



**UNITED STATES OF AMERICA  
FEDERAL COMMUNICATIONS COMMISSION**

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**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032



Nature of Service: Earth Station Aboard Aircraft

Nature of Service: Fixed Satellite Service

Nature of Service: Vehicle Mounted Earth Station

Class of Station: Other

**A) Site Location(s)**

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	HR129 REMOTES	2875 FORK CREEK ROAD				NA
		0.29 METER (1000 UNITS) ELLENWOOD, GA 30294 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
2)	HR6400 REMOTES	2875 FORK CREEK ROAD				NA
		0.86 METER (1000 UNITS) ELLENWOOD, GA 30294 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
3)	RANTAC REMOTES	2875 Fork Creek Church Road				NA
		.46 METER, (1000 UNITS) Ellenwood, GA 30294 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
4)	TECOM REMOTES	2875 Fork Creek Church Road				NA
		.65 METER, (1000 UNITS) Ellenwood, GA 30294 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				

*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 October 4, 2017 (3 AM Eastern Standard Time) and ending October 4, 2032 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is July 25, 2019 (3 AM Eastern Standard Time) . Grantee must file with the Commission a certification upon completion of construction and commencement of operation.*



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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
1)	14000.0000-14500.0000	H, V, L, R	375KG7W	Tx	27.40	8.50	HR129		Digital Data Services
2)	14000.0000-14500.0000	H, V, L, R	7M05G7W	Tx	40.20	8.50	HR129		Digital Data Services
3)	14000.0000-14250.0000	H, V, L, R	375KG7W	Tx	27.40	8.50	HR129		Digital Data Services
4)	14000.0000-14250.0000	H, V, L, R	72M0G7W	Tx	40.20	8.50	HR129		Digital Data Services
5)	12500.0000-12750.0000	H, V, L, R	18M0G7W	Rx			HR129		Digital Data Services
6)	12500.0000-12750.0000	H, V, L, R	1M20G7W	Rx			HR129		Digital Data Services
7)	12500.0000-12750.0000	H, V, L, R	54M0G7W	Rx			HR129		Digital Data Services
8)	12250.0000-12750.0000	H, V, L, R	18M0G7W	Rx			HR129		Digital Data Services
9)	12250.0000-12750.0000	H, V, L, R	1M20G7W	Rx			HR129		Digital Data Services
10)	12250.0000-12750.0000	H, V, L, R	54M0G7W	Rx			HR129		Digital Data Services
11)	12200.0000-12250.0000	H, V, L, R	18M0G7W	Rx			HR129		Digital Data Services
12)	12200.0000-12250.0000	H, V, L, R	1M20G7W	Rx			HR129		Digital Data Services
13)	12200.0000-12250.0000	H, V, L, R	54M0G7W	Rx			HR129		Digital Data Services
14)	11700.0000-12200.0000	H, V, L, R	18M0G7W	Rx			HR129		Digital Data Services
15)	11700.0000-12200.0000	H, V, L, R	1M20G7W	Rx			HR129		Digital Data Services
16)	11700.0000-12200.0000	H, V, L, R	54M0G7W	Rx			HR129		Digital Data Services
17)	11700.0000-11950.0000	H, V, L, R	18M0G7W	Rx			HR129		Digital Data Services
18)	11700.0000-11950.0000	H, V, L, R	1M20G7W	Rx			HR129		Digital Data Services
19)	11700.0000-11950.0000	H, V, L, R	54M0G7W	Rx			HR129		Digital Data Services
20)	11450.0000-11950.0000	H, V, L, R	18M0G7W	Rx			HR129		Digital Data Services
21)	11450.0000-11950.0000	H, V, L, R	1M20G7W	Rx			HR129		Digital Data Services
22)	11450.0000-11950.0000	H, V, L, R	54M0G7W	Rx			HR129		Digital Data Services
23)	11450.0000-11700.0000	H, V, L, R	18M0G7W	Rx			HR129		Digital Data Services
24)	11450.0000-11700.0000	H, V, L, R	1M20G7W	Rx			HR129		Digital Data Services



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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
25)	11450.0000-11700.0000	H, V, L, R	54M0G7W	Rx			HR129		Digital Data Services
26)	10950.0000-11200.0000	H, V, L, R	18M0G7W	Rx			HR129		Digital Data Services
27)	10950.0000-11200.0000	H, V, L, R	1M20G7W	Rx			HR129		Digital Data Services
28)	10950.0000-11200.0000	H, V, L, R	54M0G7W	Rx			HR129		Digital Data Services
29)	14000.0000-14500.0000	H, V	2M59G7W	Tx	42.00	14.70	HR6400		Digital Data Services
30)	14000.0000-14500.0000	H, V	375KG7W	Tx	33.60	14.70	HR6400		Digital Data Services
31)	14000.0000-14250.0000	H, V	2M59G7W	Tx	42.00	14.70	HR6400		Digital Data Services
32)	14000.0000-14250.0000	H, V	375KG7W	Tx	33.60	14.70	HR6400		Digital Data Services
33)	12500.0000-12750.0000	H, V	18M0G7W	Rx			HR6400		Digital Data Services
34)	12500.0000-12750.0000	H, V	1M20G7W	Rx			HR6400		Digital Data Services
35)	12500.0000-12750.0000	H, V	54M0G7W	Rx			HR6400		Digital Data Services
36)	12250.0000-12750.0000	H, V	18M0G7W	Rx			HR6400		Digital Data Services
37)	12250.0000-12750.0000	H, V	1M20G7W	Rx			HR6400		Digital Data Services
38)	12250.0000-12750.0000	H, V	54M0G7W	Rx			HR6400		Digital Data Services
39)	12200.0000-12250.0000	H, V	18M0G7W	Rx			HR6400		Digital Data Services
40)	12200.0000-12250.0000	H, V	1M20G7W	Rx			HR6400		Digital Data Services
41)	12200.0000-12250.0000	H, V	54M0G7W	Rx			HR6400		Digital Data Services
42)	11700.0000-12200.0000	H, V	18M0G7W	Rx			HR6400		Digital Data Services
43)	11700.0000-12200.0000	H, V	1M20G7W	Rx			HR6400		Digital Data Services
44)	11700.0000-12200.0000	H, V	54M0G7W	Rx			HR6400		Digital Data Services
45)	11700.0000-11950.0000	H, V	18M0G7W	Rx			HR6400		Digital Data Services
46)	11700.0000-11950.0000	H, V	1M20G7W	Rx			HR6400		Digital Data Services
47)	11700.0000-11950.0000	H, V	54M0G7W	Rx			HR6400		Digital Data Services
48)	11450.0000-11950.0000	H, V	18M0G7W	Rx			HR6400		Digital Data Services



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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
49)	11450.0000-11950.0000	H,V	1M20G7W	Rx			HR6400		Digital Data Services
50)	11450.0000-11950.0000	H,V	54M0G7W	Rx			HR6400		Digital Data Services
51)	11450.0000-11700.0000	H,V	18M0G7W	Rx			HR6400		Digital Data Services
52)	11450.0000-11700.0000	H,V	1M20G7W	Rx			HR6400		Digital Data Services
53)	11450.0000-11700.0000	H,V	54M0G7W	Rx			HR6400		Digital Data Services
54)	10950.0000-11200.0000	H,V	18M0G7W	Rx			HR6400		Digital Data Services
55)	10950.0000-11200.0000	H,V	1M20G7W	Rx			HR6400		Digital Data Services
56)	10950.0000-11200.0000	H,V	54M0G7W	Rx			HR6400		Digital Data Services
57)	14000.0000-14500.0000	H,V	375KG7W	Tx	30.60	11.70	Rantec		Digital Data Services
58)	14000.0000-14500.0000	H,V	7M05G7W	Tx	43.40	11.70	Rantec		Digital Data Services
59)	14000.0000-14250.0000	H,V	375KG7W	Tx	30.60	11.70	Rantec		Digital Data Services
60)	14000.0000-14250.0000	H,V	7M05G7W	Tx	43.40	11.70	Rantec		Digital Data Services
61)	12500.0000-12750.0000	H,V	18M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
62)	12500.0000-12750.0000	H,V	1M20G7W	Rx	0.00	0.00	Rantec		Digital Data Services
63)	12500.0000-12750.0000	H,V	54M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
64)	12250.0000-12750.0000	H,V	18M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
65)	12250.0000-12750.0000	H,V	1M20G7W	Rx	0.00	0.00	Rantec		Digital Data Services
66)	12250.0000-12750.0000	H,V	54M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
67)	12200.0000-12250.0000	H,V	18M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
68)	12200.0000-12250.0000	H,V	1M20G7W	Rx	0.00	0.00	Rantec		Digital Data Services
69)	12200.0000-12250.0000	H,V	54M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
70)	11700.0000-12200.0000	H,V	18M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
71)	11700.0000-12200.0000	H,V	1M20G7W	Rx	0.00	0.00	Rantec		Digital Data Services
72)	11700.0000-12200.0000	H,V	54M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services



