

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
STA for 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@innmarsat.com
Suite 1200
City: Washington State: DC
Country: USA Zipcode: 20036
Attention: Giselle Creaser



File # SES-STA-20161006-00830
210114
Call Sign W40114 Grant Date 10-14-16
(or other identifier)
Term Dates
From: 10-16-16 To: 11-14-16
Approved: Paul E. Blain

Applicant: ISAT US Inc.

File No.: SES-STA-20161006-00830

ISAT US Inc. is granted special temporary authority beginning October 16, 2016 for 19 days to operate ESAA antenna models MCS 8000 and MCS 8200 in Orlando, FL area with the Inmarsat I5 F2 satellite at the 55 degrees W.L orbital location on its HCP Beam in the 29375-29500 MHz (Earth-to-space) frequencies and 19575-19700MHz (space-to-Earth) frequency bands under the following conditions:

1. Operations will not exceed the power level and technical parameters for the two antenna types: MCS8200 and MCS8000, as specified in the requested STA.
2. Operations will be in conformance with the conditions as specified in the section H - Special and General Provisions of the currently authorized earth station aboard aircraft operation of SES-MOD-20160320-0019, Call Sign E140114.
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) 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.

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.



File # SES-STA-20161006-00830
E140114
Call Sign _____ Grant Date 10/14/2016
(or other identifier) _____
Term Dates
From 10/16/2016 To: 11/4/2016
Approved: Paul E. Black

2. Contact	
Name: Giselle Creeser	Phone Number: 202-248-5150
Company: ISAT US Inc.	Fax Number:
Street: 1101 Connecticut Avenue NW Suite 1200	E-Mail: giselle.creeser@innmarsat.com
City: Washington	State: DC
Country: USA	Zipcode: 20036 -
Attention:	Relationship: 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 Melbourne/Orlando	
8. Latitude (dd mm ss.s h) 0 0 0.0	

9. State FL	10. Longitude (dd mm ss.s h) 0 0 0.0
11. Please supply any need attachments. Attachment 1: Description Attachment 2: Attachment 3:	
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.) Request to operate aeronautical terminal types approved in Call Sign E140114 using additional frequencies.	
13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes.	
14. Name of Person Signing Giselle Creaser	15. Title of Person Signing Director, Regulatory
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).	

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

Exhibit A

DESCRIPTION OF STA REQUEST

I. DESCRIPTION OF STA REQUEST

ISAT US, Inc. (“ISAT US”) hereby requests special temporary authority (“STA”) to operate its two licensed aero earth station terminal types in additional frequency bands in and around the Orlando, Florida area to facilitate a demonstration during the National Business Aviation Association (NBAA) convention using the Inmarsat 5 F2 (I5F2) satellite. The earth station antenna types are the MCS 8000 and the MCS 8200 (“Antennas”) that are already licensed by the Commission to operate in the 29.5-30.0 GHz and 19.7-20.2 GHz bands. There will be up to two of each type of earth station operating under this STA. Operations of the Antennas during the demonstration period would be within the envelope of the technical parameters of the existing license with the exception of additional frequency bands discussed below.¹ The Antennas 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.²

ISAT US will be responsible for all technical aspects of the system during the demonstration. The 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 Antennas will be used starting 16 October through 4 November – this time period will allow testing prior to the demonstration.

II. ISAT US SEEKS AUTHORITY TO OPERATE AERO TERMINALS ON ADDITIONAL FREQUENCY BANDS (29.375-29.5 GHz/19.575-19.7 GHz)

ISAT US is already licensed to operate the Antennas in the 29.5-30 GHz (uplink) and the 19.7-20.2 GHz (downlink) bands. Therefore, ISAT US seeks authority to operate the Antennas 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,³ 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 I5F2 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.

¹ See, ISAT US GX aero user terminal earth station Call Sign E140114.

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

³ 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 (on the ground)

Emission Designator: Same as those licensed in Call Sign E140114 for 29.5-30.0 GHz band.

Antenna Gain MCS8000: 37 dBi

Antenna Gain MCS8200: 39.8 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 those licensed in Call Sign E140114 for 19.7-20.2 GHz band.

Antenna Gain MCS8000: 32.7 dBi

Antenna Gain MCS8200: 36.8 dBi

HCP Beam: Center at 25.4° N and 76.2° W with a beam radius of 0.8 degrees

Description of Operations

During the week of October 16-21, the Antennas will be tested using the HCP Beam at the Satcom Direct facility located in Melbourne, Florida. The specific location of the Satcom Direct facility is: 28.26° N, 80.69° W. After this period of time, operations will then transition to flight-testing of the Antennas using the Honeywell Boeing 757 aircraft. The aircraft will be flying routes leaving from and returning to Orlando International Airport (MCO). The flight path will take an easterly route out of MCO out over the Atlantic Ocean and then back to MCO.

