



ITRI
Industrial Technology
Research Institute

ITRI[®]

Broadband Wireless Access

ITRI-2013-Std-001

Air Interface Specification

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ITRI Proprietary

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Chapter 1 Introduction

ITRI® is a scientific organization that conducts development and industrial promotion of a multitude of technologies including broadband wireless platforms based upon IEEE Standard 802.16. ITRI works closely with operators, academia, and regulators to ensure that ITRI developed systems meet customer and government requirements. This specification is intended for developing interoperable WirelessMAN-Advanced broadband wireless access systems. The objective is to provide and promote the commercialization of the WirelessMAN-Advanced systems among the manufacturers, operators, academia, and research institutes.

Chapter 2 Copyright Notice

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Chapter 3 Summary of Content

This document specifies the ITRI transposition of WirelessMAN-Advanced GCS developed by the Institute of Electrical and Electronics Engineers, Inc.

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Chapter 4 Specifications

4.1 Outline

“WirelessMAN-Advanced System” Global Core Specification is comprised of IEEE 802.16.1-2012, IEEE Std 802.16.1a-2013, and IEEE Std 802.16.1b-2012. The clauses in the specification are summarized in the following table 4.1.

Table 4.1 WirelessMAN-Advanced Clauses

IEEE Std 802.16 Clause: Subject	IEEE Std 802.16.1-2012	IEEE Std 802.16.1a-2013	IEEE Std 802.16.1b-2012
Clause 1.4: Reference models	Base Specification		
Clause 2: Normative references	Base Specification		
Clause 3: Definitions	Base Specification	Amended	Amended
Clause 4: Abbreviations and acronyms	Base Specification	Amended	
Clause 5.2: Packet Convergence Sublayer	Base Specification		
Clause 6: WirelessMAN-Advanced Air Interface	Base Specification	Amended	Amended
Annex B: MAC Control Messages	Base Specification	Amended	Amended
Annex C: Test Vectors	Base Specification		
Annex D: Supported Frequency Bands	Base Specification		
Annex E: Radio Specifications	Base Specification		
Annex F: Default Capability Class and parameters	Base Specification		

IEEE Std 802.16: Standard for local and metropolitan area networks – Air interface for broadband wireless access systems.

This standard specifies the medium access control layer (MAC) and physical layer (PHY) of broadband wireless access systems. The MAC is designed to support multiple PHY specifications.

IEEE Std 802.16 is composed of IEEE Std 802.16.1-2012, IEEE Std 802.16.1a-2013, and IEEE Std 802.16.1b-2012.

4.1.2 IEEE Std 802.16.1-2012

This standard specifies the WirelessMAN-Advanced Air Interface, including the medium access control layer (MAC) and physical layer (PHY), of a broadband wireless access (BWA) system supporting multiple services. The WirelessMAN-Advanced Air Interface supports the International Telecommunication Union (ITU)'s IMT-Advanced requirements.

4.1.3 IEEE Std 802.16.1a-2013

This amendment updates and expands IEEE Std 802.16.1, specifying enhanced mechanisms to support higher reliability networks.

4.1.4 IEEE Std 802.16.1b-2012

This amendment updates and expands IEEE Std 802.16.1, specifying enhancements providing improved support for machine-to-machine applications.

4.2 Detailed specification

Normative Reference:

The detailed specification text for the WirelessMAN-Advanced radio interface is provided in Annexes 1, 2, and 3 as referred to in the following subsections.

4.2.1 Reference models

Normative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Clause 1.4

4.2.2 Normative references

Normative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Clause 2

4.2.3 Definitions

Normative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Clause 3

Annex 2: IEEE Std 802.16.1a-2013, Clause 3

Annex 3: IEEE Std 802.16.1b-2012, Clause 3

4.2.4 Abbreviations and acronyms

Normative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Clause 4

Annex 2: IEEE Std 802.16.1a-2013, Clause 4

4.2.5 Packet Convergence Sublayer

Normative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Clause 5.2

4.2.6 WirelessMAN-Advanced Interface

Normative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Clause 6

Annex 2: IEEE Std 802.16.1a-2013, Clause 6

Annex 3: IEEE Std 802.16.1b-2012, Clause 6

4.2.7 MAC Control messages

Normative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Annex B

Annex 2: IEEE Std 802.16.1a-2013, Annex B

Annex 3: IEEE Std 802.16.1b-2012, Annex B

4.2.8 Test Vectors

Informative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Annex C

4.2.9 Supported Frequency Bands

The applicable frequency bands are those designated for Broadband Wireless Access applications in the region.

4.2.10 Radio Specifications

Informative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Annex E

4.2.11 Default Capability Class and parameters

Informative Reference:

This section is transposed with no change to the GCS as provided by the GCS Proponent.

Annex 1: IEEE Std 802.16.1-2012, Annex F

Annex 1

[IEEE Std 802.16.1-2012.](#)

Annex 2

[IEEE Std 802.16.a-2013.](#)

Annex 3

[IEEE Std 802.16.1b-2012.](#)