**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **<IEEE802.15 SG 4ab (NG-UWB) minutes>** |
| Date Submitted | [19 May 2021] |
| Source | [Clint Powell][Facebook][Chandler, AZ] | Voice: [+1.480.586.8457]Fax: [--]E-mail: [cpowell@ieee.org] |
| Re: | [May 802.15 Interim Meeting held virtually] |
| Abstract | [IEEE 802.15 Study Group 4ab minutes] |
| Purpose | [Official minutes of IEEE 802.15 SG 4ab] |
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# Wednesday, 12 May 2021 – PM2

**Opening**

**3:05 PM** SG Chair, Ben Rolfe (Blind Creek Associates), called the meeting to order and opened the SG Agenda (*15-21-0250-02-04ab*)

* > 80 attendees joined the meeting

## Legal

SG Chair reminded the group of the following from the 802.15 opening meeting:

* IEEE-SA patent policy
* Submission of Letter(s) 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.
	+ No essential patent claims were brought forth
* IEEE Anti-Trust statement
* IEEE Copyright Policy, including Code of Ethics

**Announcements**

Don’t forget to turn on your mic and announce your name and affiliation before you speak.

WG Chair announced the agenda doc. # for the week. After reviewing and making a few changes to the agenda, no one objected to approving the modified agenda
*(doc. # 15-21-0250-03-04ab)*.

## SG Approvals

Chair reviewed the previously approved PAR and CSD (per request of the WG Chair). Chair then asked for a re-affirmation of the 2 docs.

*MOTION: “Request that the PAR and CSD contained in documents [15-21-0126-01] and [15-21-0047-05], respectively, be approved for submission to the WG for its approval and that the EC be requested to forward the PAR to NesCom.”*

Moved: Clint Powell (Facebook)

Second: Phil Beecher (Wi-SUN Alliance)

Discussion: None

Motion carried by unanimous consent

**SG Meeting Activity**

Using the meeting slides *(doc. # 15-21-0266-00-04ab)* Chair proceeding with running the meeting.

Chair gave a presentation *(doc. # 15-21-0268-00-04ab)* regarding the Technical Guidance Framework

* Several questions were asked of and answered by the Chair along with help from others
* It was suggested that a checklist be used with technical presentations that identifies which aspect(s) of the PAR are being addressed by the presentation, including those areas not specifically called out in the PAR
	+ There were no objections to following that approach

Chair recessed the mtg. @ 3:30pm, until Thurs. PM1

# Thursday, 13 May 2021 – PM1

**Opening**

**1:05 PM** SG Chair, Ben Rolfe (Blind Creek Associates), called the meeting to order and opened the SG Agenda (*15-21-0250-03-04ab*)

* > 70 attendees joined the meeting

## Legal

SG Chair reminded the group of the following from the 802.15 opening meeting:

* IEEE-SA patent policy
* Submission of Letter(s) 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.
	+ No essential patent claims were brought forth
* IEEE Anti-Trust statement
* IEEE Copyright Policy, including Code of Ethics

**Announcements**

Don’t forget to turn on your mic and announce your name and affiliation before you speak.

WG Chair announced the agenda doc. # for the week. After reviewing and making a few changes to the agenda, no one objected to approving the modified agenda
*(doc. # 15-21-0250-04-04ab)*.

**SG Meeting Activity**

Using the meeting slides *(doc. # 15-21-0266-00-04ab),* Chair proceeding with running of the meeting.

Fred Nabki (SPARK Microsystems) gave a presentation *(doc. # 15-21-0277-00-nuwb)* on *“UWB for data streaming use cases”*

* Several questions were asked of and answered by the presenter

Stuart Card (presenting from offices of AX Enterprise) gave a presentation *(doc. # 15-21-0272-00-nuwb)* on *“Some UAS Use Cases for UWB”*

* Several questions were asked of and answered by the presenter

Tom McKay (Global Foundries) gave a presentation *(doc. # 15-21-0276-00-04ab)* on *“Receiver Requirements for Realistic Interference Scenarios”*

* Several questions were asked of and answered by the presenter

Jochen Hammerschmidt (Apple) put up an example of an Objectives Checklist Table, a topic brought up on the WED PM2 meeting

* Several attendees were in violent agreement of including such information in presentations and using the aggregate of all information to help drive collaboration, consensus, etc.

