

E140114 SES-STA-2016 1024-00854 IB2016002324  
ISAT US Inc.

Approved by OMB  
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:  
STA for Modification of Aeronautical Terminals Using Additional Frequencies

1. Applicant

Name: ISAT US Inc. Phone Number: 202-248-5150  
DBA Name: Fax Number:  
Street: 1101 Connecticut Avenue NW E-Mail: giselle.creaser@inmarsat.com  
Suite 1200  
City: Washington State: DC  
Country: USA Zipcode: 20036  
Attention: Giselle Creaser



File # SES-STA-2016 1024-00854  
201114  
Call Sign Grant Date 10-27-16  
(or other identifier)  
Term Dates  
From: 10-27-16 To: 11-1-16  
Approved: [Signature]



**GRANTED**

National Bureau

File # SES-STA-20161024-00854  
E140114  
Call Sign E140114 Grant Date 10-27-16  
(or other identifier)  
Term Dates  
From: 10-27-16 To: 11-11-16  
Approved: Paul E. Black

Applicant: ISAT US Inc.  
Call Sign: E140114  
File No.: SES-STA-20161024-00854  
Special Temporary Authority (STA)

ISAT US Inc. is authorized to operate under STA commencing on October 27, 2016 through November 4, 2016 to conduct customer demonstration at the Inmarsat Palm Bay facility in Florida (28.04° N.L./80.59° W.L.) using one SeaTel GX 60 antenna to communicate with the Inmarsat I5 F2 satellite at orbital location 55 degrees W.L on the 29375-29500 MHz (Earth-to-space) frequencies and 19575-19700 MHz (space-to-Earth) frequencies, under the following conditions:

1. Operations will not exceed the operational power levels of 50.30 dBW eirp and parameters as specified in the station E140029 license SES-LIC-20140224-00098.
2. Operation of this STA does not constitute permanent Market Access in the 29375-29500 MHz (Earth-to-space) frequencies and 19575-19700 MHz (space-to-Earth) frequencies.
3. Operations, shall not cause harmful interference to, and shall not claim protection from interference caused to it by any other lawfully operating station and it shall cease transmission(s) immediately upon notice of such interference and notify the FCC in writing.
4. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at ISAT US, Inc.'s risk.
5. Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector.
6. The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. The FCC's OET Bulletin 65 (available on-line at [www.fcc.gov/oet/rfsafety](http://www.fcc.gov/oet/rfsafety)) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.
7. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future ISAT US's applications.
8. 24/7 point of contact during the period of STA operation: Inmarsat Network Control +44 207 728 1616.

This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately.



<b>2. Contact</b>	
<b>Name:</b> Giselle Creeser	<b>Phone Number:</b> 202-248-5150
<b>Company:</b> ISAT US Inc.	<b>Fax Number:</b>
<b>Street:</b> 1101 Connecticut Avenue NW Suite 1200	<b>E-Mail:</b> giselle.creeser@immarsat.com
<b>City:</b> Washington	<b>State:</b> DC
<b>Country:</b> USA	<b>Zipcode:</b> 20036
<b>Attention:</b>	<b>Relationship:</b> Engineer
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)	
3. Reference File Number or Submission ID	
4a. Is a fee submitted with this application? <input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114). <input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee <input type="radio"/> Other (please explain):	
4b. Fee Classification CGV - Fixed Satellite VSAT System	
5. Type Request <input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other	
6. Requested Use Prior Date	
7. City/Palm Bay	8. Latitude (dd mm ss.s h) 28 2 24.0 N

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## Exhibit A

### STA MODIFICATION REQUEST

#### I. DESCRIPTION OF MODIFICATION STA REQUEST

ISAT US, Inc. ("ISAT US") hereby requests a modification to its recently granted special temporary authority ("STA"), SES-STA-20161006-00830, to operate an additional maritime earth station antenna SeaTel GX 60 ("Antenna") in the HCP beam. Authorization is requested for one such antenna unit. This additional terminal in the beam will be used for troubleshooting and as a reference during the demonstration. This antenna is already licensed by the Commission to operate in the 29.5-30.0 GHz and 19.7-20.2 GHz bands. Operation of the Antenna during the period requested would be within the envelope of the technical parameters of the existing license with the exception of additional frequency bands discussed below.<sup>1</sup> The Antenna will operate with the Inmarsat Global Xpress I5 F2 satellite from the 55° W.L. orbital location and the Lino Lakes Satellite Access Station, which have both been authorized for U.S. market access.<sup>2</sup>

