UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: ISAT US Inc.
Call Sign: E140029
Authorization Type: Modification of License
File Number: SES-MOD-20170817-00928
Non Common Carrier **Grant date:** 10/03/2017 **Expiration Date:** 09/29/2030

Nature of Service: Domestic Maritime Mobile-Satellite Service
Nature of Service: Maritime Mobile Satellite Service

Class of Station: Blanket Earth Stations

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
1)	REMOTE 1	Maritime Vessels/4000units Atlantic Ocean, Pacific Ocean CONUS, PR, USVI,			0	NA	
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
2)	REMOTE 2	Maritime Vessels/4000units Atlantic Ocean, Pacific Ocean CONUS PR USVI,			0	NA	
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
3)	REMOTE 3	Maritime Vessels/4000units Atlantic Ocean, Pacific Ocean CONUS PR USVI,				NA	
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
4)	REMOTE 4	Maritime Vessels/4000units Atlantic Ocean, Pacific Ocean CONUS PR USVI,				NA	
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
5)	REMOTE 5	Maritime Vessels/4000units Atlantic Ocean, Pacific Ocean CONUS PR USVI,				NA	
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					

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A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
6)	REMOTE 6	Maritime Vessels/4000units Atlantic Ocean, Pacific Ocean CONUS PR USVI, Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				NA	
7)	REMOTE 7	Maritime Vessels/4000units Atlantic Ocean, Pacific Ocean CONUS PR USVI, Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				NA	
8)	REMOTE 8	Maritime Vessels/4000units Atlantic Ocean, Pacific Ocean CONUS PR USVI,				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 September 29, 2015 (3 AM Eastern Standard Time) and ending September 29, 2030 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is October 3, 2018 (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	3M56G7W	Tx	55.00	25.50	EM Cobra		Modulation and Services various modulations up to 32 APSK Digital Data Link

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B) Particulars of Operations

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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
2)	29500.0000-30000.0000	R	7M11G7W	Tx	58.00	25.50	EM Cobra		Modulation and Services various modulations up to 32 APSK Digital Data Link
3)	19700.0000-20200.0000	L	32M0G7W	Rx			EM Cobra		Modulation and Services various modulations up to 32 APSK Digital Data Link
4)	29500.0000-30000.0000	R	1M79G1W	Tx	54.60	28.10	INT GX100		Modulation and Services Digital Data Signalling
5)	29500.0000-30000.0000	R	5M00G1W	Tx	54.50	23.50	INT GX100		Modulation and Services Digital Data Signalling
6)	29500.0000-30000.0000	R	600KG7W	Tx	47.80	26.00	INT GX100		Various Modulations up to 32APSK; Digital Data Link
7)	29500.0000-30000.0000	R	6M96G7W	Tx	54.50	22.10	INT GX100		Various Modulations up to 32APSK; Digital Data Link
8)	29100.0000-29500.0000	R	1M79G1W	Tx	54.60	28.10	INT GX100		Modulation and Services Digital Data Signalling
9)	29100.0000-29500.0000	R	5M00G1W	Tx	54.50	23.50	INT GX100		Modulation and Services Digital Data Signalling
10)	29100.0000-29500.0000	R	600KG7W	Tx	47.80	26.00	INT GX100		Various Modulations up to 32APSK; Digital Data Link
11)	29100.0000-29500.0000	R	6M96G7W	Tx	54.50	22.10	INT GX100		Various Modulations up to 32APSK; Digital Data Link
12)	19700.0000-20200.0000	L	32M0G7W	Rx			INT GX100		Various Modulations up to 32APSK; Digital Data Link
13)	19300.0000-19700.0000	L	32M0G7W	Rx			INT GX100		Various Modulations up to 32APSK; Digital Data Link
14)	29500.0000-30000.0000	R	2M20G1W	Tx	50.50	23.10	INT GX60		Modulation and Services Digital Data Signalling
15)	29500.0000-30000.0000	R	5M00G1W	Tx	50.90	19.90	INT GX60		Modulation and Services Digital Data Signalling
16)	29500.0000-30000.0000	R	492KG7W	Tx	44.00	23.10	INT GX60		Various Modulations up to 32APSK; Digital Data Link
17)	29500.0000-30000.0000	R	6M96G7W	Tx	50.90	18.50	INT GX60		Various Modulations up to 32APSK; Digital Data Link
18)	29100.0000-29500.0000	R	2M20G1W	Tx	50.50	23.10	INT GX60		Modulation and Services Digital Data Signalling

