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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

March 21, 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

Re: CC Docket 92-297
RM-7872; RM-7722

Dear Mr. Caton:

On behalf of Digital Microwave Corporation, transmitted herewith are an original and four (4) copies of its Comments in the above-referenced matter.

Should any questions arise concerning this matter, please communicate with this office.

Very truly yours,

FLETCHER, HEALD & HILDRETH

Leonard R. Raish

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Enclosures

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BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

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MAR 2 1 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of	)	
	)	
Rulemaking to Amend Part I and Part 21 of the Commission's Rules to Redesignate the 27.5 - 29.5 MHz Frequency Band and to Establish Rules and Policies for Local Multipoint Distribution Service	)	CC Docket 92-297
	)	RM-7872; RM-7722

To the Commission:

COMMENTS BY
DIGITAL MICROWAVE CORPORATION

The Digital Microwave Corporation (DMC) submits the comments below in response to the Commission's *Public Notice* in the above cited proceeding released on February 11, 1994. In the comments below, DMC urges the Commission to (a) expand the Advisory Committee to include representation from terrestrial fixed microwave industries (b) increase the scope of the Advisory Committee to permit it to consider additional systems and (c) retain an allocation of spectrum in the 27.5 - 29.5 GHz band for terrestrial fixed microwave.

I. GENERAL

DMC designs, manufactures and markets advanced, high performance digital microwave radio equipment, primarily for use in the 2 GHz, 6 GHz, 10 GHz, 18 GHz, 23 GHz and 38 GHz bands. DMC's products have the capacity to transmit and receive multiple DS1 and DS2, and single DS3 lines carrying voice, data and video signals. DMC is one of the largest suppliers of microwave equipment in the global market and the fourth largest supplier in

the U.S. market. Its customers include common carriers seeking to offer a variety of digital transmission services to their customers, and private users and governmental agencies which build their own private short haul telecommunications networks. DMC is one of the largest exporters of U.S. made microwave equipment.

In its comments filed in this proceeding on March 16, 1993, DMC urged the Commission to preserve at least 500 MHz of spectrum in the "28 GHz band" for common carrier and private point-to-point communications services. This was based on DMC's view that clearly there will be growth in the requirements for support service for cellular telephone, personal communications services (PCS) as well as for other short haul, high capacity private communications. The "28 GHz band" has been recognized as the growth band for short haul microwave systems. Finally, DMC noted it seemed premature to designate the entire "28 GHz band" solely for LMDS use.

II. PROPOSED ESTABLISHMENT OF AN ADVISORY COMMITTEE IS SUPPORTED PROVIDED ITS TERMS OF REFERENCE ARE BROADENED

DMC believes the use of an Advisory Committee could serve the Commission well. However, the Advisory Committee should be permitted more options for carrying out its task than the narrow terms of reference outlined in the *Public Notice*. Since the terrestrial fixed interests are affected, those interests should

be represented -- after all, it is their currently allocated spectrum that is at stake.

The Advisory Committee with its expanded membership as just proposed should have the option of other solutions than being limited to those made possible by the *Public Notice*. For example, noting that present digital technology permits the use of 6 Mb/s transmissions for a broadcast quality TV channel, the question arises as to the appropriateness of reallocating the entire 27.5 - 29.5 GHz band to LMDS. With this in mind, DMC renews its earlier proposal that would reallocate part of the band of LMDS and the remainder retained for terrestrial fixed. A reasonable allocation would be to allocate the band, half to LMDS and the other half to terrestrial fixed, e.g., 27.5 - 28.5 to LMDS and 28.5 - 29.5 GHz to terrestrial fixed; another allocation could be to allocate 27.5 - 28.0 GHz and 29.0 - 29.5 GHz to terrestrial fixed and 28 - 29 GHz to LMDS. DMC's point is the Advisory Committee should have the authority to consider those options.

The Advisory Committee should be authorized further to take into consideration the importance of spectrum bands authorized on a worldwide basis. Specifically, the 27.5 - 29.5, 37.5 - 40.5, and 40.5 - 42.5 GHz bands are each allocated on a worldwide basis in the ITU International Table of Frequency Allocations (the first two for Fixed and Fixed-Satellite on a co-primary basis and the latter for Broadcasting-Satellite and Broadcasting on a co-primary basis). DMC, in particular, has been very successful in

exporting its terrestrial microwave system because worldwide spectrum allocation has facilitated standardized product lines.

It would appear the foregoing rationale could be applied to LMDS. If this service was put in the 40.5 - 42.5 GHz band, the U.S. manufacturers would have the advantage of a worldwide export market for video distribution systems.

