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THIS IS NOT AN IEEE DRAFT STANDARD.

Baseline Document for Draft Standard for
Local and Metropolitan Area Networks

Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems

Multihop Relay Specification

~~Sponsor~~
~~**LAN MAN Standards Committee**~~
~~**of the**~~
~~**IEEE Computer Society**~~

Prepared by the Relay Task Group of IEEE 802.16

Abstract: This document specifies OFDMA physical layer and medium access control layer enhancements to IEEE Std. 802.16 for licensed bands to enable the operation of relay stations.

Keywords:

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Introduction

(This introduction is not part of the IEEE P802.16j, Draft amendment to IEEE Standard for Local and Metropolian Networks Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems - Multihop Relay Specifications).

Participants

~~This document was developed by the IEEE802.16 Working Group on Broadband Wireless Access, which develops the WirelessMAN™ Standard for Wireless Metropolitan Area Networks.~~

IEEE 802.16 Working Group Officers

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~~Primary development was carried out by the Working Group's Relay Task Group.~~

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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 comprehsive 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 by using ~~strikethrough~~ (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

1.1 Scope

This document specifies OFDMA physical layer and medium access control layer enhancements to IEEE Std 802.16 for licensed bands to enable the operation of relay stations. Subscriber station specifications are not changed.

1.2 Purpose

The purpose of this amendment is to enhance coverage, throughput and system capacity of 802.16 networks by specifying 802.16 multihop relay capabilities and functionalities of interoperable relay stations and base stations.

1.3 Frequency bands

1.3.4 Air interface nomenclature and PHY compliance

1.4 Reference model

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1.4.2 Relaying reference model

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6. MAC common part sublayer

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6.3 Data/Control plane

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6.3.2 MAC PDU formats

6.3.2.1 MAC header formats

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6.3.8 Contention resolution

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6.3.9.16 Support for network entry and initialization in relay mode

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6.3.10.3 OFDMA based ranging

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6.3.13 Establishment of multicast and broadcast transport connections

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6.3.17 MAC support for HARQ

6.3.18 DL CINR report operation

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6.3.18.3 Relay station DL CINR report operations

6.3.19 optional Band AMC operations using 6-bit CQICH encoding

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6.3.24 MS Idle Mode (optional)

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7.3 Dynamic SA creation and mapping

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7.5 Cryptographic methods

7.6 Certification profile

7.7 Pre-Authentication

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8.4 WirelessMAN-OFDMA PHY layer

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8.4.8 Space-Time Coding (optional)

8.4.9 Channel coding

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8.4.11 Channel quality measurements

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9.4 RS configuration

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