myProject™ - P802.15.4e PAR Detail

Submitter Email: bheile@ieee.org

Type of Project: Amendment to IEEE Standard

PAR Request Date: 10-Oct-2007

PAR Approval Date: 05-Dec-2007

PAR Expiration Date: 31-Dec-2011

Status: Amendment to an Existing IEEE Standard, Std 802.15.4-2006

Project: 802.15.4

Root Project: 802.15.4-2006

1.1 Project Number: P802.15.4e

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

1.4 Is this project in ballot now? No

2.1 Title: IEEE Standard for Information Technology - Telecommunications and Information Exchange Between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 15.4: Wireless Medium Access Control (MAC) and Physical Layer (PHY) Specifications for Low Rate Wireless Personal Area Networks (WPANs) - Amendment: Amendment to the MAC sub-layer

3.1 Working Group: Wireless Personal Area Network (WPAN) Working Group (C/LM/WG802.15)
Contact Information for Working Group Chair
Name: Robert F Heile
Email: bheile@ieee.org
Phone: 781-929-4832
Contact Information for Working Group Vice-Chair
None

3.2 Sponsoring Society and Committee: IEEE Computer Society/Local and Metropolitan Area Networks (C/LM)
Contact Information for Sponsor Chair
Name: Paul Nikolich
Email: 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 for Initial Sponsor Ballot: 01/2009

4.3 Projected Completion Date for Submittal to RevCom: 09/2009

5.1 Approximate number of people expected to work on this project: 30

5.2 Scope: The intention of this amendment is to enhance and add functionality to the 802.15.4-2006 MAC to a) better support the industrial markets and b) permit compatibility with modifications being proposed within the Chinese WPAN. Specifically, the MAC enhancements are limited to: TDMA: to provide a)determinism, b)enhanced utilization of bandwidth   Channel Hopping: to provide additional robustness in high interfering environments and enhance coexistence with other wireless networks   GTS: to increase its flexibility such as a) supporting peer to peer, b)the length of the slot, and c) number of slots   CSMA: to improve

throughput and reduce energy consumption   Security: to add support for additional options such as asymmetrical keys   Low latency: to reduce end to end delivery time such as needed for control applications

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

5.4 Purpose: This functionality facilitates Industrial applications (such as addressed by HART 7 and the ISA100 proposed standards), and those enhancements defined by the proposed Chinese WPAN standard that aren't included in TG4c. This amendment addresses coexistence with wireless protocols such as 802.11, 802.15.1, 802.15.3, and 802.15.4.

5.5 Need for the Project: Industrial applications have requirements that are not addressed by the existing standard such as low latency, robustness in the harsh industrial RF environment, and determinism. The Chinese Wireless Personal Area Network standard has identified enhancements to improve network reliability and increase network throughput to support higher duty-cycle data communication applications.

5.6 Stakeholders for the Standard: Process industry (e.g. oil & gas industry, food & beverage, pharmaceutical), Factory automation (automotive, machinery, aerospace), Data Communication

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Intellectual Property

6.1.a. Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitting this PAR prior to the PAR submittal to the IEEE-SA Standards Board? Yes

If yes, state date: 09/19/2007

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

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

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

7.2 International Activities

a. Adoption

Is there potential for this standard (in part or in whole) to be adopted by another national, regional or international organization? No

Organization:
Technical Committee Name:
Technical Committee Number:
Contact Person Name:
Contact Person Phone:
Contact Person Email:

b. Joint Development

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

Organization:
Technical Committee Name:
Technical Committee Number:
Contact Person Name:
Contact Person Phone:
Contact Person Email:

c. Harmonization

Are you aware of another organization that may be interested in portions of this document in their standardization development efforts? No

Organization:
Technical Committee Name:
Technical Committee Number:
Contact Person Name:
Contact Person Phone:
Contact Person Email:

8.1 Additional Explanatory Notes (Item Number and Explanation):