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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
19)	29100.0000-29500.0000	R	5M00G1W	Tx	50.90	19.90	INT GX60		Modulation and Services Digital Data Signalling
20)	29100.0000-29500.0000	R	492KG7W	Tx	44.00	23.10	INT GX60		Various Modulations up to 32APSK; Digital Data Link
21)	29100.0000-29500.0000	R	6M96G7W	Tx	50.90	18.50	INT GX60		Various Modulations up to 32APSK; Digital Data Link
22)	19700.0000-20200.0000	L	32M0G7W	Rx			INT GX60		Various Modulations up to 32APSK; Digital Data Link
23)	19300.0000-19700.0000	L	32M0G7W	Rx			INT GX60		Various Modulations up to 32APSK; Digital Data Link
24)	29500.0000-30000.0000	R	2M70G1W	Tx	50.50	22.20	JUE-60GX		Modulation and Services Digital Data Signalling
25)	29500.0000-30000.0000	R	5M00G1W	Tx	50.90	19.90	JUE-60GX		Modulation and Services Digital Data Signalling
26)	29500.0000-30000.0000	R	600KG7W	Tx	44.00	22.20	JUE-60GX		Various Modulations up to 32APSK; Digital Data Link
27)	29500.0000-30000.0000	R	6M96G7W	Tx	50.90	18.50	JUE-60GX		Various Modulations up to 32APSK; Digital Data Link
28)	29100.0000-29500.0000	R	2M70G1W	Tx	50.50	22.20	JUE-60GX		Modulation and Services Digital Data Signalling
29)	29100.0000-29500.0000	R	5M00G1W	Tx	50.90	19.90	JUE-60GX		Modulation and Services Digital Data Signalling
30)	29100.0000-29500.0000	R	600KG7W	Tx	44.00	22.20	JUE-60GX		Various Modulations up to 32APSK; Digital Data Link
31)	29100.0000-29500.0000	R	6M96G7W	Tx	50.90	18.50	JUE-60GX		Various Modulations up to 32APSK; Digital Data Link
32)	19700.0000-20200.0000	L,R	32M0G7W	Rx			JUE-60GX		Modulation and Services Digital Data Signalling
33)	19300.0000-19700.0000	L,R	32M0G7W	Rx			JUE-60GX		Modulation and Services Digital Data Signalling
34)	29500.0000-30000.0000	R	2M70G1W	Tx	54.30	26.00	SAILOR 100		Modulation and Services Digital Data Signalling
35)	29500.0000-30000.0000	R	5M00G1W	Tx	54.50	23.50	SAILOR 100		Modulation and Services Digital Data Signalling
36)	29500.0000-30000.0000	R	600KG7W	Tx	47.80	26.00	SAILOR 100		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
