



LEVENTHAL SENTER & LERMAN PLLC

January 16, 2004

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VIA HAND DELIVERY

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Attn (via e-mail): William Howden
Chief, Systems Analysis Branch
Satellite Division
International Bureau

Dear Ms. Dortch:

This letter responds to the request for information dated December 12, 2003 from William Howden, Chief, Systems Analysis Branch, Satellite Division, International Bureau, to Maritime Telecommunications Network, Inc. ("MTN") concerning MTN's application for operation of earth stations onboard vessels ("ESVs") in the Ku-band (the "Application").

Points of Communication

With its Application, MTN requests authority to transmit in the band 14.0 – 14.5 GHz and communicate with Satmex-5, a satellite operated by Satélites Mexicanos, S.A. de C.V. ("Satmex") and located at 116.8° W.L.

Muting

MTN uses stabilized antenna systems for ESVs that operate with $\pm 0.2^\circ$ pointing accuracy of the exact position of the satellite through which the ESV is communicating. There are only a few exceptional conditions, described below, under which the antenna could be mispointed by more than 0.5° . Even under these highly unusual conditions, the ESV antenna controller can detect within 100 ms if the pointing error should ever exceed 0.5° and cease transmissions immediately. The controller would then suppress transmissions until the pointing accuracy is within $\pm 0.2^\circ$.



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The stabilized antenna systems used by MTN employ closed-loop servo systems and highly accurate sensors to continuously monitor the antenna's position in inertial space. When operating properly, the servo mechanism will keep the antenna pointing within $\pm 0.1^\circ$ RMS, 0.2° peak. There always exists the possibility that unforeseen conditions can cause the antenna to be mispointed outside of these specifications. Examples of some of these possible conditions are:

1. Unexpected mechanical disturbance from an external source;
2. Operation in an unbalanced mechanical configuration;
3. Operation subjected to tangential accelerations beyond the pedestal specifications (e.g., extremely heavy sea conditions);
4. Failure of one or more sensors; or
5. Failure of one or more drive motors.

Even under any of the failure conditions cited above, the antenna controller can detect a pointing error that exceeds 0.5° within 100 ms and cease transmissions immediately. As noted above, the controller will not allow transmissions to resume until the pointing error has diminished to within $\pm 0.2^\circ$.

The sensors mounted on the antenna measure antenna position with a resolution of better than 0.01° . The key to robust systems operation and reliable error reporting is that the antenna position data is processed before being used to drive an error comparator. In addition to antenna position, many sources of data are available to the system to make a robust decision about the accuracy of the antenna pointing. They are:

1. Satellite modem synch lock;
2. Short-term integrated rate sensor antenna position;
3. Long-term accelerometer and heading reference sensors readings;
4. AGC level data; and
5. Calculated azimuth and elevation positions based on ship latitude, longitude and desired satellite longitude.

If for any reason the satellite modem should lose synch with the satellite down-link, the system will cease transmission immediately, regardless of the pointing accuracy, and not re-transmit until it has re-synchronized with the satellite and the pointing accuracy is within $\pm 0.2^\circ$.

At all times the antenna controller compares a running average of the measured azimuth and elevation to the desired azimuth and elevation positions. If the results exceed the 0.5° threshold, then transmissions will cease immediately and not resume until the pointing accuracy is within $\pm 0.2^\circ$.

The threshold detection algorithm has been used successfully for more than 10 years to insure that the stabilized antenna system is operating within the desired limits.



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Notice to Adjacent Satellite Operators

MTN has notified the operators of satellites operating in the band 14.0 – 14.5 GHz and whose orbital location is within $\pm 6^\circ$ of the location of Satmex-5 that its ESV terminals are operating in compliance with the inter-system coordination agreement. The following table lists the satellites that could be potentially affected and whose operators have been notified.

Name	Orbital Location	Degrees from Satmex-5	Operator
Galaxy 3R	111.10° W	-5.70°	PanAmSat
Solidaridad F2	113.00° W	-3.80°	Satmex
Satmex-5	116.80° W	0.00°	Satmex
Anik E2	118.70° W	+1.90°	Telesat

Copies of the notifications sent to each affected satellite operator are attached to this letter.

