UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

ISAT US Inc.

Call Sign: E140114

Authorization Type: Modification of License
Non Common Carrier

File Number: SES-MFS-20210528-00864

Grant date: 09/07/2021 **Expiration Date:** 08/11/2030

Nature of Service: Fixed Satellite Service

Class of Station: Other

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
1)	Aero 1	ABOARD AIRCRAFT CONUS & OCONUS				NA	
2)	Aero 2	ABOARD AIRCRAFT CONUS & OCONUS				NA	
3)	Aero 3	ABOARD AIRCRAFT CONUS & OCONUS				NA	
4)	Aero 4	ABOARD AIRCRAFT CONUS & OCONUS				UNK	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
5)	Aero 5	ABOARD AIRCRAFT CONUS & OCONUS				NA	
6)	Aero 6	ABOARD AIRCRAFT CONUS & OCONUS				UNK	

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A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
7)	Aero 7	ABOARD AIRCRAFT CONUS & OCONUS				UNK	

Subject to the provisions of the Communications Act of 1934, The Communications Satellite Act of 1962, subsequent acts and treaties, and all present and future regulations made by this Commission, and further subject to the conditions and requirements set forth in this license, the grantee is authorized to construct, use and operate the radio facilities described below for radio communications for the term beginning August 11, 2015 (3 AM Eastern Standard Time) and ending August 11, 2030 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is September 7, 2022 (3 AM Eastern Standard Time) . Grantee must file with the Commission a certification upon completion of construction and commencement of operation.

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
1)	29500.0000-30000.0000	R	460KG7W	Tx	44.60	24.00	AERO1		Various Modulations up to 32APSK; Digital Data Link
2)	29500.0000-30000.0000	R	5M00G1W	Tx	7.00	-24.00	AERO1		Various Modulations up to 32APSK; Digital Data Link
3)	29500.0000-30000.0000	R	7M34G7W	Tx	46.00	13.40	AERO1		Various Modulations up to 32APSK; Digital Data Link
4)	19700.0000-20200.0000	L	32M0G7W	Rx	0.00	0.00	AERO1		Various Modulations up to 32APSK; Digital Data Link
5)	29500.0000-30000.0000	R	460KG7W	Tx	32.60	12.00	AERO2		Various Modulations up to 32APSK; Digital Data Link
6)	29500.0000-30000.0000	R	5M00G1W	Tx	7.00	-24.00	AERO2		Various Modulations up to 32APSK; Digital Data Link
7)	29500.0000-30000.0000	R	7M34G7W	Tx	44.60	12.00	AERO2		Various Modulations up to 32APSK; Digital Data Link
8)	19700.0000-20200.0000	L	32M0G7W	Rx	0.00	0.00	AERO2		Various Modulations up to 32APSK; Digital Data Link

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
9)	29500.0000-30000.0000	R	460KG7W	Tx	29.00	8.40	AERO3		Various Modulations up to 32APSK; Digital Data Link
10)	29500.0000-30000.0000	R	7M34G7W	Tx	41.00	8.40	AERO3		Various Modulations up to 32APSK; Digital Data Link
11)	29500.0000-30000.0000	R	5M00G1W	Tx	7.00	-24.00	AERO3		Various Modulations up to 32APSK; Digital Data Link
12)	19700.0000-20200.0000	L	32M0G7W	Rx		0.00	AERO3		Various Modulations up to 32APSK; Digital Data Link
13)	29500.0000-30000.0000	R	460KG7W	Tx	38.80	18.20	AERO4		Various modulation up to 32 APSK; Digital Data Link
14)	29500.0000-30000.0000	R	5M00G1W	Tx	48.90	17.90	AERO4		Various modulation up to 32 APSK; Digital Data Link
15)	29500.0000-30000.0000	R	7M34G7W	Tx	48.90	16.30	AERO4		Various modulation up to 32 APSK; Digital Data Link
16)	19700.0000-20200.0000	L	32M0G7W	Rx			AERO4		Various modulation up to 32 APSK; Digital Data Link
17)	29500.0000-30000.0000	R	460KG7W	Tx	39.00	18.40	AERO5		Various modulation up to 32 APSK; Digital Data Link
18)	29500.0000-30000.0000	R	5M00G1W	Tx	47.00	16.00	AERO5		Various modulation up to 32 APSK; Digital Data Link
19)	29500.0000-30000.0000	R	7M34G7W	Tx	47.00	14.40	AERO5		Various modulation up to 32 APSK; Digital Data Link
20)	19700.0000-20200.0000	L	32M0G7W	Rx			AERO5		Various modulation up to 32 APSK; Digital Data Link
21)	29500.0000-30000.0000	L,R	460KG7W	Tx	44.60	24.00	AERO6		Various Modulations up to 32APSK; Digital Data Link
22)	29500.0000-30000.0000	L,R	5M00G1W	Tx	7.00	-24.00	AERO6		Various Modulations up to 32APSK; Digital Data Link
23)	29500.0000-30000.0000	L,R	7M34G7W	Tx	46.00	13.40	AERO6		Various Modulations up to 32APSK; Digital Data Link