Duration of Communications: approximately 19 days

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

Space Station Coordination

The operations under this STA will operate with one of the Global Xpress High Capacity (HCP) spot beam, the technical parameters of which were included in the Inmarsat Mobile Networks, Inc application for market access and incorporated by reference in this request.⁴ During the proposed operations the HCP beam will be centered at 25.4° N and 76.2° W.

The coordination of communications for the use of the additional frequencies (29.375-

⁴ See IBFS File No. SES-LIC-20120426-00397, Attachment A, Technical Appendix ("Inmarsat Market Access Application").

29.5 GHz/19.575-19.7 GHz) with the I5F2 spacecraft at the 55° W.L. orbital location with existing spacecraft operators during the demonstration is the responsibility of Inmarsat and ISAT US. Inmarsat has completed coordination with potentially affected satellite operators, and operations under the STA will be consistent with these agreements. In accordance with normal industry practices, communications with other operators will be kept open in the period leading to and throughout the demonstration activities, to ensure that the demonstration will be conducted on a non-interference basis.

The Commission's Ka-band band plan identifies the 29.375-29.5 GHz band for GSO FSS and the Antennas will be operated consistent with the already licensed parameters. As demonstrated in the Inmarsat Market Access Application, the proposed STA operations in the 19.575-19.7 GHz frequencies are unlikely to cause interference into fixed service operations that are co-primary in that band segment. The Antennas will be receiving in these bands and therefore will not cause interference to other users. Moreover, as the Commission acknowledged in granting market access for the I5F2 spacecraft, the space-to-Earth transmissions comply with the pfd limits established under Article 21 of the ITU Radio Regulations established to protect all fixed earth stations.⁵

* * * * *

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 Antennas, without creating any risk of harmful interference. ISAT US respectfully requests that the Commission grant STA beginning 16 October 2016 for a period of 19 days.

⁵ *Lino Lakes Order ¶ 27*

19. ANNEX C. MEETING PROGRAMME

Date	Session	Time	Meeting
Preparation Day Sunday, 30 October	Afternoon	16.00 – 17.30	Preparatory Meeting for TEL54-Executive Committee, Host Economy and APEC Secretariat
	Evening	18.00 – 20.00	HoD & ExComm Meeting
Day 1 Monday, 31 October	Morning	09.00 – 11.00	Plenary 1
	Afternoon	11.30 – 21.00	Trip to Nara City Organized by Nara Prefecture (includes lunch and dinner)
		11.30 – (Day 2 14:15)	[LSG]Next generation broadcasting (4K/8K) Tour to Tokyo
Day 2 Tuesday, 1 November	Morning	09.00 – 12.30	[LSG] Industry / Regulatory Roundtable
		09.00 – 12.30	[LSG] CA and MRA Taskforce
		09.00 – 12.30	[SPSG] Cybersecurity Framework
	Afternoon	14:00 – 17.30	[LSG] CA and MRA Taskforce
		14:00 – 17.30	[SPSG] Workshop on Public-Private Partnerships in Cybersecurity
		14:00 – 18.30	[LSG] Workshop on Promoting the next generation broadcasting (4K/8K)
Day 3 Wednesday, 2 November	Morning	09.00 – 12.30	[DSG] Industry Roundtable
		09.00 – 12.30	[LSG] CA and MRA Taskforce
	Afternoon	12:30 – 19.00	Trip to Kyoto City Organized by Kyoto Prefecture (include lunch)
	Evening	19.30 – 21.30	Welcome Dinner
Day 4 Thursday, 3 November	Morning	09.00 – 12.30	ICT Development Steering Group(DSG)
		09.00 – 12.30	Liberalisation Steering Group(LSG)
		09.00 – 12.30	Security and Prosperity Steering Group(PSPG)
	Afternoon	14:00 – 17.30	ICT Development Steering Group(DSG)
		14:00 – 17.30	Liberalisation Steering Group(LSG)
		14:00 – 17.30	Security and Prosperity Steering Group(PSPG)
	Evening	18:00 – 20.30	HoD & ExComm Meeting; Preparatory Meeting for TEL 55Host and TEL 56 Host
(19:00–19.30)		Special Session with AHSGIE Chair	
Day 5 Friday, 4 November	Morning	09.00 – 12.30	Plenary 2
END			