37)	29500.0000-30000.0000	R	6M96G7W	Tx	54.50	22.10	SAILOR 100		Various Modulations up to 32APSK; Digital Data Link
38)	29100.0000-29500.0000	R	2M70G1W	Tx	54.30	26.00	SAILOR 100		Modulation and Services Digital Data Signalling
39)	29100.0000-29500.0000	R	5M00G1W	Tx	54.50	23.50	SAILOR 100		Modulation and Services Digital Data Signalling
40)	29100.0000-29500.0000	R	600KG7W	Tx	47.80	26.00	SAILOR 100		Various Modulations up to 32APSK; Digital Data Link
41)	29100.0000-29500.0000	R	6M96G7W	Tx	54.50	22.10	SAILOR 100		Various Modulations up to 32APSK; Digital Data Link
42)	19700.0000-20200.0000	L	32M0G7W	Rx			SAILOR 100		Various Modulations up to 32APSK; Digital Data Link
43)	19300.0000-19700.0000	L	32M0G7W	Rx			SAILOR 100		Various Modulations up to 32APSK; Digital Data Link
44)	29500.0000-30000.0000	R	2M20G1W	Tx	50.50	23.10	SAILOR 60		Modulation and Services Digital Data Signalling
45)	29500.0000-30000.0000	R	5M00G1W	Tx	50.70	19.70	SAILOR 60		Modulation and Services Digital Data Signalling
46)	29500.0000-30000.0000	R	492KG7W	Tx	44.00	23.10	SAILOR 60		Various Modulations up to 32APSK; Digital Data Link
47)	29500.0000-30000.0000	R	6M96G7W	Tx	50.70	18.30	SAILOR 60		Various Modulations up to 32APSK; Digital Data Link
48)	29100.0000-29500.0000	R	2M20G1W	Tx	50.50	23.10	SAILOR 60		Modulation and Services Digital Data Signalling
49)	29100.0000-29500.0000	R	5M00G1W	Tx	50.70	19.70	SAILOR 60		Modulation and Services Digital Data Signalling
50)	29100.0000-29500.0000	R	492KG7W	Tx	44.00	23.10	SAILOR 60		Various Modulations up to 32APSK; Digital Data Link
51)	29100.0000-29500.0000	R	6M96G7W	Tx	50.70	18.30	SAILOR 60		Various Modulations up to 32APSK; Digital Data Link
52)	19700.0000-20200.0000	L	32M0G7W	Rx			SAILOR 60		Various Modulations up to 32APSK; Digital Data Link
53)	19300.0000-19700.0000	L	32M0G7W	Rx			SAILOR 60		Various Modulations up to 32APSK; Digital Data Link
54)	29500.0000-30000.0000	R	2M30G1W	Tx	54.10	26.50	SEA4012GX		Modulation and Services Digital Data Signalling