Chair recessed the mtg. @ 2:57pm, until Mon. AM2

# Monday, 17 May 2021 – AM2 (Joint .4ab/.14/.15 Session)

**Opening**

**11:05 AM** SG Chairs, Ben Rolfe (Blind Creek Associates), Clint Powell (Facebook), Phil Beecher (WiSun), called the meeting to order and opened the SG Agenda (*15-21-0243-01-0014*)

* > 50 attendees joined the meeting

## Legal

SG Chair reminded the group of the following from the 802.15 opening meeting:

* IEEE-SA patent policy
* Submission of Letter(s) 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.
	+ No essential patent claims were brought forth
* IEEE Anti-Trust statement
* IEEE Copyright Policy, including Code of Ethics

**Announcements**

Don’t forget to turn on your mic and announce your name and affiliation before you speak.

**SG Meeting Activity**

Reviewed draft 802.15.14 and draft 802.15.15 PARs side-by-side and updated both based on comments/feedback from participants.

Reviewed changes to 802.15.4 Cor1 PAR

Started update to 802.15.4 CSD – completed on 802.15.14 mtg. immediately after this following one.

Chairs recessed the mtg. @ 1pm, until Mon. PM2

# Monday, 17 May 2021 – PM2

**Opening**

**3:05 PM** SG Chair, Ben Rolfe (Blind Creek Associates), called the meeting to order and opened the SG Slides (*15-21-0266-01-04ab*)

* > 50 attendees joined the meeting

## Legal

SG Chair reminded the group of the following from the 802.15 opening meeting:

* IEEE-SA patent policy
* Submission of Letter(s) 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.
	+ No essential patent claims were brought forth
* IEEE Anti-Trust statement
* IEEE Copyright Policy, including Code of Ethics

**Announcements**

Don’t forget to turn on your mic and announce your name and affiliation before you speak.

Chair opened with and updated agenda:

*(doc. # 15-21-0250-05-04ab)*

After reviewing and making a few changes to the agenda, no one objected to approving a modification to the updated agenda:
*(doc. # 15-21-0250-06-04ab)*

**SG Meeting Activity**

Using the meeting slides *(doc. # 15-21-0266-01-04ab),* Chair proceeding with running of the meeting.

Ersen Ekrem (Apple) gave a presentation *(doc. # 15-21-0292-00-04ab)* on *“Opportunities for improved UWB/NB coordination”*

* Many questions were asked of and answered by the presenter

Frank Leong (NXP) gave a presentation *(doc. # 15-21-0289-00-04ab)* on *“Coupling between NB and UWB”*

* Several questions were asked of and answered by the presenter

Billy Verso (Qorvo) gave a presentation *(doc. # 15-21-0294-00-04ab)* on *“Input to tech requirements for the NG UWB project”*

* Several questions were asked of and answered by the presenter

Chair gave an updated presentation *(doc. # 15-21-0268-02-04ab)* regarding the Technical Guidance Framework

Chair recessed the mtg. @ 4:57pm

# Tues, 18 May 2021 – AM2

**Opening**

**11:09 AM** SG Chair, Ben Rolfe (Blind Creek Associates), called the meeting to order

Chair opened with and updated agenda:

*(doc. # 15-21-0250-07-04ab)*

* ~ 25 attendees joined the meeting

## Legal

SG Chair reminded the group of the following from the 802.15 opening meeting:

* IEEE-SA patent policy
* Submission of Letter(s) 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.
	+ No essential patent claims were brought forth
* IEEE Anti-Trust statement
* IEEE Copyright Policy, including Code of Ethics

**Announcements**

Don’t forget to turn on your mic and announce your name and affiliation before you speak.

After reviewing and making a few changes to the agenda, no one objected to approving a modification to the updated agenda:
*(doc. # 15-21-0250-08-04ab)*

**SG Meeting Activity**

Chair gave walkthrough of new doc. regarding the Technical Guidance Framework
*(doc. # 15-21-0297-00-04ab)*. Some minor changes were made, and a revision was posted
*(doc. # 15-21-0297-01-04ab)*

A call for contributions was then worked on.

Chair reviewed the next steps.

Chair adjourned the mtg. @ 11:58am