**IEEE 802.15**

**Wireless Specialty Networks (WSN)**

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| Project | IEEE 802.15 Working Group for Wireless Specialty Networks (WSN) | |
| Title | **IEEE 802.15 TG 4ab (NG-UWB) minutes** | |
| Date Submitted | [25 Nov, 2023] | |
| Source | [David Xun Yang] [] [Bantian, Shenzhen, China] | Voice: [+86.159.1411.7462] Fax: [--] E-mail: [david.yangxun@huawei.com] |
| Re: | [Sep 802.15 Interim Meeting held in Hybrid Mode] | |
| Abstract | [IEEE 802.15 Task Group 4ab minutes] | |
| Purpose | [Official minutes of IEEE 802.15 TG 4ab] | |
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# Monday, 13 Nov, 2023 – PM2

**Opening**

**4:08 PM HST** Chair, Ben Rolfe (Blind Creek Associates), called the meeting to order and opened the TG Agenda.  
(*15-23-0571-00-04ab*)

* ~60 attendees joined the meeting

Chair introduced the hybrid meeting logistics.

Chair reminded the group of registration for 802 LMSC and wireless plenary.

## Legal

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**

Chair announced the agenda doc. #15-23-0546-04-04ab for the week. There was discussion on the joint session with TG4ac.

Motion #1: Motion to approve agenda contained in document 15-23-0546-04.

* Moved by Clint Chaplin (SRA)
* Second by Harry Bims (Bims Laboratories)

No one objected to approve the motion. It was approved by unanimous consent.

Chair raised the motion of minutes for Jul Plenary *(doc. # 15-23-0528-00-04ab)* and telecons between Jul and Sep *(doc. # 15-23-0564-00-04ab)*. No discussion heard.

Motion #2: Motion to approve minutes contained in documents 15-23-0-528-00 and 15-23-0564-00

* Moved by: David Xun Yang (Huawei)
* Second by: Clint Chaplin (SRA)

No one objected to approve the motion. It was approved by unanimous consent.

Chair introduced the goal of this week and his plan to move forward.

**TG Meeting Activity**

Using the agenda *(doc. # 15-23-0546-04-04ab)* Chair proceeded with running the meeting.

Vice chair Clint Chaplin (SRA) reviewed the received comments in “CC Consolidated Comments” (*doc. # 15-23-0475-29-04ab*). Comment assignees explained the proposed changes. There were discussions on the changes. Clint filled in the table with the discussion consensus and updated it into *15-23-0475-30-04ab.*

Presentation #1:

Rojan Chitrakar (Huawei) presented “Proposed resolution on the MMS MAC comments”

(*doc. # 15-23-0527-00-04ab*)

This presentation proposes resolution to MMS MAC comments on Draft 0-B.

There were discussions on the details of NB channel related text.

Presentation #2:

Rojan Chitrakar (Huawei) presented “Proposed resolution for NB Channel Map”

(*doc. # 15-23-0561-00-04ab*)

This presentation proposes resolution to Request Bitmap field comments on Draft 0-B.

*There was no objection to the resolution to CID 115 as in doc # 15-23-0561-00-04ab.*

Chair recessed the mtg. @ 5:56PM HST, until Tue. AM1.

# Tuesday, 14 Nov, 2023 – AM1

**8:00 AM HST** Chair, Ben Rolfe (Blind Creek Associates), called the meeting to order and opened the TG Agenda.  
(*15-23-0571-00-04ab*)

* ~60 attendees joined the meeting

## Legal

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

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  + No essential patent claims were brought forth
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**TG Meeting Activity**

Using the updated agenda *(doc. # 15-23-546-04-04ab)* Chair proceeded with running the meeting.

Presentation #3:

Aniruddh Rao Kabbinale (Samsung) presented “text for ptf report IE”

(*doc. # 15-23-0505-01-04ab*)

This presentation discusses the updated text for PTF report IEs.

Discussions on the necessity of compression of fields with fixed bits. There was a request to defer it for further discussion.

There was no objection to amend the agenda into *doc. # 15-23-546-05-04ab.*

Presentation #4:

Carlos Aldana (Meta) presented “Proposed Resolution for #10,146,147,148”

(*doc. # 15-23-0539-01-04ab*)

This presentation discusses the updated resolutions to misc CIDs.

Discussions on the detailed text. The author made changes based on the comments.

*There was no objection to accept the resolutions as in doc. # 15-23-0539-02-04ab.*

The meeting was recessed for 10 mins.

Presentation #5:

Larry Zakaib (Spark Microsystems) and Alex Krebs (Apple) presented “Coexistence Document for IEEE 802.15.4ab (proposed outline+NBA chapter)”

(*doc. # 15-23-0452-01-04ab*)

This presentation introduces the initial version of coexistence document for 802.15.4ab.

