



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


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**RADIO STATION AUTHORIZATION**

**Name:** Comsat, Inc.

**Call Sign:** KB34

**Authorization Type:** Modification of License

**File Number:** SES-MFS-20190425-00550

Common Carrier

**Grant date:** 05/08/2020

**Expiration Date:** 06/15/2025

**Nature of Service:** Fixed Satellite Service

**Nature of Service:** Mobile Satellite Service

**Class of Station:** Fixed Earth Stations

**A) Site Location(s)**

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	1	7676 PINE GROVE ROAD SANTA PAULA, VENTURA, CA 93060	34°24'5.0"N	119°4'29.4"W	228.6	83

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 June 15, 2010 (3 AM Eastern Standard Time) and ending June 15, 2025 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is 00/00/0000. 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)	5925.0000-6425.0000	H, V, L, R	18M0F8F-	Tx	82.50	55.50	12.8M.		ANALOG VIDEO
2)	5925.0000-6425.0000	H, V, L, R	36M0G7F	Tx	87.80	48.30	12.8M.		DIGITAL VIDEO
3)	5925.0000-6425.0000	H, V, L, R	4M00G7F-	Tx	83.30	53.30	12.8M.		DIGITAL VIDEO
4)	5925.0000-6425.0000	H, V, L, R	72M0G7W	Tx	87.80	45.20	12.8M.		DIGITAL VOICE, AND DATA
5)	5925.0000-6425.0000	H, V, L, R	21K9G7W-	Tx	60.70	53.30	12.8M.		DIGITAL VOICE, AND DATA
6)	3700.0000-4200.0000	H, V, L, R	36M0F8F	Rx			12.8M.		ANALOG VIDEO
7)	3700.0000-4200.0000	H, V, L, R	18M0F8F-	Rx			12.8M.		ANALOG VIDEO
8)	3700.0000-4200.0000	H, V, L, R	36M0G7F	Rx			12.8M.		DIGITAL VIDEO
9)	3700.0000-4200.0000	H, V, L, R	4M00G7F-	Rx			12.8M.		DIGITAL VIDEO



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**B) Particulars of Operations**

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10)	3700.0000-4200.0000	H, V, L, R	72M0G7W	Rx			12.8M.		DIGITAL VOICE, AND DATA
11)	3700.0000-4200.0000	H, V, L, R	21K9G7W-	Rx			12.8M.		DIGITAL VOICE, AND DATA
12)	6440.0000-6443.0000	R	600HG1D	Tx	70.00	70.00	12.8M.		AERO
13)	6440.0000-6443.0000	R	1K20G1D	Tx	70.00	70.00	12.8M.		AERO
14)	6440.0000-6443.0000	R	2K40G1D	Tx	70.00	70.00	12.8M.		AERO
15)	6440.0000-6443.0000	R	10K5G1E	Tx	70.00	70.00	12.8M.		AERO
16)	6425.0000-6443.0000	R	NON	Tx	70.00	70.00	12.8M.		Communications System Monitoring (CSM)
17)	6425.0000-6443.0000	R	600KFXN	Tx	70.00	70.00	12.8M.		CSM
18)	6425.0000-6440.0000	R	NON	Tx	77.00	77.00	12.8M.		PILOT
19)	6425.0000-6440.0000	R	30K0F3E	Tx	77.00	77.00	12.8M.		
20)	6425.0000-6440.0000	R	600HG1D	Tx	77.00	77.00	12.8M.		
21)	6425.0000-6440.0000	R	1K20G1D	Tx	77.00	77.00	12.8M.		
22)	6420.0000-6424.0000	R	24K0F3E	Tx	67.00	59.00	12.8M.		
23)	6420.0000-6424.0000	R	2K50G1D	Tx	68.00	68.00	12.8M.		
24)	6420.0000-6424.0000	R	24K0G1D	Tx	65.00	57.00	12.8M.		
25)	6420.0000-6424.0000	R	24K0F3E	Tx	77.00	77.00	12.8M.		AFRTS audio program channel services vis satellite at 176.5 degrees East
26)	6417.0000-6443.0000	R	4K00G3E	Tx	77.00	77.00	12.8M.		
27)	6417.0000-6443.0000	R	4K00G1D	Tx	77.00	77.00	12.8M.		
28)	6417.0000-6443.0000	R	6K00G1D	Tx	77.00	77.00	12.8M.		
29)	6417.0000-6443.0000	R	7K50G3E	Tx	77.00	74.30	12.8M.		
30)	6417.0000-6443.0000	R	12K0G3E	Tx	77.00	72.20	12.8M.		
31)	6417.0000-6443.0000	R	12K0G1D	Tx	77.00	72.20	12.8M.		



