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Project	**IEEE 802.20 Working Group on Mobile Broadband Wireless Access** **<http://grouper.ieee.org/groups/802/20/>**
Title	**Receiver Sensitivity and Adjacent Channel Selectivity MPS for BS Receiver**
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Re:	The MBWA Minimum Performance project
Abstract	This contribution presents the minimum performance specification (MPS): Receiver Sensitivity and Adjacent Channel Selectivity, for the Base Station Reciever of 625k-MC Mode.
Purpose	For consideration of 802.20 WG
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1 INTRODUCTION

This document covers the minimum performance specifications: Receiver Sensitivity and Adjacent Channel Selectivity on the access network (AN) side, specifically on the receiver of Base Station of 625k-MC system. All the information in this document pertains to wide area networks.

2 TERMINOLOGY FOR BS MINIMUM STANDARDS

The terminology used for BS radio minimum performance specifications is defined in Clause 22 of IEEE 802.20™~~5.1.1 of ATIS-0700004.2005~~. The BS shall follow all procedures as specified ~~in Clause 6 of ATIS- 0700004.2005 with supplemental definitions specified in~~ Clause 22 of IEEE 802.20™ "The Standard for Local and Metropolitan Area Networks – Standard Air Interface for Mobile Broadband Wireless Access Systems Supporting Vehicular Mobility – Physical and Media Access Control Layer Specification"

3 RECEIVER MINIMUM STANDARDS

3.1 Receiver Sensitivity

Reference sensitivity level requirements for the base station (or "uplink") receiver are based on frame error rate (FER) in the presence of Additive Gaussian White Noise (AWGN) ~~, and are described in clause 12.9.1.2 of ATIS- 0700004.2005.~~ .Signal power measurements are to be made on SRRC-filtered waveforms.

3.1.1 Definition

The reference sensitivity level of the base station receiver shall be no greater than 1.2dB above the nominal values as specified in the clause 22.2 of IEEE 802.20™ and in Table 1 below.

3.1.2 Method of Measurement

For every ModClass, ~~The~~ the test shall be carried out ~~for every ModClass~~ as described in Clause 12.9.1.~~2~~ 3 of .ATIS 0700004.2005

3.1.3 Minimum Standard

Table 1: BS Receiver Sensitivity for FER = 10^{-2}

Modulation Class	Base Station Standard[dBm]
Mod 0	-107.5
Mod 1	-105.7
Mod 2	-104.2
Mod 3	-101.3
Mod 4	-100.1
Mod 5	-96.9
Mod 6	-94.8
Mod 7	-93.5
Mod 8	-91.6
Mod 9	-89.2
Mod 10	-86.2

3.2 Adjacent Channel Selectivity

Adjacent channel selectivity (ACS) measures the receiver's ability to receive a desired signal on its assigned carrier in the presence of a modulated interfering signal on an adjacent carrier.

3.2.1 Definition

ACS is defined in clause 6.4.2. of ATIS- 0700004.2005.

3.2.2 Minimum Standard

The ACS shall be at least 30 dB adjacent carriers 625 kHz apart, and at least 46 dB for streams 1250 kHz or more apart.

4 REFERENCES

[1] IEEE 802.20™ "The Standard for Local and Metropolitan Area Networks – Standard Air Interface for Mobile Broadband Wireless Access Systems Supporting Vehicular Mobility – Physical and Media Access Control Layer Specification"

[2] ATIS-0700004.2005, High Capacity-Spatial Division Multiple Access (HC-SDMA) Radio Interface Standard, September 2005