Question: None of the schemes is mandatory. What is the goal of the document?

Answer: Some of them will be conditional mandatory, e.g., LBT in UNII 5. This document is friendly. All of them can be used in any channel. Coordination could be in out band. We should have some assessment. We can prevent people doing something that is not right.

Presentation #6:

Xiliang Luo (Apple) presented “Proposed Resolutions for comments #140, 225, 226”

(*doc. # 15-23-0549-01-04ab*)

This presentation discusses the proposed resolutions to CID 140, 225, and 226.

*There was no objection to accept the resolutions to CID 140, 225, and 226 as in doc. # 15-23-0549-01-04ab.*

Presentation #7:

Alex Krebs (Apple) presented “Resolution proposals for comments #21, 22, 25, 26, 28, 99, 155, 164, 166”

(*doc. # 15-23-0575-00-04ab*)

This presentation discusses the proposed resolutions to 9 comments.

Chair reviewed the updated agenda in *doc. # 15-23-546-06-04ab.*

Chair recessed the mtg. @ 10:02am HST, until Tue. PM1.

# Tuesday, 14 Nov, 2023 – PM1

**1:32 PM HST** Chair, Ben Rolfe (Blind Creek Associates), called the meeting to order and opened the TG Agenda.  
(*15-23-0571-00-04ab*)

* ~60 attendees joined the meeting

## Legal

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

**TG Meeting Activity**

Using the updated agenda *(doc. # 15-23-546-06-04ab)* Chair proceed with running the meeting.

Presentation #8:

Alex Krebs (Apple) continued his presentation “Resolution proposals for comments #21, 22, 25, 26, 28, 99, 155, 164, 166”

(*doc. # 15-23-0575-01-04ab*)

This presentation discusses the proposed resolutions to 9 comments.

Vice chair Clint Chaplin (SRA) checked the resolved comments in this presentation, CID 22 and 28 were not resolved.

*There was no objection to accept the resolutions to CID 21, 25, 26, 99, 155, 164, and 166 as in doc. # 15-23-0575-02-04ab.*

Presentation #9:

Tero Kivinen (self) presented “Privacy addressing requirements in 4ab”

(*doc. # 15-23-0579-01-04ab*)

This presentation is to discuss the privacy related requirements in 4ab.

There were lots of discussions on the requirements and analysis.

Chair recessed the mtg. @ 3:02m HST, until the second half of Tue. PM2.

# Tuesday, 14 Nov, 2023 – PM2

**5:00 PM HST** Vice Chair, David Yang (Huawei Technologies), called the meeting to order and opened the TG Agenda.  
(*15-23-0571-00-04ab*)

* ~60 attendees joined the meeting

## Legal

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
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**TG Meeting Activity**

There was a request for presentation. No objection to the updated agenda.

*(doc. # 15-23-546-07-04ab)*

Using the updated agenda *(doc. # 15-23-0546-07-04ab)* Chair proceed with running the meeting.

Presentation #10:

Carlos Aldana (Meta) presented “Effect of no-LBT NB on 802.11 devices”

(*doc. # 15-23-0285-01-04ab*)

This presentation discusses some simulation results of coexistence between NB and WLAN.

Comment: If the interference is serious, possibly the receiver is not designed right.

Answer: The receiver does not know the narrow band channel interference.

There were discussions on the simulation settings and results.

Presentation #11:

Aniruddh Rao Kabbinale (Samsung) presented “text for ptf report IE”

(*doc. # 15-23-0505-03-04ab*)

This presentation discusses the updated text for PTF report IEs in 10.36.7.

There were discussions on the detailed text.

There was a request to defer the SP to Wed.

The meeting was recessed @5:53pm HST, until Wed PM1.

# Wednesday, 13 Nov, 2023 – PM1

**1:31 PM HST** Chair, Ben Rolfe (Blind Creek Associates), called the meeting to order and opened the TG Agenda.  
(*doc. #* *15-23-0571-00-04ab*)

* >60 attendees joined the meeting

## Legal

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

**TG Meeting Activity**

Using the agenda *(doc. # 15-23-0576-07-04ab)* Chair proceeded with running the meeting.

Presentation #12:

Ben Rolfe (BCA) presented “Proposed resolutions CI 53, 235, 236”

(*doc. # 15-23-0591-00-04ab*)

This presentation is to provide resolutions to CID 53, 235 and 236.

Discussions about the channels used in 6GHz.

*Option A of the resolutions to CID 53 was accepted.*

Vice chair Clint Chaplin (SRA) reviewed the unresolved comments in “CC Consolidated Comments” (*doc. # 15-23-0475-30-04ab*), and checked with comment assignees on the progress.

Presentation #13:

Bin Qian (Huawei) presented “Proposed resolution on AC IE comments part three”

(*doc. # 15-23-0581-00-04ab*)

This presentation is to provide resolution to CID 204.

