

# P802.16p

**Submitter Email:** [r.b.marks@ieee.org](mailto:r.b.marks@ieee.org)

**Type of Project:** Amendment to IEEE Standard 802.16-2009

**PAR Request Date:** 27-Jul-2010

**PAR Approval Date:** 30-Sep-2010

**PAR Expiration Date:** 31-Dec-2014

**Status:** PAR for an Amendment to an existing IEEE Standard

**Project Record:** No Project Record

**Root Project:** IEEE Std 802.16

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

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

**2.1 Title:** Amendment to Standard for Air Interface for Broadband Wireless Access Systems - Enhancements to Support Machine-to-Machine Applications

**3.1 Working Group:** Broadband Wireless Access Working Group (C/LM/WG802.16)

**Contact Information for Working Group Chair**

**Name:** Roger Marks

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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

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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:** [replace this; add six months or so]

**4.3 Projected Completion Date for Submittal to RevCom:** [replace this]

**5.1 Approximate number of people expected to be actively involved in the development of this project:** 100

**5.2 Scope:** This amendment specifies medium access control (MAC) enhancements and minimal orthogonal frequency division multiple access (OFDMA) physical layer (PHY) modifications in licensed bands to support lower power consumption at the device, support by the base station of significantly larger numbers of devices, efficient support for small burst transmissions, and improved device authentication.

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

**If yes please explain:** Yes. This will amend IEEE Std 802.16, following completion of the current revision.

**5.4 Purpose:** This amendment describes enhancements to enable a range of Machine-to-Machine applications in which the device communications require wide area wireless coverage in licensed bands, and are automated rather than human-initiated or human-controlled for purposes such as observation and control.

**5.5 Need for the Project:** Many Machine-to-Machine applications require network access that involves requirements significantly different from those used to support typical human-initiated or human-controlled network

access. Such applications include secured access and surveillance, tracking, tracing and recovery, public safety sensors, vehicular telematics, healthcare monitoring of bio-sensors, remote maintenance and control, smart metering, automated services on consumer devices, retail digital signage management. The current IEEE 802.16 standard and the amendments under development do not address the unique requirements of these applications, such as very low power consumption, large number of devices, short burst transmissions, device tampering detection and reporting etc. While these requirements are not all-encompassing to the Machine-to-Machine applications space, they will enable many applications that need the enhancements proposed in this amendment.

**5.6 Stakeholders for the Standard:** Network operators, utility companies, government agencies, network equipment manufacturers, mobile and wireless device manufacturers, semiconductor manufacturers.

### **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?:** Yes

**If Yes please explain:** • ETSI Technical Committee project on Machine-to-Machine Communications.

<http://www.etsi.org/website/technologies/m2m.aspx>

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3GPP TS 22.368: Service requirements for Machine-Type Communications (MTC), Stage 1, Release 10, March 2010.

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3GPP2 SC.R5003-0: Vision for 2009 and Beyond, Version 1.0, April 2009.

• 3GPP2 S.P0140-0: Study for Machine to Machine (M2M) communication for cdma2000 Wireless Networks

**and answer the following**

**Sponsor Organization:** 3GPP

**Project/Standard Number:** TS 22.368

**Project/Standard Date:** 01-Apr-2010

**Project/Standard Title:** Service requirements for Machine-Type Communications (MTC), Stage 1, Release 10

### **7.2 Joint Development**

**Is it the intent to develop this document jointly with another organization?:** No

### **7.3 International Activities**

#### **a. Adoption**

**Is there potential for this standard (in part or in whole) to be adopted by another national, regional or international organization?:** Yes

**Organization:** ITU-R

**Technical Committee Name:** IMT Systems

**Technical Committee Number:** Working Party 5D

**Contact Name:** Michael Lynch

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**b. Harmonization Are you aware of another organization that may be interested in portions of this document in their standardization development efforts?:** No

**8.1 Additional Explanatory Notes (Item Number and Explanation):** (Item 5.2) Backward Compatibility: This amendment provides continuing support for legacy WirelessMAN-OFDMA equipment.