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.
The General Provision 1900 applies to all transmitting frequency bands.
For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
24)	19700.0000-20200.0000	L,R	32M0G7W	Rx			AERO6		Various Modulations up to 32APSK; Digital Data Link
25)	29500.0000-30000.0000	L,R	460KG7W	Tx	44.50	23.90	AERO7		Various Modulations up to 32APSK; Digital Data Link
26)	29500.0000-30000.0000	L,R	5M00G1W	Tx	7.00	-24.00	AERO7		Various Modulations up to 32APSK; Digital Data Link
27)	29500.0000-30000.0000	L,R	7M34G7W	Tx	52.20	20.46	AERO7		Various Modulations up to 32APSK; Digital Data Link
28)	19700.0000-20200.0000	L,R	32M0G7W	Rx			AERO7		Various Modulations up to 32APSK; Digital Data Link

C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.) East Limit	Satellite Arc (Deg. Long.) West Limit	Elevation (Degrees) East Limit	Elevation (Degrees) West Limit	Azimuth (Degrees) East Limit	Azimuth (Degrees) West Limit	Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
1)	29500.0000-30000.0000	55.0W	55.0W	05.0	05.0	000.0	000.0	10	AERO1
2)	19700.0000-20200.0000	55.0W	55.0W	05.0	05.0	000.0	000.0		AERO1
3)	19700.0000-20200.0000	55.0W	55.0W	05.0	05.0	000.0	000.0		AERO2
4)	29500.0000-30000.0000	55.0W	55.0W	05.0	05.0	000.0	000.0	-9	AERO2
5)	29500.0000-30000.0000	0.0W	360.0W	05.0	05.0			-9	AERO3
6)	19700.0000-20200.0000	0.0W	360.0W	05.0	05.0				AERO3
7)	29500.0000-30000.0000			05.0	05.0			-9	AERO4
8)	19700.0000-20200.0000			05.0	05.0			0	AERO4
9)	29500.0000-30000.0000			05.0	05.0			-7.6	AERO5
10)	19700.0000-20200.0000			05.0	05.0				AERO5
11)	29500.0000-30000.0000			05.0	05.0			10	AERO6
12)	19700.0000-20200.0000			05.0	05.0				AERO6
13)	29500.0000-30000.0000			05.0	05.0			-7.6	AERO7
14)	19700.0000-20200.0000			05.0	05.0				AERO7

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D) Points of Communications

The following stations located in the Satellite orbits consistent with Sections B and C of this Entry:

1) Aero 1 to INMARSAT 5F2 satellite @ 55 degrees W.L. (U. K. licensed)
2) Aero 1 to INMARSAT 5F3 satellite @ 179.6 degrees E.L. degrees (U. K. licensed)
3) Aero 1 to INMARSAT 5F1 satellite @ 63 degrees E.L. (U. K. licensed)
4) Aero 2 to INMARSAT 5F2 satellite @ 55 degrees W.L. (U. K. licensed)
5) Aero 2 to INMARSAT 5F3 satellite @ 179.6 degrees E.L. degrees (U. K. licensed)
6) Aero 2 to INMARSAT 5F1 satellite @ 63 degrees E.L. (U. K. licensed)
7) Aero 3 to INMARSAT 5F2 satellite @ 55 degrees W.L. (U. K. licensed)
8) Aero 3 to INMARSAT 5F3 satellite @ 179.6 degrees E.L. degrees (U. K. licensed)
9) Aero 3 to INMARSAT 5F1 satellite @ 63 degrees E.L. (U. K. licensed)
10) Aero 4 to INMARSAT 5F3 satellite @ 179.6 degrees E.L. degrees (U. K. licensed)
11) Aero 4 to INMARSAT 5F2 satellite @ 55 degrees W.L. (U. K. licensed)
12) Aero 4 to INMARSAT 5F1 satellite @ 63 degrees E.L. (U. K. licensed)
13) Aero 5 to INMARSAT 5F1 satellite @ 63 degrees E.L. (U. K. licensed)
14) Aero 5 to INMARSAT 5F2 satellite @ 55 degrees W.L. (U. K. licensed)
15) Aero 5 to INMARSAT 5F3 satellite @ 179.6 degrees E.L. degrees (U. K. licensed)
16) Aero 6 to INMARSAT 5F1 satellite @ 63 degrees E.L. (U. K. licensed)
17) Aero 6 to INMARSAT 5F2 satellite @ 55 degrees W.L. (U. K. licensed)
18) Aero 6 to INMARSAT 5F3 satellite @ 179.6 degrees E.L. degrees (U. K. licensed)
19) Aero 7 to INMARSAT 5F1 satellite @ 63 degrees E.L. (U. K. licensed)
20) Aero 7 to INMARSAT 5F2 satellite @ 55 degrees W.L. (U. K. licensed)
21) Aero 7 to INMARSAT 5F3 satellite @ 179.6 degrees E.L. degrees (U. K. licensed)

E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
Aero 1	AERO1	4000	0.61	Honeywell	MCS 8200		0 AGL	

Max Gains(s): 36.9 dBi @ 19.9500 GHz 36.9 dBi @ 20.2000 GHz 39.8 dBi @ 29.5000 GHz 39.8 dBi @ 29.7500 GHz 39.8 dBi @ 30.0000 GHz 36.8 dBi @ 19.7000 GHz

