*Proposed IEEE 802.16 WG Statement to FCC regarding*

*IEEE Project P802.16.3*

IEEE 802.16 Working Group, Metrology Study Group

# Abstract

This document proposes a statement to the U.S. Federal Communications Commission providing notification of Project P802.16 and requesting input toward requirements.

#  Background

On 30 August 2012, the IEEE-SA Standards Board approved Project Authorization Request (PAR) [P802.16.3](http://doc.wirelessman.org/16-12-0489) for the development of a new standalone standard on *Mobile Broadband Network Performance Measurements*. The IEEE 802.16 Working Group is assigned to develop the standardization project. The Metrology Study Group issued a *Call for* *Contributions: IEEE Project P802.16.3: Mobile Broadband Network Performance Measurements* ([IEEE 802.16-12-0492](http://doc.wirelessman.org/16-12-0492)) toward IEEE 802.16’s Session #81 of 17-20 September 2012.

On 4 September 2012, the U.S. Federal Communications Commission (FCC) [announced](http://www.fcc.gov/document/mobile-broadband-measurement) a “new program to measure mobile broadband service performance in the United States” and an open meeting of 21 September 2012 to introduce the program. The program will “develop information on mobile broadband service performance in the United States” utilizing a “collaborative model” based on that used in the Measuring Broadband America program studying the performance of fixed broadband networks. It anticipates supporting a “statistically sound methodology” that “allows comparisons and analyses that are valuable to consumers and spur competition among service providers.” The FCC states that it “looks forward to the participation of other critical stakeholders.” In the 21 September meeting, the FCC staff will discuss “the technical methods for performance testing of mobile broadband Internet service, methodological approaches to remotely acquiring and analyzing such data, and other methodological considerations for the testing of mobile broadband performance.”

While the 4 September announcement does not mention standardization, the “collaborative model” used in the Measuring Broadband America program has recently moved toward support for standardization activities outside the FCC. In particular, the FCC’s “Next-Generation Measurement Architecture Standardization and Outreach Group (NMASOG)” issued a [statement to the Broadband Forum](http://apps.fcc.gov/ecfs/document/view?id=7022008017) (21 August 2012) on “Architecture Standards and Specifications.” The statement indicates that “a standards based approach is both technically feasible and can serve multiple interests.” It requests that the Broadband Forum (BBF) begin a work program on data collection infrastructure and in particular calls out the BBF’s Broadband Access Service Attributes and Performance Metrics (WT-304) project. It also indicates that it intends to ask the IETF to undertake work on “standardizing metrics used to characterize broadband performance.” Regarding the infrastructure, the statement indicates that standards should support “adaptability… to support services such as mobile broadband wireless, as well as Wireline services.”

Both of the standardization activities mentioned in the statement are related to the 802.16.3 Project:

* On 31 August 2012, the IEEE 802.16 Working Group received liaison statement [IEEE 802.16-12-0523-00-WGLS](http://doc.wirelessman.org/16-12-0492) from the Broadband Forum. The statement provides notification of the new Working Text WT-304 (“Broadband Service Attributes and Performance Metrics”) that will “create and/or identify Broadband Access Service Attributes, and Performance Measures and Monitoring methods applicable for Service Providers, Regulatory reporting, and customer use.” The statement encourages input and contributions on this project “partnering SDO’s” (presumably to include IEEE 802.16).
* The 802.16.3 PAR and Five Criteria Statement both refer to the IETF Working Group on IP Performance Metrics (IPPM). The P802.16.3 Call for Contributions toward Session #81 requested comments regarding working document IEEE 802.16-12-0483 (“[Draft] Applications and Requirements for Mobile Broadband Network Performance Measurements”) and contributions toward enhancement of that content, including further information on proposed metrics to be specified within the standard. IEEE 802.16-12-0483 references the IPPM WG strongly (“The standard should reference metrics specified by IETF (particularly from the IP Performance Metrics (IPPM) Working Group) whenever feasible”).

The activity within the IEEE 802.16 WG toward mobile measurement standards has [previously been raised within NMASOG discussions](http://tinyurl.com/bszt73p).

