**P802.15.4**

**Submitter Email:**

**Type of Project:** Amendment to IEEE Standard 802.15.4-2011

**PAR Request Date:**

**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:** Standard for Local and metropolitan area networks--Part 15.4q: Ultra Low Power , Low-Rate Physical layer amendment for Wireless Personal Area Networks(ULP-LR-WPANs)

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

**Contact Information for Working Group ChairName:** Robert Heile

**Email Address:** bheile@ieee.org

**Phone:** 781-929-4832

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

None

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

**Contact Information for Sponsor ChairName:** Paul Nikolich

**Email Address:** p.nikolich@ieee.org

**Phone:** 857.205.0050

**Contact Information for Standards Representative**

None

**4.1 Type of Ballot:** Individual

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

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

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

**5.2.a. Scope of the complete standard:** This standard defines the ultra low power (ULP) physical layer amendment to existing IEEE 802.15.4 2011 in 2.4 GHz (400, 700, 800, 900 MHz are of interest) license exempt band. This amendment also defines the necessary MAC changes required for supporting the new ULP physical layer.

**5.2.b. Scope of the project:**

Applications of the IEEE 802.15.4 are very power aware and demand higher battery life. Many new physical layer techniques have evolved over the period with ultra low power capabilities. This amendment defines an ultra low power physical layer over targeted frequency bands, supporting typical data rates less than 1 Mbps, to realize optimal and power efficient device command and control applications.[ The peak current shall not exceed 10 mA at 0 dbm tx power].

**5.3 Is the completion of this standard dependent upon the completion of another standard:**

No

**5.4 Purpose:** The standard provides for ultra low cost, ultra low power consumption, and low data rate wireless connectivity among power aware inexpensive devices. It should be possible to achieve a battery life of several years when connected to coin cell batteries. The raw data rate of the proposed physicl layer should remain under 1 Mbps in order to serve the wireless sensor applications

**5.5 Need for the Project:**

The wireless sensors battery life is decided by the active power and duty cycle of the access mechanisms. Emerging applications in sensor networks demand increasingly small form factor, low power consumption and low cost solutions. These requirements will be satisfied by designing a new ultra low power physical layer for targeted frequency bands.

**5.6 Stakeholders for the Standard: Chip vendors, Equipment Maufacturers, wireless sensor application developers and users**

**Intellectual Property**

**6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?:**

**6.1.b. Is the Sponsor aware of possible registration activity related to this project?:**

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

**7.2 Joint DevelopmentIs it the intent to develop this document jointly with another organization?:** No

**8.1 Additional Explanatory Notes (Item Number and Explanation):**