IEEE P802.15

**Wireless Personal Area Networks**

|  |  |
| --- | --- |
| Project | Task Group 15.6ma |
| Title | **TG15.6ma Meeting Minutes for January 2025**  |
| Date Submitted | January 16th , 2025 |
| Source | [Ryuji Kohno1,2 Marco Hernandez1 Takumi Kobayashi1,3 Minsoo Kim1, Daisuke Anzai3 [1; YRP-IAI (YRP International Alliance Institute), Japan, 2; YNU (Yokohama National University), Japan, 3; NiTech(Nagoya Institute of Technology)] | Voice: +81 90 5408 0611E-mail: kohno@ynu.ac.jp marco.hernandez@ieee.org kobayashi-takumi@yrp-iai.jp minsoo@minsookim.com anzai@nitech.ac.jp |
| Re: | Meeting Minutes |
| Abstract | Since PAR and CSD of SG15.6ma as amendment of existing IEEE802.15.6-2012 for WBAN with enhanced dependability was approved by NesCom in July 2023, Task Group TG15.6ma has been drafting technical requirement in cases of WBAN for medical use case for human body(HBAN) and for automotive use case for vehicle body(VBAN) with their connected use cases. In July meeting, to summarize technical requirement TG15.6ma has reviewed focused uses cases necessary for enhanced dependability in which channel propagation and environment of HBAN and VBAN with their mixed use can be categorized and modeled. Particularly to perform enhanced dependability in dense environment coexisting multiple overlaid BANs and different UWB and narrow band WPAN, WSN, WLAN etc. necessary technical requirement has been summarized in PHY and MAC layers. Possible solutions to ensure enhanced dependability in PHY and MAC have been presented and discussed. Latest status of ETSI Smart BAN standard has been presented to find a way to make interoperability with IEEE802.15.6 and 6ma. To harmonize activities of TG15.6ma, 15.4ab using UWB PHY, TRD and technical guidance document(TGD) have been reviewed in the sessions.  |
| Purpose | Minutes of Dependability Electronic Interim Session on Webex, January 2025. |
| 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. |

**TG15.6ma 1st Session**

**Monday, January 13th, 2025, 1:30 PM- 3:30 PM Local Japan Time**

**Room# 504, Kobe Convention Center, Kobe, Japan,**

**with Webex Virtual Room #3**

* 1. Meeting called to order 1:30 PM

By Chair Ryuji Kohno (YNU / YRP-IAI)

* 1. Roll Call *Ryuji Kohno*

Announcement to attendance by using IEEE Attendance Tool (IEEE IMAT).

Registration information.

By Chair *Ryuji Kohno*

* 1. Opening Report *Ryuji Kohno (YNU / YRP-IAI)* doc.# 802.15- 24-683-02-06a

Chair showed IEEE Patent policy.

Chair issued Call for Potentially Essential Patents.

Þ No essential intellectual property in the scope of TG6a was declared.

Chair presented agenda of this meeting doc.# 802.15- 24-0682-04-06a

Þ Approved.

* 1. Approval of previous meeting minutes, *Takumi Kobayashi (YNU / YRP-IAI)*

Þ Upon no comments on the September meeting minutes, doc. #15-24-0655-00-06a was approved.

**[Review]**

* 1. Overview of IG-DEP, SG6a, TG6a and TG15.6ma for Revision of IEEE 802.15.6-2012 Wireless BAN with Enhanced Dependability, *Ryuji Kohno,* doc.#15-25-0033-00-006a
	2. Basic Consensus in MAC and PHY of Revision of IEEE802.15.6-2012 (IEEE802.15.6ma), *Ryuji Kohno,* doc.#23-0557-06-006a
	3. Consolidated comments & resolutions LB210, *Ryuji Kohno,* doc.# 24-0575-01-006a
	4. Review and Revision of Revised Draft D03(D04), *Ryuji Kohno*,doc.# P802.15.6ma\_D04
	5. Recessed by chair, *Ryuji Kohno*