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32)	6416.0000-6418.0000	R	900KF2D	Tx	75.00	75.00	12.8M.		TT&C / MARECS
33)	6174.6000-6175.4000	H	800KFXD	Tx	85.00	85.00	12.8M.		
34)	6170.0000-6180.0000	R	900KF2D	Tx	89.00	77.00	12.8M.		TT&C / INMARSAT II
35)	5927.0000-5927.0000	H	800KFXD	Tx	85.00	85.00	12.8M.		
36)	5925.0000-6425.0000	H, V	34M0FXN	Tx	85.00	62.00	12.8M.		
37)	4195.0000-4199.0000	L	24K0F3E	Rx			12.8M.		
38)	4195.0000-4199.0000	L	2K50G1D	Rx			12.8M.		
39)	4195.0000-4199.0000	L	24K0G1D	Rx			12.8M.		
40)	4192.5000-4200.0000	L	3K00G1D	Rx			12.8M.		
41)	4192.5000-4200.0000	L	4K00G1D	Rx			12.8M.		
42)	4192.5000-4200.0000	L	4K00G3E	Rx			12.8M.		
43)	4192.5000-4200.0000	L	7K50G3E	Rx			12.8M.		
44)	4192.5000-4200.0000	L	12K0G1D	Rx			12.8M.		
45)	4192.5000-4200.0000	L	12K0G3E	Rx			12.8M.		
46)	4192.5000-4200.0000	L	NON	Rx			12.8M.		PILOT
47)	4192.5000-4200.0000	L	600HG1D	Rx			12.8M.		
48)	4192.5000-4200.0000	L	1K20G1D	Rx			12.8M.		
49)	4192.5000-4200.0000	L	4K80G1D	Rx			12.8M.		
50)	4188.0000-4189.0000	L	1K00G1D	Rx			12.8M.		TT&C / MARECS
51)	3954.5000-3954.5000	L	1K00G1D	Rx			12.8M.		
52)	3954.5000-3954.5000	L	14K5F2D	Rx			12.8M.		
53)	3945.5000-3945.5000	L	1K00G1D	Rx			12.8M.		
54)	3945.5000-3945.5000	V	1K00G1D	Rx			12.8M.		
55)	3945.5000-3945.5000	L	14K5F2D	Rx			12.8M.		



