

# P802.16p

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

**Type of Project:** Modify Existing Approved PAR

**PAR Request Date:** 17-Oct-2011

**PAR Approval Date:** 07-Dec-2011

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

**Status:** Modification to a Previously Approved PAR for an Amendment

**Root PAR:** P802.16p **Approved on:** 30-Sep-2010

**Root Project:** 802.16-2009

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

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

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

**Changes in title:** Amendment ~~IEEE to~~ Standard for ~~Local and Metropolitan Area Networks—Part 16:~~ Air Interface for Broadband Wireless Access Systems -**Amendment:** Enhancements to Support Machine-to-Machine Applications

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**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

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**3.2 Sponsoring Society and Committee:** IEEE Computer Society/LAN/MAN Standards Committee (C/LM)

**Contact Information for Sponsor Chair**

**Name:** Paul Nikolich

**Email Address:** [p.nikolich@ieee.org](mailto:p.nikolich@ieee.org)

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**Contact Information for Standards Representative**

None

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**4.1 Type of Ballot:** Individual

**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** 05/2012

**4.3 Projected Completion Date for Submittal to RevCom:** 02/2013

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

**5.2 Scope:** This amendment specifies IEEE Std 802.16 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.

**Changes in purpose:** This amendment ~~describes~~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.

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### **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

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**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>>

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

\*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

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**8.1 Additional Explanatory Notes (Item Number and Explanation):** (3.3) MTT/SCC is a Joint Sponsor

(Item 5.2) Backward Compatibility: This amendment provides continuing support for legacy WirelessMAN-OFDMA equipment.

### **CHANGES IN THIS MODIFIED PAR:**

The completion dates are extended by about six months. Otherwise, the only material change is to restrict the PAR scope to exclude amendments to the WirelessMAN-Advanced air interface introduced in IEEE 802.16m. This was achieved by the following:

(1) 5.3 now mentions the contingency on the current revision of IEEE Std 802.16, removing language about 802.16m.

(2) 2.1 was changed to refer to the title of the base standard following revision.

(3) The note in 8.1 regarding backward compatibility was modified to remove reference to WirelessMAN-Advanced.