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#	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)	11700.0000-11950.0000	H,V	18M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
74)	11700.0000-11950.0000	H,V	1M20G7W	Rx	0.00	0.00	Rantec		Digital Data Services
75)	11700.0000-11950.0000	H,V	54M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
76)	11450.0000-11950.0000	H,V	18M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
77)	11450.0000-11950.0000	H,V	1M20G7W	Rx	0.00	0.00	Rantec		Digital Data Services
78)	11450.0000-11950.0000	H,V	54M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
79)	11450.0000-11700.0000	H,V	18M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
80)	11450.0000-11700.0000	H,V	1M20G7W	Rx	0.00	0.00	Rantec		Digital Data Services
81)	11450.0000-11700.0000	H,V	54M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
82)	10950.0000-11200.0000	H,V	18M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
83)	10950.0000-11200.0000	H,V	1M20G7W	Rx	0.00	0.00	Rantec		Digital Data Services
84)	10950.0000-11200.0000	H,V	54M0G7W	Rx	0.00	0.00	Rantec		Digital Data Services
85)	14000.0000-14500.0000	H,V	2M59G7W	Tx	42.50	15.20	TECOM		Digital Data Services
86)	14000.0000-14500.0000	H,V	375KG7W	Tx	34.10	15.20	TECOM		Digital Data Services
87)	14000.0000-14250.0000	H,V	2M59G7W	Tx	42.50	15.20	TECOM		Digital Data Services
88)	14000.0000-14250.0000	H,V	375KG7W	Tx	34.10	15.20	TECOM		Digital Data Services
89)	12500.0000-12750.0000	H,V	18M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
90)	12500.0000-12750.0000	H,V	1M20G7W	Rx	0.00	0.00	TECOM		Digital Data Services
91)	12500.0000-12750.0000	H,V	54M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
92)	12250.0000-12750.0000	H,V	18M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
93)	12250.0000-12750.0000	H,V	1M20G7W	Rx	0.00	0.00	TECOM		Digital Data Services
94)	12250.0000-12750.0000	H,V	54M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
95)	12200.0000-12250.0000	H,V	18M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
96)	12200.0000-12250.0000	H,V	1M20G7W	Rx	0.00	0.00	TECOM		Digital Data Services



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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
97)	12200.0000-12250.0000	H,V	54M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
98)	11700.0000-12200.0000	H,V	18M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
99)	11700.0000-12200.0000	H,V	1M20G7W	Rx	0.00	0.00	TECOM		Digital Data Services
100)	11700.0000-12200.0000	H,V	54M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
101)	11700.0000-11950.0000	H,V	18M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
102)	11700.0000-11950.0000	H,V	1M20G7W	Rx	0.00	0.00	TECOM		Digital Data Services
103)	11700.0000-11950.0000	H,V	54M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
104)	11450.0000-11950.0000	H,V	18M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
105)	11450.0000-11950.0000	H,V	1M20G7W	Rx	0.00	0.00	TECOM		Digital Data Services
106)	11450.0000-11950.0000	H,V	54M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
107)	11450.0000-11700.0000	H,V	18M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
108)	11450.0000-11700.0000	H,V	1M20G7W	Rx	0.00	0.00	TECOM		Digital Data Services
109)	11450.0000-11700.0000	H,V	54M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
110)	10950.0000-11200.0000	H,V	18M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services
111)	10950.0000-11200.0000	H,V	1M20G7W	Rx	0.00	0.00	TECOM		Digital Data Services
112)	10950.0000-11200.0000	H,V	54M0G7W	Rx	0.00	0.00	TECOM		Digital Data Services

**C) Frequency Coordination Limits**

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
1)	14000.0000-14500.0000	127.0W	127.0W	05.0	05.0	000.0	360.0	-11	TECOM
2)	11700.0000-12200.0000	50.0W	50.0W	05.0	05.0	000.0	360.0		TECOM
3)	14000.0000-14250.0000	55.5W	55.5W	05.0	05.0	000.0	360.0	-7	TECOM
4)	11700.0000-12200.0000	127.0W	127.0W	05.0	05.0	000.0	360.0		TECOM



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**C) Frequency Coordination Limits**

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
5)	14000.0000-14500.0000	166.0E	166.0E	05.0	05.0	000.0	360.0	-6	TECOM
6)	12250.0000-12750.0000	166.0E	166.0E	05.0	05.0	000.0	360.0		TECOM
7)	14000.0000-14500.0000	50.0W	50.0W	05.0	05.0	000.0	360.0	-6	TECOM
8)	10950.0000-11200.0000	50.0W	50.0W	05.0	05.0	000.0	360.0		TECOM
9)	11450.0000-11700.0000	50.0W	50.0W	05.0	05.0	000.0	360.0		TECOM
10)	10950.0000-11200.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		TECOM
11)	11450.0000-11700.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		TECOM
12)	11450.0000-11700.0000	55.5W	55.5W	05.0	05.0	000.0	360.0		TECOM
13)	14000.0000-14500.0000	45.0W	45.0W	05.0	05.0	000.0	360.0	-11	TECOM
14)	11450.0000-11950.0000	45.0W	45.0W	05.0	05.0	000.0	360.0		TECOM
15)	14000.0000-14250.0000	58.0W	58.0W	05.0	05.0	000.0	360.0	-7.5	TECOM
16)	11450.0000-11700.0000	58.0W	58.0W	05.0	05.0	000.0	360.0		TECOM
17)	14000.0000-14500.0000	60.0E	60.0E	05.0	05.0	000.0	360.0	-6	TECOM
18)	11450.0000-11700.0000	72.1E	72.1E	05.0	05.0	000.0	360.0		TECOM
19)	12250.0000-12750.0000	72.1E	72.1E	05.0	05.0	000.0	360.0		TECOM
20)	11700.0000-12200.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		TECOM
21)	14000.0000-14500.0000	66.0E	66.0E	05.0	05.0	000.0	360.0	-3	TECOM
22)	10950.0000-11200.0000	66.0E	66.0E	05.0	05.0	000.0	360.0		TECOM
23)	11450.0000-11700.0000	66.0E	66.0E	05.0	05.0	000.0	360.0		TECOM
24)	12500.0000-12750.0000	66.0E	66.0E	05.0	05.0	000.0	360.0		TECOM
25)	14000.0000-14500.0000	72.1E	72.1E	05.0	05.0	000.0	360.0	-7	TECOM
26)	10950.0000-11200.0000	169.0E	169.0E	05.0	05.0	000.0	360.0		TECOM
27)	11450.0000-11700.0000	169.0E	169.0E	05.0	05.0	000.0	360.0		TECOM
28)	14000.0000-14500.0000	43.1W	43.1W	05.0	05.0	000.0	360.0	-6	TECOM
29)	11700.0000-12200.0000	43.1W	43.1W	05.0	05.0	000.0	360.0		TECOM
30)	14000.0000-14500.0000	34.5W	34.5W	05.0	05.0	000.0	360.0	-6	TECOM
31)	11450.0000-11700.0000	34.5W	34.5W	05.0	05.0	000.0	360.0		TECOM
32)	10950.0000-11200.0000	34.5W	34.5W	05.0	05.0	000.0	360.0		TECOM
33)	14000.0000-14500.0000	169.0E	169.0E	05.0	05.0	000.0	360.0	-3	TECOM
34)	14000.0000-14500.0000	68.5E	68.5E	05.0	05.0	000.0	360.0	-7	TECOM
35)	10950.0000-11200.0000	68.5E	68.5E	05.0	05.0	000.0	360.0		TECOM
36)	12200.0000-12250.0000	169.0E	169.0E	05.0	05.0	000.0	360.0		TECOM
37)	12250.0000-12750.0000	169.0E	169.0E	05.0	05.0	000.0	360.0		TECOM
38)	14000.0000-14500.0000	180.0E	180.0E	05.0	05.0	000.0	360.0	-7	TECOM
39)	10950.0000-11200.0000	180.0E	180.0E	05.0	05.0	000.0	360.0		TECOM



UNITED STATES OF AMERICA  
**FEDERAL COMMUNICATIONS COMMISSION**  
**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032

**C) Frequency Coordination Limits**

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
40)	11450.0000-11700.0000	180.0E	180.0E	05.0	05.0	000.0	360.0		TECOM
41)	12250.0000-12750.0000	180.0E	180.0E	05.0	05.0	000.0	360.0		TECOM
42)	11700.0000-12200.0000	97.0W	97.0W	05.0	05.0	000.0	360.0		TECOM
43)	11450.0000-11700.0000	68.5E	68.5E	05.0	05.0	000.0	360.0		TECOM
44)	12500.0000-12750.0000	68.5E	68.5E	05.0	05.0	000.0	360.0		TECOM
45)	14000.0000-14500.0000	53.0W	53.0W	05.0	05.0	000.0	360.0	-7	TECOM
46)	11450.0000-11700.0000	53.0W	53.0W	05.0	05.0	000.0	360.0		TECOM
47)	11700.0000-12200.0000	53.0W	53.0W	05.0	05.0	000.0	360.0		TECOM
48)	14000.0000-14500.0000	97.0W	97.0W	05.0	05.0	000.0	360.0	-11	TECOM
49)	11700.0000-11950.0000	18.0W	18.0W	05.0	05.0	000.0	360.0		TECOM
50)	12500.0000-12750.0000	18.0W	18.0W	05.0	05.0	000.0	360.0		TECOM
51)	10950.0000-11200.0000	18.0W	18.0W	05.0	05.0	000.0	360.0		TECOM
52)	11450.0000-11700.0000	18.0W	18.0W	05.0	05.0	000.0	360.0		TECOM
53)	10950.0000-11200.0000	8.0W	212.0W	05.0	05.0	000.0	360.0		TECOM
54)	11450.0000-11700.0000	8.0W	212.0W	05.0	05.0	000.0	360.0		TECOM
55)	14000.0000-14500.0000	18.0W	18.0W	05.0	05.0	000.0	360.0	-5.3	TECOM
56)	11700.0000-12200.0000	8.0W	212.0W	05.0	05.0	000.0	360.0		TECOM
57)	14000.0000-14500.0000	8.0W	212.0W	05.0	05.0	000.0	360.0	-3	TECOM
58)	14000.0000-14500.0000	127.0W	127.0W	05.0	05.0	000.0	360.0	-3.1	Rantec
59)	11700.0000-12200.0000	50.0W	50.0W	05.0	05.0	000.0	360.0		Rantec
60)	14000.0000-14250.0000	55.5W	55.5W	05.0	05.0	000.0	360.0	0.9	Rantec
61)	11700.0000-12200.0000	127.0W	127.0W	05.0	05.0	000.0	360.0		Rantec
62)	14000.0000-14500.0000	166.0E	166.0E	05.0	05.0	000.0	360.0	1.9	Rantec
63)	12250.0000-12750.0000	166.0E	166.0E	05.0	05.0	000.0	360.0		Rantec
64)	14000.0000-14500.0000	50.0W	50.0W	05.0	05.0	000.0	360.0	-3.1	Rantec
65)	10950.0000-11200.0000	50.0W	50.0W	05.0	05.0	000.0	360.0		Rantec
66)	11450.0000-11700.0000	50.0W	50.0W	05.0	05.0	000.0	360.0		Rantec
67)	10950.0000-11200.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		Rantec
68)	11450.0000-11700.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		Rantec
69)	11450.0000-11700.0000	55.5W	55.5W	05.0	05.0	000.0	360.0		Rantec
70)	14000.0000-14500.0000	45.0W	45.0W	05.0	05.0	000.0	360.0	-3.1	Rantec
71)	11450.0000-11950.0000	45.0W	45.0W	05.0	05.0	000.0	360.0		Rantec
72)	14000.0000-14250.0000	58.0W	58.0W	05.0	05.0	000.0	360.0	0.4	Rantec
73)	11450.0000-11700.0000	58.0W	58.0W	05.0	05.0	000.0	360.0		Rantec
74)	14000.0000-14500.0000	60.0E	60.0E	05.0	05.0	000.0	360.0	1.9	Rantec





UNITED STATES OF AMERICA  
**FEDERAL COMMUNICATIONS COMMISSION**  


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**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032

**C) Frequency Coordination Limits**

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
75)	11450.0000-11700.0000	72.1E	72.1E	05.0	05.0	000.0	360.0		Rantec
76)	12250.0000-12750.0000	72.1E	72.1E	05.0	05.0	000.0	360.0		Rantec
77)	11700.0000-12200.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		Rantec
78)	14000.0000-14500.0000	66.0E	66.0E	05.0	05.0	000.0	360.0	4.9	Rantec
79)	10950.0000-11200.0000	66.0E	66.0E	05.0	05.0	000.0	360.0		Rantec
80)	11450.0000-11700.0000	66.0E	66.0E	05.0	05.0	000.0	360.0		Rantec
81)	12500.0000-12750.0000	66.0E	66.0E	05.0	05.0	000.0	360.0		Rantec
82)	14000.0000-14500.0000	72.1E	72.1E	05.0	05.0	000.0	360.0	0.9	Rantec
83)	10950.0000-11200.0000	169.0E	169.0E	05.0	05.0	000.0	360.0		Rantec
84)	11450.0000-11700.0000	169.0E	169.0E	05.0	05.0	000.0	360.0		Rantec
85)	14000.0000-14500.0000	43.1W	43.1W	05.0	05.0	000.0	360.0	1.9	Rantec
86)	11700.0000-12200.0000	43.1W	43.1W	05.0	05.0	000.0	360.0		Rantec
87)	14000.0000-14500.0000	34.5W	34.5W	05.0	05.0	000.0	360.0	1.9	Rantec
88)	10950.0000-11200.0000	34.5W	34.5W	05.0	05.0	000.0	360.0		Rantec
89)	11450.0000-11700.0000	34.5W	34.5W	05.0	05.0	000.0	360.0		Rantec
90)	14000.0000-14500.0000	169.0E	169.0E	05.0	05.0	000.0	360.0	4.9	Rantec
91)	14000.0000-14500.0000	68.5E	68.5E	05.0	05.0	000.0	360.0	0.9	Rantec
92)	10950.0000-11200.0000	68.5E	68.5E	05.0	05.0	000.0	360.0		Rantec
93)	12200.0000-12250.0000	169.0E	169.0E	05.0	05.0	000.0	360.0		Rantec
94)	12250.0000-12750.0000	169.0E	169.0E	05.0	05.0	000.0	360.0		Rantec
95)	14000.0000-14500.0000	180.0E	180.0E	05.0	05.0	000.0	360.0	0.9	Rantec
96)	10950.0000-11200.0000	180.0E	180.0E	05.0	05.0	000.0	360.0		Rantec
97)	11450.0000-11700.0000	180.0E	180.0E	05.0	05.0	000.0	360.0		Rantec
98)	12250.0000-12750.0000	180.0E	180.0E	05.0	05.0	000.0	360.0		Rantec
99)	11700.0000-12200.0000	97.0W	97.0W	05.0	05.0	000.0	360.0		Rantec
100)	11450.0000-11700.0000	68.5E	68.5E	05.0	05.0	000.0	360.0		Rantec
101)	12500.0000-12750.0000	68.5E	68.5E	05.0	05.0	000.0	360.0		Rantec
102)	14000.0000-14500.0000	53.0W	53.0W	00.0	05.0	000.0	360.0	0.9	Rantec
103)	11450.0000-11700.0000	53.0W	53.0W	05.0	05.0	000.0	360.0		Rantec
104)	11700.0000-12200.0000	53.0W	53.0W	05.0	05.0	000.0	360.0		Rantec
105)	14000.0000-14500.0000	97.0W	97.0W	05.0	05.0	000.0	360.0	-3.1	Rantec
106)	10950.0000-11200.0000	18.0W	18.0W	05.0	05.0	000.0	360.0		Rantec
107)	11450.0000-11700.0000	18.0W	18.0W	05.0	05.0	000.0	360.0		Rantec
108)	11700.0000-11950.0000	18.0W	18.0W	05.0	05.0	000.0	360.0		Rantec
109)	12500.0000-12750.0000	18.0W	18.0W	05.0	05.0	000.0	360.0		Rantec



UNITED STATES OF AMERICA  
**FEDERAL COMMUNICATIONS COMMISSION**  


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**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032

**C) Frequency Coordination Limits**

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
110)	14000.0000-14500.0000	18.0W	-18.0W	05.0	-05.0	000.0	-360.0	2.6	Rantec
111)	11700.0000-12200.0000	8.0W	-212.0W	05.0	-05.0	000.0	-360.0		Rantec
112)	10950.0000-11200.0000	8.0W	-212.0W	05.0	-05.0	000.0	-360.0		Rantec
113)	11450.0000-11700.0000	8.0W	-212.0W	05.0	-05.0	000.0	-360.0		Rantec
114)	14000.0000-14500.0000	8.0W	-212.0W	05.0	-05.0	000.0	-360.0	4.9	Rantec
115)	14000.0000-14500.0000	8.0W	-212.0W	05.0	-05.0	-360.0		-19.1	HR129
116)	14000.0000-14500.0000	18.0W	-18.0W	05.0	-05.0	-360.0		-13.4	HR129
117)	14000.0000-14500.0000	34.5W	-34.5W	05.0	-05.0	-360.0		-14.1	HR129
118)	14000.0000-14500.0000	43.1W	-43.1W	05.0	-05.0	-360.0		-14.1	HR129
119)	14000.0000-14500.0000	45.0W	-45.0W	05.0	-05.0	-360.0		-19.1	HR129
120)	14000.0000-14500.0000	50.0W	-50.0W	05.0	-05.0	-360.0		-19.1	HR129
121)	14000.0000-14500.0000	53.0W	-53.0W	05.0	-05.0	-360.0		-15.1	HR129
122)	14000.0000-14500.0000	60.0E	-60.0E	05.0	-05.0	-360.0		-14.1	HR129
123)	14000.0000-14500.0000	66.0E	-66.0E	05.0	-05.0	-360.0		-11.1	HR129
124)	10950.0000-11200.0000	60.0E	-60.0E	05.0	-05.0	-360.0			HR129
125)	10950.0000-11200.0000	66.0E	-66.0E	05.0	-05.0	-360.0			HR129
126)	10950.0000-11200.0000	68.5E	-68.5E	05.0	-05.0	-360.0			HR129
127)	10950.0000-11200.0000	169.0E	-169.0E	05.0	-05.0	-360.0			HR129
128)	10950.0000-11200.0000	180.0E	-180.0E	05.0	-05.0	-360.0			HR129
129)	11450.0000-11700.0000	8.0W	-212.0W	05.0	-05.0	-360.0			HR129
130)	11450.0000-11700.0000	18.0W	-18.0W	05.0	-05.0	-360.0			HR129
131)	11450.0000-11700.0000	34.5W	-34.5W	05.0	-05.0	-360.0			HR129
132)	11450.0000-11700.0000	50.0W	-50.0W	05.0	-05.0	-360.0			HR129
133)	11450.0000-11700.0000	53.0W	-53.0W	05.0	-05.0	-360.0			HR129
134)	11450.0000-11950.0000	45.0W	-45.0W	05.0	-05.0	-360.0			HR129
135)	11700.0000-11950.0000	18.0W	-18.0W	05.0	-05.0	-360.0			HR129
136)	11700.0000-12200.0000	8.0W	-212.0W	05.0	-05.0	-360.0			HR129
137)	11700.0000-12200.0000	43.1W	-43.1W	05.0	-05.0	-360.0			HR129
138)	11700.0000-12200.0000	50.0W	-50.0W	05.0	-05.0	-360.0			HR129
139)	11700.0000-12200.0000	53.0W	-53.0W	05.0	-05.0	-360.0			HR129
140)	11700.0000-12200.0000	60.0E	-60.0E	05.0	-05.0	-360.0			HR129
141)	11700.0000-12200.0000	97.0W	-97.0W	05.0	-05.0	-360.0			HR129
142)	11700.0000-12200.0000	127.0W	-127.0W	05.0	-05.0	-360.0			HR129
143)	12200.0000-12250.0000	169.0E	-169.0E	05.0	-05.0	-360.0			HR129
144)	12250.0000-12750.0000	72.1E	-72.1E	05.0	-05.0	-360.0			HR129



**UNITED STATES OF AMERICA**  
**FEDERAL COMMUNICATIONS COMMISSION**  


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**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032

**C) Frequency Coordination Limits**

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
145)	12250.0000-12750.0000	166.0E	166.0E	05.0	05.0	-360.0			HR129
146)	12250.0000-12750.0000	169.0E	169.0E	05.0	05.0	-360.0			HR129
147)	12250.0000-12750.0000	180.0E	180.0E	05.0	05.0	-360.0			HR129
148)	12500.0000-12750.0000	18.0W	212.0W	05.0	05.0	-360.0			HR129
149)	12500.0000-12750.0000	66.0E	66.0E	05.0	05.0	-360.0			HR129
150)	12500.0000-12750.0000	68.5E	68.5E	05.0	05.0	-360.0			HR129
151)	14000.0000-14250.0000	55.5W	55.5W	05.0	05.0	-360.0	-15.1		HR129
152)	14000.0000-14250.0000	58.0W	58.0W	05.0	05.0	-360.0	-15.6		HR129
153)	14000.0000-14500.0000	180.0E	180.0E	05.0	05.0	-360.0	-15.1		HR129
154)	14000.0000-14500.0000	68.5E	68.5E	05.0	05.0	-360.0	-15.1		HR129
155)	14000.0000-14500.0000	72.1E	72.1E	05.0	05.0	-360.0	-15.1		HR129
156)	14000.0000-14500.0000	97.0W	97.0W	05.0	05.0	-360.0	-19.1		HR129
157)	14000.0000-14500.0000	127.0W	127.0W	05.0	05.0	-360.0	-19.1		HR129
158)	14000.0000-14500.0000	166.0E	166.0E	05.0	05.0	-360.0	-14.1		HR129
159)	14000.0000-14500.0000	169.0E	169.0E	05.0	05.0	-360.0	-11.1		HR129
160)	10950.0000-11200.0000	8.0W	212.0W	05.0	05.0	-360.0			HR129
161)	10950.0000-11200.0000	18.0W	18.0W	05.0	05.0	-360.0			HR129
162)	10950.0000-11200.0000	34.5W	34.5W	05.0	05.0	-360.0			HR129
163)	10950.0000-11200.0000	50.0W	50.0W	05.0	05.0	-360.0			HR129
164)	11450.0000-11700.0000	55.5W	55.5W	05.0	05.0	-360.0			HR129
165)	11450.0000-11700.0000	58.0W	58.0W	05.0	05.0	-360.0			HR129
166)	11450.0000-11700.0000	60.0E	60.0E	05.0	05.0	-360.0			HR129
167)	11450.0000-11700.0000	66.0E	66.0E	05.0	05.0	-360.0			HR129
168)	11450.0000-11700.0000	68.5E	68.5E	05.0	05.0	-360.0			HR129
169)	11450.0000-11700.0000	72.1E	72.1E	05.0	05.0	-360.0			HR129
170)	11450.0000-11700.0000	169.0E	169.0E	05.0	05.0	-360.0			HR129
171)	11450.0000-11700.0000	180.0E	180.0E	05.0	05.0	-360.0			HR129
172)	14000.0000-14500.0000	8.0W	212.0W	05.0	05.0	-360.0	-2.3		HR6400
173)	14000.0000-14500.0000	18.0W	18.0W	05.0	05.0	-360.0	-4.6		HR6400
174)	14000.0000-14500.0000	34.5E	34.5E	05.0	05.0	-360.0	-5.3		HR6400
175)	14000.0000-14500.0000	43.1W	43.1W	05.0	05.0	-360.0	-5.3		HR6400
176)	14000.0000-14500.0000	45.0W	45.0W	05.0	05.0	-360.0	-10.3		HR6400
177)	14000.0000-14500.0000	50.0W	50.0W	05.0	05.0	-360.0	-10.3		HR6400
178)	14000.0000-14500.0000	53.0W	53.0W	05.0	05.0	-360.0	-6.3		HR6400
179)	14000.0000-14500.0000	60.0E	60.0E	05.0	05.0	-360.0	-5.3		HR6400



UNITED STATES OF AMERICA  
**FEDERAL COMMUNICATIONS COMMISSION**  


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**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032

**C) Frequency Coordination Limits**

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
180)	14000.0000-14500.0000	66.0E	66.0E	05.0	05.0	-360.0		-2.3	HR6400
181)	11450.0000-11950.0000	45.0W	45.0W	05.0	05.0	-360.0		0	HR6400
182)	11700.0000-11950.0000	18.0W	18.0W	05.0	05.0	-360.0		0	HR6400
183)	11700.0000-12200.0000	8.0W	212.0W	05.0	05.0	-360.0		0	HR6400
184)	11700.0000-12200.0000	43.1W	43.1W	05.0	05.0	-360.0		0	HR6400
185)	11700.0000-12200.0000	50.0W	50.0W	05.0	05.0	-360.0		0	HR6400
186)	11700.0000-12200.0000	53.0W	53.0W	05.0	05.0	-360.0		0	HR6400
187)	11700.0000-12200.0000	60.0E	60.0E	05.0	05.0	-360.0		0	HR6400
188)	11700.0000-12200.0000	97.0W	97.0W	05.0	05.0	-360.0		0	HR6400
189)	11700.0000-12200.0000	127.0W	127.0W	05.0	05.0	-360.0		0	HR6400
190)	12200.0000-12750.0000	169.0E	169.0E	05.0	05.0	-360.0		0	HR6400
191)	12250.0000-12750.0000	72.1E	72.1E	05.0	05.0	-360.0		0	HR6400
192)	12250.0000-12750.0000	166.0E	166.0E	05.0	05.0	-360.0		0	HR6400
193)	12250.0000-12750.0000	169.0E	169.0E	05.0	05.0	-360.0		0	HR6400
194)	12500.0000-12750.0000	18.0W	18.0W	05.0	05.0	-360.0		0	HR6400
195)	12500.0000-12750.0000	66.0E	66.0E	05.0	05.0	-360.0		0	HR6400
196)	12500.0000-12750.0000	68.5E	68.5E	05.0	05.0	-360.0		0	HR6400
197)	12500.0000-12750.0000	180.0E	180.0E	05.0	05.0	-360.0		0	HR6400
198)	10950.0000-11200.0000	60.0E	60.0E	05.0	05.0	-360.0			HR6400
199)	10950.0000-11200.0000	66.0E	66.0E	05.0	05.0	-360.0			HR6400
200)	10950.0000-11200.0000	68.5E	68.5E	05.0	05.0	-360.0			HR6400
201)	10950.0000-11200.0000	169.0E	169.0E	05.0	05.0	-360.0			HR6400
202)	10950.0000-11200.0000	180.0E	180.0E	05.0	05.0	-360.0			HR6400
203)	11450.0000-11700.0000	8.0W	212.0W	05.0	05.0	-360.0			HR6400
204)	11450.0000-11700.0000	18.0W	18.0W	05.0	05.0	-360.0			HR6400
205)	11450.0000-11700.0000	34.5W	34.5W	05.0	05.0	-360.0			HR6400
206)	11450.0000-11700.0000	50.0W	50.0W	05.0	05.0	-360.0			HR6400
207)	11450.0000-11700.0000	53.0W	53.0W	05.0	05.0	-360.0			HR6400
208)	11450.0000-11700.0000	55.5W	55.5W	05.0	05.0	-360.0			HR6400
209)	11450.0000-11700.0000	58.0W	58.0W	05.0	05.0	-360.0			HR6400
210)	11450.0000-11700.0000	60.0E	60.0E	05.0	05.0	-360.0			HR6400
211)	11450.0000-11700.0000	66.0E	66.0E	05.0	05.0	-360.0			HR6400
212)	11450.0000-11700.0000	68.5E	68.5E	05.0	05.0	-360.0			HR6400
213)	11450.0000-11700.0000	72.1E	72.1E	05.0	05.0	-360.0			HR6400
214)	11450.0000-11700.0000	169.0E	169.0E	05.0	05.0	-360.0			HR6400



UNITED STATES OF AMERICA  
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**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032

**C) Frequency Coordination Limits**

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
215)	11450.0000-11700.0000	180.0E	180.0E	05.0	05.0	-360.0			HR6400
216)	14000.0000-14250.0000	55.5W	55.5W	05.0	05.0	-360.0	-6.3		HR6400
217)	14000.0000-14250.0000	58.0W	58.0W	05.0	05.0	-360.0	-6.8		HR6400
218)	14000.0000-14500.0000	180.0E	180.0E	05.0	05.0	-360.0	-2.3		HR6400
219)	14000.0000-14500.0000	68.5E	68.5E	05.0	05.0	-360.0	-6.3		HR6400
220)	14000.0000-14500.0000	72.1E	72.1E	05.0	05.0	-360.0	-6.3		HR6400
221)	14000.0000-14500.0000	97.0W	97.0W	05.0	05.0	-360.0	-10.3		HR6400
222)	14000.0000-14500.0000	127.0W	127.0W	05.0	05.0	-360.0	-10.3		HR6400
223)	14000.0000-14500.0000	166.0E	166.0E	05.0	05.0	-360.0	-5.3		HR6400
224)	14000.0000-14500.0000	169.0E	169.0E	05.0	05.0	-360.0	-6.3		HR6400
225)	10950.0000-11200.0000	8.0W	212.0W	05.0	05.0	-360.0			HR6400
226)	10950.0000-11200.0000	18.0W	18.0W	05.0	05.0	-360.0			HR6400
227)	10950.0000-11200.0000	34.5W	34.5W	05.0	05.0	-360.0			HR6400
228)	10950.0000-11200.0000	50.0W	50.0W	05.0	05.0	-360.0			HR6400

**D) Points of Communications**

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

- 1) TECOM REMOTES to INTELSAT 14 (S2785) @ 45 degrees W.L. (U.S.-licensed)
- 2) TECOM REMOTES to INTELSAT 18 (S2817) @ 180 degrees E.L. (U.S.-licensed)
- 3) TECOM REMOTES to INTELSAT 20 (S2847) @ 68.5 degrees E.L. (U.S.-licensed)
- 4) TECOM REMOTES to INTELSAT 21 (S2863) @ 58.0 degrees W.L. (U.S.-licensed)
- 5) TECOM REMOTES to INTELSAT 22 (S2846) @ 72.1 degrees E.L. (U.S.-licensed)
- 6) TECOM REMOTES to INTELSAT 29e (S2913) @ 50.0 degrees W.L. (U.S.-licensed)
- 7) TECOM REMOTES to INTELSAT 33e (S2939) @ 60.0 degrees E.L. (U.S.-licensed)
- 8) TECOM REMOTES to SKY-B1 (S2922) satellite @ 43.15 degrees W.L. (U.S.-licensed)
- 9) TECOM REMOTES to INTELSAT 19 (S2850) @ 166.0 degrees E.L. (U.S.-licensed)
- 10) TECOM REMOTES to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 11) TECOM REMOTES to INTELSAT 34 (S2915) @ 55.5 degrees W.L. (U.S.-licensed)
- 12) TECOM REMOTES to GALAXY 19 (S2647) @ 97 W.L. (U.S.-licensed)
- 13) TECOM REMOTES to INTELSAT 23 (S2831) @ 53 degrees W.L. (U.S.-licensed)
- 14) TECOM REMOTES to INTELSAT 35e (S2959) @ 34.5 degrees W.L. (U.S.-licensed)
- 15) TECOM REMOTES to HORIZONS 3 (S2947) satellite @ 169 degrees E.L. (U.S.-licensed)
- 16) TECOM REMOTES to INTELSAT 17 (S2814) @ 66 E.L. (U.S.-licensed)



UNITED STATES OF AMERICA  
FEDERAL COMMUNICATIONS COMMISSION  
**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032

**D) Points of Communications**

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

- 
- 17) TECOM REMOTES to INTELSAT 37e (S2972) @ 18.0 degrees W.L. (U.S.-licensed)
  - 18) TECOM REMOTES to Permitted Space Station List
  - 19) RANTAC REMOTES to SKY-B1 (S2922) satellite @ 43.15 degrees W.L. (U.S.-licensed)
  - 20) RANTAC REMOTES to INTELSAT 17 (S2814) @ 66 E.L. (U.S.-licensed)
  - 21) RANTAC REMOTES to INTELSAT 37e (S2972) @ 18.0 degrees W.L. (U.S.-licensed)
  - 22) RANTAC REMOTES to Permitted Space Station List
  - 23) RANTAC REMOTES to INTELSAT 19 (S2850) @ 166.0 degrees E.L. (U.S.-licensed)
  - 24) RANTAC REMOTES to INTELSAT 20 (S2847) @ 68.5 degrees E.L. (U.S.-licensed)
  - 25) RANTAC REMOTES to INTELSAT 21 (S2863) @ 58.0 degrees W.L. (U.S.-licensed)
  - 26) RANTAC REMOTES to INTELSAT 29e (S2913) @ 50.0 degrees W.L. (U.S.-licensed)
  - 27) RANTAC REMOTES to INTELSAT 18 (S2817) @ 180 degrees E.L. (U.S.-licensed)
  - 28) RANTAC REMOTES to INTELSAT 23 (S2831) @ 53 degrees W.L. (U.S.-licensed)
  - 29) RANTAC REMOTES to INTELSAT 33e (S2939) @ 60.0 degrees E.L. (U.S.-licensed)
  - 30) RANTAC REMOTES to GALAXY 19 (S2647) @ 97 W.L. (U.S.-licensed)
  - 31) RANTAC REMOTES to INTELSAT 14 (S2785) @ 45 degrees W.L. (U.S.-licensed)
  - 32) RANTAC REMOTES to INTELSAT 22 (S2846) @ 72.1 degrees E.L. (U.S.-licensed)
  - 33) RANTAC REMOTES to INTELSAT 35e (S2959) @ 34.5 degrees W.L. (U.S.-licensed)
  - 34) RANTAC REMOTES to INTELSAT 34 (S2915) @ 55.5 degrees W.L. (U.S.-licensed)
  - 35) RANTAC REMOTES to HORIZONS 3 (S2947) satellite @ 169 degrees E.L. (U.S.-licensed)
  - 36) RANTAC REMOTES to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
  - 37) HR129 REMOTES to INTELSAT 17 (S2814) @ 66 E.L. (U.S.-licensed)
  - 38) HR129 REMOTES to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
  - 39) HR129 REMOTES to HORIZONS 3 (S2947) satellite @ 169 degrees E.L. (U.S.-licensed)
  - 40) HR129 REMOTES to INTELSAT 23 (S2831) @ 53 degrees W.L. (U.S.-licensed)
  - 41) HR129 REMOTES to INTELSAT 33e (S2939) @ 60.0 degrees E.L. (U.S.-licensed)
  - 42) HR129 REMOTES to Permitted Space Station List
  - 43) HR129 REMOTES to INTELSAT 21 (S2863) @ 58.0 degrees W.L. (U.S.-licensed)
  - 44) HR129 REMOTES to SKY-B1 (S2922) satellite @ 43.15 degrees W.L. (U.S.-licensed)
  - 45) HR129 REMOTES to INTELSAT 35e (S2959) @ 34.5 degrees W.L. (U.S.-licensed)
  - 46) HR129 REMOTES to INTELSAT 19 (S2850) @ 166.0 degrees E.L. (U.S.-licensed)
  - 47) HR129 REMOTES to INTELSAT 14 (S2785) @ 45 degrees W.L. (U.S.-licensed)
  - 48) HR129 REMOTES to INTELSAT 22 (S2846) @ 72.1 degrees E.L. (U.S.-licensed)
  - 49) HR129 REMOTES to INTELSAT 37e (S2972) @ 18.0 degrees W.L. (U.S.-licensed)
  - 50) HR129 REMOTES to INTELSAT 34 (S2915) @ 55.5 degrees W.L. (U.S.-licensed)
  - 51) HR129 REMOTES to INTELSAT 20 (S2847) @ 68.5 degrees E.L. (U.S.-licensed)
  - 52) HR129 REMOTES to INTELSAT 18 (S2817) @ 180 degrees E.L. (U.S.-licensed)



**UNITED STATES OF AMERICA**  
**FEDERAL COMMUNICATIONS COMMISSION**  


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**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032

**D) Points of Communications**

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

- 53) HR129 REMOTES to GALAXY 19 (S2647) @ 97 W.L. (U.S.-licensed)
- 54) HR129 REMOTES to INTELSAT 29e (S2913) @ 50.0 degrees W.L. (U.S.-licensed)
- 55) HR6400 REMOTES to HORIZONS 3 (S2947) satellite @ 169 degrees E.L. (U.S.-licensed)
- 56) HR6400 REMOTES to INTELSAT 23 (S2831) @ 53 degrees W.L. (U.S.-licensed)
- 57) HR6400 REMOTES to INTELSAT 19 (S2850) @ 166.0 degrees E.L. (U.S.-licensed)
- 58) HR6400 REMOTES to Permitted Space Station List
- 59) HR6400 REMOTES to INTELSAT 21 (S2863) @ 58.0 degrees W.L. (U.S.-licensed)
- 60) HR6400 REMOTES to INTELSAT 22 (S2846) @ 72.1 degrees E.L. (U.S.-licensed)
- 61) HR6400 REMOTES to SKY-B1 (S2922) satellite @ 43.15 degrees W.L. (U.S.-licensed)
- 62) HR6400 REMOTES to INTELSAT 34 (S2915) @ 55.5 degrees W.L. (U.S.-licensed)
- 63) HR6400 REMOTES to GALAXY 19 (S2647) @ 97 W.L. (U.S.-licensed)
- 64) HR6400 REMOTES to INTELSAT 29e (S2913) @ 50.0 degrees W.L. (U.S.-licensed)
- 65) HR6400 REMOTES to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 66) HR6400 REMOTES to INTELSAT 14 (S2785) @ 45 degrees W.L. (U.S.-licensed)
- 67) HR6400 REMOTES to INTELSAT 33e (S2939) @ 60.0 degrees E.L. (U.S.-licensed)
- 68) HR6400 REMOTES to INTELSAT 35e (S2959) @ 34.5 degrees W.L. (U.S.-licensed)
- 69) HR6400 REMOTES to INTELSAT 37e (S2972) @ 18.0 degrees W.L. (U.S.-licensed)
- 70) HR6400 REMOTES to INTELSAT 20 (S2847) @ 68.5 degrees E.L. (U.S.-licensed)
- 71) HR6400 REMOTES to INTELSAT 18 (S2817) @ 180 degrees E.L. (U.S.-licensed)
- 72) HR6400 REMOTES to INTELSAT 17 (S2814) @ 66 E.L. (U.S.-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)
HR129 REMOTE	HR129	1000	0.24	ASTRONICS AEROS	HR129			
	Max Gains(s):	30.3 dBi @	11.7000 GHz	31.4 dBi @	14.2500 GHz			
	Maximum total input power at antenna flange (Watts) =				10.00			
	Maximum aggregate output EIRP for all carriers (dBW) =				41.90			
HR6400 REMOTES	HR6400	1000	0.86	ASTRONICS AEROSAT	HR6400			
	Max Gains(s):	31.8 dBi @	11.7000 GHz	32.5 dBi @	14.2500 GHz			
	Maximum total input power at antenna flange (Watts) =				16.80			
	Maximum aggregate output EIRP for all carriers (dBW) =				45.50			



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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)
RANTAC REMOTES	Rantec	1000	0.46	Rantec Microwave Systems	Rantec SATCOM		0 AGL/ 0 AMSL	
		Max Gains(s): 34.0 dBi @ 14.5000 GHz		32.2 dBi @ 11.3000 GHz				
		Maximum total input power at antenna flange (Watts) =		10.00				
		Maximum aggregate output EIRP for all carriers (dBW) =		43.40				
TECOM REMOTE	TECOM	1000	0.65	TECOM	1500		0 AGL/ 0 AMSL	
		Max Gains(s): 34.0 dBi @ 14.5000 GHz		31.5 dBi @ 12.0000 GHz				
		Maximum total input power at antenna flange (Watts) =		10.00				
		Maximum aggregate output EIRP for all carriers (dBW) =		42.50				

**F) Remote Control Point:**

HR129 REMOTES	Network Operations Center, 2875 Fork Creek Church Road Ellenwood, Clayton, GA 30294 1 404.381.2900	Call Sign:
HR6400 REMOTES	Network Operations Center, 2875 Fork Creek Church Road Ellenwood, Clayton, GA 30294 1 404.381.2900	Call Sign:
RANTAC REMOTES	Network Operations Center, 2875 Fork Creek Church Road Ellenwood, Clayton, GA 30294 1 404.381.2900	Call Sign: N/A
TECOM REMOTES	Network Operations Center, 2875 Fork Creek Church Road Ellenwood, Clayton, GA 30294 1 404.381.2900	Call Sign: N/A





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**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 this earth station is no longer operational or when it has not been used to provide any service during any 6-month operation.

90003 --- The licensee shall not operate in the band 14.0-14.2 GHz within 125 km of the NASA TDRSS facilities on: Guam (latitude 13°36'55" N, longitude 144°51'22" E); White Sands, New Mexico (latitude 32°20'59" N, longitude 106°36'31" W and latitude 32°32'40" N, longitude 106°36'48" W); Blossom Point, Maryland (latitude 38° 25' 44" N.L., longitude 77° 05' 02" W.L.) unless and until it enters into an agreement with NASA that NTIA has approved. The licensee must conform its operations to the terms of any coordination agreement with NASA and must file a copy of the agreement with the Commission within 30 days of execution. Upon receipt of such notification from a licensee, the International Bureau will issue a public notice stating that the licensee may commence operations within the coordination zone in 30 days if no party has opposed the operations.

90014 --- The licensee shall not operate in the band 14.47-14.50 GHz within (a) 45 km of the radio observatory on St. Croix, Virgin Islands (located at latitude 17°46' N, longitude 64°35' W); (b) 125 km of the radio observatory on Mauna Kea, Hawaii (located at latitude 19°48' N, longitude 155°28' W); and (c) 90 km of the Arecibo Observatory on Puerto Rico (located at latitude 18°20'46" W, longitude 66°45'11" N) unless and until the licensee enters into an agreement with the National Science Foundation that has been approved by NTIA. The licensee must conform its operations to the terms of any coordination agreement with the National Science Foundation and must file a copy of the agreement with the Commission within 30 days of execution.

90016 --- The licensee shall cease authorized VMES operations in the 14.0-14.2 GHz band within 125 km of any new NASA TDRSS facilities that have been identified placed public notice by the Commission's International Bureau unless and until the licensee completes agreement for new TDRSS site with NASA that NTIA has approved. The licensee must conform its operations to the terms of any coordination agreement with the NASA and must file a copy of the agreement with the Commission within 30 days of execution.

90017 --- The licensee shall not operate in the vicinity of radio observatories of Radio Astronomy Service (RAS) in the band 14.47-14.50 GHz unless and until the licensee enters into an agreement with the National Science Foundation that has been approved by NTIA. The licensee must conform its operations to the terms of any coordination agreement with the National Science Foundation and must file a copy of the agreement with the Commission within 30 days of execution. The appropriate NSF contact point to initiate coordination is Electromagnetic Spectrum Manager, NSF, 4201 Wilson Blvd., Suite 1045, Arlington, VA 22203, fax 703-292-9034, e-mail esm@nsf.gov. See also a list of each applicable RAS site, its location, and the applicable coordination zone on Table-1: Applicable RAS Facilities and Associated Coordination Distances, 47 C.F.R. 25.226(d)(2).



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File Number: SES-MOD-20180220-00148

Non Common Carrier

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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:

- 90018 --- The licensee shall cease authorized VMES operations in the 14.47-14.50 GHz band within the relevant geographic zone (160 km for single-dish radio observatories and Very Large Array antenna systems and 50 km for Very Long Baseline Array antenna systems) of any new RAS sites that have been identified placed public notice by the Commission's International Bureau unless and until the licensee completes coordination agreement for the new RAS facility that NTIA/IRAC has approved. The licensee must conform its operations to the terms of any coordination agreement with NSF and must file a copy of the agreement with the Commission within 30 days of execution.
- 90062 --- Operation pursuant to this authorization outside the United States in the 14.0-14.5 GHz band must be in compliance with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz band.
- 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.
- 90104 --- For any new antenna authorized by this grant, the licensee must file with the Commission a certification including the following information: name of the licensee, file number of the application, call sign of the antenna, Site ID, date of the license and certification that the antenna model was put into operation.
- 90105 --- Authority is granted to operate this station by remote control provided that the operator is responsible for ensuring the operations are in accordance with the terms and conditions of the license and pursuant to Section 25.271 of the Commission's rules. 47 C.F.R 25.271.
- 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.
- 90118 --- The licensee shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.
- 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).



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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:

- 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.
- 90246 --- ESAs 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 --- ESAs 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 ESA to determine if it is malfunctioning, and each ESA must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed-satellite service network.
- 90259 --- For purposes of this authorization, the term earth stations aboard aircraft, or ESA, 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.
- 90285 --- Operations in international waters and in territorial waters of other countries must be in compliance with the applicable laws, regulations, and licensing procedures of other countries, as well as with the conditions of this authorization.
- 90304 --- Operation pursuant to this authorization must be in compliance with the terms of the licensee's coordination agreements with the National Science Foundation and the National Aeronautics and Space Administration pertaining to operation of ESAs in the Ku-Band.
- 90305 --- When operating in international airspace within line-of-sight of the territory of a foreign administration where Fixed Service networks have a primary allocation in the 14.0-14.5 GHz band, an ESA must not produce ground-level power flux density (pfd) in such territory in excess of the following values unless the foreign administration has imposed other conditions for protecting its FS stations:  $-132 + 0.5 \times \text{THETA}$  dB(W/(m<sup>2</sup> MHz)) for  $\text{THETA} \leq 40^\circ$ ;  $-112$  dB(W/(m<sup>2</sup> MHz)) for  $40^\circ < \text{THETA} \leq 90^\circ$ . Where: THETA is the angle of arrival of the radio-frequency wave in degrees above the horizontal, and the aforementioned limits relate to the pfd and angles of arrival that would be obtained under free space propagation conditions.



UNITED STATES OF AMERICA  
FEDERAL COMMUNICATIONS COMMISSION  
**RADIO STATION AUTHORIZATION**

Name: Intelsat License LLC

Call Sign: E170121

Authorization Type: Modification of License

File Number: SES-MOD-20180220-00148

Non Common Carrier

Grant date: 07/25/2018

Expiration Date: 10/04/2032

## H) Special and General Provisions

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

- 90308 --- The ESAAs are authorized to receive downlink transmissions in the 11.7-12.2 GHz frequency band from the geostationary orbit space stations listed as a point of communication in Section D above subject to the particulars of operation and identified frequencies included in Section B above and the licensee's application. Reception is authorized on a primary basis as an application of the Fixed-Satellite Service pursuant to the allocation determinations and service rules in IB Docket No.12-376 (Docket Name: 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, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands). Operations must be in accordance with the Federal Communications Commission's rules not waived herein, the technical specifications contained in licensee's application, and are subject to the other conditions listed in the authorization.
- 90309 --- The ESAAs are authorized to receive downlink transmissions in the 10.95-11.2 GHz and 11.45-11.7 GHz frequency band from the geostationary orbit space stations listed as a point of communication in Section D above subject to the particulars of operation and identified frequencies included in Section B above and the licensee's application. Reception is authorized on an unprotected basis as an application of the Fixed-Satellite Service pursuant to the allocation determinations and service rules in IB Docket No.12-376 (Docket Name: 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, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands). Operations must be in accordance with the Federal Communications Commission's rules not waived herein, the technical specifications contained in licensee's application, and are subject to the other conditions listed in the authorization.
- 90310 --- For each ESAA transmitter, the licensee shall maintain records of the following data for each operating ESAA, a record of the aircraft location (i.e., latitude/longitude/altitude), transmit frequency, channel bandwidth and satellite used shall be time annotated and maintained for a period of not less than one year. Records shall be recorded at time intervals no greater than one (1) minute while the ESAA is transmitting. The ESAA operator shall make this data available, in the form of a comma delimited electronic spreadsheet, within 24 hours of a request from the Commission, NTIA, or a frequency coordinator for purposes of resolving harmful interference events. A description of the units (i.e., degrees, minutes, MHz ...) in which the records values are recorded will be supplied along with the records.
- 90311 --- The ESAAs are authorized to transmit in the 14.0-14.5 GHz frequency band to the geostationary orbit space stations listed as a point of communication in Section D above subject to the particulars of operation and identified frequencies included in Section B above and the licensee's application. Such transmissions are authorized on a primary basis as an application of the Fixed-Satellite Service pursuant to the allocation determinations and service rules in IB Docket No. 12-376 (Docket Name: 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, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands). Operations must be in accordance with the Federal Communications Commission's rules not waived herein, the technical specifications contained in licensee's application, and are subject to the other conditions listed in the authorization.
- 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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## 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](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.

90405 --- Operations with PERMITTED LIST satellite must comply with §25.212 levels and operations above this levels must coordinate with satellite operators prior to operations.

90412 --- The Permitted Space Station List (Permitted List) is a list of all geostationary space stations providing fixed-satellite service pursuant to a Commission license or grant of U.S. market access in the following bands: 3600-4200 MHz (space-to-Earth) 5850-6725 MHz (Earth-to-space) 10.95-11.2 GHz (space-to-Earth) 11.45-12.2 GHz (space-to-Earth) 13.75-14.5 GHz (Earth-to-space) 18.3-18.8 GHz (space-to-Earth) 19.7-20.2 GHz (space-to-Earth) 24.75-25.25 GHz (Earth-to-space) 28.35-28.6 GHz (Earth-to-space) 29.25-30.0 GHz (Earth-to-space). Operations pursuant to this authorization in the 14-14.5 GHz (Earth-to-space) frequency band with space stations on the Permitted List must comply with the off axis e.i.r.p. density power limits established in 47 CFR 25.227(a)(1).

90477 --- Intelsat's request for a limited waiver of Section 25.227(a)(1)(i)(B) of the Commission's rules, 47 C.F.R. § 25.227(a)(1)(i)(B), to permit operation of the TECOM and HR6400 terminals at off-axis eirp limits in the plane perpendicular to the GSO arc in excess of those set forth in Section 25.227(a)(1)(i)(B), is GRANTED, as conditioned: In the event a future NGSO network is deployed in the Ku-band that would receive interference from the higher off-axis radiated power, Intelsat must coordinate with the NGSO network in order to facilitate co-frequency operations and must modify its ESAA operations to reflect any coordination agreement reached. In the event a coordination agreement is not reached, Intelsat must comply with the eirp density limits set forth in section 25.227(a)(1)(i)(B).

90478 --- Intelsat's request for a limited waiver of Section 25.226(a)(1)(i)(B) of the Commission's rules, 47 C.F.R. § 25.226(a)(1)(i)(B), to permit operation of the TECOM and HR6400 terminals at off-axis eirp limits in the plane perpendicular to the GSO arc in excess of those set forth in Section 25.226(a)(1)(i)(B), is GRANTED, as conditioned: In the event a future NGSO network is deployed in the Ku-band that would receive interference from the higher off-axis radiated power, Intelsat must coordinate with the NGSO network in order to facilitate co-frequency operations and must modify its VMES operations to reflect any coordination agreement reached. In the event a coordination agreement is not reached, Intelsat must comply with the eirp density limits set forth in section 25.226(a)(1)(i)(B).



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File Number: SES-MOD-20180220-00148

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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:

- 900413 --- Operation pursuant to this authorization must be in compliance with the terms of coordination agreements between Intelsat License LLC and operators of other Ku-band geostationary space stations within six angular degrees of those space stations. In the event that another GSO Fixed-Satellite Service space station commences operation in the 14.0-14.5 GHz band at a location within six degrees of any of these space stations, aircraft earth stations operating pursuant to this authorization must cease transmitting to that space station unless and until such operation has been coordinated with the new space station's operator or Intelsat License LLC demonstrates that such operation will not cause harmful interference to the new co-frequency space station.
- 900414 --- Reception of downlink transmissions is on a non-interference, non-protected basis from the following geostationary orbit space stations: IS-17 (Call Sign: S2814) at 66° E.L. in the 12.2-12.75 GHz frequency band; IS-18 (Call Sign: S2817) at 180° E.L. in the 12.25-12.75 GHz frequency band; IS-20 (Call Sign: S2847) at 68.5° E.L. in the 12.5-12.75 GHz frequency band; IS-22 (Call Sign: S2846) at 72.1° E.L. in the 12.25-12.75 GHz frequency band; and IS-37 (Call Sign: S2972) at 18° W.L. in the 12.5-12.75 GHz frequency band. When receiving transmissions from these satellites in these frequency bands, the ESAA operations authorized herein must accept interference from any authorized user of the band.
- 900415 --- Reception of downlink transmissions in ITU Region 2 is on a non-interference, non-protected basis from the following geostationary orbit space stations: Horizons 3e (S2947) at 169° E.L. in the 12.2-12.75 GHz frequency band; IS-19 (Call Sign: S2850) at 166° E.L. in the 12.25-12.75 GHz frequency band; IS-33e (Call Sign S2939) at 60.0° E.L. in the 12.5-12.6 GHz frequency band. Operations are not authorized in these bands over the U.S. and its territories.
- 900417 --- Waiver of 25.115(g)(1)(i) of the Commission's rules, 47 C.F.R. § 25.115(g)(1)(i), is GRANTED for the Rantec terminal.
- 900418 --- Communications between Intelsat License LLC's ESAAs and the Horizons 1 space station must be in compliance with all existing and future space station coordination agreements reached between Japan and other Administrations.



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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 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.