Maximum total input power at antenna flange (Watts) = 12.60

Maximum aggregate output EIRP for all carriers (dBW) = 50.80

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E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
Aero 2	AERO2	4000	0.3	Honeywell	MCS 8000		0 AGL	
	Max Gains(s):	32.7 dBi @ 19.7000 GHz	32.8 dBi @ 19.9500 GHz	32.6 dBi @ 20.2000 GHz	37.0 dBi @ 29.5000 GHz	37.0 dBi @ 29.7500 GHz	37.0 dBi @ 30.0000 GHz	
	Maximum total input power at antenna flange (Watts) =	12.00						
	Maximum aggregate output EIRP for all carriers (dBW) =	47.80						
Aero 3	AERO3	50	0.3	INMARSAT	KA30			
	Max Gains(s):	32.5 dBi @ 19.7000 GHz	32.5 dBi @ 20.2000 GHz	37.4 dBi @ 29.5000 GHz	37.4 dBi @ 30.0000 GHz			
	Maximum total input power at antenna flange (Watts) =	8.20						
	Maximum aggregate output EIRP for all carriers (dBW) =	46.50						
Aero 4	AERO4	4000	0.3	GET SAT	MILLISATEX			
	Max Gains(s):	34.9 dBi @ 20.2000 GHz	35.3 dBi @ 19.7000 GHz	37.8 dBi @ 29.5000 GHz	38.2 dBi @ 30.0000 GHz			
	Maximum total input power at antenna flange (Watts) =	12.00						
	Maximum aggregate output EIRP for all carriers (dBW) =	48.90						
Aero 5	AERO5	200	0.3	SMITHS INTERCONNECT	KA5000			
	Max Gains(s):	32.1 dBi @ 19.7000 GHz	32.1 dBi @ 20.2000 GHz	37.0 dBi @ 29.5000 GHz	37.0 dBi @ 30.0000 GHz			
	Maximum total input power at antenna flange (Watts) =	10.00						
	Maximum aggregate output EIRP for all carriers (dBW) =	47.00						
Aero 6	AERO6	4000	0.61	HONEYWELL	MCS8562			
	Max Gains(s):	36.8 dBi @ 19.7000 GHz	36.9 dBi @ 20.2000 GHz	39.8 dBi @ 29.5000 GHz	39.8 dBi @ 30.0000 GHz	36.9 dBi @ 19.9500 GHz	39.8 dBi @ 29.7500 GHz	
	Maximum total input power at antenna flange (Watts) =	12.60						
	Maximum aggregate output EIRP for all carriers (dBW) =	50.80						
Aero 7	AERO7	4000	0.46	ORBIT	GX46			
	Max Gains(s):	37.7 dBi @ 19.7000 GHz	37.9 dBi @ 20.2000 GHz	41.2 dBi @ 30.0000 GHz	42.1 dBi @ 29.5000 GHz	37.8 dBi @ 19.9500 GHz	41.7 dBi @ 29.7500 GHz	
	Maximum total input power at antenna flange (Watts) =	12.60						
	Maximum aggregate output EIRP for all carriers (dBW) =	52.20						

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F) Remote Control Point:

Aero 1 — 6211 Glen Circle, Lino Lakes, Anoka, MN 55014, 8086385820 — **Call Sign:** E120072

Aero 2 — 6211 Glen Circle, Lino Lakes, Anoka, MN 55014, 8086385820 — **Call Sign:** E120072

Aero 3 — 6211 Glen Circle, Lino Lakes, Anoka, MN 55014, 8086385820 — **Call Sign:** E120072

Aero 4 — 6211 Glen Circle, Lino Lakes, Anoka, MN 55014, 8086385820 — **Call Sign:** E120072

Aero 5 — 6211 Glen Circle, Lino Lakes, Anoka, MN 55014, 8086385820 — **Call Sign:** E120072

Aero 6 — 6211 Glen Circle, Lino Lakes, Anoka, MN 55014, 8086385820 — **Call Sign:** E120072

Aero 7 — 6211 Glen Circle, Lino Lakes, Anoka, MN 55014, 8086385820 — **Call Sign:** E120072

G) Antenna Structure marking and lighting requirements:

None unless otherwise specified under Special and General Provisions

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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

4 --- Licensee must ensure that a current listing of the name, title, mailing address, email address, and telephone number of the responsible point of contact are on file at the FCC. Any changes must be filed electronically in the International Bureau Filing System (MyIBFS) using the "Pleadings and Comments" link on the MyIBFS homepage within 10 days of the change.

8 --- Licensee must notify the Commission when all earth stations under this authorization are no longer operational or when they have not been used to provide service during any continuous six-month period.

9652 --- Licensee shall comply with Section 25.277 of the Commission's Rules governing the temporary fixed earth station operations as agreed.

90053 --- 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. Requirements for restrictions can be determined by predictions based on calculations, modeling or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oetlrfsafety) 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. The licensee shall ensure installation of terminals on aircraft by qualified installers who have an understanding of the antenna's radiation environment and the measures best suited to maximize protection of the general public and persons operating the aircraft and equipment. A terminal exhibiting radiation exposure levels exceeding 1.0 mW/cm² in accessible areas, such as at the exterior surface of the radome, shall have a label attached to the surface of the terminal warning about the radiation hazard and shall include thereon a diagram showing the regions around the terminal where the radiation levels could exceed 1.0 mW/cm².