# Perspectives

The FCC’s new mobile broadband service performance measurement program appears to be very well aligned with the 802.16.3 Project on Mobile Broadband Network Performance Measurements. For the fixed case, the FCC is showing an interest in standardization and has targeted IETF for metrics and BBF WT-304 for infrastructure. The 802.16.3 project has also targeted the former for metrics, and the latter has recently notified the 802.16 WG of the progress of this new activity.

Unlike Project 802.16.3, neither the BBF nor IETF activities specifically target mobility. They do not exclude mobility, but the mobile case raises distinct issues that might not be prioritized when the focus is fixed access. The FCC’s approach of addressing first fixed and then mobile highlights this fact.

The target applications of Project 802.16.3 include those of the FCC but are broader. The FCC’s statement to the BBF refers to data “to the consumer, to policy makers, to the academic community and to Internet service providers.” Working document IEEE 802.16-12-0483 calls out a broader set of eight “stakeholder roles” (governmental policy maker, user (individual or enterprise), cell tower operator, wireless carrier, researcher, standards developer, user device vendor, application developer).

Given these circumstances, it is likely that Project 802.16.3 could develop a standard that addresses the requirements of the new FCC mobile broadband service performance measurements program. The resulting standard would specifically address the mobility requirements, referencing other relevant standards (such as those in BBF and IETF) as appropriate.

# Suggested Communication

Given the potential for the direct applicability of Project 802.16.3 to the FCC’s new mobile broadband service performance measurements program, the IEEE 802.16 Working Group should inform the FCC of the project and its expectations, inviting the FCC to become engaged in the project, initially by making contributions toward specifying program technical requirements.

The procedure for such a communication is specified in the *IEEE 802 LMSC Operations Manual*. Per the 4 September 2012 revision of the manual, subclause 8.2.2 (“Sponsor subgroup communications with government bodies”) states the following:

a) Sponsor subgroup communications with government bodies shall not be released without prior approval by 75% of the Sponsor subgroup. Such communications may proceed unless blocked by a Sponsor vote. For statements not presented for review in a sponsor meeting, Sponsor members shall have a review period of at least five days; if, during that time, a motion to block it is made, release of the statement will be withheld until a letter ballot of the Sponsor is held to determine if it is approved.

b) Sponsor subgroup communications shall be identified in the first paragraph as the view of only the Sponsor subgroup and shall be issued by the Sponsor subgroup(s) Chair(s) and shall include the Sponsor Chair in the distribution. Such statements shall not bear the IEEE, the IEEE-SA, or IEEE 802 LMSC logos.

The procedure does not indicate a role for the IEEE 802.18 Radio Regulatory Technical Advisory Group (TAG). However, it is generally advisable to seek the review of the 802.18 TAG as a means of getting expert perspectives on regulatory inputs and of socializing contributions among other IEEE 802 Working Groups. Note that the IEEE 802.18 TAG has decided that, beginning at the September 2012 session, it will address document approvals at its Closing Plenary on Thursday mornings.

# Proposal

The Metrology Study Group forwards the proposed statement below to the IEEE 802.18 Technical Advisory Group for review, and to the IEEE 802.16 Working Group for approval at the Session #81 Closing Plenary.

PROPOSED DRAFT

**IEEE 802.16 Working Group on Broadband Wireless Access**

**http://WirelessMAN.org**

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20 September 2012

To: Walter Johnston

Chief, Electromagnetic Compatibility Division

Federal Communications Commission (FCC)

James Miller

Office of Engineering and Technology, FCC

cc: Henning Schulzrinne, Chief Technologist, FCC

Paul Nikolich, Chair, IEEE 802 Executive Committee

Subj: New IEEE Project P802.16.3 on Mobile Broadband Network Performance Measurements

The IEEE 802.16 Working Group (WG) on Broadband Wireless Access has taken note of the Commission’s 4 September 2012 announcement of a “new program to measure mobile broadband service performance in the United States” and an open meeting of 21 September 2012 to introduce the program. The IEEE 802.16 WG hereby provides its views regarding that announcement and on related standardization activities within the WG. We have noted that the program will “develop information on mobile broadband service performance in the United States” utilizing a “collaborative model”; that it anticipates supporting a methodology that “allows comparisons and analyses that are valuable to consumers and spur competition among service providers”; and that the FCC “looks forward to the participation of other critical stakeholders.” We have also noted that, in the 21 September meeting, the FCC staff will discuss “the technical methods for performance testing of mobile broadband Internet service, methodological approaches to remotely acquiring and analyzing such data, and other methodological considerations for the testing of mobile broadband performance.”

