



**IEEE Standard for  
Local and metropolitan area networks**

## **Part 16: Air Interface for Broadband Wireless Access Systems**

### **Amendment 2: Improved Coexistence Mechanisms for License-Exempt Operation**

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**IEEE Computer Society  
and the  
IEEE Microwave Theory and Techniques Society**

Sponsored by the  
LAN/MAN Standards Committee

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**Part 16: Air Interface for  
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Amendment 2: Improved Coexistence  
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**IEEE Computer Society**

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**IEEE Microwave Theory and Techniques Society**



Approved 17 June 2010

**IEEE-SA Standards Board**

**Abstract:** This amendment specifies improved mechanisms, as policies and medium access control enhancements, to enable coexistence among license-exempt systems based on IEEE Std 802.16 and to facilitate the coexistence of such systems with primary users.

**Keywords:** broadband wireless access, BWA, coexistence, Coexistence Control Channel, coexistence mechanism, Coexistence Protocol, Coexistence Signaling, contention-based protocol, license-exempt, OFDMA, radio, standard, WAS, wireless access systems, WirelessMAN<sup>®</sup>, WirelessMAN-CX, WirelessMAN-UCP, wireless metropolitan area network

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## Introduction

This introduction is not part of IEEE Std 802.16h-2010, IEEE Standard for Local and metropolitan area networks—Part 16: Air Interface for Broadband Wireless Access Systems—Amendment 2: Improved Coexistence Mechanisms for License-Exempt Operation.

This amendment updates and expands IEEE Std 802.16, specifying improved mechanisms, as policies and medium access control enhancements, to enable coexistence among license-exempt systems and to facilitate the coexistence of such systems with primary users. As of the publication date, the current applicable version of IEEE Std 802.16 is IEEE Std 802.16-2009, as amended by IEEE Std 802.16j<sup>TM</sup>-2009 and IEEE Std 802.16h-2010.

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IEEE Standard for  
Local and metropolitan area networks

**Part 16: Air Interface for  
Broadband Wireless Access Systems**

**Amendment 2: Improved Coexistence  
Mechanisms for License-Exempt Operation**

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NOTE—The editing instructions contained in this amendment define how to merge the material contained herein into the existing base standard and its amendments to form a comprehensive standard.

The editing instructions are shown ***bold italic***. Four editing instructions are used: ***change***, ***delete***, ***insert***, and ***replace***. ***Change*** is used to make small corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by either using ~~striketrough~~ (to remove old material) or underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. ***Replace*** is used to make large changes in existing text, subclauses, tables, or figures by removing existing material and replacing it with new material. Editorial notes will not be carried over into future editions because the changes will be incorporated into the base standard.

## 1. Overview

### 1.3 Frequency bands

*Change title of 1.3.3 as follows:*

#### 1.3.3 License-exempt bands ~~frequencies below 11 GHz (primarily 5-6 GHz)~~

*Delete the last two paragraphs in 1.3.3 as follows:*

It is recognized that some administrations require notification of terminal location for certain services in some license exempt bands, which is a form of licensing. Conversely, it is possible to have uncoordinated usage within a licensed allocation. In these and other similar cases, the pertinent issues for license exempt usage remain as described in the preceding paragraph.

In the context of this standard, the use of the term “license exempt frequencies” or “license exempt bands” should be taken to mean the situation where licensing authorities do not coordinate individual assignments of frequency bands to operators, regardless of whether the spectrum in question has a particular regulatory status as license exempt or licensed.

#### 1.3.4 Air interface nomenclature and PHY compliance

*Change the seventh row of Table 1 in 1.3.4 as indicated:*

| Designation                 | Applicability   | PHY specification                                    | System features   | Duplexing alternative |
|-----------------------------|---|--|---|-----------------------|
| WirelessHUMAN <sup>TM</sup> | <del>Below 11 GHz license-exempt bands</del><br><u>License-exempt bands below 11GHz</u> | <del>{8.4} and 8.5</del><br><u>8.3, 8.4, and 8.5</u> | <del>AAS (6.3.7.6)</del><br><del>ARQ (6.3.4)</del><br><del>STC (8.3.8/8.4.8)</del><br><u>12.3, 12.4</u> | TDD                   |

*Insert the following rows at the end of Table 1:*

| Designation     | Applicability                    | PHY specification | System features | Duplexing alternative |
|-----------------|----------------------------------|-------------------|-----------------|-----------------------|
| WirelessMAN-CX  | License-exempt bands below 11GHz | 8.3, 8.4          | 12.8.2          | TDD                   |
| WirelessMAN-UCP | License-exempt bands below 11GHz | 8.4               | 12.8.1          | TDD                   |

*Change the last paragraph in 1.3.4 as indicated:*

Implementations of this standard for license-exempt frequencies below 11 GHz (such as those listed in B.1) use the designations WirelessHUMAN, WirelessMAN-CX and WirelessMAN-UCP, and shall comply with the WirelessMAN-OFDM PHY as described in 8.3, or the WirelessMAN-OFDMA PHY as described in 8.4. WirelessMAN-UCP provides uncoordinated coexistence mechanisms (6.4) and WirelessMAN-CX provides