24-Hour Contact

MTN maintains a Network Operations Center (“NOC”) at its headquarters in Miramar, Florida on a 24-hours-a-day, 365-days-a-year basis. All systems of MTN’s clients are monitored and their emissions are controlled from this center. Any client can obtain information about its system and problem resolution by calling the personnel on-duty in the NOC at +1 (954) 538-4074. An appropriate regulatory authority can also call the NOC to inquire about potential interference. If it is determined that the interference is coming from a system under MTN’s control, the on-duty personnel can cease emissions from that unit immediately.

There are standard escalation procedures in place for all types of incidents that the on-duty personnel use to notify and involve the appropriate MTN staff members to resolve a problem. In the most extreme cases, MTN’s Vice-President of Operations will be called in to take charge of the situation and resolve the problem.

Acknowledgment of Subjectivity to Rule Making

MTN hereby acknowledges that any license that it receives pursuant to its Application will be subject to the outcome of any future rule making concerning ESV operations.

* * *



Ms. Marlene H. Dortch
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Should the Commission require any additional information regarding MTN's Application, please contact the undersigned counsel.

Respectfully yours,

Raul R. Rodriguez
*Counsel to Maritime Telecommunications
Network, Inc.*

Attachments



LEVENTHAL SENTER & LERMAN PLLC

January 16, 2004

VIA FEDERAL EXPRESS

Mr. Kalpak Gude
PANAMSAT CORPORATION
1801 K Street, NW
Suite 440
Washington, DC 20006

**Re: Application of Maritime Telecommunications Network, Inc.
Call Sign E010332
FCC File Number SESLIC2001113002259**

Dear Mr. Gude: *Kalpak:*

I am writing to you on behalf of Maritime Telecommunications Network, Inc., ("MTN") concerning its earth station application pending before the U.S. Federal Communications Commission ("FCC"). MTN plans to use this earth station to communicate with Satmex-5, which is located at 116.8 degrees W.L. Your company operates the Galaxy 3R satellite, which is located at 111.10 degrees W.L. Because Galaxy 3R is located within six degrees of Satmex-5, the FCC requires that we provide you with the enclosed technical assessment.

You have the right to reply to the enclosed materials. If you do not reply within 30 calendar days from the date of notice, the FCC will construe your not replying as an assent to the grant of MTN's earth station application.

Sincerely,

Raul R. Rodriguez
Counsel to Maritime Telecommunications Network, Inc.

RRR/rjc
Attachments

cc: Mr. William Howden
International Bureau
Federal Communications Commission
by e-mail:
Mr. Harry Ng
Joseph Godles, Esq.

**Maritime Telecommunications Network, Inc.
Adjacent Satellite Operator Notification
Earth Station Onboard Vessel Performance**

As part of a license application filed by Maritime Telecommunications Network, Inc. ("MTN") to operate earth stations onboard vessels ("ESVs") in the band 14.0 -14.5 GHz, the Federal Communications Commission ("FCC") is requiring that MTN notify all operators of satellites that are within 6° of the orbital location of Satmex-5, the satellite through which MTN's ESVs communicate when operating. You are receiving this notification as the operator of Galaxy 3R, which is located at 111.10° W.L. approximately 5.70° from Satmex-5 at 116.8 W.L. This document provides the technical basis for adjacent satellite operators to determine that MTN's ESV systems are operating in compliance with the terms of the inter-system coordination agreement and, therefore, do not pose any more potential for interference than a land-based earth station with the same performance characteristics.

MTN uses stabilized antenna systems for ESVs that operate with $\pm 0.2^\circ$ pointing accuracy of the exact position of the satellite through which the ESV is communicating. Any loss of synch with the satellite downlink or any mispointing error greater than $\pm 0.5^\circ$ will cause the terminal to cease transmission and not resume until the pointing accuracy is within $\pm 0.2^\circ$. Therefore, these ESV terminals have the same or greater pointing accuracy than land-based VSATs operating on the same satellite.

The attached table provides the transmission parameters and related data necessary to characterize the performance of the ESV systems operated by MTN. In addition, antenna radiation patterns have been attached that show the pole and cross-pole performance of the complete antenna system in the plane of the geo-stationary satellites.

As can be seen from the data, these ESV terminals are operating within the performance requirements established by the FCC for all VSAT earth stations and within the limitations established in the inter-system coordination agreement.

