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HAND DELIVERY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

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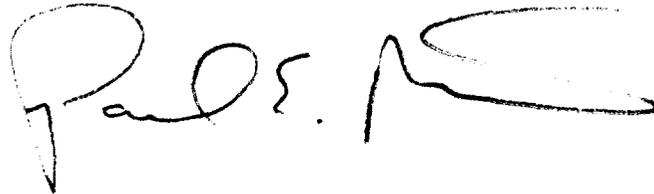
Re: CC Docket No. 92-297
Ex Parte Filing

Dear Mr. Caton:

Enclosed is a copy of a letter delivered by hand today to the addressee and copy recipients. Please place this copy in the file for CC Docket No. 92-297.

Thank you for your attention to this matter.

Respectfully submitted,



Paul E. Misener
Counsel for Texas Instruments, Inc.

Enclosure

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Texas Instruments Incorporated



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June 8, 1995

Thomas S. Tycz
Chief, Satellite and Radio
Communication Division
International Bureau
Federal Communications Commission
Suite 811
2000 M Street, NW
Washington, DC 20554

Re: Sharing Between LMDS and MSS Feeder Links

Dear Mr. Tycz:

In response to your request in our meeting earlier this week, I am pleased to offer on behalf of Texas Instruments, Inc. ("TI") the following thoughts on sharing a portion of the 28 GHz band between LMDS and MSS feeder links. TI continues to support the early adoption of a band sharing solution that meets the reasonable requirements of all potential services in the band.¹

LMDS must be allocated at least 1 GHz of primary spectrum at 28 GHz for each LMDS service provider, which may include a portion that is allocated co-primary with another service. Otherwise, the LMDS service would not be on a parity with existing cable capabilities, and the myriad benefits of 28 GHz LMDS that will be realized in other countries will be denied to the American public.² The Commission's initial proposal for LMDS was to allot 2 GHz of 28 GHz spectrum with 1 GHz being assigned to each of two providers in each area.

The digital LMDS transmission technology being developed by TI (and possibly by other LMDS companies) is more spectrally efficient than analog LMDS technology. This does not mean,

¹ Texas Instruments is a manufacturer of 28 GHz LMDS equipment. Although TI does not intend to be an LMDS service provider, we have a clear interest in the success of the service, and have LMDS business economists developing and studying service implementation models.

² Based on their proponents' own filings, the stated spectrum requirements of some other services in the 28 GHz band are far more tenuous and should be carefully examined before any reduction of LMDS spectrum is considered.

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however, that LMDS can be a viable service with less than 1 GHz. The spectrum efficiency of digital LMDS is necessary to meet future broadband competition which will also utilize the new digital modulation technologies. Also, the additional services made possible by the digital technology--that is, telephony, data, and compressed video--will allow the necessary revenues to be generated to support the digital infrastructure.

With flexible digital LMDS transmission technology, the specific outbound and inbound spectrum needs are configured for the specific installation. In a business application, where the data transmission needs are equal in each direction, a symmetric band use plan would be implemented: equal amounts of spectrum would be dedicated to node and customer premises equipment (CPE) transmissions. In contrast, residential applications require a far higher data rate outbound than inbound and, accordingly, the bulk of LMDS spectrum would be dedicated to node transmissions.

As part of the 28 GHz Negotiated Rulemaking of last summer, LMDS interests and Motorola developed a sharing arrangement based on an analysis which showed that Iridium's MSS feeder links could share the same spectrum with LMDS.

A few weeks ago, TI (joined by Hughes, Teledesic, and Boeing) submitted a 28 GHz band plan to the Commission that took into account this sharing arrangement. Specifically, TI proposed that 1 GHz be allocated to LMDS and split into two 500 MHz sub-bands at 27.5-28.0 GHz and 29.0-29.5 GHz. This plan would be particularly amenable to symmetric LMDS installations, because the necessary guard band between outbound and inbound LMDS traffic would be accommodated by the gap between the LMDS bands. In the upper sub-band, TI proposed that MSS feeder links be allocated on a co-primary basis with LMDS, and planned to use this sub-band for LMDS node transmissions.

In another 28 GHz band plan under consideration by the FCC staff, the 1 GHz of LMDS spectrum is split into 850 MHz and 150 MHz segments at 27.5-28.35 GHz and 29.1-29.25 GHz, respectively. Considering the guard band requirement, this plan is particularly amenable to asymmetric LMDS installations, with the smaller 150 MHz band being used for the CPE low traffic density return links. The negotiated rulemaking analysis showed that the CPEs as an aggregate will not cause harmful interference to MSS feeder link operations.

In addition to the sum power from CPE transmissions, Motorola expressed concern that CPE antennas inadvertently could be pointed skyward and cause interference in the Iridium

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satellite receivers. TI has offered solutions for this potential problem. The polling algorithms already included in TI's LMDS equipment does not allow CPE transmissions independent of node communication. Since the CPE antenna is used for both transmission and reception, the unit must be pointed at the node to receive a node signal before it can transmit any signal. The TI system also uses active power control to compensate for rain attenuation and lower the power of those CPEs at short range to nodes, further reducing the aggregate power levels. Another level of protection against inadvertent interference can be provided by designing a CPE to inhibit transmissions if it is not properly oriented in the vertical plane. Also, separation and shielding between MSS sites and LMDS, as identified during the negotiated rulemaking, would be necessary to mitigate potential interference into LMDS nodes and CPEs.

I hope this response provides a few of the possibilities that exist to allow the future LMDS systems to share the 28 GHz spectrum with MSS feeder links.

Sincerely yours,



Gene Robinson
Senior Fellow
Texas Instruments, Inc.

cc: Donna L. Bethea
Susan E. Magnotti
Gregory Rosston
Docket File No. CC 92-297