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22 March 2005

Paul Nikolich  
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Re: P802.15.3c - Millimeter-wave based Alternative Physical Layer Extension for IEEE Standard 802.15.3-2003 titled "Part 15: Wireless Medium Access Control (MAC) and Physical Layer (PHY) Specifications for High Rate Personal Area Networks (WPANs)"

Dear Paul:

I am pleased to inform you that on 20 March 2005 the IEEE-SA Standards Board approved the above referenced project until 31 December 2009. A copy of the file can be found on our website at <http://standards.ieee.org/board/nes/projects/802-15-3c.pdf>.

Now that your project has been approved, please forward a roster of participants involved in the development of this project. This request is in accordance with the IEEE-SA Operations Manual, Clause 5.1.2i under Duties of the Sponsor which states:

"Submit annually to the IEEE Standards Department an electronic roster of individuals participating on standards projects"

For your convenience, an Excel spreadsheet for your use has been posted on our website at <http://standards.ieee.org/guides/par/roster.xls>. Please forward this list to me via e-mail at [j.haasz@ieee.org](mailto:j.haasz@ieee.org) no later than 18 June 2005.

Please visit our website, IEEE Standards Development Online (<http://standards.ieee.org/resources/development/index.html>), for tools, forms and training to assist you in the standards development process. Also, we strongly recommend that a copy of your draft be sent to this office for review prior to the final vote by the working group to allow for a quick review by editorial staff before sponsor balloting begins.

If you should have any further questions, please contact me at 732-562-6367 or by email at [j.haasz@ieee.org](mailto:j.haasz@ieee.org).

Sincerely,

Jodi Haasz  
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International Stds Programs and Governance  
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CC: [bheile@ieee.org](mailto:bheile@ieee.org)

# PAR FORM

**PAR Status:** Amendment of Standard

**PAR Approval Date:** 2005-03-20

**PAR Signature Page on File:** Yes

**1. Assigned Project Number:** P802.15.3c

**2. Sponsor Date of Request:** 2005-02-08

**3. Type of Document:** Standard for

**4. Title of Document:**

**Draft:** Millimeter-wave based Alternative Physical Layer Extension for IEEE Standard 802.15.3-2003 titled "Part 15: Wireless Medium Access Control (MAC) and Physical Layer (PHY) Specifications for High Rate Personal Area Networks (WPANs)"

**5. Life Cycle:** Full-Use

**6. Type of Project:**

**6a. Is this an update to an existing PAR?** No

**6b. The Project is a:** Amendment to Std P802.15.3-2003

**7. Working Group Information:**

**Name of Working Group:** IEEE 802.15

**Approximate Number of Expected Working Group Members:**200

**8. Contact information for Working Group Chair:**

**Name of Working Group Chair:** Robert F Heile

**Telephone:** 781-929-4832 **FAX:**

**Email:** bheile@ieee.org

**9. Contact information for Co-Chair/Official Reporter, Project Editor or Document Custodian if different from the Working Group Chair:**

**Name of Co-Chair/Official Reporter, Project Editor or Document Custodian:**

**Telephone: FAX:**

**Email:**

**10. Contact information for Sponsoring Society or Standards Coordinating Committee:**

**Name of Sponsoring Society and Committee:** Computer Society Local and Metropolitan Area Networks

**Name of Sponsoring Committee Chair:** Paul Nikolich

**Telephone:** 857-205-0050 **FAX:** 781-334-2255

**Email:** paul.nikolich@ieee.org

**Name of Liaison Rep. (if different from the Sponsor Chair):**

**Telephone: FAX:**

**Email:**

**Name of Co-Sponsoring Society and Committee:**

**Name of Co-Sponsoring Committee Chair:**

**Telephone: FAX:**

**Email:**

**Name of Liaison Rep. (if different from the Sponsor Chair):**

**Telephone: FAX:**

**Email:**

**11. The Type of ballot is:** Individual Sponsor Ballot

**Expected Date of Submission for Initial Sponsor Ballot:** June 2006

**12. Projected Completion Date for Submittal to RevCom:** March 2007

**Target Extension Request Information for a Modified PAR whose completion date is being extended past the original four-year life of the PAR:**

**13. Scope of Proposed Project:**

This project will define a 25 to 100 GHz (millimeter wave) alternative PHY clause for higher data rate amendment to Standard 802.15.3-2003. This frequency range allows for the USA and Japanese unlicensed allocations and expected unlicensed allocations in other countries. Data rates will be at least 1 Gbps under normal operating conditions with a typical range no less than 10 meters.

**Is the completion of this document contingent upon the completion of another document?**

No

**14. Purpose of Proposed Project:**

The purpose is to standardize an alternative PHY that can achieve higher data rate transmission, higher spectral re-use via optional directional antennas, and superior coexistence than existing 802.15.3 wireless systems. Multiple data rates will be offered. Data rates of at least 1 Gbps (see item 21), will satisfy an evolutionary set of consumer multi-media industry needs for WPAN communications.

**15. Reason for the Proposed Project:**

This amendment extends the link rate for the 802.15.3 MAC by standardizing a new, mm wave PHY. Current PHYs are not able to reach the same performance point for the combination of speed, range, coexistence and complexity. It will provide opportunities to expand product features and performance for the consumer and will result in economic opportunity for technology component suppliers and equipment manufacturers.

**16. Intellectual Property:**

**a. Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitting this PAR?** Yes 2005-01-17

**b. Is the sponsor aware of copyright permissions needed for this project?** No

**c. Is the sponsor aware of trademarks that apply to this project?** No

**d. Is the sponsor aware of possible registration activity related to this project?** No

**17. Are there other documents or projects with a similar scope?** No

**Similar Scope Project Information:**

**18. Is there potential for this document (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:**

**Organization Name?**

**Technical**

**Committee**

**International**

**Contact**

**Information?**

**19. Will this project result in any health, safety, or environmental guidance that affects or applies to human health or safety?** No

**If yes, please explain:**

**20. Sponsor Information**

**a. Is the scope of this project within the approved/scope/definition of the Sponsor's Charter?** Yes

**If no, please explain:**

**b. The Sponsor's procedures have been accepted by the IEEE-SA Standards Board Audit Committee?** Yes

**21. Additional Explanatory Notes: (Item Number and Explanation)**

21] The CFAs responses collected by study group 802.15.3c over the past several months indicate an evolutionary market developing for a group of applications that will not be addressed by 802.15.3-2003. For example, high data rates of more than 2Gbps will be required for simultaneous time dependent applications such as multiple HDTV video streams without sacrificing the requirements for low complexity and low power consumption.

It is in the best interest of users and the industry to strive for a level of coexistence with other wireless systems, especially those in similar market spaces. Coexistence requirements will be established in the Task Group selection criteria against which the proposals will be evaluated.