If you have any questions on this notification, please contact:

Robert Hanson
Vice President – Regulatory Affairs
Maritime Telecommunications Network, Inc.
3044 N. Commerce Parkway
Miramar, FL 33025
United States of America
Telephone: 720-635-8162
Facsimile: 303-449-1272
E-mail: robert_hanson@mtnsat.com

Raul R. Rodriguez
Leventhal Senter & Lerman PLLC
2000 K Street, NW, Suite 600
Washington, DC 20002
United States of America
Telephone: 202-429-8970
Facsimile: 202-293-7783
E-mail: rrodriguez@lsl-law.com

Failure on your part to reply within 30 calendar days from the date of this notice will be construed as assent to the grant of MTN's ESV application. Replies should be filed directly with the Federal Communications Commission, with copies to the individuals above.

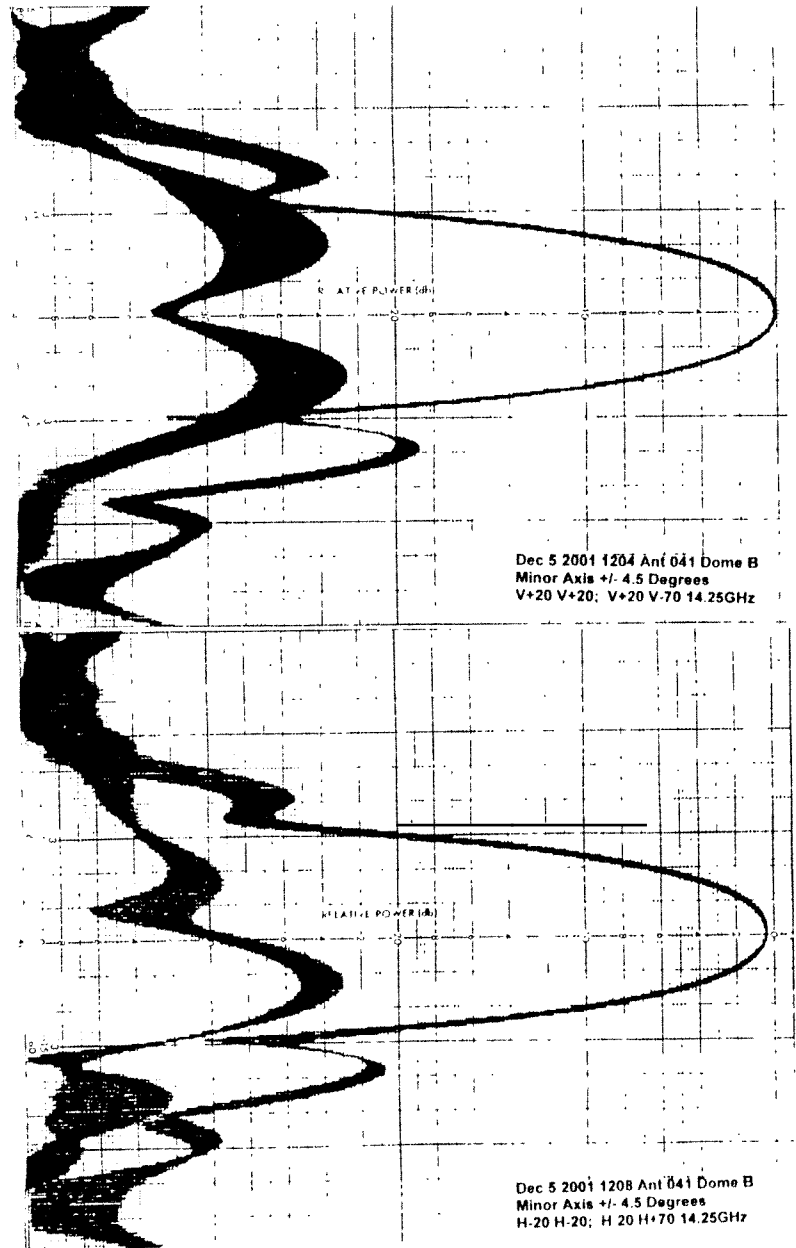
Satmex-5	Value
Orbital location	116.8° W
Beam	Ku-2
Transponder	18K

Modulation & Carriers	Value
Modulation	TDMA
Hub Uplink (GHz)	14.3694
- Polarization	Horizontal
Hub Downlink (GHz)	12.0694
- Polarization	Vertical
ESV Uplink (GHz)	14.3698
- Polarization	Horizontal
ESV Downlink (GHz)	12.0698
- Polarization	Vertical

