

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

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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*