IEEE P802.15

**Wireless Personal Area Networks**

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| Project | Interest Group on Enhance Dependability |
| Title | **Meeting Minutes of IG DEP in Plenary Meeting, November 2020**  |
| Date Submitted | November 11th, 2020 |
| Source | [Ryuji Kohno][YNU(Yokohama National University), Uof Oulu(University of Oulu)][Takumi Kobayashi][YNU] | Voice: +81 90 3061 7978E-mail: kohno@ynu.ac.jp kobayashi-takumi-ch@ynu.ac.jp　　　 |
| Re: | Meeting Minutes |
| Abstract | IG-DEP focused on amendment of existing IEEE802.15.6 for WBAN. Necessity and demand of the amendment of 15.6 with enhanced dependability have been discussed such as enhanced dependability in cases of overlaid multiple BANs and co-exiting other radios, feedback loop for remote sensing and controlling, in addition interoperability of other standards. Corresponding to the discussion, technical requirement has been updated. To challenge high data rate BAN, a draft of PAR and CSD have been rereviewed and revised. Cooperation with ETSI smart BAN and smart M2M projects has been discussed including commonality and difference although ETSI is directing smart implementation while IG-DEP is focusing on dependability for high QoS and QoL. According to request from BMI Center of NICT, IG-DEP restarts amendment of 15.6 standard for medical BAN applicable to 40 times more sensors and 5 times higher aggregate data rate for EEG or ECoG. Coexistence between 5G and UWB-BAN, and overall performance in case of overlaid multiple BANs have been discussed as resolve inter- and intra-system interference problems to guarantee enhanced dependability as an amendment of 15.6 MAC and PHY. By updating technical requirement for dependable BAN, focused use cases which have common requirement has been summarized. |
| Purpose | Minutes of IG Dependability at three sessions in Plenary Meeting with Webex, November 2020 |
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**Wednesday, November 4th, 2020, AM, 7:00-9:00**

**Room: Webex Virtual Conference**

* 1. Meeting called to order 7:00

By Chair Ryuji Kohno (YNU / CWC UofOulu)

* 1. Roll Call

Announcement to attendance by using IEEE Attendance Tool.

* 1. Opening Report

Chair presented Opening report　　　　　　　　　　　　 doc.#20-0306-02-0dep

Chair showed IEEE Patent policy.

Chair issued Call for Potentially Essential Patents

No essential intellectual property in the scope of IG DEP was declared.

Chair presented agenda this week doc.# 20-0306-02-0dep

* 1. Approval of previous meeting minutes

Upon no comments on the previous meeting minutes, doc #20-0277-00-0dep was approved.

* 1. Presentation for Amendment of IEEE802.15.6 BAN
	Necessity for Amendment of IEEE 802.15.6 Medical BAN with Enhanced Dependability, doc. #802.15-20-0316-01dep
		1. Review of IEEE802.15.6 Wireless Medical BAN
		2. Extension and Amendment of BAN with Enhanced Dependability
		3. Technical Challenges for Enhanced Dependability
		4. Focused Issues in Amendment of std 15.6 BAN with Enhanced Dependability
	2. Updated Technical Requirements for Focused Use Cases on WBAN for Human, Robotic and Car Bodies #15-19-0157-04-0dep
	3. Recess

**Attendees list**

Attendees 16

* Ryuji Kohno (YNU / CWC UofOulu)
* Takumi Kobayashi (YNU)
* Takahumi Suzuki (NICT)
* Shang-Te Yang (Apple)
* Iwao Hosako (NICT)
* Riku Pirhonen (NXP)
* Ersen Ekrem(Apple)
* Huan-Bang Lee (NICT)
* Joe Plland(CommScope)
* Marco Hernandez(ITAM)
* Seong-Soon Joo(ETRI)
* Shinichi Sato(Mobile Techno)
* Xiliang Luo(ShanghaiTech Univ)
* Tetsushi Ikegami (Meiji Univ.)
* Paul Nikorich

**Tuesday, November 10th, 2020, PM, 7:00-9:00**

**Room: Webex Virtual Conference**

* 1. Meeting called to order 7:00

By Chair Ryuji Kohno (YNU / CWC UofOulu)

* 1. Roll Call

Announcement to attendance by using IEEE Attendance Tool.

* 1. Opening Report

Chair showed IEEE Patent policy.

Chair issued Call for Potentially Essential Patents

No essential intellectual property in the scope of IG DEP was declared.

Chair presented agenda this meeting doc.# 20-0316-03-0dep

* 1. Approval of previous meeting minutes

Upon no comments on the previous meeting minutes, doc # doc #20-0277-00-0dep was approved.

