



**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of Parts 1, 21, 73,	)	WT Docket No. 03-66
74 and 101 of the Commission's	)	RM-10586
Rules to Facilitate the	)	
Provision of Fixed and Mobile	)	
Broadband Access, Educational	)	
and Other Advanced Services in	)	
the 2150-2162 and 2500-2690 MHz	)	WT Docket No. 03-67
Bands	)	
	)	
Part 1 of the Commission's	)	MM Docket No. 97-217
Rules - Further Competitive	)	
Bidding Procedures	)	
	)	
Amendment of Parts 21 and 74 to	)	
Enable Multipoint Distribution	)	
Service and the Instructional	)	WT Docket No. 02-68
Television Fixed Service	)	RM-9718
Amendment of Parts 21 and 74 to	)	
Engage in Fixed Two-Way	)	
Transmissions	)	
	)	
Amendment of Parts 21 and 74		
of the Commission's Rules With		
Regard to		
Licensing in the Multipoint		
Distribution Service and in the		
Instructional Television Fixed		
Service for the		
Gulf of Mexico		

**Reply Comments of Alvarion Ltd.**

Alvarion appreciates the opportunity to register official comment with respect to the FCC's Notice of Proposed Rulemaking regarding the restructuring of the MMDS/ITFS/MDS frequency bands. Alvarion is the world's leading pure play provider of wireless broadband solutions and we are a very pro-active leader. We develop and market carrier-class solutions from 800MHz to 26GHz, covering applications as diverse as high-speed Internet access, TDM voice, cellular backhaul, mobile broadband, public hotspots, and enterprise bridging. While Alvarion's leadership may be measured in units deployed (more than 1.5 million), countries deployed (over 125), and most any other significant metric, Alvarion has also been a principal leader in the wireless standards development process from the first IEEE 802.11 WLAN standard to the recent IEEE 802.16.

From Iceland to Chile, from India to Ireland, from Namibia to Russia, from Cambodia to New Zealand, the globe's largest wireless broadband deployments in almost every region are Alvarion based. In the U.S., approximately 200 telephone companies, 60 utilities, 800 ISPs, many municipalities, several large regional cellular carriers, and a number of cable MSO's are delivering wireless broadband services to several hundred thousand subscribers using Alvarion's BreezeACCESS multi-point solution. BreezeACCESS integrates 900MHz, 2.4GHz, MMDS, 3.5GHz, and multiple 5GHz bands into a single solution with end user speeds from 3Mbps to 24Mbps. Significant deployments can be found in markets as rural as Jefferson County, Nebraska with a population as of only 8,250, but where Diode Communications has over 1,000 fixed wireless broadband

customers to as metro as San Diego County, California, where over 500 sheriff's deputy vehicles have mobile broadband access.

Accordingly, as a market leader, Alvarion accepts the responsibility and respectfully offers the Commission the following brief set of comments.

Support for WCA/NIA/CTN "Coalition" Band Plan

We believe the MMDS/ITFS is valuable set and vastly underutilized today in terms of serving the public interest. While we believe there are many reasons for this, there is little doubt that the regulatory uncertainty, bureaucratic encumbrances, and dated nature of the band rules plays a critical role in discouraging national deployment of services in these bands. Alvarion endorses the "Coalition" proposed plan for restructuring the bands for the following reasons:

A. Flexible Use of the Band

The marketplace makes the technology decision and maintains flexibility for future technologies as those are developed. Technologies like next generation TDD or FDD wireless broadband systems could not thrive in a regulatory environment that restricted flexibility and mandated one technology over another. The dynamics of the Operators business will also dictate the technology used. The proposal enables FDD, providing good inter-operator co-existence, and also enables TDD, that may be used largely in the future for a number of reasons, including Traffic

asymmetry with new IP targeted applications, capacity improvement by using MIMO, Beam forming antennas, and lower CPE cost, to mention a few. With flexible use, the equipment Alvarion manufactures can be deployed in both the LBS and the UBS immediately.

#### B. Use of MBS by Incumbent Broadcast Licensees

The Coalition band plan permits both current commercial and ITFS licensees to continue operations using the MBS. From an interference point of view, the MBS must be the same size in every market and it must be on the same frequency assignments that we have today. The Coalitions band plan does just that.

#### C. LBS, MBS, UBS Band Structure

The Coalition band plan is structured such that MBS is to support video incumbents, but also serves as the most efficient means to manufacture a standard in down converters that protect the MBS from brute force overload. The MBS also efficiently accommodates a duplex separation needed for low cost FDD technologies.

