

P802.15.4e

Submitter Email: bheile@ieee.org

Type of Project: Modify Existing Approved PAR

PAR Request Date: 13-Nov-2010

PAR Approval Date: 02-Feb-2011

PAR Expiration Date: 31-Dec-2011

Status: Modification to a Previously Approved PAR for an Amendment

Root PAR: P802.15.4e **Approved on:** 05-Dec-2007

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

2.1 Title: IEEE Standard for Local and Metropolitan Area Networks

Part 15.4: Low Rate Wireless Personal Area Networks (LR-WPANs) Amendment to the MAC sub-layer

Old 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 Address: bheile@ieee.org

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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 Chair

Name: Paul Nikolich

Email Address: p.nikolich@ieee.org

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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: 04/2011

4.3 Projected Completion Date for Submittal to RevCom: 10/2011

5.1 Approximate number of people expected to be actively involved in the development of this project: 200

5.2 Scope: The intention of this amendment is to enhance and add functionality to the 802.15.4 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

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

If yes please explain: The 802.15.4 Revision must be completed before this amendment can be completed. The Revision is scheduled to complete March 2011.

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.

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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

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

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): The following changes have been made to this PAR: Since this amendment will follow the in process 802.15.4 Revision, reference to 802.15.4-2006 in the scope has been replaced by 802.15.4. The amendment has been made dependent on completion of the Revision and the number of active participants and the dates for submission to Sponsor Ballot and RevCom have been updated. We would like to remove the -2006 from the "Type of Project" field but that is assigned by MyProject and not changeable. We request that it be ignored.