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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
55)	29500.0000-30000.0000	R	5M00G1W	Tx	54.10	23.10	SEA4012GX		Modulation and Services Digital Data Signalling
56)	29500.0000-30000.0000	R	600KG7W	Tx	46.50	24.70	SEA4012GX		Various Modulations up to 32APSK; Digital Data Link
57)	29500.0000-30000.0000	R	6M96G7W	Tx	54.10	21.70	SEA4012GX		Various Modulations up to 32APSK; Digital Data Link
58)	29100.0000-29500.0000	R	2M30G1W	Tx	54.10	26.50	SEA4012GX		Modulation and Services Digital Data Signalling
59)	29100.0000-29500.0000	R	5M00G1W	Tx	54.10	23.10	SEA4012GX		Modulation and Services Digital Data Signalling
60)	29100.0000-29500.0000	R	600KG7W	Tx	46.50	24.70	SEA4012GX		Various Modulations up to 32APSK; Digital Data Link
61)	29100.0000-29500.0000	R	6M96G7W	Tx	54.10	21.70	SEA4012GX		Various Modulations up to 32APSK; Digital Data Link
62)	19700.0000-20200.0000	L	32M0G7W	Rx	0.00	0.00	SEA4012GX		Various Modulations up to 32APSK; Digital Data Link
63)	19300.0000-19700.0000	L	32M0G7W	Rx			SEA4012GX		Various Modulations up to 32APSK; Digital Data Link
64)	29500.0000-30000.0000	R	2M70G1W	Tx	50.30	22.00	SEAGX60		Modulation and Services Digital Data Signalling
65)	29500.0000-30000.0000	R	5M00G1W	Tx	50.30	19.30	SEAGX60		Modulation and Services Digital Data Signalling
66)	29500.0000-30000.0000	R	600KG7W	Tx	43.30	21.50	SEAGX60		Various Modulations up to 32APSK; Digital Data Link
67)	29500.0000-30000.0000	R	6M96G7W	Tx	50.30	17.90	SEAGX60		Various Modulations up to 32APSK; Digital Data Link
68)	29100.0000-29500.0000	R	2M70G1W	Tx	50.30	22.00	SEAGX60		Modulation and Services Digital Data Signalling
69)	29100.0000-29500.0000	R	5M00G1W	Tx	50.30	19.30	SEAGX60		Modulation and Services Digital Data Signalling
70)	29100.0000-29500.0000	R	600KG7W	Tx	43.30	21.50	SEAGX60		Various Modulations up to 32APSK; Digital Data Link
71)	29100.0000-29500.0000	R	6M96G7W	Tx	50.30	17.90	SEAGX60		Various Modulations up to 32APSK; Digital Data Link
72)	19700.0000-20200.0000	L	32M0G7W	Rx	0.00	0.00	SEAGX60		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
73)	19300.0000-19700.0000	L	32M0G7W	Rx			SEAGX60		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			05.0	05.0			-9	JUE-60GX
2)	19700.0000-20200.0000			05.0	05.0				JUE-60GX
3)	29100.0000-29500.0000			05.0	05.0			-9	JUE-60GX
4)	19300.0000-19700.0000			05.0	05.0				JUE-60GX
5)	29500.0000-30000.0000			05.0	05.0			-9	INT GX100
6)	19700.0000-20200.0000			05.0	05.0				INT GX100
7)	29100.0000-29500.0000			05.0	05.0			-9	INT GX100
8)	19300.0000-19700.0000			05.0	05.0				INT GX100
9)	29500.0000-30000.0000			05.0	05.0			-9	INT GX60
10)	19700.0000-20200.0000			05.0	05.0				INT GX60
11)	29100.0000-29500.0000			05.0	05.0			-9	INT GX60
12)	19300.0000-19700.0000			05.0	05.0				INT GX60
13)	29500.0000-30000.0000			05.0	05.0			-9	SAILOR 60
14)	19700.0000-20200.0000			05.0	05.0				SAILOR 60
15)	29100.0000-29500.0000			05.0	05.0			-9	SAILOR 60
16)	19300.0000-19700.0000			05.0	05.0				SAILOR 60
17)	29500.0000-30000.0000			05.0	05.0			-9	SAILOR 100
18)	19700.0000-20200.0000			05.0	05.0				SAILOR 100
19)	29100.0000-29500.0000			05.0	05.0			-9	SAILOR 100
20)	19300.0000-19700.0000			05.0	05.0				SAILOR 100
21)	19700.0000-20200.0000	0.0W	360.0W	05.0	05.0	000.0	000.0		SEA4012GX
22)	29500.0000-30000.0000	0.0W	360.0W	05.0	05.0	000.0	000.0	-9	SEA4012GX
23)	29100.0000-29500.0000			05.0	05.0			-9	SEA4012GX
24)	19300.0000-19700.0000			05.0	05.0				SEA4012GX