Given our understanding of this new mobile broadband service performance measurement program, the IEEE 802.16 WG would like to bring to your attention the new, and quite relevant, IEEE Project P802.16.3 on *Mobile Broadband Network Performance Measurements*. This project was authorized on 30 August 2012 by the IEEE-SA Standards Board and assigned to the IEEE 802.16 WG for standardization development. The proposal was developed, beginning in March 2012, in the 802.16 Working Group’s [Metrology Study Group](http://ieee802.org/16/sg/met).

Details of the project are available in the PAR and Five Criteria statement ([IEEE 802.16-12-0489](http://doc.wirelessman.org/16-12-0489)). In particular, the scope specifies that the standard will specify “procedures for characterizing the performance of deployed mobile broadband networks from a user perspective. It specifies metrics and test procedures as well as communication protocols and data formats allowing a network-based server to coordinate and manage test operation and data collection.” Please note that the scope of the project addresses end-to-end measurements and is not limited to any particular air interface.

For more detail, we also call your attention to working document [IEEE 802.16-12-0483](http://doc.wirelessman.org/16-12-0483) (“[Draft] Applications and Requirements for Mobile Broadband Network Performance Measurements”). This early draft includes our initial assessment of key measurement applications across eight stakeholder roles, as well as our initial view of requirements.

It is our current view that the P802.16.3 project will attempt to incorporate existing standards when feasible. For example, the PAR refers to several related standardization activities. IEEE 802.16-12-0483 incorporates a view that the standard “should reference metrics specified by IETF (particularly from the IP Performance Metrics (IPPM) Working Group) whenever feasible.” The 802.16 Working Group has received a [liaison communication from the Broadband Forum End to End Architecture Group](http://doc.wirelessman.org/16-12-0523-00) with information about the new Working Text WT-304 (“Broadband Service Attributes and Performance Metrics”). Meeting this week, the 802.16 Working Group has [responded to the Broadband Forum](http://doc.wirelessman.org/16-12-0xxx) and [provided a statement to IETF](http://doc.wirelessman.org/16-12-0yyy) as well.

While the P802.16.3 project intends to reference existing standards where feasible, some extensions may be inevitable. In particular, the project specifically addresses the mobile case as the core issue. To our understanding, most other relevant projects, while not specifically excluding mobile devices, do not target them. The mobile case raises distinct issues that might not be prioritized when the focus is fixed access. We observe that the FCC’s approach of addressing the fixed case prior to the mobile one underscores this situation.

According to our understanding, the target applications of Project 802.16.3 include those of the FCC’s program but appear to be a bit broader. The FCC’s statement to the BBF refers to data “to the consumer, to policy makers, to the academic community and to Internet service providers.” Working document IEEE 802.16-12-0483 calls out a broader set of eight “stakeholder roles”: governmental policy maker, user (individual or enterprise), cell tower operator, wireless carrier, researcher, standards developer, user device vendor, and application developer.

Given these circumstances outlined here, it appears likely that Project 802.16.3 could develop a standard that addresses the needs of the new FCC mobile broadband service performance measurements program. We would appreciate your views on this suggestion. We also welcome your input on the appropriate technical requirements to ensure that Project 802.16.3 does indeed meet your needs. If it is convenient for you, we encourage you to provide comments regarding our working document [IEEE 802.16-12-0483](http://doc.wirelessman.org/16-12-0483).

We welcome your perspectives and encourage communication. Our next opportunity to respond to a formal communication will occur at [IEEE 802.16 Session #82](http://ieee802.org/16/meetings/mtg82) (12-15 Nov 2012 in San Antonio, TX, USA). For information on our future meetings schedules, see <http://ieee802.org/16/calendar.html>.

Sincerely,

Roger B. Marks

Chair, IEEE 802.16 Working Group on Broadband Wireless Access