**Attendees list**

Attendees 16

***Name Affiliation***

* Daisuke Anzai Nagoya Institute of Technology
* Harry Bims Bim's Laboratories
* Hiroaki Yoshitake DENSO TEN
* Joerg Robert TU Ilmenau/Fraunhofer IIS
* Kamran Sayrafian NIST
* Kento Takabayashi Toyo University
* Makoto Okuhara DENSO TEN
* Masayuki Hirata Osaka University
* Minsoo Kim YRP-IAI
* Paramin Sangwongngam NECTEC/Thailand
* Patharakorn Rattanawan
* Ryuji Kohno YNU/YRP-IAI
* Takafumi Suzuki NICT
* Takumi Kobayashi Nagoya Institute of Technology/YRP-IAI
* Tetsuya Nomura DENSO TEN
* Yasuharu Amezawa Mobile Techno

**TG15.6ma 2nd Session**

**Tuesday, January 14th, 2025, 4:00 PM- 6:00 PM Local Japan Time**

**Room# 504, Kobe Convention Center, Kobe, Japan,**

**with Webex Virtual Room #3**

* 1. Meeting called to order 4:00 PM

By Chair Ryuji Kohno (YNU / YRP-IAI)

* 1. Roll Call *Ryuji Kohno*Announcement to attendance by using IEEE Attendance Tool (IEEE IMAT).
	Registration Information, By Chair *Ryuji Kohno*
	2. 802 Mtg. Non-Registration Consequences, by Chair *Ryuji Kohno*
	3. Confirmation of Agenda, doc.# 15-24-0682-05-06ma, *Ryuji Kohno*

**[Presentation of Feasible Implementation and Performance Analysis of Feasibility]**

* 1. Hybrid ARQ Scheme for High QoS Packets in High Class of Coexistence of IEEE 802.15.6ma, doc.#15-23-0576-07-006a, *Kento Takabayashi*
	2. Evaluation of IEEE 802.15.6ma Ultra-wideband Physical Layer Utilizing Super Orthogonal Convolutional Code, doc.#15-22-00562-13-006a, *Kento Takabayashi*
		+ *K*=3 SOCC throughput seems best performance, isn’t it? (*Tetsushi Ikegami*)
			- *K*=3 can achieve highest throughput however, that is not best in PER evaluation result. (*Kento Takabayashi*)
		+ When floor phenomena can be found? (*Daisuke Anzai*)
			- It depends on the channel conditions such as noise level and interference strength. (*Kento Takabayashi*)
	3. Selection of Suitable Preamble Sequence Sets in UWB Wireless Communications in the Presence of Multiple Coexisting VBANs, doc.#15-25-0002-00-006a, *Hiroaki Yoshitake*
	4. MAC Performance Evaluation of Multiple BAN Coexistence Under TG6ma Channel Model, doc.#15-24-0246-04-006a, *Takumi Kobayashi,* *Daisuke Anzai*
	5. Consolidated comments & resolutions LB210, doc.#15-24-0575-02-006a, *Takumi Kobayashi*
	6. Review and Revision of Revised Draft D04, , P802.15.6ma\_D04, *Ryuji Kohno*

* 1. Recessed (5:50 PM)

Attendees 28

***Name Affiliation***

* Daisuke Anzai Nagoya Institute of Technology
* Dries Neirynck Ultra Radio Ltd
* Hiroaki Yoshitake DENSO TEN
* Hirokazu Sawada NICT
* Huan-Bang Li NICT
* Iwao Hosako NICT
* Kento Takabayashi Toyo University
* Kohei Ohno Meiji University
* Li Ma Mediatek
* Libra Xiao NRT
* Lochan Verma Apple
* Makoto Okuhara DENSO TEN
* Manideep Dunna Qualcomm
* Masayuki Hirata Osaka University
* Minsoo Kim YRP-IAI
* Norihiko Sekine NICT
* Pankaj Gupta -
* Paramin Sangwongngam NECTEC/Thailand
* Run Chen NRT
* Ryuji Kohno YNU/YRP-IAI
* Sven Zeisberg ZIGPOS
* Takafumi Suzuki NICT
* Takumi Kobayashi Nagoya Institute of Technology/YRP-IAI
* Tetsushi Ikegami Meiji University
* Tetsuya Nomura DENSO TEN
* VK Jones Qualcomm
* Weidong Tang NRT
* Yasuharu Amezawa Mobile Techno