ESV Antenna	Value
Major Axis (m)	1.35
Minor Axis (m)	1.20
Offset Angle (degrees)	23
TX gain at 14.25 GHz (dBi)	42.55
RX gain at 11.85 GHz (dBi)	41.65
TX cross-polarization at 14.25 GHz (dB)	-34
RX cross-polarization at 11.85 GHz (dB)	-43

ESV Power	Value
Input Power (Watts)	8
Data Rate (Kbits/s)	128
Occupied Bandwidth (KHz)	87
Transmit power (dBW)	9.03
Feeder loss (dB)	1.50

ESV Power Spectral Density	Value
Transmit power/BW (dBW/40KHz)	5.66
TX power at antenna input (dBW/40KHz)	4.16
Antenna main beam gain (dBi)	42.55
Transmit e.i.r.p. density (dBW/40KHz)	46.71





LEVENTHAL SENTER & LERMAN PLLC

January 16, 2004

VIA FEDERAL EXPRESS

Mr. Alonso Arturo Picazo Diaz
Director de Asuntos Regulatorios
SATMEX
Boulevard Manuel Avila Camacho
No. 40 Piso 24
Col. Lomas de Chapultepec
CP 11000, DF
MEXICO

**Re: Application of Maritime Telecommunications Network, Inc.
Call Sign E010332
FCC File Number SESLIC2001113002259**

Dear Mr. Picazo: *Alonso*

I am writing to you on behalf of Maritime Telecommunications Network, Inc., (“MTN”) concerning its earth station application pending before the U.S. Federal Communications Commission (“FCC”). MTN plans to use this earth station to communicate with Satmex-5, which is located at 116.8 degrees W.L. Your company operates the Solidaridad F2 satellite, which is located at 113.0 degrees W.L. Because Solidaridad F2 is located within six degrees of Satmex-5, the FCC requires that we provide you with the enclosed technical assessment.

You have the right to reply to the enclosed materials. If you do not reply within 30 calendar days from the date of notice, the FCC will construe your not replying as an assent to the grant of MTN’s earth station application.

Sincerely,

Raul R. Rodriguez
Counsel to Maritime Telecommunications Network, Inc.

RRR/rjc
Attachments

cc: Mr. William Howden
International Bureau
Federal Communications Commission
by e-mail:
Ms. Caroline Bass

**Maritime Telecommunications Network, Inc.
Adjacent Satellite Operator Notification
Earth Station Onboard Vessel Performance**

As part of a license application filed by Maritime Telecommunications Network, Inc. ("MTN") to operate earth stations onboard vessels ("ESVs") in the band 14.0 -14.5 GHz, the Federal Communications Commission ("FCC") is requiring that MTN notify all operators of satellites that are within 6° of the orbital location of Satmex-5, the satellite through which MTN's ESVs communicate when operating. You are receiving this notification as the operator of Solidaridad F2, which is located at 113.00° W.L. approximately 3.80° from Satmex-5 at 116.8 W.L. This document provides the technical basis for adjacent satellite operators to determine that MTN's ESV systems are operating in compliance with the terms of the inter-system coordination agreement and, therefore, do not pose any more potential for interference than a land-based earth station with the same performance characteristics.

MTN uses stabilized antenna systems for ESVs that operate with $\pm 0.2^\circ$ pointing accuracy of the exact position of the satellite through which the ESV is communicating. Any loss of synch with the satellite downlink or any mispointing error greater than $\pm 0.5^\circ$ will cause the terminal to cease transmission and not resume until the pointing accuracy is within $\pm 0.2^\circ$. Therefore, these ESV terminals have the same or greater pointing accuracy than land-based VSATs operating on the same satellite.

The attached table provides the transmission parameters and related data necessary to characterize the performance of the ESV systems operated by MTN. In addition, antenna radiation patterns have been attached that show the pole and cross-pole performance of the complete antenna system in the plane of the geo-stationary satellites.

As can be seen from the data, these ESV terminals are operating within the performance requirements established by the FCC for all VSAT earth stations and within the limitations established in the inter-system coordination agreement.