90066 --- Stations authorized herein must not be used to provide air traffic control communications.

90067 --- Operation in the territory or airspace of any country other than the United States must be in compliance with the applicable laws, regulations, and licensing procedures of that country, as well as with the conditions of this authorization.

90075 --- Licensee is afforded 30 days from the date of release of this grant and authorization to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

90079 --- ESAAs in aircraft on the ground must not transmit at elevation angles less than three degrees. There is no minimum angle of antenna elevation for ESAAs while airborne.

90095 --- The licensee shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.

90116 --- The licensee must maintain a U.S. point of contact available 24 hours per day, seven days per week, with the authority and ability to terminate operations authorized herein. The licensee shall have available, at all times, the technical personnel necessary to perform supervision of remote station operations.

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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

90122 --- The earth stations in this blanket license are operated by remote control. The remote control point is a material term of the license and may not be changed without prior authorization under Section 25.117 of the Commission's rules. Public Notice "The International Bureau Provides Guidance Concerning the Relocation of Earth Station Remote Control Points," DA 06-978 (rel. May 4, 2006).

90123 --- Operations authorized pursuant to this license are operations by U.S.-registered aircraft anywhere within the coverage area/frequency bands identified in the application for the satellites listed as points of communication. Operations authorized pursuant to this license also include operations by non-U.S.-registered aircraft within U.S. territory, including territorial waters. Authorization for operations by U.S.-registered aircraft outside U.S. territory, pursuant to this license, does not constitute a grant of access to the market in the United States under the Commission's DISCO II policies.

90209 --- ISAT US, Inc. is granted a waiver of the Table of Frequency Allocations, Section 2.106 of the Commission's rules, and a waiver of the Ka-band Band Plan, see Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Services and for Fixed Satellite Services, First Report and Order and Fourth Notice of Proposed Rulemaking, 11 FCC Rcd 19005 (1996). ISAT US, Inc. is authorized to operate in the 19.7-20.2 GHz and 29.5-30.0 GHz frequency bands on a non-harmful interference basis. ISAT US, Inc. must not cause harmful interference to any authorized radio station operating in conformance with the U.S. Table of Frequency Allocations.

90234 --- This authorization and any licenses related thereto are subject to compliance with the provisions of the Agreement between Inmarsat on the one hand and the U.S. Department of Justice (DOJ) and the Department of Homeland Security (DHS) on the other, dated September 23, 2008, as amended.

90246 --- ESAAs authorized herein must employ a tracking algorithm that is resistant to capturing and tracking adjacent satellite signals, and each station must be capable of inhibiting its own transmission in the event it detects unintended satellite tracking.

90247 --- ESAAs authorized herein must be monitored and controlled by a ground-based network control and monitoring center. Such stations must be able to receive "enable transmission" and "disable transmission" commands from the network control center and must cease transmission immediately after receiving a "parameter change" command until receiving an "enable transmission" command from the network control center. The network control center must monitor operation of each ESAA to determine if it is malfunctioning, and each ESAA must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed-satellite service network.

90253 --- When operating in airspace within line-of-sight of the territory of a foreign administration where Fixed Service networks have an allocation in the 28.35- 29.1 GHz or 29.5-30.0 GHz frequency bands, the ESAAs must not exceed the following EIRP limits:

+64 dBW in any 1 MHz band if Theta is less than or equal to 0°
+64 + 3*Theta dBW in any 1 MHz band if Theta is greater than 0° but less than or equal to 5°

where Theta is the angle of elevation of the horizon viewed from the center of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it.

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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

90256 --- Operation of ESAAs authorized herein are subject to any requirements the Commission may adopt in any future proceeding concerning operations in the 18.3-19.3 GHz, 19.7-20.2 GHz, 28.35-29.1 GHz, and 29.5-30.0 GHz band frequencies including, but not limited to, ESAAs communicating with geostationary orbit space stations.