**TG15.6ma 3rd Session**

**Tuesday, January 14th, 2025, 1:30 PM- 3:30 PM Local Japan Time**

**Room# 504, Kobe Convention Center, Kobe, Japan,**

**with Webex Virtual Room #3**

* 1. Meeting called to order 1:30 PM

By Chair Ryuji Kohno (YNU / YRP-IAI)

* 1. Roll Call *Ryuji Kohno*Announcement to attendance by using IEEE Attendance Tool (IEEE IMAT).
	Registration Information, By Chair *Ryuji Kohno*
	2. 802 Mtg. Non-Registration Consequences, by Chair *Ryuji Kohno*
	3. Confirmation of Agenda, doc.#24-0682-06-006a, *Ryuji Kohno*
	4. Interference Mitigation Schemes in Class 3, 5, 6, and 7 of Coexistence in TG6ma, doc.#15-24-0073-06-006a, *Takumi Kobayashi*
	5. Performance Evaluation of Channel Coding with Interleaver Based on TG6ma Channel Model for Some Classes of Coexistence, doc.#15-24-0247-04-006a, *Daisuke Anzai*
	6. Ranging Accuracy Evaluation under TG6ma Communication Senarios, doc.#15-24-0248-04-006a, *Daisuke Anzai*
	7. Review and Revision of Revised Draft D04, doc.#P802.15.6ma\_D04, *Ryuji Kohno*
		+ Scope and Purpose should be come from PAR and CSD. (*Tero Kivinen*)
		+ Use new template doc.15-23-0426-00-0mag. You can see example 341. (*Tero Kivinen*)

Recessed (3:23 AM)

Attendees 13

***Name Affiliation***

* Daisuke Anzai Nagoya Institute of Technology
* Hiroaki Yoshitake DENSO TEN
* Kamran Sayrafian NIST
* Makoto Okuhara DENSO TEN
* Masayuki Hirata Osaka University
* Run Chen NRT
* Ryuji Kohno YNU/YRP-IAI
* Takumi Kobayashi Nagoya Institute of Technology/YRP-IAI
* Tero Kivinen Self
* Tetsuya Nomura DENSO TEN
* VK Jones Qualcomm
* Weidong Tang NRT
* Yasuharu Amezawa Mobile Techno

**TG15.6ma 4th Session**

**Tuesday, January 15th, 2025, 1:30 PM- 3:30 PM Local Japan Time**

**Room# 504, Kobe Convention Center, Kobe, Japan,**

**with Webex Virtual Room #3**

* 1. Meeting called to order 13:30 PM
	2. Roll Call *Ryuji Kohno*
	Announcement to attendance by using IEEE Attendance Tool (IEEE IMAT).
	Registration Information, By Chair *Ryuji Kohno*
	3. 802 Mtg. Non-Registration Consequences, by Chair *Ryuji Kohno*
	4. Confirmation of Agenda, doc.#15-24-0682-08-006a, *Ryuji Kohno*
		+ Anonymously approved.
	5. TG6ma Coexistence Assurance Document, doc.# 24-0348-04-006a, *Ryuji Kohno*
	6. Project Task List of 802.15.6ma, doc.#25-0062-00-006a, *Ryuji Kohno*
	7. Progress report of 802.15.6ma, doc.#23-0056-0011-006a, *Ryuji Kohno*
	8. TG6ma Timeline(Rescheduling Timeline), doc.#23-0361-09-006a, *Ryuji Kohno*
	9. Consolidated comments & resolutions LB210, doc.#15-24-0575-03-006a, *Ryuji Kohno*
	10. Any other business?
		+ No.
	11. Adjourn (3:15 PM)

Attendees 11

***Name Affiliation***

* Daisuke Anzai Nagoya Institute of Technology
* Hiroaki Yoshitake DENSO TEN
* James Gilb General Atomics
* Kamran Sayrafian NIST
* Kohei Ohno Meiji University
* Makoto Okuhara DENSO TEN
* Masayuki Hirata Osaka University
* Ryuji Kohno YNU/YRP-IAI
* Takafumi Suzuki NICT
* Takumi Kobayashi Nagoya Institute of Technology/YRP-IAI
* Tetsuya Nomura DENSO TEN