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56)	3945.0000-3955.0000	L	1K00G1D	Rx			12.8M.		TT&C / INMARSAT II
57)	3700.5000-3700.5000	H	1K00G1D	Rx			12.8M.		
58)	3620.0000-3623.0000	L	600HG1D	Rx			12.8M.		AERO
59)	3620.0000-3623.0000	L	1K20G1D	Rx			12.8M.		AERO
60)	3620.0000-3623.0000	L	2K40G1D	Rx			12.8M.		AERO
61)	3600.0000-3623.0000	L	NON	Rx			12.8M.		CSM
62)	3600.0000-3623.0000	L	300KFXN	Rx			12.8M.		CSM
63)	3600.0000-3623.0000	L	3K00G1D	Rx			12.8M.		
64)	3600.0000-3623.0000	L	4K00G1D	Rx			12.8M.		
65)	3600.0000-3623.0000	L	4K00G3E	Rx			12.8M.		
66)	3600.0000-3623.0000	L	7K50G3E	Rx			12.8M.		
67)	3600.0000-3623.0000	L	12K0G1D	Rx			12.8M.		
68)	3600.0000-3620.0000	L	NON	Rx			12.8M.		PILOT
69)	3600.0000-3620.0000	L	600HG1D	Rx			12.8M.		
70)	3600.0000-3620.0000	L	4K80G1D	Rx			12.8M.		
71)	3600.0000-3620.0000	L	30K0F3E	Rx			12.8M.		
72)	1646.5000-1649.5000	R	600HG1D	Tx	15.00	15.00	12.8M.		AERO
73)	1646.5000-1649.5000	R	2K40G1D	Tx	21.00	21.00	12.8M.		AERO
74)	1646.5000-1649.5000	R	10K5G1E	Tx	27.00	27.00	12.8M.		AERO
75)	1626.5000-1649.5000	R	300KFXN	Tx	62.00	62.00	12.8M.		CSM
76)	1626.5000-1649.5000	R	NON	Tx	62.00	62.00	12.8M.		PILOT
77)	1626.5000-1646.5000	R	NON	Tx	37.00	37.00	12.8M.		PILOT
78)	1626.5000-1646.5000	R	600HG1D	Tx	16.00	16.00	12.8M.		CSM
79)	1626.5000-1646.5000	R	1K20G1D	Tx	16.00	16.00	12.8M.		CSM



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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
80)	1626.5000-1646.5000	R	4K80G1D	Tx	37.00	37.00	12.8M.		CSM
81)	1626.5000-1646.5000	R	30K0F3E	Tx	37.00	37.00	12.8M.		CSM
82)	1545.0000-1548.0000	R	600HG1D	Rx			12.8M.		AERO
83)	1545.0000-1548.0000	R	1K20G1D	Rx			12.8M.		AERO
84)	1545.0000-1548.0000	R	2K40G1D	Rx			12.8M.		AERO
85)	1545.0000-1548.0000	R	10K5G1E	Rx			12.8M.		AERO
86)	1530.0000-1548.0000	R	NON	Rx			12.8M.		CSM
87)	1530.0000-1548.0000	R	600KFXN	Rx			12.8M.		CSM
88)	1530.0000-1545.0000	R	NON	Rx			12.8M.		PILOT
89)	1530.0000-1545.0000	R	600HG1D	Rx			12.8M.		CSM
90)	1530.0000-1545.0000	R	1K20G1D	Rx			12.8M.		CSM
91)	1530.0000-1545.0000	R	30K0F3E	Rx			12.8M.		CSM
92)	6420.0000-6424.0000	R	24K0F3E	Tx	67.00	59.00	10.4M.		
93)	6420.0000-6424.0000	R	2K50G1D	Tx	68.00	68.00	10.4M.		
94)	6420.0000-6424.0000	R	24K0G1D	Tx	65.00	57.00	10.4M.		
95)	6174.6000-6175.4000	H	800KFXD	Tx	85.00	85.00	10.4M.		
96)	5927.0000-5927.0000	H	800KFXD	Tx	85.00	85.00	10.4M.		
97)	5925.0000-6425.0000	H, V	34M0FXN	Tx	85.00	62.00	10.4M.		
98)	5925.0000-6425.0000	H, V, L, R	36M0F8F	Tx	80.00	53.00	10.4M.		ANALOG VIDEO
99)	5925.0000-6425.0000	H, V, L, R	18M0F8F-	Tx	80.00	53.00	10.4M.		ANALOG VIDEO
100)	5925.0000-6425.0000	H, V, L, R	36M0G7F	Tx	85.30	45.80	10.4M.		DIGITAL VIDEO
101)	5925.0000-6425.0000	H, V, L, R	4M00G7F-	Tx	80.80	50.80	10.4M.		DIGITAL VIDEO
102)	5925.0000-6425.0000	H, V, L, R	72M0G7W	Tx	85.30	42.70	10.4M.		DIGITAL VOICE, AND DATA
103)	5925.0000-6425.0000	H, V, L, R	21K9G7W-	Tx	58.20	50.80	10.4M.		DIGITAL VOICE, AND DATA



