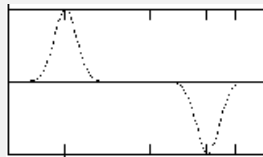


IEEE P802.15
Wireless Personal Area Networks

Project	IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)	
Title	4z Comment Resolution Group meeting minutes	
Date Submitted	08-Oct-2019	
Source	[Benjamin Rolfe] [Blind Creek Associates]	E-mail: [ben.rolfe @ ieee.org]
Re:	Comment Resolution, 802.15.4z	
Abstract	Minutes of the Comment Resolution Group	
Purpose	Document meetings	
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.	
Release	The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15.	

IEEE Project 802
Working Group 15, Amendment 15.4z
Meeting Minutes: Comment Resolution Group
27-October through 07-November 2019

Task Group 4z



Enhanced Impulse Radio

Task Group Chair, CRG Chair: Tim Harrington (Pro-ID Consulting, UWB Alliance)

Task Group Recording Secretary, Vice Chair: Benjamin A. Rolfe (Blind Creek Associates, UWB Alliance, NXP¹)

Task Group Lead Technical Editor: Billy Verso (Decawave)

CRG Comment Resolution Editors: Clint Chaplin (Samsung), Billy Verso, Benjamin A. Rolfe

CRG Ballistic Trajectory Advisor: Rocket J. Squirrel

CRG Members:

Member	Affiliation	Member	Affiliation
Aditya Padaki	Samsung	Ayman Naguib	Apple
Benjamin Rolfe	BCA	Billy Verso	Decawave
Boris Danev	3dB-technologies	Brima Ibrahim	NXP Semiconductors
Clint Chaplin	Samsung	David Barras	3dB-technologies
Frank Leong	NXP Semiconductors	Jochen Hammerschmidt	Apple
Mingyu Lee	Samsung	Paul Kettle	Decawave
Peter Sauer	Microchip	Tim Harrington	Pro-ID Consulting
Zheda Li	Samsung		

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¹ See <http://www.blindcreek.com/pages/affiliations.pdf> for affiliations by 802 activity

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Meeting Preamble

The following was presented at the start of each CRG meeting.

IEEE Patent and Meeting Conduct Presentation

Chair presents the IEEE patent policy information.

Chair directs attendees to review the meeting preamble slides via the link on the 802.15 home page:

<https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>.

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.

At each meeting, 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.

Friday September 27 2019

Call to Order

Called to order 0702 PDT by acting chair Benjamin Rolfe.

Meeting Preamble: Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements. Chair presents *IEEE Patent and Meeting Conduct Presentation* as given in **Meeting Preamble**.

No disclosures are heard.

Quorum requirement is not met (5/15).

Agenda

Proposed Agenda

1. Review status
2. Editor questions and discussion
3. Any other business

Following neither discussion nor objection, agenda approved by unanimous consent.

Editor Status

Billy Verso is not able to make the call, reported via email. There are several questions he posted to the reflector to take up.

Discussion of Editor Questions

Reviewed the comments marked with ISSUE by Billy and prepared clarifications to provide to the editor.

r1-0191 and r1-0192: As previously discussed, the issue with "should" or "shall" is that the RCM is populated by the higher layer and so normative language defining the behavior of the higher layer is inappropriate. Propose slight change to Billy's suggested wording to be consistent with how this has been handled elsewhere: "In each case, the RCM can be used to indicate the type of ranging that is used."

r1-0196: Propose to change the sentence on page 28, line 26 "However, the responders will respond after fixed reply times FRT1, FRT2, ..., FRTN." to "The ith responder will respond at fixed reply time FRT_i shown in Figure 19 where i is from 1 to the number of responders." (Editor to format the i in FRT_i as subscript)

r1-0230, r1-0231: Figures have been provided (Aditya).

r1-0447: The resolution is Rejected with detail "The MMRCR field is valid in all ranging rounds."

r1-0448 and r1-0672: The new figures have been provided.

r1-0873: Editorial style question. After removing the redundant text and apply the remaining deletions, the clause has no content. For D3 retain 19.8 showing the deleted text. This conforms to the IEEE Standards Style Manual for an amendment as the correct way to show the content of the sub-clause is to be removed, as confirmed by WG Technical Editor and IEEE Editorial Staff.