* 1. Presentation for Amendment of IEEE802.15.6 BAN
	Necessity for Amendment of IEEE 802.15.6 Medical BAN with Enhanced Dependability, doc. #802.15-20-0316-01dep
	2. Updated Technical Requirements for Focused Use Cases on WBAN for Human, Robotic and Car Bodies #15-19-0157-04-0dep
	3. Presentation: “Brain-Machine Interface(BMI) based on Electrocorticography(ECoG) using high speed UWB wireless body area networks” by Takafumi Suzuki 7:45 doc.##802.15-19-421-r2-0dep and #802.15-19-545-00-0dep
	Discussion: Power consumption. *Takashi Kuromachi*
	4. Presentation: “Revised technical requirement focused on Amendment of IEEE802.15.6 WBAN,” Ryuji Kohno, 8:07, doc.#15-20-0352-00-0dep
	5. Discussion:
	High data rate, high dependability. *Marco Hernandez*
	=> Add “High data rate BAN” separately against “Low data rate BAN” to the “Updated Technical Requirements”.
	=>Updated technical requirements will be shared on the document server.
	6. Confirmation or Revision of Agenda for Wednesday session
	=> No revision.
	7. Recess

**Attendees list**

Attendees 16

* Ryuji Kohno (YNU / CWC UofOulu)
* Takumi Kobayashi (YNU)
* Takafumi Suzuki (NICT)
* Yuki Matsumura (ROHM)
* Iwao Hosako (NICT)
* Riku Pirhonen (NXP)
* Tetsushi Ikegami (Meiji Univ.)
* Ersen Ekrem(Apple)
* H. B. Lee (NICT)
* Takashi Kuromachi(Lapis)
* Marco Hernandez(ITAM)
* Shinichi Sato(Mobile Techno)
* Xiliang Luo(ShanghaiTech Univ)
* Sang-Kyu Lim(ETRI)
* Seong-Soon Joo(ETRI)

**Wednesday, November 11th, 2020, PM, 7:00-9:00**

**Room: Webex Virtual Conference**

* 1. Meeting called to order 7:00

By Chair Ryuji Kohno (YNU / CWC UofOulu)

* 1. Roll Call

Announcement to attendance by using IEEE Attendance Tool.

* 1. Opening Report

Chair showed IEEE Patent policy.

Chair issued Call for Potentially Essential Patents

No essential intellectual property in the scope of IG DEP was declared.

Chair presented agenda this meeting doc.# 802.15-20-0306-06

* 1. Revised technical requirement focused on Amendment of IEEE802.15.6 WBAN, Ryuji Kohno, doc.#802.15-0352-01-0dep
		1. Demands for BAN Extension
		2. Three classes of focused potential use cases
		3. Update of technical requirements for new medical BAN
		4. Updated technical requirements
		5. Discussion:
		=>Approved.
	2. Feasible Technologies for Enhanced Dependability of WBAN, Ryuji Kohno, #802.15-360-01-0dep
	3. Presentation:
		1. “Introduction of UWB-Based Wireless Platform,” Shinichi Sato (Mobile Techno), doc.#802.15-20-0362-00-0dep.
		=>Location information is quite important from the viewpoint of security in case of wireless key application. (Ryuji Kohno)
		2. “Space-time domain interference mitigation using based on OMF and TDL-AA for dependable UWB-BANs,” Takumi Kobayashi (YNU), doc.# 802.15-0359-00-0dep
		3. “Dependable MAC Protocol with Interference Mitigation Using Negotiation among Coordinators in Multiple BANs”, Ryuji Kohno, doc.#802.15-19-503-00-0dep
	4. CSD and PAR, A draft of PAR for Amendment of IEEE802.15.6 WBAN. doc.#15.16-0290-0dep
	=>A draft of PAR for amendment of std IEEE 802.15.6 “doc.15-20-0361-00-0dep” has been generated and uploaded.
	--Revise and comments are welcome via email.( Ryuji Kohno)
	--Key points are 5.1, 5.2(Scope), 5.3(uniqueness) 5.4(Purposes), 5.5(Necessity), 5.6(Stakeholders).

IG-DEP has decided to make a motion to TG in next meetings January or March 2021. All the documents of technical requirement, PAR, and CSD will be reviewed and revised by teleco or web meetings till the next meeting.

* 1. Recess

**Attendees list**

Attendees 13

* Ryuji Kohno (YNU / CWC UofOulu)
* Takumi Kobayashi (YNU)
* Takafumi Suzuki (NICT)
* Tetsushi Ikegami (Meiji Univ.)
* Harry Bims (Bims Laboratories)
* H.B. Lee (NICT)
* Iwao Hosako (NICT)
* Marco Hernandez(ITAM)
* Takafumi Suzuki (NICT)
* Sinichi Sato (Mobile Techno)
* Takashi Kuromachi(Lapis)
* Tets Nagamoto(UMIN)
* Kotaro Yamasue (YCU)