

P802.15.4u

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Type of Project: Amendment to IEEE Standard 802.15.4-2011

PAR Request Date: 16-Sep-2015

PAR Approval Date:

PAR Expiration Date:

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

1.1 Project Number: P802.15.4u

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Local and metropolitan area networks--Part 15.4: Low-Rate Wireless Personal Area Networks (LR-WPANs) Amendment for use of the Indian 865-867 MHz band.

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

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

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4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 12/2016

4.3 Projected Completion Date for Submittal to RevCom: 05/2017

5.1 Approximate number of people expected to be actively involved in the development of this project: 100

5.2.a. Scope of the complete standard: This standard defines the physical layer (PHY) and medium access control (MAC) sublayer specifications for low-data-rate wireless connectivity with fixed, portable, and moving devices with no battery or very limited battery consumption requirements. In addition, the standard provides modes that allow for precision ranging. Physical layers (PHYs) are defined for devices operating various license-free bands in a variety of geographic regions

Changes in scope: This standard defines the physical layer (PHY) and medium access control (MAC) sublayer specifications for low-data-rate wireless connectivity with fixed, portable, and moving devices with no battery or very limited battery consumption requirements. ~~typically~~ ~~In operating~~ ~~addition, in the personal standard~~ ~~operating~~ ~~provides space~~ ~~modes (POS)~~ ~~that allow for~~ ~~precision~~ ~~ranging.~~ Physical layers (PHYs) are defined for ~~—devices~~ ~~Devices~~ ~~operating~~ ~~in various~~ ~~the license-free 868-868.6 MHz, 902-928 MHz, and 2400-2483.5 MHz bands~~ ~~—in~~ ~~Devices~~ ~~a~~ ~~with~~ ~~variety~~ ~~precision~~ ~~ranging, extended range, and enhanced robustness and mobility~~ ~~—~~ ~~Devices~~ ~~operating~~ ~~according~~ ~~the~~ ~~Chinese~~ ~~regulations, Radio~~ ~~Management~~ ~~of~~ ~~P-~~ ~~geographic~~ ~~R~~ ~~regions-~~ ~~of~~ ~~China~~ ~~doc.~~ #6326360786867187500 or current document, for one or more of the 314-316 MHz, 430-434 MHz, and 779-787 MHz frequency bands ~~—~~ ~~Devices~~ ~~operating~~ ~~in~~ ~~the~~ ~~950-956 MHz~~ ~~allocation~~ ~~in~~ ~~Japan~~ ~~and~~ ~~coexisting~~ ~~with~~ ~~passive~~ ~~tag~~ ~~systems~~ ~~in~~ ~~the~~ ~~band~~

5.2.b. Scope of the project: This amendment defines a PHY layer enabling the use of the 865-867 MHz band in India. Included are any channel access and/or timing changes in the MAC necessary to support this PHY layer.

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

If yes please explain: This amendment assumes the completion of the 15.4 Revision Project currently underway.

5.4 Purpose: The standard provides for ultra low complexity, ultra low cost, ultra low power consumption, and low data rate wireless connectivity among inexpensive devices. In addition, one of the alternate PHYs provides precision ranging capability that is accurate to one meter. Multiple PHYs are defined to support a variety of frequency bands.

Changes in purpose: The standard provides for ultra low complexity, ultra low cost, ultra low power consumption, and low data rate wireless connectivity among inexpensive devices. ~~The raw data rate is high enough (250 kb/s) to satisfy a set of applications but is also scaleable down to the needs of sensor and automation needs (20 kb/s or below) for wireless communications.~~ In addition, one of the alternate PHYs provides precision ranging capability that is accurate to one meter. Multiple PHYs are defined to support a variety of frequency bands ~~including 868-868.6 MHz, 902-928 MHz, 2400-2483.5 MHz, 314-316 MHz, 430-434 MHz, and 779-787 MHz band for LR WPAN systems in China, 950-956 MHz in Japan~~

5.5 Need for the Project: The Ministry of Urban Development (MoUD) in India has released a concept note on Smart Cities. The Department of Telecommunications (DoT) has formulated a roadmap for deployment of M2M communications. The Telecommunication Engineering Centre (TEC) has formed several M2M Working Groups to delve deeply into various aspects of M2M Communications. The Department of Electronics and Information Technology (DietY) has recently released a draft an Internet of Things Policy. The India Smart Grid Forum (ISGF) is in the process of preparing a standard framework for smart cities for submission to MoUD. Lastly, the Telecommunications Standards Development Society, India (TSDSI) is in the process of preparing technical reports containing use cases on various domains of Machine to Machine Communications/Internet of Things. Many of these activities are recommending the use of sub 1 GHz bands and in particular the 865-867MHz band in India which has recently been opened for broader unlicensed at power levels up to 4 watts. This amendment enables that capability.

5.6 Stakeholders for the Standard: The stakeholders include silicon vendors, manufacturers and users of telecom, medical, environmental, energy, and consumer electronics equipment and manufacturers and users of equipment involving the use of wireless sensor and control networks.

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 Development

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

8.1 Additional Explanatory Notes (Item Number and Explanation): 5.2a: This is the scope as it appears in the revision PAR project which is currently in sponsor ballot and which will be completed and published before this amendment

5.4: This is the purpose as it appears in the revision PAR project which is currently in sponsor ballot and which will be completed and published before this amendment