Recess

Recess at 0758 PDT

Tuesday October 1 2019

Call to Order

Called to order 0709 PDT by acting chair Benjamin Rolfe.

Meeting Preamble: Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements. An opportunity is given for disclosures.

No disclosures are heard.

Attendance:

Quorum requirement is met (8/15).

Agenda

Proposed Agenda:

1. Recirculation plans
2. AoB

Following neither discussion nor objection, agenda approved by unanimous consent.

Status of Recirculation

Editor reports > 99% done. Working on the MAC SAP ranging parameters reorganization which completes remaining technical comments, and a few editorials. Expect to complete end of today or by early tomorrow AM. Will start the recirculation as soon as possible after draft is completed.

Note: recirculation was approved upon completion of edits in the Sept. meeting.

Recess

Recess at 07:21 PDT.

Thursday, October 3, 2019

Called to order 15:32 by acting chair Benjamin Rolfe.

Meeting Preamble: Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements.

No disclosures are heard.

Quorum requirement is not met (6/15).

Agenda

Proposed Agenda:

1. LB162 Planning
2. AoB

Following neither discussion nor objection agenda is approved by unanimous consent.

Discussion

Discussion of schedule. The Ballot was delayed another day and so will close on 18-Oct (the Friday following the BRC face to face meeting scheduled). To complete a third recirculation by the November meeting, comment resolution and editing must be completed in a week following. The strategy is to reach out to LB162 voters who have provide the most comments and request that, if possible, they submit comments early so that the BRC and editor may get a head start.

Given the risk of not having comments received by the start of the face to face (14-Oct) to fill 4 full days, it is suggested that for those who must travel a long distance, virtual attendance is sufficient, and those who are local will attend in person. This minimizes the impact of finishing early.

Clint will circulate via the reflector.

Ben will reach out to the identified voters.

AoB

None.

Recess

Recessed at 03:54pm PDT.

Tuesday, October 8, 2019

Called to order at 07:05 PDT by [someone].

Meeting Preamble: Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements.

No disclosures are heard.

Quorum requirement met (10/15).

Agenda

Proposed Agenda:

1. Ballot Status and Plan
2. CRG Meetings next week
3. Discussion
4. AoB

Following neither discussion nor objection agenda [will be] approved by unanimous consent.

Status

Ballot underway. Outreach to solicit early comments completed. Replies from most of CRG received.

CRG Meetings Week of 14-Oct

Plan per last week. Logistics emails should be out later this week. More precise agenda will be put together as we receive comments. Call in will be as last time. Commence 9am Monday.

Discussion

Email discussion on a couple issues found so far are discussed. Regarding email on the resolution to r1-0746, it is noted this is minor and editor will submit a comment to clarify. Regarding negative values of AoA, a proposal is in the works which will be ready for review by the end of the week.

AoB

Planned call for Thursday, Oct 10: The group decides that the call is not needed and so we can recess until 09:00 PDT Oct 14th.

Recess

Recess at 07:42 PDT.

Monday, October 14, 2019

Called to order 09:25 PDT by Chair Tim Harrington.

Meeting Preamble: Chair presents *IEEE Patent and Meeting Conduct Presentation* as given in **Meeting Preamble**.

No disclosures are heard.

Quorum requirement met (11/15).

Agenda

Proposed agenda:

1. Getting teleconference link up and running
2. Comment Resolution
3. AoB

Following neither discussion nor objection, agenda approved by unanimous consent.

Comment Resolution

Comments received so far on ballot are captured in doc #15-19-0476-03

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-03-004z-lb162-comments.xlsx>

Reviewed and dispatched comments submitted so far, as captured in rev 04.

Discussed comments from top to bottom.

Recess

Recess at 12:15 PDT

Resumed

Called back to order at 13:05 PDT

Comment Resolution

Continued comment resolution. Clint to post results in rev 05.

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-05-004z-lb162-comments.xlsx>

Recess

Recess at 05:15 PDT

Tuesday, October 15, 2019

Called to order 09:15 PDT by Chair Tim Harrington.

Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements.

No disclosures are heard.