90259 --- For purposes of this authorization, the term earth stations aboard aircraft, or ESAA, is used to refer to any earth station on aircraft communicating with Fixed-Satellite Service (FSS) geostationary-orbit (GSO) space stations, without reference to the technical and licensing rules specifically adopted for earth stations on aircraft in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz, and 14.0-14.5 GHz frequency bands. See 47 C.F.R. § 25.227; Revisions to Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary-Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.34-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands, IB Docket No. 12-376, Notice of Proposed Rulemaking and Report and Order, FCC 12-161, 27 FCC Rcd 16510 (2012); Revisions of Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary-Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands, IB Docket No. 12-376, Second Report and Order on Reconsideration, FCC 14-45, 29 FCC Rcd 4226 (2014). Nothing in this authorization extends those technical and licensing rules to earth stations on aircraft not operating in those specified frequency bands.

90286 --- Communications between ISAT US, Inc.'s ESAAs and Inmarsat-5 F1, Inmarsat-5 F2 and Inmarsat-5 F3 must be in compliance with all existing and future space station coordination agreements reached between the United Kingdom and other Administrations.

90287 --- This grant is based upon a finding that the Inmarsat 5-F2 and Inmarsat 5-F3 satellites are and will be subject to direct and effective regulation by the United Kingdom concerning orbital debris mitigation. This grant will remain effective only to the extent that launch and space operations continue to be authorized by the United Kingdom Space Agency under the United Kingdom Outer Space Act. See In the Matter of Inmarsat Mobile Networks, Inc., Order and Authorization and Declaratory Ruling, DA 15-392 (rel. March 30, 2015), IBFS File Nos. SES-LIC-20130426-00397, SES-AMD-20120823-00781, and SES- AMD-20150114-00008, and IBFS File Nos SES-LIC-20150402-00188 .

90288 --- The ESAAs are authorized, on a non-protected and non-harmful interference basis, to transmit to the following geostationary-orbit space stations: Inmarsat-5 F1 at 63° E.L., Inmarsat-5 F2 at 55° W.L. and Inmarsat-5 F3 at 179.6° W.L. using the 29.5-30.0 GHz frequency band. The aircraft earth stations authorized herein must immediately terminate operations upon notification that such operation is causing harmful interference to any other radio system lawfully operating in the 29.5-30.0 GHz frequency band. The aircraft earth stations authorized herein cannot claim protection from harmful interference from any radio system lawfully operating in the 29.5-30.0 GHz frequency band.

90289 --- The ESAAs are authorized, on a non-protected and non-harmful interference basis, to receive downlink transmissions from the following geostationary-orbit space stations: Inmarsat-5 F1 at 63° E.L., Inmarsat-5 F2 at 55° W.L. and Inmarsat-5 F3 at 179.6° W.L. in the 19.7-20.2 GHz frequency band. The aircraft earth station operation authorized herein must accept interference from any radio system lawfully operating in the 19.7-20.2 GHz frequency band.

90354 --- Operations shall be in accordance with the US334 Coordination Agreement between the operators of Inmarsat-5 F3 satellite and US Government satellites operating in the 17.7-20.2 GHz frequency band.

ISAT US Inc.

Call Sign: E140114

Authorization Type: Modification of License

File Number: SES-MFS-20210528-00864

Non Common Carrier **Grant date:** 09/07/2021 **Expiration Date:** 08/11/2030

H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

90398 --- Changes to previously authorized transmitting facilities, operations and devices regulated by the Commission that may have significant environmental impact, and are not excluded by §1.1306, require the preparation of an Environmental Assessment (EA) by the licensee. (See 47 C.F.R. §§1.1307, 1.1308 and 1.1311)

90399 --- The licensee shall, at all times, take all necessary measures to ensure that operation of this (these) authorized earth station(s) 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. Physical 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. Compliance can be accomplished in most cases by appropriate restrictions, such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling, or by field measurements. 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.

90451 --- The Aero 1 and Aero 2 terminals, operating consistent with the antenna parameters authorized for operations as ESAA, were also authorized to operate at fixed and temporary fixed locations within the U.S. and its territories and possessions, pursuant to IBFS File No. SES-MOD-20160302-00191.

