Project	IEEE P802.16 Broadband Wireless Access Working Group		
Title	IEEE 802.16.2 Topical Outline for, “Recommended Coexistence Practices for Broadband Wireless Access Systems”—Working Document		
Date Submitted	31 July, 1999		
Source	J. Leland Langston Raytheon Telecommunication Company 17217 Waterview Parkway MS 333 Dallas, TX 75252	Voice: Fax: E-mail:	972-344-0795 972-344-0759 j-langston2@raytheon.com
Re:	Coexistence Practice Outline		
Abstract	This document is a draft outline of the proposed coexistence practice developed at the 802.16 meeting in Montreal, July, 1999		
Purpose	This document should be reviewed by all interested members of 802.16, and participants of the coexistence task group in particular. Comments and/or suggestions should be disseminated to all 802.16 members via the reflector. The document will be updated periodically.		
Notice	This document has been prepared to assist the IEEE P802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.		
Release	The contributor acknowledges and accepts that this contribution may be made publicly available by 802.16.		

IEEE 802.16.2
Recommended Coexistence Practices for Broadband Wireless Access Systems
Topical Outline

1. INTRODUCTION

This document provides guidelines for minimizing interference in Broadband Wireless Access (BWA) systems. A range of coexistence issues are addressed and recommended engineering practices provide guidance for system design, deployment, co-ordination and frequency usage. The document covers the 10 to 66 GHz frequencies in general, but is focused on 20 – 40 GHz.

2. SCOPE

This document provides recommended practices for the design and coordinated deployment of broadband wireless access (BWA) systems to minimize interference so as to maximize system performance and/or service quality. The intent of this document is to define a set of consistent design and deployment recommendations for Brodband Wireless Access (BWA) systems. These recommendations, if followed by manufacturers and operators, will allow a wide range of equipment to coexist in a shared environment with minimum mutual interference. This practice provides recommendations in three specific areas. First, it recommends limits for both in-band and out-of-band emissions from BWA transmitters through parameters including radiated power, spectral masks and antenna patterns. Second, it recommends tolerance levels for certain receiver parameters, including noise floor degradation and blocking performance, for interference received from other BWA systems as well as from other terrestrial and satellite systems. Third, it recommends band plans, separation distances, and power flux density limits to facilitate coordination and to enable successful deployment of BWA systems with tolerable interference. The scope includes interference between systems deployed across geographic boundaries in the same frequency band and systems deployed in the same geographic area in different frequency bands (including different systems deployed by a single license-holder in sub-bands of the licensees authorized bandwidth). The scope does not cover coexistence issues due to intra-system frequency re-use within the operator's licensed band, and it does not consider the impact of interference created by BWA systems on non-BWA terrestrial and satellite systems. [Frequency range to include 10 – 60 GHz] [Mobile operation to be considered later if appropriate, but will not be addressed in the initial practice]

3. **KEY PARAMETERS**

3.1 Equipment Design

3.1.1 TX

3.1.1.1 Maximum EIRP Spectral Density, Base Stations: 25 dBW/MHz

3.1.1.2 Maximum EIRP Spectral Density, CPE Stations: 35 dBW/MHz

3.1.1.3 Emissions: In-Band (licensed), Out of Sub-Band:
(Use relative bandwidth for defining OOB emissions not channelized approach.)

3.1.1.4 Power control range, including rain effects

3.1.1.5 Frequency stability

3.1.1.6 EMI/EMC Parameters

3.1.2 RX

3.1.2.1 EMI/EMC Parameters

3.1.2.2 Receiver Selectivity

3.1.2.3 Minimum Receiver Input 3rd order intercept

3.1.2.4

3.1.3 Antennas

3.1.3.1 Mask

3.1.3.2 Polarization

3.1.3.3 Other Parameters

4. System Design

4.1 Receiver Sensitivity Degradation Tollerance => 1dB over No (Related to I/N)

4.2 Subscriber TX lock to prevent transmissions when no received signal present

4.3 Fail-safe mechanisims for excessive frequency error, etc. (list of parameters)

5. Propagation Model

6. Interference Scenarios

7. Frequency Plans

7.1 Band Plan

7.2 Minimum TX/RX Frequency Separation

7.3 IF Interference

8. Deployment

8.1 Co-ordination Process

8.2 Co-ordination Mitigation techniques

8.2.1 [Minimum Hub-Hub antenna separation and antenna orientation]

8.2.2 [Min sub-sub antenna separation and antenna orientation]

8.2.3

Appendix A:

Test & Measurement Procedures