III. DEVELOPMENT OF NATIONAL INFORMATION INFRASTRUCTURE WILL LEAD TO SUBSTANTIAL GROWTH IN TERRESTRIAL FIXED MICROWAVE IN HIGHER BANDS

The rapidly growing support for the National Information Infrastructure (NII) clearly signals a substantial growth for point-to-point terrestrial microwave communications services. Requirement for "short hop" microwave communications has been growing rapidly anyway, but the NII plans places new additional emphasis on extending services to areas that cannot be served realistically by fiber. As seen by DMC, access to both the 28 GHz and 38 GHz bands will be required to meet the surge of new requirements.

The Advisory Committee should be required to take into account the impact of the NII. As pointed out by the chairman of the Information Infrastructure Task Force, "The time is now. Every day brings news of changes, new technologies, like hand-held computerized assistants, new ventures and mergers combining businesses that not long ago seemed discrete and insular; new legal decisions that challenge the separation of computer, cable,

and telephone industries."[1] The chairman goes on to point out "the NII will serve as the driver for a wide variety of technologies, such as semiconductors, high speed networking, advanced displays, software, and human/computer interfaces.[1]

While many technologies will be encompassed by the NII, it is obvious microwave radio communications will have a major role in delivering service to the ultimate users. The Advisory Committee should have the option of taking these factors into account.

IV. COMMISSION HAS ALREADY REDUCED SPECTRUM AVAILABLE FOR MICROWAVE COMMUNICATIONS

The Commission has already substantially reduced the spectrum allocations for point-to-point microwave communications to make way for new technologies. For example, in ET Docket 92-9, the Commission has reallocated spectrum in the 2 GHz bands to PCS and other emerging technologies. Frequencies in the 18 GHz band have been made available for video distribution. The 12.2-12.7 GHz has been reallocated to direct satellite broadcasting. The H group of channels in the 2.5-2.6 GHz band have been reallocated to MMDS. And while the Commission proposes to relocate thousands of 2 GHz users to higher frequency bands (4, 6, 10 and 11 GHz), many of those bands are already crowded. When the <u>future</u> growth of point-to-point microwave requirements is added into the picture, it is clear that additional spectrum will

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[1] See National Information Infrastructure: Agenda for Action published by Information Infrastructure Task Force, Sept. 15, 1993, pages 4 and 13.

be required. Therefore, DMC urges the Commission to authorize the Advisory Committee to consider future point-to-point requirements before reallocating the entire 28 GHz band for yet another video distribution service.

V. PRESERVATION OF FIXED MICROWAVE USE OF PART OF THE 27.5 - 29.5 GHz BAND WOULD BE CONSISTENT WITH INTERNATIONAL ALLOCATIONS

While noting all of the foregoing, continued access to at least a part of the 27.5 - 29.5 GHz band will foster the competitiveness of American microwave equipment manufacturers in international markets. DMC expects that the 27.5-29.5 GHz band will continue to be allocated for point-to-point communications internationally and that this band as well as the 38 GHz band will be used extensively in connection with the development of support services for PCS and similar services in other countries. DMC also expects increased international demands for private short-haul communications that can be accommodated in the 28 GHz band. In fact, communications authorities of at least two countries, i.e., Germany and United Kingdom, have asked microwave equipment manufacturers to develop equipment and systems for the 28-29 GHz band. DMC is prepared to respond and plans to produce high capacity equipment for operation in the 28 GHz band as well as in the 38 GHz band for the international market. Authorizing similar uses for those bands in the U.S. will foster U.S. competitiveness internationally and, of course, create additional employment for U.S. workers' by allowing U.S. manufacturers to

produce "uniform" and, therefore, less costly domestic and international product lines.

VI. CONCLUSIONS

Noting the discussion herein above, the following conclusions are submitted:

(a) The proposed Advisory Committee is supported but its membership should be expanded to include representation from the terrestrial fixed microwave interests.

(b) The terms of reference for the Advisory Committee should be expanded to allow other options to be considered rather than being limited to those in the Public Notice.

(c) Spectrum in the 27.5 - 29.5 GHz band should be retained for terrestrial fixed microwave use.

(d) The Advisory Committee should take into account the 27.5 -29.5 GHz band is allocated worldwide for Fixed, Fixed-Satellite (Earth-to-Space) and Mobile on a co-primary basis. Such a worldwide allocation benefits manufacturers exporting equipment.

(e) Since television is very likely to be converted to digital modulation, less spectrum should be required for LMDS, thereby enabling the retention of substantial spectrum for terrestrial microwave in the 27.5 - 29.5 GHz band.

Wherefore the premises considered, the Commission is urged to take the foregoing into account as it considers this proceeding.

Respectfully submitted,

DIGITAL MICROWAVE CORPORATION

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Date: March 21, 1994