90452 --- The antenna performance specifications for the Aero 1 and Aero 2 antenna types do not comply with Sections 25.138(a) and 25.209 of the FCC Rules. The operation of the Aero 1 and Aero 2 antennas will not be protected from harmful interference caused by other geostationary satellite networks to the extent that harmful interference would not be expected to be caused to an antenna that is compliant with the antenna performance standards of Section 25.209.

90453 --- ISAT US, Inc.'s request for partial waiver of 25.115(g)(1)(i) and 25.138(a) of the Commission's rules, with respect to the Antenna ID Aero 3, KA30, is granted. Section 25.115(g)(1)(i) requires an applicant to provide measured data relating to the maximum co-polarized EIRP density at off-axis angles from -180 degrees to 180 degrees for the planes tangent to the GSO arc, and Section 25.138(a) references this information. Waiver is granted because the data provided is sufficient in this instance to evaluate compliance with the off-axis EIRP spectral density limits in 25.138(a), where the plot of the maximum co-polarized EIRP density at off-axis angles from -64 degrees to 64 degrees shows that the maximum co-polarized EIRP density in the plane tangent to the GSO arc is far below the relevant section 25.138 EIRP density envelope under clear sky conditions, such that it has been demonstrated that it would not exceed the envelope at off-axis angles between -180 degrees and -64 degrees and 64 degrees and 180 degrees.

90589 --- Inmarsat 5F3 satellite was authorized by granted U.S. Market Access through IBFS File Nos. SES-LIC-20150402-00188 and SES-AMD-20150910-00577 (Call Sign E150028).

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

ISAT US Inc.

Call Sign: E140114

Authorization Type: Modification of License
Non Common Carrier

File Number: SES-MFS-20210528-00864

Grant date: 09/07/2021 **Expiration Date:** 08/11/2030

B) This RADIO STATION AUTHORIZATION is granted subject to the additional conditions specified below:

This authorization is issued on the grantee's representation that the statements contained in the application are true and that the undertakings described will be carried out in good faith.

This authorization shall not be construed in any manner as a finding by the Commission on the question of marking or lighting of the antenna system should future conditions require. The grantee expressly agrees to install such marking or lighting as the Commission may require under the provisions of Section 303(q) of the Communications Act. 47 U.S.C. § 303(q).

Neither this authorization nor the right granted by this authorization shall be assigned or otherwise transferred to any person, firm, company or corporation without the written consent of the Commission. This authorization is subject to the right of use or control by the government of the United States conferred by Section 706 of the Communications Act. 47 U.S.C. § 706. Operation of this station is governed by Part 25 of the Commission's Rules. 47 C.F.R. Part 25.

This authorization shall not vest in the licensee any right to operate this station nor any right in the use of the designated frequencies beyond the term of this license, nor in any other manner than authorized herein.

This authorization is issued on the grantee's representation that the station is in compliance with environmental requirements set forth in Section 1.1307 of the Commission's Rules. 47 C.F.R. § 1.1307.

This authorization is issued on the grantee's representation that the station is in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules. 47 C.F.R.§ 17.4.

The following condition applies when this authorization permits construction of or modifies the construction permit of a radio station.

This authorization shall be automatically forfeited if the station is not ready for operation by the required date of completion of construction unless an application for modification of authorization to request additional time to complete construction is filed by that date, together with a showing that failure to complete construction by the required date was due to factors not under control of the grantee.

Licensees are required to pay annual regulatory fees related to this authorization. The requirement to collect annual regulatory fees from regulatees is contained in Public Law 103-66, "The Omnibus Budget Reconciliation Act of 1993." These regulatory fees, which are likely to change each fiscal year, are used to offset costs associated with the Commission's enforcement, public service, international and policy and rulemaking activities. The Commission issues a Report and Order each year, setting the new regulatory fee rates. Receive only earth stations are exempt from payment of regulatory fees.