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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)
25)	19700.0000-20200.0000	0.0W-360.0W		05.0-05.0		000.0-000.0			SEAGX60
26)	29500.0000-30000.0000	0.0W-360.0W		05.0-05.0		000.0-000.0		-9	SEAGX60
27)	29100.0000-29500.0000			05.0-05.0				-9	SEAGX60
28)	19300.0000-19700.0000			05.0-05.0					SEAGX60
29)	29500.0000-30000.0000	0.0W-360.0W		05.0-05.0		000.0-000.0		-9	EM Cobra
30)	19700.0000-20200.0000	0.0W-360.0W		05.0-05.0		000.0-000.0			EM Cobra

D) Points of Communications

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

1) REMOTE 4 to INMARSAT 5F2 satellite @ 55 W.L. (U. K. licensed)
2) REMOTE 4 to INMARSAT 5F3 satellite @ 179.6 E.L. (U. K. licensed)
3) REMOTE 5 to INMARSAT 5F2 satellite @ 55 W.L. (U. K. licensed)
4) REMOTE 5 to INMARSAT 5F3 satellite @ 179.6 E.L. (U. K. licensed)
5) REMOTE 6 to INMARSAT 5F2 satellite @ 55 W.L. (U. K. licensed)
6) REMOTE 6 to INMARSAT 5F3 satellite @ 179.6 E.L. (U. K. licensed)
7) REMOTE 7 to INMARSAT 5F2 satellite @ 55 W.L. (U. K. licensed)
8) REMOTE 7 to INMARSAT 5F3 satellite @ 179.6 E.L. (U. K. licensed)
9) REMOTE 3 to INMARSAT 5F2 satellite @ 55 W.L. (U. K. licensed)
10) REMOTE 3 to INMARSAT 5F3 satellite @ 179.6 E.L. (U. K. licensed)
11) REMOTE 1 to INMARSAT 5F2 satellite @ 55 W.L. (U. K. licensed)
12) REMOTE 1 to INMARSAT 5F3 satellite @ 179.6 E.L. (U. K. licensed)
13) REMOTE 2 to INMARSAT 5F2 satellite @ 55 W.L. (U. K. licensed)
14) REMOTE 2 to INMARSAT 5F3 satellite @ 179.6 E.L. (U. K. licensed)
15) REMOTE 8 to INMARSAT 5F2 satellite @ 55 W.L. (U. K. licensed)
16) REMOTE 8 to INMARSAT 5F3 satellite @ 179.6 E.L. (U. K. licensed)

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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)
REMOTE 8	EM Cobra	4000	1	EM Solutions	Cobra			

Max Gains(s): 48.0 dBi @ 29.5000 GHz 46.1 dBi @ 20.2000 GHz 46.0 dBi @ 19.7000 GHz 49.4 dBi @ 30.0000 GHz

Maximum total input power at antenna flange (Watts) = 16.00

Maximum aggregate output EIRP for all carriers (dBW) = 61.40

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
REMOTE 5	INT GX100	4000	1.03	INTELLIAN	GX100			

Max Gains(s): 47.6 dBi @ 29.7500 GHz 43.9 dBi @ 19.9500 GHz 47.7 dBi @ 29.5000 GHz 44.3 dBi @ 20.2000 GHz 47.6 dBi @ 30.0000 GHz 43.8 dBi @ 19.7000 GHz 47.6 dBi @ 29.1000 GHz 43.6 dBi @ 19.3000 GHz

Maximum total input power at antenna flange (Watts) = 5.00

Maximum aggregate output EIRP for all carriers (dBW) = 54.60

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
REMOTE 6	INT GX60	4000	0.65	INTELLIAN	GX60			

Max Gains(s): 43.8 dBi @ 29.7500 GHz 40.5 dBi @ 19.9500 GHz 44.2 dBi @ 29.5000 GHz 43.8 dBi @ 30.0000 GHz 41.1 dBi @ 20.2000 GHz 39.7 dBi @ 19.7000 GHz 44.1 dBi @ 29.1000 GHz 39.5 dBi @ 19.3000 GHz

Maximum total input power at antenna flange (Watts) = 5.00

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

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
REMOTE 4	JUE-60GX	4000	0.65	JRC	JUE-60GX			

Max Gains(s): 39.6 dBi @ 19.7000 GHz 39.9 dBi @ 20.2000 GHz 43.9 dBi @ 29.5000 GHz 43.9 dBi @ 30.0000 GHz 39.9 dBi @ 19.9500 GHz 43.9 dBi @ 29.7500 GHz 43.8 dBi @ 29.1000 GHz 39.4 dBi @ 19.3000 GHz

Maximum total input power at antenna flange (Watts) = 5.00

Maximum aggregate output EIRP for all carriers (dBW) = 50.90

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
REMOTE 3	SAILOR 100	4000	1.03	Cobham SatCom	Sailor 100 GX			

Max Gains(s): 47.2 dBi @ 30.0000 GHz 43.5 dBi @ 19.7000 GHz 44.1 dBi @ 20.2000 GHz 47.4 dBi @ 29.5000 GHz 43.9 dBi @ 19.9500 GHz 47.5 dBi @ 29.7500 GHz 47.3 dBi @ 29.1000 GHz 43.3 dBi @ 19.3000 GHz

