

Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >	
Title	<b>Comments on the 802.16m PAR</b>	
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Re:	802.16m PAR C80216-06_054 and Five Criteria C80216-06_055	
Abstract	Suggests Improvements to address backwards compatibility, licensed bands	
Purpose	Discussion and adoption of the proposed text for updating the PAR	
Notice	This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.	
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**Patent  
Policy and  
Procedures**

The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures <<http://ieee802.org/16/ipr/patents/policy.html>>, including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair <<mailto:chair@wirelessman.org>> as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site <<http://ieee802.org/16/ipr/patents/notices>>.

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# Improvements to the 802.16m PAR

## Introduction

This contribution proposes some improvements to the 802.16m PAR text as marked changes highlighted below. The changes try to address targeting the project for mobile operation in licensed bands, backwards compatibility requirements and also proposes slight revisions to the proposed sponsor ballot and completion dates.

## Backwards Compatibility Aspects

Presently IEEE Std 802.16e based systems are being commercialized in the industry. The WiMAX Forum (<http://www.wimaxforum.org>) is certifying interoperability of subscriber stations and base stations based on the IEEE Std. 802.16e. Numerous operators worldwide are engaged in deploying these systems for satisfying the demand for mobile broadband internet access. In light of the growing customer demand for 802.16e based systems it is very important that backwards compatibility is maintained for these systems while the 802.16m advanced air interface standard is being developed. In spite of this requirement significant enhancements are expected in the 802.16m project to meet the IMT-Advanced requirements being developed.

## Schedule

The expectation is that 802.16m based technologies could be available for technology trials starting in the 2010 timeframe and commercial use thereafter. If this goal needs to be realized, it is imperative that the project be completed in the mid 2009 timeframe.

## Proposed PAR Text Changes

**Type of Project:** Amendment to an Existing Standard 802.16-2004

**1.1 Project Number:** P802.16m

**1.2 Type of Document:** Standard for

**1.3 Life Cycle:** Full

**1.4 Is this project in ballot now?** No

**2.1 Title of Standard:** IEEE Standard for Local and metropolitan area networks - Part 16: Air Interface for Fixed Broadband Wireless Access Systems Amendment: IEEE Standard for Local and metropolitan area networks - Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems – Advanced Air Interface [for operation in licensed bands](#)

**3.1 Name of Working Group:** Broadband Wireless Access Working Group

### Contact information for Working Group Chair

Roger B Marks Email: [r.b.marks@ieee.org](mailto:r.b.marks@ieee.org) Phone: 1-303-725-4626

### 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](mailto: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:** 2008~~9-11~~03**4.3 Projected Completion Date for Submittal to RevCom:** 2009-~~07~~11**5.1 Approximate number of people expected to work on this project:** 300

**5.2 Scope of Proposed Standard:** This amendment provides an advanced air interface [that includes enhancements and extensions to IEEE Std. 802.16](#) to meet the requirements of next generation mobile networks. This standard is intended for incorporation into the IMT-Advanced standardization [process](#) activity being conducted by the International Telecommunications Union – Radiocommunications Sector (ITU-R). The amendment is based on the WirelessMAN-OFDMA specification and [shall](#) provides continuing support for legacy subscriber stations [and base stations](#).

**5.3 Is the completion of this standard is dependent upon the completion of another standard:**

Yes **If yes, please explain:** The project is dependent on the completion of IMT-Advanced requirements on a timely basis.

**5.4 Purpose of Proposed Standard:** The purpose of this [amendment](#) ~~standard~~ is to [enhance and extend functionalities of the](#) ~~update the~~ WirelessMAN-OFDMA air interface in accordance with the requirements defined for the internationally agreed radio interface standards for next generation mobile networks such as IMT-Advanced.

**5.5 Need for the Project:** The International Telecommunications Union – Radio Communications Sector (ITU-R), is preparing to develop the IMT-Advanced radio interface standards to provide advanced air interface specifications for mobile telecommunications. Under the current schedule, initial proposals for IMT-Advanced are anticipated to be solicited for mid-2008, and standardization is expected to continue through 2009. This project will seek to develop an advanced IEEE 802.16 air interface by working cooperatively with ITU-R and its members.

**5.6 Stakeholders for the Standard:** Vendors developing IEEE 802.16 products, and customers using IEEE 802.16 products, are interested parties in the development of this amendment project. In addition, ITU-R and the members of ITU-R are interested parties.

[One organization that is commercializing IEEE Std 802.16 based systems is the WiMAX Forum.](#)

**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: 2006-09-25

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?**

If yes, please explain: Other standards develop~~ment~~ing organizations may develop proposals for inclusion in IMT-Advanced. However, we have no specific knowledge of such proposals at this time.

**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? Yes**

If Yes, the following questions must be answered: Technical  
 Committee Name and Number: ITU

### Other Organization Contact Information:

**Contact person:** José Costa

**Contact Email address:** costa@nortel.com

**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)

### [Item 2.1:](#)

The title of this PAR should be:

"IEEE Standard for Local and metropolitan area networks - Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems – Advanced Air Interface"

However, the automatic PAR titling system does not permit the assignment of this name.

Note that the base of the title must contain the words "and Mobile". These words are not in the title of IEEE 802.16-2004<sup>6</sup>, but the title was modified by IEEE 802.16e-2005.

### [Item 5.2:](#)

[This amendment shall support backward compatible enhancements and extensions to IEEE Std 802.16 to allow commercialized subscriber stations and base stations, primarily based on features included in the 802.16e-2005 amendment \(WirelessMAN-OFDMA\) and corrigenda to continue to be supported.](#)

### [Item 5.6:](#)

[Implementation considerations raised by organizations that are commercializing the IEEE Std. 802.16 based systems should be considered during development of the standard.](#)

## 3.3 Joint Sponsor:

The PAR submittal form does not allow for the entry of Joint Sponsor information. The Joint Sponsor is as follows:

Joint Sponsor: IEEE Microwave Theory and Techniques Society Contact information for Sponsor Chair: Richard Snyder Email: r.snyder@ieee.org Phone: +1-201-492-1207

## 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:  
 Contact the [NesCom Administrator](#)