00-004z-eirp-considerations.pptx>  
Frank Leong (NXP Semiconductors)  
Technical discussion follows.

***Presentation: Pulse energy considerations***

<https://mentor.ieee.org/802.15/dcn/18/15-18-0460-00-004z-pulse-energy-considerations.pptx>

Tony Fagan (Decawave).

Technical discussion follows.

Actions: Participants will discuss questions raised in discussion and provide feedback to the group after lunch.

Recess @ 10:10

**Wednesday, September 12 2018 (PM1)**

Called to order at 13:38 Local time. Chair and recording secretary are present.

Work items from Pat's suggestion:

(Background importance of a good coexistence story for all 802 wireless):

1. Justification for UWB current and near term forecasts – size of UWB opportunity;
2. What are the technical impacts if 802.11 allowed to operate at high power
3. Elevator pitch

Break into teams to brainstorm and work on each re-converge.

Group 1 coordinator: Luc

Group 2 coordinator: Tony

Group 3 coordinator; Tim

Group 1 and 2 outcome:

See document 15-18-0486-01.

<https://mentor.ieee.org/802.15/dcn/18/15-18-0486-01-004z-uw-coexistence-working-session.docx>

Group 3:

See document 15-18-0464-01.

<https://mentor.ieee.org/802.15/dcn/18/15-18-0464-01-004z-uw-protection-elevator-pitch.docx>

Recessed @ 15:50

**Thursday, September 13 2018 (AM1)**

Called to order at 08:30. Chair and recording secretary present. Meeting reminder given.

**Work in Progress**

To facilitate completing work from yesterday, we will recess for 1 hour (until 09:30 local) and split into 2 ad-hoc groups to work on (1) LRP merge, and (2) integrate and polish “Background importance of a good coexistence story for all 802 wireless” brain-storming from yesterday.

Following ad-hoc gatherings, called back to order; chair announces that ad-hoc work is still in progress so we will recess until AM2 (10:30).



**Thursday, September 13 2018 (AM2)**

Called to order at 010:30. Chair present. Meeting reminder given.

**Presentations and Discussion**

15-18-0477-00-004z-hrp-uw-b-phy-enhanced-mode-consensus – Billy, Frank, Jochen.

**Motions:**

Motion to accept document 15-18-0477-00-004z-hrp-uw-b-phy-enhanced-mode-consensus based on document 15-18-0375-00 to extend the baseline for the HRP enhancements.

- Moved: Frank
- Seconded: Billy
- Following neither discussion nor objection motion carries by unanimous consent.

Motion to include document 15-18-0458-00-004z-inclusion-of-uw-b-secure-service-information-element into the HRP Baseline draft document 15-18-0477-00-004z to extend the baseline for the HRP enhancements.

- Moved: Frank
- Seconded: Tim
- Following neither discussion nor objection motion carries by unanimous consent.

Motion to include document 15-18-0408-01-004z-spectrum-sharing-and-payload-capacity and 15-18-0432-01-004z-suggested-changes-to-include-ch-3-for-enhancing-lrp-uw-b into the baseline LRP draft.

- Moved: David
- Seconded: Bernd
- Following neither discussion nor objection motion carries by unanimous consent.

**Telecon Schedule**

Agreement: Editors meetings scheduled for every 2 weeks at 8:00 AM PDT on Tuesday starting Oct 2.

**AOB**

None heard.

**Adjourn**

Adjourned @ 17:15.



Figure 1: Good Coexistence Scenario