10/15 Quorum been met

Agenda

Proposed agenda:

1. Editor Status
2. Comment Resolution

Following neither discussion nor objection agenda is approved by unanimous consent.

Editor Status

Editor has gotten through half of the editorials and technical marked as ready.

Billy update comment XLS with progress in rev 06.

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-06-004z-lb162-comments.xlsx>

Comment Resolution

Comment resolution continues. Results of morning progress in rev 07.

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-07-004z-lb162-comments.xlsx>

Recess

Recess at 12:15 PDT

Resumed

Called back to order at 13:06 PDT

Comment Resolution

Comment resolution continues. Results of morning progress in rev 08.

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-08-004z-lb162-comments.xlsx>

Recess

Recess at 17:12 PDT

Wednesday, October 16, 2019

Called to order 09:12 PDT by chair Tim Harrington.

Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements.

No disclosures are heard.

Quorum is met (13/15)

Agenda

Proposed agenda:

1. Status
2. Comment Resolution

Following neither discussion nor objection agenda is approved by unanimous consent.

Status

Technical editor provides status. Progress captured comment XLS rev 09:

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-09-004z-lb162-comments.xlsx>

Discussion of items marked ISSUE by TE; results captured in comment XLS.

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-10-004z-lb162-comments.xlsx>

Comment Resolution

Comment resolution continues.

Recess

Recess at 12:05 PDT.

Resumed

Called back to order at 13:04 PDT

Comment Resolution

Comment resolution continues. Results of morning progress in rev 11:

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-11-004z-lb162-comments.xlsx>

Recess

Recess at 17:15 PDT

Thursday, October 17, 2019

Called to order 09:18 PDT by Chair Tim Harrington.

Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements.

No disclosures are heard.

Quorum is met (14/15)

Agenda

Proposed agenda:

1. Status
2. Comment resolution and discussions

Following neither discussion nor objection agenda is approved by unanimous consent.

Status

Editor updated XLS with progress:

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-12-004z-lb162-comments.xlsx>

Received additional votes with comment. Billy has looked over the editorials and so far no issues.

Comment Resolution Discussion

Discussed pulse shape comments.

Assigned newly received comments.

Resolved comments.

AM Progress in:

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-13-004z-lb162-comments.xlsx>

Recess

Recess at 12:30 PDT

Resumed

Called to order at 13:15 PDT

Comment Resolution Continued

Results captured in r14

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-14-004z-lb162-comments.xlsx>

Recess

Recess at 16:55 PDT

Monday, October 21, 2019

Ad Hoc called to order 08:02 PDT by Chair Tim Harrington.

Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements.

No disclosures are heard.

This is an ad-hoc working call, there is no quorum.

Agenda

Proposed agenda:

1. Status
2. Comment resolution work

Following neither discussion nor objection agenda is approved by unanimous consent.

Status

Work since Thursday meeting by Billy and Clint; progress captured in:

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-16-004z-lb162-comments.xlsx>

Discussion

Outstanding comments on pulse shape: still working on the language.

Comments with editor issues: r2-0334 Billy has applies but disagrees. To discuss on the CRG call tomorrow with all relevant people present.

R2-0454 on defaults for SDS parameters. A proposed resolution was sent to the email list; after discussion, that resolution is recommended.

Results in:

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-17-004z-lb162-comments.xlsx>

Clint will do clean-up on the XLS before tomorrow's CRG call.

Recess

Recess at 08:50 PDT

Tuesday, October 22, 2019

Called to order 07:03 PDT by Chair Tim Harrington.

Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements.

No disclosures are heard.

Quorum requirement met (12/15).

Agenda

Proposed agenda:

1. Status
2. Comment Resolution

Following neither discussion nor objection agenda is approved by unanimous consent.

Status and Comment Resolution

Editor: Applying comments; handed comment XLS pen back to Clint who updated:

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-18-004z-lb162-comments.xlsx>

Billy updated with his progress and marked a few new as Issue:

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-19-004z-lb162-comments.xlsx>

Discussed comments marked "Issue" by the editor and resolved, captured in r20.

<https://mentor.ieee.org/802.15/dcn/19/15-19-0476-20-004z-lb162-comments.xlsx>

Recess

Recess at 0759 PDT

Thursday, October 24, 2019

Called to order 1503 PDT by Chair Tim Harrington.