Maximum total input power at antenna flange (Watts) = 5.00

Maximum aggregate output EIRP for all carriers (dBW) = 54.50

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
REMOTE 7	SAILOR 60	4000	0.65	COBHAM SEATEL	SAILOR GX60			

Max Gains(s): 43.6 dBi @ 29.7500 GHz 40.5 dBi @ 19.9500 GHz 43.7 dBi @ 30.0000 GHz 43.6 dBi @ 29.5000 GHz 40.5 dBi @ 20.2000 GHz 40.5 dBi @ 19.7000 GHz 43.5 dBi @ 29.1000 GHz 40.3 dBi @ 19.3000 GHz

Maximum total input power at antenna flange (Watts) = 5.00

Maximum aggregate output EIRP for all carriers (dBW) = 50.70

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RADIO STATION AUTHORIZATION

Name: ISAT US Inc.
Call Sign: E140029
Authorization Type: Modification of License
File Number: SES-MOD-20170817-00928
Non Common Carrier **Grant date:** 10/03/2017 **Expiration Date:** 09/29/2030

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)
REMOTE 1	SEA4012GX	4000	1	Cobham-Sea Tel	4012GX	0	0 AGL	

Max Gains(s): 47.1 dBi @ 29.5000 GHz 44.0 dBi @ 19.7000 GHz 43.8 dBi @ 19.3000 GHz 47.0 dBi @ 29.1000 GHz
Maximum total input power at antenna flange (Watts) = 5.00
Maximum aggregate output EIRP for all carriers (dBW) = 54.10

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
REMOTE 2	SEAGX60	4000	0.65	Cobham-Sea Tel	GX60	0	0 AGL	

Max Gains(s): 43.3 dBi @ 29.5000 GHz 40.4 dBi @ 20.2000 GHz 43.2 dBi @ 29.1000 GHz 40.4 dBi @ 19.7000 GHz 40.3 dBi @ 19.3000 GHz
Maximum total input power at antenna flange (Watts) = 5.00
Maximum aggregate output EIRP for all carriers (dBW) = 50.30

F) Remote Control Point:

REMOTE 1 6211 GLEN CIRCLE, (SEA4012GX) **Call Sign:** E120072
LINO LAKES, ANOKA, MN 55014
808-469-7104

REMOTE 2 6211 GLEN CIRCLE, (SEAGX60) **Call Sign:** E120072
LINO LAKES, ANOKA, MN 55014
808-469-7104

REMOTE 3 6211 GLEN CIRCLE, (SAILOR 100) **Call Sign:** E120072
LINO LAKES, ANOKA, MN 55014
808-469-7104

REMOTE 4 6211 GLEN CIRCLE, (JUE-60GX) **Call Sign:** E120072
LINO LAKES, ANOKA, MN 55014
808-469-7104

REMOTE 5 6211 GLEN CIRCLE, (INT GX100) **Call Sign:** E120072
LINO LAKES, ANOKA, MN 55014
808-469-7104

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F) Remote Control Point:

REMOTE 6 6211 GLEN CIRCLE, (INT GX60) **Call Sign:** E120072
LINO LAKES, ANOKA, MN 55014
808-469-7104

REMOTE 7 6211 GLEN CIRCLE, (SAILOR 60) **Call Sign:** E120072
LINO LAKES, ANOKA, MN 55014
808-469-7104

REMOTE 8 6211 GLEN CIRCLE, (EM Cobra) **Call Sign:** E120072
LINO LAKES, ANOKA, MN 55014
808-469-7104

G) Antenna Structure marking and lighting requirements:

None unless otherwise specified under Special and General Provisions

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 (IBFS) in the "Other Filings" tab within 10 days of the change.

5 --- Licensee must notify the Commission when an earth station is no longer operational or when it has not been used to provide any service during any 6-month operation.

6 --- Licensee must comply with the license modification and notification requirements of 47 CFR § 25.118 to change the coordinates of its authorized earth station.