If you have any questions on this notification, please contact:

Robert Hanson
Vice President – Regulatory Affairs
Maritime Telecommunications Network, Inc.
3044 N. Commerce Parkway
Miramar, FL 33025
United States of America
Telephone: 720-635-8162
Facsimile: 303-449-1272
E-mail: robert_hanson@mtnsat.com

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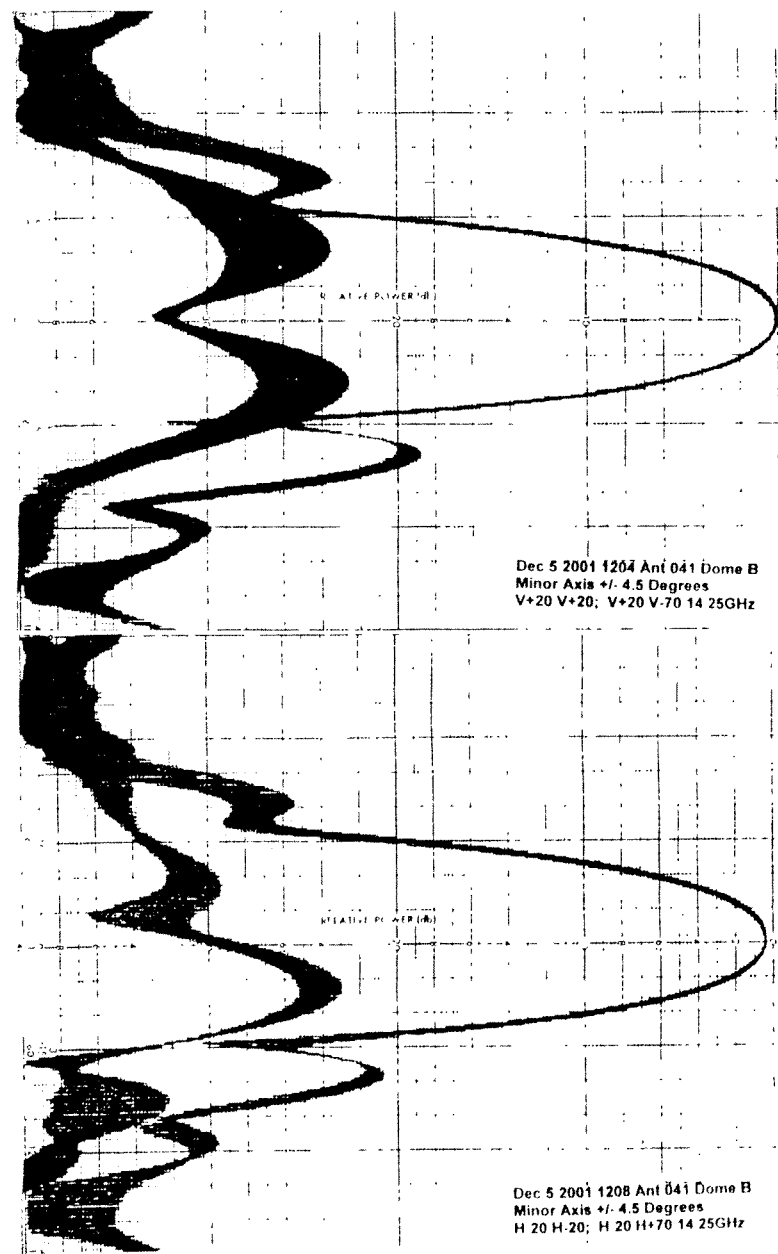
Satmex-5	Value
Orbital location	116.8° W
Beam	Ku-2
Transponder	18K

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Modulation	TDMA
Hub Uplink (GHz)	14.3694
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Transmit power (dBW)	9.03
Feeder loss (dB)	1.50

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Dec 5 2001 1204 Ant 041 Dome B
Minor Axis +/- 4.5 Degrees
V+20 V+20; V+20 V-70 14 25GHz

Dec 5 2001 1208 Ant 041 Dome B
Minor Axis +/- 4.5 Degrees
H 20 H-20; H 20 H+70 14 25GHz



LEVENTHAL SENTER & LERMAN PLLC

January 16, 2004

VIA FEDERAL EXPRESS

Mr. Roger Tinley
Vice President, Space Systems
TELESAT CANADA
1601 Telesat Court
Gloucester, ON K1B 5P4
CANADA

**Re: Application of Maritime Telecommunications Network, Inc.
Call Sign E010332
FCC File Number SESLIC2001113002259**

Dear Mr. Tinley:

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Raul R. Rodriguez

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RRR/rjc
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cc: Mr. William Howden
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