#### D. 'I' Channels

The band plan keeps the 'I' channels where they are today, which is necessary to maintain sufficient attenuation from high power radars located at 2700 MHz. The same RF filters we use today can be used.

## E. Establishing the Model for Global Harmonization

The Coalition band plan relative to some of the global harmonization comments we have seen should serve as the model. We understand that Europe will not make a decision for several years and any delay waiting for what will happen in other parts of the world will be severely damaging to our business and the operators who wish to deploy using our equipment. We strongly feel CEPT decisions will take other factors into account and will not have to resolve the problem of existing TV deployment. Due to this, it would make no sense to wait for ERC decisions, which would unnecessarily delay the further growth of the wireless broadband market.

## F. Mass Production Benefits of a Standardized Band Plan

The Coalition Band Plan will finally permit the MMDS/ITFS band to lend itself to mass production of CPE and base station equipment using standards-based radio chip-sets. The resulting low cost radios will serve as the catalyst to launch the wireless broadband market into the same realm served by cable modem and DSL broadband solutions today.

For all of these reasons, contrasted to other proposed band plans, the Coalition's band plan is by far technically superior and the only plan that considers the needs of manufacturers, operators, commercial and educational licensees.

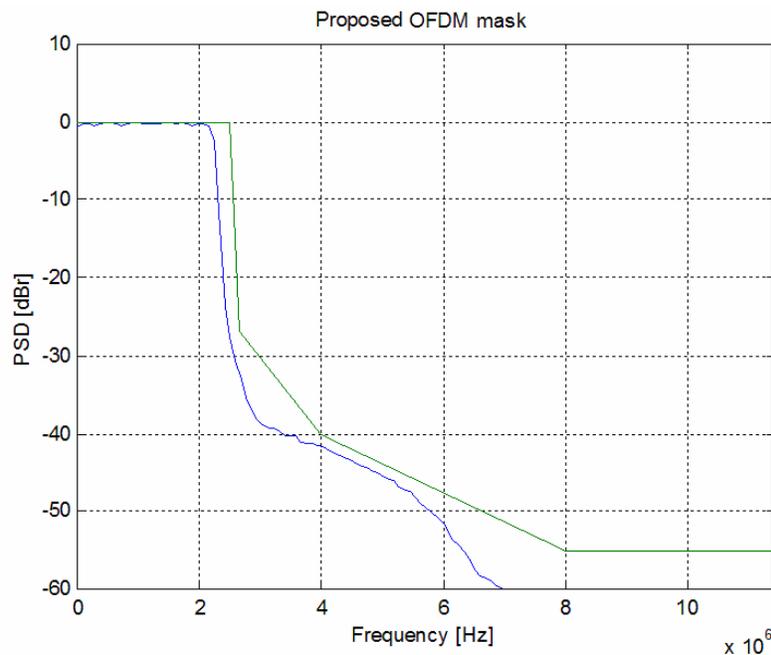
## G. Base Station and CPE mask

Alvarion proposes the following spectral mask for both the CPE and Base Station equipment as a compromise between lowest cost radio technologies with the highest spectral efficiency and minimum emissions. Stricter spectral masks will force equipment costs higher and defeat the Operator cost targets resulting in stifled growth of the wireless broadband market.

#### 5.5 MHz Channel Spectral Mask:

CF to CF+2.5MHz: 0dBc  
CF+2.65MHz: -27dBc  
CF+4MHz: -40dBc  
CF+8MHz to infinity -55dBc

The following graph illustrates the spectral mask.



Typical OFDM waveform (with power amplifier distortion)

H. Base Station and CPE Power in the LBS, MBS and UBS

We support the Coalition's conclusion that there is no reason for the Commission to alter the current provisions of Sections 21.904(a) and (b) and 74.935(a) and (b) limiting the EIRP of MDS and ITFS stations. However, Sections 21.909(g)(2) and 74.939(g)(2) currently limit the transmitter output power of MDS/ITFS customer equipment to 2 watts. We support the Coalition's proposal to comply with the FCC's radio frequency radiation exposure requirements rather than continue with the current 2 watt limit or any other arbitrary limit.

Alvarion is pleased to be a party to this comment process.

Respectfully submitted,

/s/ Duane Buddrius

Duane Buddrius  
Director Product Engineering and Product Management  
Alvarion Inc.  
5858 Edison Place  
Carlsbad, CA 92008