2653 --- Licensee shall maintain a 24-hour point of contact who can remedy any interference problems or terminate operations if necessary.

6609 --- The licensee must comply with any pertinent limits and provisions established by the International Telecommunication Union to protect other services allocated internationally.

6613 --- The licensee must maintain the following records for each antenna on maritime vessels: a record of the ship location (i.e., latitude and longitude), transmit frequency, channel bandwidth and satellite used. These records shall be time annotated and maintained for a period of not less than 1 year. Records will be obtained at time intervals of no greater than every 20 minutes while the antenna is transmitting. The licensee will make this data available upon request to a coordinator, fixed system operator, fixed satellite system operator, or the Commission within 24 hours of the request.

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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:

90227 --- Grant of this application and operations under this license are based upon and subject to the conditions, waivers, and findings specified in Inmarsat Mobile Networks, Order and Authorization and Declaratory Ruling, 30 FCC Rcd 2770 (Int'l Bur., 2015), and Petition for Reconsideration or Clarification, 30 FCC Rcd 7295 (Int'l Bur. 2015).

90228 --- The licensee's earth stations on maritime vessels 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.

90229 --- The licensee's earth stations on maritime vessels 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 earth station to determine if it is malfunctioning, and each earth station on maritime vessels must self-monitor and automatically cease transmission within 100 milliseconds on detecting an operational fault that could cause harmful interference.

90230 --- The Commisson's Ka-band Plan is waived to the extent noted herein. Operations in the 29.5-30.0 GHz and 19.7-20.2 GHz frequency bands for maritime use are permitted on a non-harmful interference basis, that is, operations must not cause harmful interference to, and must not claim protection from interference caused by any other lawfully operating station. Transmission(s) must cease immediately upon notice of any interference caused. 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). This waiver applies to terminals with the technical characteristics identified in this license, on both U.S. and non-U.S. registered vessels.

90232 --- The licensee must submit to the Commission a yearly report indicating the number of earth stations actually brought into service under its blanket licensing authority. The annual report is due to the Commission no later than the first day of April of each year and shall indicate the deployment figures for the preceding calendar year. See 47 C.F.R. § 25.145(f)(1)(iv)(2).

90233 --- The operation of Inmarsat-5 F2 and associated earth stations must comport with: (i) the applicable uplink limits in Section 25.138 in the frequency 29.5-30.0 GHz; (ii) the applicable downlink limits in Section 25.138 in the frequency band 19.7-20.2 GHz. These limits cannot be exceeded unless the satellite operator coordinates any non-conforming operation with the operations of U.S.-licensed GSO space stations within 6 degrees of 55° W.L. Non-conforming operation must also be coordinated with respect to operation of non-U.S.-licensed space stations within 6 degrees of 55° W.L. when communicating with U.S.-licensed earth stations pursuant to Section 25.137 of the Commission's rules, 47 C.F.R. § 25.137.

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.

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)

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RADIO STATION AUTHORIZATION

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Non Common Carrier **Grant date:** 10/03/2017 **Expiration Date:** 09/29/2030

H) Special and General Provisions

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

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.

900408 --- ISAT, US is granted a waiver of the U.S. Table of Allocations, 47 CFR § 2.106, and the Commission's Ka-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 is authorized to operate with the Inmarsat 5F2 space station at the 55° W.L. orbital location using the 29.1-29.25 GHz (Earth-to-space) and 19.3-19.7 GHz (space-to-Earth) frequency bands, for maritime use in the South Atlantic Ocean Region, on a non-harmful interference basis, that is, ISAT must not cause harmful interference to, and must not claim protection from interference caused to it by, any other lawfully operating station, and must cease transmission(s) immediately upon notice of such interference. Based on the information on file with the Commission, the proposed operations do not pose a risk of interference to other users of the band.

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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 does not meet each required construction deadline by the required date of completion unless, before such date(s), a specific application is timely filed to request an extension of the construction deadline(s), supported with good cause why that failure to construct 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.