*No objection to the resolution as in doc. # 15-23-0581-00-04ab.*

Vice chair Clint Chaplin (SRA) updated the resolutions to unresolved comments by discussing with comment assignees and commenters. (*doc. # 15-23-0475-30-04ab*)

Presentation #14:

Rojan Chitrakar (Huawei) presented “CIR Report IE format” (*doc. # 15-23-0562-01-04ab*) and “Proposed Resolution on CIR Report IE format” (*doc. # 15-23-0563-00-04ab*)

This presentation proposes a flexible format for the CIR Report IE to support various sensing scenarios with reduced signaling overhead.

There were several discussions on text for compression and segment ID.

Presentation #15:

Bin Qian (Huawei) presented “Proposed Updates on AC IE and CIR Report IE”

(*doc. # 15-23-0552-04-04ab*)

This presentation discusses the text changes on AC IE and CIR Report IE.

*There was no objection to the text changes as in doc. # 15-23-0552-04-04ab.*

Presentation #16:

Pooria Pakrooh (Qualcomm) presented “Resolutions to CIDs 183, 230, 234, 24”

(*doc. # 15-23-0604-00-04ab*)

This presentation proposes resolutions to CIDs 183, 230, 234 and 24.

*There was no objection to the resolutions as in doc. # 15-23-0604-00-04ab.*

Presentation #17:

Rojan Chitrakar (Huawei) presented “Proposed resolution on the MMS MAC comments”

(*doc. # 15-23-0527-01-04ab*)

This presentation proposes resolutions to MMS MAC comments.

*There was no objection to the resolutions as in doc. # 15-23-0527-01-04ab.*

Chair reviewed the progress and updated the agenda into *doc. # 15-23-0441-08-04ab.*

Vice chair Clint Chaplin (SRA) reviewed the progress of comment resolutions.

Presentation #18:

Aniruddh Rao Kabbinale (Samsung) presented “text for ptf report IE”

(*doc. # 15-23-0505-06-04ab*)

This presentation discusses the updated text for PTF report IEs in 10.36.7.

*There was no objection to the resolutions as in doc. # 15-23-0505-06-04ab.*

Chair recessed the mtg. @ 3:29pm HST, until Thu. AM1.

# Thursday, 16 Nov, 2023 – AM1

**8:13 AM HST** Chair, Ben Rolfe (Blind Creek Associates), called the meeting to order and opened the TG Agenda.  
(*doc. # 15-23-0571-00-04ab*)

* >60 attendees joined the meeting

## Legal

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

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  + No essential patent claims were brought forth
* IEEE Anti-Trust statement
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**TG Meeting Activity**

Using the updated agenda *(doc. # 15-23-0576-09-04ab)* Chair proceeded with running the meeting.

Presentation #19:

Rojan Chitrakar (Huawei) presented “Proposed text for CIR Report format”

(*doc. # 15-23-0563-00-04ab*)

This presentation proposes resolution to CID 40.

*There was no objection to the resolution as in doc. # 15-23-0563-00-04ab.*

Chair reviewed the unresolved comments in “CC Consolidated Comments” (*doc. # 15-23-0475-30-04ab*)*.* Comment assignees proposed solutions and discussed with other attendees.

Presentation #20:

Brian Hart (Cisco) presented “Balanced in Device Coexistence”

(*doc. # 15-23-0573-01-04ab*)

This presentation proposes possible schemes for balance in device coexistence.

Discussions on the details of coexistence methods.

Chair continued to review the unresolved comments in “CC Consolidated Comments” (*doc. # 15-23-0475-30-04ab*)*.*

Alex Krebs (Apple) introduced the progress of CAD. Chair introduced his plan on CAD.

Vice chair David Xun Yang (Huawei) and Vice chair Clint Chaplin (SRA) shared the list of accepted documents this week and the list of all the accepted documents, separately. Clint also shared the whole picture – all the comments have been resolved.

**Motion #3:**

Adopt the comment resolutions in 15-23-0475-31 and instruct the technical editor to apply to produce pre-ballot draft C. Direct the TG chair to request WG chair initiate working group comment collection on pre-ballot draft C as soon as possible.

Moved by: Clint Chaplin (SRA)

Second by: Billy Verso (Qorvo)

Motion passed with unanimous consent.

Chair discussed with people on the telecon schedule between Nov and Jan.

Chair asked if there was any other business to discuss. Mingyu Lee (Samsung) suggested to resolve comments more efficiently.

**Motion #4:**

Move to adjourn the meeting since all the topics in the agenda are finished.

Moved: Clint Chaplin (SRA)

Second: David Xun Yang (Huawei)

Motion passed with unanimous consent.

Chair adjourned the mtg. @ 10:00am HST.