**March 2022 Doc: IEEE 802.15-22-0168-02-006a**

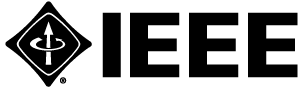
# IEEE 802.15

**Wireless Specialty Networks**

|  |  |
| --- | --- |
| Project | IEEE 802.15 Working Group for Wireless Specialty Networks |
| Title | PAR Revision Draft |
| Date Submitted | March 10th, 2022 |
| Source | Marco Hernandez1, Ryuji Kohno1,2, [Marco.Hernandez@ieee.org](mailto:Marco.Hernandez@ieee.org)  Takumi Kobayashi1,2, Minsoo Kim2  [Kohno@ynu.ac.jp](mailto:Kohno@ynu.ac.jp)  [Kobayashi-Takumi-ch@ynu.ac.jp](mailto:Kobayashi-Takumi-ch@ynu.ac.jp)  1YRP-IAI, 2YNU, Japan  [Minsoo@minsookim.com](mailto:Minsoo@minsookim.com) |
| Response | To call for contributions |
| Abstract | This document contains the channel models to evaluate proposals. |
| Purpose | For contributions to P802.15.6a |
| Notice | This document has been prepared to assist the IEEE P802.15.6a. 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. |

**Revision history**

|  |  |  |
| --- | --- | --- |
| **Revision** | **Date** | **Notes** |
| 0 | 3/10/2022 |  |
| 1 | 3/10/2022 | Edits during the AM1 session. |
| 2 | 3/11/2022 | Edits during the AM1 session. |

**P802.15.6**

**Type of Project:** Revision to IEEE Standard 802.15.6-2012

**Project Request Type:** Initiation / Revision

## PAR Request Date: PAR Approval Date: PAR Expiration Date: PAR Status: Draft

**Root Project:** 802.15.6-2012

* 1. **Project Number:** P802.15.6
  2. **Type of Document:** Standard
  3. **Life Cycle:** Full Use

**2.1 Project Title:** Standard for Local and metropolitan area networks - Part 15.6: Wireless Body Area Networks

**Change to Title:** ~~IEEE~~ Standard for Local and metropolitan area networks - Part 15.6: Wireless Body Area Networks

* 1. **Working Group:** Wireless Specialty Networks (WSN) Working Group(C/LM/802.15 WG)
     1. **Contact Information for Working Group Chair: Name:** PATRICK KINNEY

**Email Address:** [pat.kinney@kinneyconsultingllc.com](mailto:pat.kinney@kinneyconsultingllc.com)

## Contact Information for Working Group Vice Chair: Name: Richard Alfvin

**Email Address:** [alfvin@ieee.org](mailto:alfvin@ieee.org)

* 1. **Society and Committee:** IEEE Computer Society/LAN/MAN Standards Committee(C/LM)

## Contact Information for Standards Committee Chair: Name: Paul Nikolich

**Email Address:** [p.nik](mailto:p.nikolich@ieee.org)[olich@ieee.org](mailto:olich@ieee.org)

## Contact Information for Standards Committee Vice Chair: Name: James Gilb

**Email Address:** [gilb@ieee.org](mailto:gilb@ieee.org)

## Contact Information for Standards Representative: Name: James Gilb

**Email Address:** [gilb@ieee.org](mailto:gilb@ieee.org)

* 1. **Type of Ballot:** Individual

## Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot:

Jul 2024

## Projected Completion Date for Submittal to RevCom: Mar 2026

* 1. **Approximate number of people expected to be actively involved in the development of this project:** 12
  2. **Scope of proposed standard:**

The standard defines short-range, wireless communication in the vicinity of, or inside, a human body (but not limited to humans) using the Ultra-Wideband (UWB) and narrow-band physical layer (PHY) and medium access control (MAC) to support enhanced dependability to human body area networks (HBAN) in the industrial scientific medical (ISM) bands as well as frequency bands approved by national medical and regulatory authorities. The standard supports quality of service (QoS) and data rates up to 50 Mb/s and incorporates support for vehicle body area networks (VBAN).

The standard specifies the coexistence of multiple piconets, including inter-**body area network** (inter-BAN) interference and inter-piconets interference; simple MAC protocol; and sensing and feedback control loop delay.

**Change to scope of proposed standard:**

## Is the completion of this standard contingent upon the completion of another standard? No

* 1. **Purpose:**

To provide an international standard for short-range, low power consumption, and highly reliable wireless communication for use in proximity to, or inside, a human body and a vehicle body. Data rates satisfy an evolutionary set of entertainment and healthcare services.

**Change to Purpose:**

* 1. **Need for the Project:**

This project provides dependability against interference and contention in critical use cases as overlaid with the same and different piconets. Current piconets do not meet the medical (proximity to human tissue) and relevant communication regulations for some application environments. They also do not support the combination of reliability (QoS), low power consumption, data rate, and interference protection required to address the wide range of body area network applications. Additionally, this standard provides the dependability required for medical use cases. That includes remote medical healthcare, therapy, and other monitoring that enhances the quality of life (QoL) in various population segments.

Focus use cases include multiple **body area networks** (BAN)s coexisting within range, multiple UWB and non-UWB piconets coexisting within range, and interference management among BANs.

The standard supports automotive use (vehicular body area network) with primary medical use cases and optional non-medical use cases with high dependability.

The standard assists remote medical healthcare monitoring and therapy to combat the coronavirus disease 2019 (Covid-19) pandemic.

**Change to Need for the Project:**

* 1. **Stakeholders for the Standard:**

**Change to Stakeholders for the Standard:**

## Intellectual Property

* + 1. **Is the Standards Committee aware of any copyright permissions needed for this project?**

No

## Is the Standards Committee aware of possible registration activity related to this project?

## ~~No~~ Yes. The Registration Authority Committee may review to assure usage of registries and registry terms are consistent with the project.

## Are there other standards or projects with a similar scope? No

* 1. **Is it the intent to develop this document jointly with another organization?** No

**8.1 Additional Explanatory Notes:**

VBAN consists of a coordinator in a vehicle with devices around the vehicle, operating under strict compliance to standards and limits for electromagnetic compatibility (EMC) and electromagnetic interference (EMI).