IEEE P802.15
Wireless Personal Area Networks

Project	IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)	
Title	**<PAR for SG4e>**	
Date Submitted	[20 September 2007	
Source	[Pat Kinney] [Kinney Consulting LLC] [address]	Voice: [ ] Fax: [ ] E-mail: [ ]
Re:	To allow SG4e to review the completed draft PAR	
Abstract	Draft PAR for SG4e	
Purpose	To allow the SG4e to review the proposed PAR	
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Release	The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15.	

Draft PAR Confirmation Number:
Submittal Email: pat.kinney@ieee.org Change Submitter Email
Type of Project: PAR for an amendment to an existing Standard 802.15.4-2006
1.1 Project Number: P802.15.4e
1.2 Type of Document: Standard for
1.3 Life Cycle: Full
1.4 Is this project in ballot now? No
1.5 Is the balloting group aware of the PAR modification?
2.1 Title of Standard: 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 Name of Working Group: (802.15) Wireless Personal Area Network (WPAN) Working Group Add/Change Working Group
Contact information for Working Group Chair Robert F Heile Email: bheile@ieee.org Phone: 781-929-4832
Contact Information for Working Group Vice Chair Email: Phone:
3.2 Sponsoring Society and Committee:IEEE Computer Society/Local and Metropolitan Area Networks (C/LM) **Contact information for Sponsor Chair:** Paul Nikolich Email: p.nikolich@ieee.org Phone: 857-205-0050 **Contact information for Standards Representative:** Email: Phone:
3.3 Joint Sponsor:/ ()

Contact information for Sponsor Chair: Email: Phone: **Contact information for Standards Representative:** Email: Phone:	
4.1 Type of Ballot: Individual	
4.2 Expected Date of Submission for Initial Sponsor Ballot: 2009-01	
4.3 Projected Completion Date for Submittal to RevCom: 2009-09	
5.1 Approximate number of people expected to work on this project: 30	
5.2 Scope of Proposed Standard: 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 to be considered will be limited to the following: • 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	**Old Scope:**
5.3 Is the completion of this standard is dependent upon the completion of another standard: No **If yes, please explain:**	
5.4 Purpose of Proposed Standard: This	**Old Purpose:**

functionality will facilitate 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 will address 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

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: 2007-09-19
If no, please explain:
6.1.b. Is the Sponsor aware of any copyright permissions needed for this project? No
If yes, please explain:
6.1.c. 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
If yes, please explain:
and answer the following: Sponsor Organization:
Project/Standard Number:
Project/Standard Date: 0000-00-00
Project/Standard Title:

7.2 Future Adoptions
Is there potential for this standard (in part or in whole) to be adopted by another national, regional, or international organization? Do not know at this time
If Yes, the following questions must be answered:
Technical Committee Name and Number:
Other Organization Contact Information:
Contact person:

Contact Email address:
7.3 Will this project result in any health, safety, security, or environmental guidance that affects or applies to human health or safety? No If yes, please explain:
7.4 Additional Explanatory Notes: (Item Number and Explanation)
8.1 Sponsor Information: Is the scope of this project within the approved scope/definition of the Sponsor's Charter? Yes If no, please explain: