



Federal Communications Commission
Washington, DC 20554

International Bureau

June 25, 2004

Mr. Alan Auckenthaler, Vice President
Inmarsat Inc.
1100 Wilson Blvd., Ste. 1425
Arlington, VA 22209-3903

Re: In the Matter of Flexibility for Delivery of Communication by Mobile
Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands,
IB Docket No. 01-185

Dear Mr. Auckenthaler:

As you are aware, Inmarsat Ventures Ltd. ("Inmarsat") and Mobile Satellite Ventures Subsidiary LLC ("MSV") have differing views regarding the level of an interfering signal from an MSV proposed Ancillary Terrestrial Component ("ATC") base station that will result in an input signal overload condition to an Inmarsat terminal receiver operating in the 1525.0-1559.0 MHz band. The difference in Inmarsat receiver overload levels claimed by Inmarsat and MSV is on the order of 30 dB. MSV claims the Inmarsat receiver overload threshold used for interference analysis should be -45 dBm at the input to the Inmarsat receiver low-noise amplifier ("LNA").¹ Inmarsat claims the overload threshold is on the order of -75 dBm.² In the ATC Order,³ the Commission calculated the necessary separation distance between MSV's ATC base stations and Inmarsat terminals on aircraft and vessels and associated ATC base station effective

¹ See *In the Matter of Mobile Satellite Ventures Subsidiary LLC Application for Modification of Space Station License (AMSC-1)*, File No. SAT-MOD-20031118-00333, *Amendment to Pending Application to Launch and Operate a Next-Generation Replacement MSS Satellite System*, File No. SAT-AMD-20031118-00332, and *Application for a Modification of Blanket License to Operate Mobile Earth Terminals with MSAT-1*, File No. SES-MOD-20031118-01879, Response of Mobile Satellite Ventures Subsidiary LLC to Opposition of Inmarsat Ventures LLC (April 14, 2004) (Appendix A at p. 5)

² See *In the Matter of Mobile Satellite Ventures Subsidiary LLC Application for Modification of Space Station License (AMSC-1)*, File No. SAT-MOD-20031118-00333, *Amendment to Pending Application to Launch and Operate a Next-Generation Replacement MSS Satellite System*, File No. SAT-AMD-20031118-00332, and *Application for a Modification of Blanket License to Operate Mobile Earth Terminals with MSAT-1*, File No. SES-MOD-20031118-01879, Reply of Inmarsat Ventures Ltd (April 26, 2004) (p. 40).

³ See *In the Matter of Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz band, the L-Band, and the 1.6/2.4 GHz Bands; Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, Report and Order and Notice of Proposed Rulemaking, IB Docket No. 01-185 and IB Docket No. 02-364 (rel. Feb. 10, 2003) (the "ATC Order").

EIRP limits based on assumed overload thresholds at the LNA input of -50 dBm for airborne terminals and -60 dBm for mass-produced terrestrial receivers.⁴

Due to the 30 dB discrepancy between MSV's and Inmarsat's overload threshold values, we believe that we must make independent measurements of the overload thresholds of a variety of Inmarsat terminal receivers to determine the most appropriate level (or levels) to use in any revisions to the Commission's calculations of the necessary separation distances between ATC base stations and Inmarsat terminals and the EIRP limits on ATC base station transmissions. To properly characterize Inmarsat terminal receiver overload characteristics, we propose to perform E_b/N_0 versus BER and sync loss measurements on Inmarsat receivers, over a range of Inmarsat downlink carrier power levels, with simulated GSM, cdma2000, and W-CDMA interfering signals at various power levels and frequency offsets.⁵

We have verbally presented this proposal to representatives of both Inmarsat and MSV, and received verbal agreements from representatives of both companies to cooperate and supply Inmarsat terminals for testing. This letter is to formally request that Inmarsat supply the Commission with a representative sample of Inmarsat airborne and terrestrial terminals (on the order of six to eight terminals, total) for receiver overload testing purposes. In addition, we request that Inmarsat supply the Commission with the documentation necessary to determine the best way to conduct the tests outlined in the previous paragraph and with the test signal generator(s) required to provide simulated Inmarsat downlink signals appropriate for those tests. At the conclusion of the Commission's tests, we will return the terminals and test equipment to Inmarsat. Technical assistance from representatives of Inmarsat and the manufacturers of Inmarsat terminals in generating the Commission's test plans and procedures would also be welcome.

The FCC representatives for the Inmarsat terminal receiver testing will be Chip Fleming of the International Bureau, Satellite Division, Satellite Engineering Branch, at (202) 418-1247, email chip.fleming@fcc.gov, and Bill Hurst, Office of Engineering and Technology, Laboratory Division, at (301) 362-3031, email william.hurst@fcc.gov. Please designate an Inmarsat representative to work with Messrs. Fleming and Hurst on the logistical and technical matters associated with the receiver testing.

⁴ *Id* (Appendix C2, § 1.12)

⁵ MSV proposes to use GSM, cdma2000, or W-CDMA, or a combination of these in its ATC system. See *In the Matter of Mobile Satellite Ventures Subsidiary LLC Application for Modification of Space Station License (AMSC-1)*, File No. SAT-MOD-20031118-00333, *Amendment to Pending Application to Launch and Operate a Next-Generation Replacement MSS Satellite System*, File No. SAT-AMD-20031118-00332, and *Application for a Modification of Blanket License to Operate Mobile Earth Terminals with MSAT-1*, File No. SES-MOD-20031118-01879, Application for Minor Modification and Amendment of Mobile Satellite Ventures Subsidiary LLC (Nov. 18, 2003) (p. 7 and Appendix B).

Attached are instructions for shipping the Inmarsat terminals to the Commission's Laboratory in Columbia, Maryland.

Sincerely,



Fern J. Jarmulnek
Deputy Chief,
Satellite Division

cc: John P. Janka
Alexander Hoehn-Saric
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Jonas Eneberg
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Attachment

EQUIPMENT SHIPPING INSTRUCTIONS

Equipment may be hand-delivered to the FCC Laboratory with prior approval.

A. LABELING OF SAMPLES – If a test sample cannot be associated with an application or a sample request letter, it may be returned for insufficient identification. ALL samples and accessories submitted for test should have identification tags listing the items below:

- Name, address, and telephone number of company supplying the equipment
- Name, address, and telephone number of person to contact should sample malfunction during test, or if it is necessary to return sample for repair.

B. SHIPPING ADDRESS (UPS, COURIER SERVICE, FREIGHT, OR AIR)

Federal Communications Commission
7435 Oakland Mills Road
Gate A
Columbia, Maryland 21046
Attention: Bill Hurst
Telephone: (301) 362-3000

C. ALL TEST SAMPLES SHOULD BE ACCOMPANIED BY A COPY OF THE SAMPLE REQUEST LETTER AND RETURN SHIPMENT AUTHORIZATION FORM (see next page).

D. SPECIAL NOTE TO FOREIGN PARTIES – Foreign parties with American subsidiaries or agents should ship equipment to them for forwarding to the Laboratory. If no American subsidiary is available, arrangements must be made for clearance of shipment through U. S. Customs, delivery to the Laboratory, and return shipment to the applicant. The Commission will not make delivery arrangements, or pay any related charges associated with foreign shipments.

E. If you require notification that your equipment has been received at the Laboratory, please contact your shipper for delivery date.

RETURN SHIPMENT AUTHORIZATION

This completed form, along with a copy of the sample request letter and return shipping labels, must accompany all equipment. Failure to follow these instructions will delay testing of your equipment. All equipment and accessories, if any, must be listed and properly labeled.

Type of Equipment	Model/Type Number	Serial Number
ATTACH ADDITIONAL SHEET, IF NECESSARY		

Printed Name of Responsible Person

Printed Email Address of Responsible Person

Name of Company

Telephone no. (Include area code - USA ONLY)

Please check here if equipment is not to be returned.

If equipment is to be returned, please complete the following:

Complete shipping address, including ZIP code

***Preferred carrier for return shipment:**

Name of company and your account number

*If no preferred carrier is listed, equipment will be returned COLLECT by freight.

UPS Customers: If equipment is to be returned via UPS, you must have call tags issued to the Laboratory within two weeks from the date you are notified. Otherwise, the equipment will be returned freight COLLECT.