Attendees are reminded of the IEEE Patent Policy and Meeting Conduct requirements.

No disclosures are heard.

Attendance:

Quorum requirement met (9/15).

Other: Kangin.

Agenda

Proposed agenda:

1. Status
2. Comment resolution discussion
3. Comment approval
4. Draft recirculation approval
5. AoB

Following neither discussion nor objection agenda is approved by unanimous consent.

Discussion

Comment requests update of document 15-19-0423 after the draft stabilizes (i.e. sometime in the future), and then a change in the draft to reference the revised version. Editor has a problem with "Accept" as while we agree, the comment is requesting a future action, and we cannot promise or predict the future. Resolution suggested is Reference doc 0423 without version number, instead specify "latest version of". Agreed with change to the language details as deemed necessary by the editor.

Annex H, RSKD IE: Comment correctly identifies an ordering problem. Assigned to Billy, who after study and thought proposes change figure 61 instead of Annex H. Frank agrees to change field order for "present" flags and V fields so figure matches Annex H, it is a logical order.

Motions***Comment Resolutions Motion***

Move to approve comment resolutions content in 15-19-0476-0023.

Moved by: Ben, Second by: Clint

Following neither discussion nor objection, motion carries by unanimous consent.

Recirculation Motion

Move that 802.15 WG start a WG recirculation requesting approval of CA document 15-18-0523-06 and document P802.15.4z-D4 and to forward document P802.15.4z-D4 to Standards Association ballot.

Moved by Clint Chaplin, Second by Frank Leong

Count: 8 yes, 0 no, 0 abstain

Motion carries.

BRC Vote details:

Member	Vote	Member	Vote
Aditya Padaki	Yes	Ayman Naguib	Yes
Benjamin Rolfe	Yes	Billy Verso	Yes
Boris Danev	Not in Attendance	Brima Ibrahim	Not in Attendance
Clint Chaplin	Yes	David Barras	Not in Attendance
Frank Leong	Yes	Jochen Hammerschmidt	Not in Attendance
Mingyu Lee	Yes	Paul Kettle	Not in Attendance
Peter Sauer	Not in Attendance	Tim Harrington	Did not Vote
Zheda Li	Yes		

Recess

Recess at 15:49 PDT

Tuesday, October 29, 2019

Called to order *TBD* PDT by TBD.

Agenda

Proposed agenda:

1. TBD

Discussion

TBD

Recess

Recess at *TBD* PDT

Thursday, October 31, 2019

Called to order *TBD* PDT by TBD.

Agenda

Proposed agenda:

1. TBD

Discussion

TBD

Recess

Recess at *TBD* PDT

Tuesday, November 05, 2019

Called to order *TBD* PDT by TBD.

Agenda

Proposed agenda:

1. TBD

Discussion

TBD

Recess

Recess at *TBD* PDT

Thursday, November 07, 2019

Meeting canceled by notice to the email reflector.

Gratuitous Squirrel Image



Figure 1: CRG Ballistic Trajectory Advisor at Work

CRG Attendance

CRG Roll Call	27-Sep	1-Oct	3-Oct	8-Oct	14-Oct	15-Oct	16-Oct	17-Oct	21-Oct	22-Oct	24-Oct
Aditya Padaki	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ayman Naguib	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ben Rolfe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Billy Verso	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Boris Danev	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	No
Brima Ibrahim	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Clint Chaplin	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
David Barras	No	No	No	No	No	No	Yes	Yes	Yes	No	No
Frank Leong	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Jochen Hammerschmidt	No	No	No	No	No	No	No	Yes	Yes	Yes	No
Mingyu Lee	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Paul Kettle	No	No	No	No	No	Yes	Yes	Yes	No	No	No
Peter Sauer	No	No	No	No	No	No	No	No	No	No	No
Tim Harrington	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Zheda Li	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Attendance	5	8	6	11	11	10	13	14	11	12	9
Quorum	NO	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES

Other attendees

Tero	-	-	-	-							
Kangin Yoon	Yes	Yes	Yes	Yes				Yes	Yes	Yes	
Rich Foster	-	-	-	Yes							