**P802.15.4 ?**

**Submitter Email:** kuramochi722@dsn.lapis-semi.com

**Type of Project:** Amendment to IEEE Standard 802.15.4-2015

**PAR Request Date:** 09-June-2020

**PAR Approval Date: PAR Expiration Date:**

**Status:** Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

**1.1 Project Number:** P802.15.4?

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

**2.1 Title:** Amendments of the clause 20. SUN FSK PHY and clauses associated with SUN FSK in IEEE Std 802.15.4™-2015

Amendment: The higher data rate extension of the clause 20. SUN FSK PHY and clauses associated with SUN FSK in IEEE Std 802.15.4™-2015

**3.1 Working Group:** Wireless Personal Area Network (WPAN) Working Group (C/LM/WG802.15)

**Contact Information for Working Group Chair:**

**Name:** Robert Heile

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

**Phone:** 781-929-4832

**Contact Information for Working Group Vice-Chair**

**Name:** Patrick Kinney

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

**Phone:** 847-960-3715

**3.2 Sponsoring Society and Committee:** IEEE Computer Society/LAN/MAN Standards Committee (C/LM)

**Contact Information for Sponsor Chair**

**Name:** Paul Nikolich

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

**Phone:** 857.205.0050

**Contact Information for Standards Representative**

**Name:** James Gilb

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

**Phone:** 858-229-4822

**4.1 Type of Ballot:** Individual

**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** TBD

**4.3 Projected Completion Date for Submittal to RevCom**

**Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months:** TBD

**5.1 Approximate number of people expected to be actively involved in the development of this project:** 10

**5.2.a. Scope of the complete standard:** This standard defines new operating mode of the SUN FSK physical layer (PHY) for the extension of higher data rate in Japan.

**5.2.b. Scope of the project:** This amendment defines a data rate extension of SUN FSK physical layer(PHY) to IEEE Std. 802.15.4-Current Revision. It adds higher data rates extensions for the SUN FSK modulation and channel parameters. This extension only focuses on Japanese frequency band to meet domestic regulation (ARIB STD-T108).

**5.3 Is the completion of this standard dependent upon the completion of another standard:No**

**5.4 Purpose:** The purpose of this standard is to utilize higher data rate wireless communication for battery powered devices, to provide a global solution initially targeting smart utility and municipal applications requiring secure, high data rate operated in Japan, and long range communication (up to 1000m). The standard provides access to unlicensed spectrum in Japan; These are also attributes that will be valuable in commercial and business settings, both of which are expected to be significant emerging markets.

**5.5 Need for the Project:** The demand for the improvement of energy efficiency and the usage of the natural energy increase worldwide in order to mitigate global warming. As a result, from 2015 the uses of smart meters have increased dramatically throughout Japan. Tens of millions more smart meters are deployed, and the communication protocol is based on IEEE Std. 802.15.4g SUN FSK. At the same time there is a movement to collect and manage sensor data using wireless networks not only to optimize energy consumption and lighting in buildings but also for crime and disaster prevention. Furthermore these wireless sensor networks are becoming increasingly used to improve productivity in agriculture as well. In recent years, higher data rate requirements come from utilities for increase of the number of nodes in one PAN, correcting various utility information not only electricity but also gas and water, and OTA updates without increase of power consumption. In order to meet these requirements these amendments are needed. From the view point of backward compatibility and ease of wireless communication network design, FSK modulation scheme is suitable for the extended applications.

**5.6 Stakeholders for the Standard:** Chip Vendors, Product Manufacturers, Utilities, Agriculture, Infrastructure/Environmental Monitoring Organizations and similar Organizations.

**Intellectual Property**

**6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?:** No

**6.1.b. Is the Sponsor aware of possible registration activity related to this project?:** No

**If yes please explain:**

**7.1 Are there other standards or projects with a similar scope?:** No

**7.2 Joint Development**

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

**8.1 Additional Explanatory Notes:**