Consistent with the underlying STA ISAT US will be responsible for all technical aspects of the system during the demonstration. The Antenna user terminal operations in the additional spectrum requested will be closely monitored by the Inmarsat Network Operations Center (NOC) and the engineering team associated with the demonstration. It is expected that the Antenna will be used starting 27 October through 4 November.

#### II. ISAT US SEEKS AUTHORITY TO OPERATE THE SEATEL GX 60 TERMINAL ON ADDITIONAL FREQUENCY BANDS (29.375-29.5 GHz/19.575-19.7 GHz)

ISAT US is already licensed to operate the Antenna in the 29.5-30 GHz (uplink) and the 19.7-20.2 GHz (downlink) bands. Therefore, ISAT US seeks authority to operate the Antenna in the following additional frequency bands: 29.375-29.5 GHz (uplink) and 19.575-19.7 GHz (downlink). ISAT US requests this authority on a non-interference and non-protected basis. ISAT US requests a waiver of the U.S. Table of Frequency Allocations,<sup>3</sup> as necessary, to allow the proposed FSS STA operations in the 19.575-19.7 GHz frequencies. Grant of a waiver would serve the public interest because it would allow demonstration of important services through the ISF2 satellite to potential customers and facilitate further deployment of satellite broadband to end users. As discussed below, grant of the requested waivers would not undermine the policy objective of the rule, as the primary operators in these bands under the U.S. Table would be protected from harmful interference.

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<sup>1</sup> See, ISAT US GX aero user terminal earth station Call Sign E140029.

<sup>2</sup> See, Inmarsat Mobile Networks, Inc., Granted March 30, 2015, (Call Sign E120072; IBFS File No. SES-LIC-20120426-00397) ("*Lino Lakes Order*").

<sup>3</sup> 47 C.F.R. § 2.106.

For clarity ISAT US provides the following technical parameters for the additional frequencies requested:

**EARTH-to-SPACE:**

Transmit Frequencies: 29.375-29.5 GHz

Transmit Polarization: RHCP

Maximum EIRP: 50.4 dBW

RF Modulation: 8 APSK (max)

Minimum Elevation for Transmission: 5 degrees

Emission Designator: Same as those licensed in Call Sign E140029 for SEAGX60 in the 29.5-30.0 GHz band.

Antenna Gain SEAGX60: 43.3 dBi

**SPACE-to-EARTH:**

Receive Frequencies: 19.575-19.7 GHz

Receive Polarization: LHCP

Maximum Spacecraft EIRP: 54dBW

RF Modulation: 16 APSK

Azimuth Range: 360 degrees

Emission Designator: Same as that licensed in Call Sign E140029 for SEAGX60 in the 19.7-20.2 GHz band.

Antenna Gain SEAGX60: 40.4 dBi

**Description of Operations**

The modification of the STA will allow an additional terminal to operate in the HCP beam for troubleshooting and as a reference during the demonstration. The terminal will be operated from the Inmarsat Palm Bay facility in Florida from October 27 to November 4. The specific location of the Inmarsat facility is: 28.04°N, 80.59°W. No other changes are proposed under the granted STA.

Duration of Communications: approximately 10 days

24 Hour Point of Contact during the STA: Inmarsat Network Control +44 207 728 1616

\* \* \* \* \*

Grant of the requested STA will serve the public interest, convenience and necessity because it will enable ISAT US to conduct demonstrations of the Global Xpress capabilities using the Inmarsat-5 F2 spacecraft, within technical parameters consistent with the parameters described herein using the identified Antenna, without creating any risk of harmful interference. ISAT US respectfully requests that the Commission grant the modification to the STA beginning 27 October 2016 for a period of 10 days.

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<sup>4</sup> Lino Lakes Order ¶ 27