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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
104)	4195.0000-4199.0000	L	24K0F3E	Rx			10.4M.		
105)	4195.0000-4199.0000	L	2K50G1D	Rx			10.4M.		
106)	3954.5000-3954.5000	L	1K00G1D	Rx			10.4M.		
107)	3954.5000-3954.5000	L	14K5F2D	Rx			10.4M.		
108)	3945.5000-3945.5000	L	1K00G1D	Rx			10.4M.		
109)	3945.5000-3945.5000	V	1K00G1D	Rx			10.4M.		
110)	3945.5000-3945.5000	L	14K5F2D	Rx			10.4M.		
111)	3700.5000-3700.5000	H	1K00G1D	Rx			10.4M.		
112)	3700.0000-4200.0000	H, V, L, R	36M0F8F	Rx			10.4M.		ANALOG VIDEO
113)	3700.0000-4200.0000	H, V, L, R	18M0F8F-	Rx			10.4M.		ANALOG VIDEO
114)	3700.0000-4200.0000	H, V, L, R	36M0G7F	Rx			10.4M.		DIGITAL VIDEO
115)	3700.0000-4200.0000	H, V, L, R	4M00G7F-	Rx			10.4M.		DIGITAL VIDEO
116)	3700.0000-4200.0000	H, V, L, R	21K9G7W-	Rx			10.4M.		DIGITAL VOICE, AND DATA
117)	5925.0000-6425.0000	L, R	34M0F8W	Tx	82.50	59.50	SAPA13		TEST ANALOG CARRIER TO MONITOR TRANSPONDER PERFORMANCE
118)	6424.0000-6454.0000	L, R	34K0F3E	Tx	59.50	59.70	SAPA13		FM TELEPHONY COMPANDED AND UNCOMPANDED
119)	6424.0000-6454.0000	L, R	27K0F3W	Tx	59.50	56.70	SAPA13		FM9 ANALOG BROADCAST CARRIER
120)	6424.0000-6454.0000	L, R	40K0G1W	Tx	60.80	50.80	SAPA13		16 QAM DIGITAL TELEPHONY
121)	6424.0000-6454.0000	L, R	400KG1F	Tx	59.50	39.50	SAPA13		QPSK, DIGITAL VIDEO DATA
122)	6424.0000-6454.0000	L, R	NON	Tx	59.50	59.50	SAPA13		UNMODULATED AFC PILOT
123)	5927.0000-5927.0000	L, R	NON	Tx	50.80	50.80	SAPA13		TT&C RANGING CARRIER
124)	6424.0000-6454.0000	L, R	5K60G1E	Tx	53.20	50.80	SAPA13		QPSK, TELEPHONY
125)	6424.0000-6454.0000	L, R	24K0G1E	Tx	58.60	50.80	SAPA13		QPSK, TELEPHONY



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126)	6424.0000-6454.0000	L, R	5K60G1D	Tx	52.30	50.80	SAPA13		QPSK, DATA/FAX
127)	6424.0000-6454.0000	L, R	2K40G7D	Tx	48.60	48.60	SAPA13		QPSK, DATA/TDM
128)	6424.0000-6454.0000	L, R	24K0G1W	Tx	58.60	50.80	SAPA13		QPSK, DATA/FAX
129)	6424.0000-6454.0000	L, R	132KG7D	Tx	59.50	44.30	SAPA13		QPSK, DATA/TDM
130)	6424.0000-6454.0000	L, R	2M20G1D	Tx	71.70	44.30	SAPA13		BPSK, DATA
131)	6424.0000-6454.0000	L, R	2K40G1D	Tx	48.60	48.60	SAPA13		BPSK, DATA
132)	3700.0000-4200.0000	L, R	36M0F8W	Rx			SAPA13		TEST ANALOG CARRIER TO MONITOR TRANSPONDER PERFORMANCE
133)	3600.0000-3629.0000	L, R	34K0F3E	Rx			SAPA13		FM TELEPHONY COMPOUNDED AND UNCOMPOUNDED
134)	3600.0000-3629.0000	L, R	2M20G1D	Rx			SAPA13		BPSK SPREAD SPECTRUM DATA (NAVIGATION)
135)	3947.0000-3953.0000	L, R	131KG2D	Rx			SAPA13		PCM/PSK/BI-PHASE TRACKING BEACON
136)	3600.0000-3629.0000	L, R	40K0G1W	Rx			SAPA13		16 QAM DIGITAL TELEPHONY
137)	3600.0000-3629.0000	L, R	400KG1F	Rx			SAPA13		QPSK, DIGITAL VIDEO DATA
138)	3600.0000-3629.0000	L, R	NON	Rx			SAPA13		UNMODULATED AFC PILOT
139)	3600.0000-3629.0000	L, R	5K60G1E	Rx			SAPA13		BPSK, TELEPHONY
140)	3600.0000-3629.0000	L, R	24K0G1E	Rx			SAPA13		BPSK, TELEPHONY
141)	3600.0000-3629.0000	L, R	24K0G1W	Rx			SAPA13		BPSK, DATA/FAX
142)	3600.0000-3629.0000	L, R	5K60G1W	Rx			SAPA13		BPSK, DATA/FAX
143)	3600.0000-3629.0000	L, R	132KG7D	Rx			SAPA13		BPSK, DATA/TDM
144)	3500.0000-3629.0000	L, R	24KOG7D	Rx			SAPA13		BPSK, DATA/TDM
145)	3600.0000-3629.0000	L, R	2M20G1D	Rx			SAPA13		BPSK, DATA
146)	3600.0000-3629.0000	L, R	2K40G1D	Rx			SAPA13		BPSK, DATA
147)	1626.5000-1660.5000	L, R	NON	Tx	27.20	27.20	SAPA 13L		UNMODULATED AFC PILOT (CLOSE LOOP)



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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
148)	1525.0000-1559.0000	L, R	2M20G1D	Rx			SAPA 13L		TEST BPSK SPREAD SPECTRUM DATA-CLOSE LOOP
149)	1574.4000-1576.6000	L, R	2M20G1D	Rx			SAPA 13L		TEST BPSK SPREAD SPECTRUM DATA-CLOSE LOOP
150)	1525.0000-1559.0000	L, R	34K0F3E	Rx			SAPA 13L		TEST FM TELEPHONY COMPANDED AND UNCOMPANDED
151)	1525.0000-1559.0000	L, R	400K0G1W	Rx			SAPA 13L		TEST 16 QAM DIGITAL TELEPHONY
152)	1525.0000-1559.0000	L, R	5K60G1E	Rx			SAPA 13L		TEST QPSK, TELEPHONY
153)	1525.0000-1559.0000	L, R	24K0G1E	Rx			SAPA 13L		TEST QPSK, TELEPHONY
154)	1525.0000-1559.0000	L, R	5K60G1W	Rx			SAPA 13L		TEST QPSK, DATA/FAX
155)	1525.0000-1559.0000	L, R	24K0G7D	Rx			SAPA 13L		TEST BPSK, DATA/TDM
156)	1525.0000-1559.0000	L, R	24K0G1W	Rx			SAPA 13L		TEST QPSK, DATA/FAX
157)	1525.0000-1559.0000	L, R	132KG7D	Rx			SAPA 13L		TEST BPSK, DATA/TDM
158)	1525.0000-1559.0000	L, R	NON	Rx			SAPA 13L		UNMODULATED AFC PILOT
159)	1525.0000-1559.0000	L, R	2M20G1D	Rx			SAPA 13L		TEST BPSK, DATA
160)	1525.0000-1559.0000	L, R	24K0G1D	Rx			SAPA 13L		TEST BPSK, DATA
161)	1646.5000-1649.5000	R	1K20G1D	Tx	18.00	18.00	12.8M.		AERO
162)	3620.0000-3623.0000	L	10K5G1E	Rx			12.8M.		AERO
163)	4195.0000-4199.0000	L	24K0G1D	Rx			10.4M.		
164)	1525.0000-1559.0000	L, R	400KG1F	Rx			SAPA 13L		TEST QPSK, DIGITAL VIDEO DATA
165)	6416.0000-6418.0000	R	600KFXN	Tx	75.00	70.00	12.8M.		TT&C / MARECS
166)	3600.0000-3623.0000	L	12K0G3E	Rx			12.8M.		
167)	3700.0000-4200.0000	H, V, L, R	72M0G7W	Rx			10.4M.		DIGITAL VOICE, AND DATA





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


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**RADIO STATION AUTHORIZATION**

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Call Sign: KB34

Authorization Type: Modification of License

File Number: SES-MFS-20190425-00550

Common Carrier

Grant date: 05/08/2020

Expiration Date: 06/15/2025

**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)	5925.0000-6425.0000	60.0W	144.0W	05.0	05.0	101.9	258.1	32	12.8M.
2)	5925.0000-6425.0000	46.0W	192.0W	05.2	05.4	099.8	260.2	42.6	12.8M.
3)	3700.0000-4200.0000	46.0W	192.0W	05.2	05.4	099.8	260.2		12.8M.
4)	1626.5000-1660.5000	48.0W	190.0W	06.9	07.0	101.0	258.9	43.4	12.8M.
5)	1525.5000-1559.0000	48.0W	190.0W	06.9	07.0	101.0	258.9	0	12.8M.
6)	5925.0000-6425.0000	60.0W	144.0W	05.0	05.0	101.9	258.1	32	12.8M.
7)	6417.5000-6454.0000	48.0W	190.0W	06.9	07.0	101.0	258.9	43.4	12.8M.
8)	3600.0000-3629.0000	48.0W	190.0W	06.9	07.0	101.0	258.9	0	12.8M.
9)	4192.5000-4200.0000	48.0W	190.0W	06.9	07.0	101.0	258.9		12.8M.
10)	1574.4000-1576.6000	48.0W	190.0W	06.9	07.0	101.0	258.9		12.8M.
11)	6454.4000-6456.6000	48.0W	190.0W	06.9	07.0	101.0	258.9		12.8M.
12)	6170.0000-6180.0000	48.0W	190.0W	06.9	07.0	101.0	258.9		12.8M.
13)	6416.0000-6418.0000	48.0W	190.0W	06.9	07.0	101.0	258.9		12.8M.
14)	3945.0000-3955.0000	48.0W	190.0W	06.9	07.0	101.0	258.9		12.8M.
15)	4188.0000-4189.0000	48.0W	190.0W	06.9	07.0	101.0	258.9		12.8M.
16)	5925.0000-6425.0000	46.0W	192.0W	05.2	05.4	099.8	260.2	42.4	10.4M.
17)	3700.0000-4200.0000	46.0W	192.0W	05.2	05.4	099.8	260.2		10.4M.
18)	3945.5000-3945.5000	60.0W	144.0W	05.0	05.0	101.9	258.1		10.4M.
19)	3954.5000-3954.5000	60.0W	144.0W	05.0	05.0	101.9	258.1		10.4M.
20)	1638.5000-1642.5000	48.0W	192.0W	05.0	05.0	101.9	258.1	34.66	10.4M.
21)	1541.5000-1541.5000	48.0W	192.0W	05.0	05.0	101.9	258.1	0	10.4M.
22)	6425.0000-6454.0000	48.0W	190.0W	06.9	07.0	101.0	258.9	42.4	SAPA13
23)	1525.0000-1576.6666	48.0W	190.0W	06.9	07.0	101.0	258.9	0	SAPA13
24)	3600.0000-3629.0000	48.0W	190.0W	06.0	07.0	101.2	258.9	0	SAPA13
25)	1626.5000-1660.5000	46.0W	192.0W	05.0	07.0	099.8	269.2	34.66	SAPA 13L
26)	1525.0000-1576.6000	46.0W	192.0W	05.0	07.0	099.8	260.2	0	SAPA 13L

**D) Points of Communications**

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

- 1) 1 to INMARSAT 4F3 satellite(s) @ 98.25 degrees W.L. (United Kingdom-licensed)
- 2) 1 to INMARSAT satellite(s) in POR of the INMARSAT system (Non-U.S.-licensed)
- 3) 1 to INMARSAT satellite(s) in AOR-E of the INMARSAT system (Non-U.S.-licensed)
- 4) 1 to Permitted Space Station List
- 5) 1 to INMARSAT 3F4 satellite(s) @ 142 degrees W.L. (United Kingdom-licensed)



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


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File Number: SES-MFS-20190425-00550

Common Carrier

Grant date: 05/08/2020

Expiration Date: 06/15/2025

**D) Points of Communications**

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

- 6) 1 to All Inmarsat satellites on "ISAT List" authorized to access U.S. in the L-Band
- 7) 1 to INMARSAT 2F1 satellite @142 degrees W.L. (United Kingdom-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)
1	10.4M.	1	10.4	PHILCO-FORD	34 FT.	228.6	11 AGL/ 239.6 AMSL	
	Max Gains(s):		50.4 dBi @	4.0000 GHz	53.5 dBi @	6.0000 GHz		
	Maximum total input power at antenna flange (Watts) =				2,000.00			
	Maximum aggregate output EIRP for all carriers (dBW) =				86.50			
1	12.8M.	1	12.8	PHILCO-FORD	42 FT.	228.6	15.2 AGL/ 243.8 AMSL	
	Max Gains(s):		52.8 dBi @	4.0000 GHz	56.0 dBi @	6.0000 GHz		
	Maximum total input power at antenna flange (Watts) =				2,000.00			
	Maximum aggregate output EIRP for all carriers (dBW) =				89.00			
1	12.8M.	1	12.8	PHILCO-FORD	42 FT.	228.6	15.2 AGL/ 243.8 AMSL	
	Max Gains(s):		40.0 dBi @	1.6380 GHz	39.0 dBi @	1.5390 GHz	52.8 dBi @	
			3.9500 GHz	56.0 dBi @	6.1750 GHz			
	Maximum total input power at antenna flange (Watts) =				175.00			
	Maximum aggregate output EIRP for all carriers (dBW) =				62.43			
1	SAPA 13L	1	1.8	PHILCO-FORD	1.8M.	228.6	7 AGL/ 235.6 AMSL	
	Max Gains(s):		26.9 dBi @	1.5000 GHz	27.7 dBi @	1.6400 GHz		
	Maximum total input power at antenna flange (Watts) =				10.70			
	Maximum aggregate output EIRP for all carriers (dBW) =				38.00			
1	SAPA13	1	10.4	PHILCO-FORD	34 FT.	228.6	11 AGL/ 239.6 AMSL	
	Max Gains(s):		50.4 dBi @	3.9500 GHz	53.5 dBi @	6.0000 GHz		
	Maximum total input power at antenna flange (Watts) =				800.00			
	Maximum aggregate output EIRP for all carriers (dBW) =				82.50			



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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:

- 144 --- Authority IS GRANTED pursuant to Section 25.210(j) of the Commission's rules, to permit operations of earth stations with the Inmarsat 3F4 satellite, maintained at  $\pm 10$  degree of the  $142^\circ$  W.L., subject to the condition that this waiver and the operations it permits shall terminate in the event that a satellite is launched into a location such that its stationkeeping volume would overlap the Inmarsat 3F4 satellite's  $\pm 0.10$  degree stationkeeping volume, but would not overlap the Inmarsat 3F4 satellite's  $\pm 0.05^\circ$  degree stationkeeping volume, unless Inmarsat has successfully coordinated its physical operations with those of the other spacecraft.
- 1929 --- KB34, 273-DSE-MP/L-91, SANTA PAULA, CA., L-BAND (MARISAT) Particulars of Operation: Freqs.(MHz) & Pol.=Transmit-1638.500-1642.500-R/Emission-NON/EIRP-37.00/EIRP DEN- 37.00. Receive-1541.500-1541.500-R/Emission-NON.
- 2478 --- KB34, 273-DSE-MP/L-91, SANTA PAULA, CA, L-BAND (MARISAT) Frequency coordination Limits: Satellite Arc = 60-144/Elevation = 16.8-42.0/Azimuth = 108.7-219.4. Receiving System Noise Temperature = 476 Kelvin at 5.0 degrees elevation and 1539 MHz. Points of Communications: MARISAT.
- 2479 --- KB34, 273-DSE-MP/L-91, SANTA PAULA, CA., L-BAND (MARISAT) Transmitting Equipment: (1) unit - Mfg. RFD, Inc. - Model LA-60646 - Output Power (Watts) 70; Antenna Facilities: Site Elevation 228.6 meters AMSL - (1) unit - 12.8 meter - Cass - Mfg. Philco - Ford - Model 42 ft. Gains 39.9 - 1.5 = 40.0 - 1.6 / Max. Ant. Ht. 243.9 meters AMSL.
- 2480 --- KB34, 273-DSE-MP/L-91, SANTA PAULA, CA., L-BAND (MARISAT) Remote Control point: None; Informative: "MOD" to add MARISAT, L-band frequencies and technical data. C-band technical data issued under computerized license for KB34.
- 2914 --- This station operating a Tracking, Telemetry and Command (TT&C) antenna.
- 5813 --- This authorization is issued pursuant to and subject to the terms and conditions in the Commission's Order released March 19, 1991, DA 91-303.
- 5814 --- This authorization is issued pursuant to and subject to the terms and conditions in the Commission's Order released July 8, 1996, DA 96-1079, and Erratum released July 9, 1996.
- 5817 --- Frequencies in the L-band will be used only for occasional testing of the L-to -C and C-to-L INMARSAT satellite transponders and the communications signals will be an automatic frequency compensation (AFC) pilot, network coordination signals, Santa Paula's own C-to-L signalling/data channels, an orderwire signal, and occasional test transmissions from co-located test mobile earth stations.



**UNITED STATES OF AMERICA**  
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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:

5822 --- The 3600-3650 MHz band is shared on a co-primary basis in the U.S. and Possessions with Federal Government radiolocation systems. Unacceptable interference may be caused to this earth station from radiolocation systems, including high-powered, highly mobile, shipborne and airborne radar transmitters, operating in the frequency band. Consistent with the applicant's EMC analysis (as required by US245 and based on the NTIA TR-99-361 Report, Technical Characteristics of Radiolocation Systems operating in the 3.1-3.7 GHz Band and Procedures for assessing EMC with Fixed Earth Station Receivers (available at <http://www.ntia.doc.gov/osmhome/reports.html>), the licensee accepts this potential for unacceptable interference. In the case that out-of-band interference does occur, the licensee is further aware that use of a RF filter ahead of the low noise amplifier (LNA) will limit potential out-of-band interference to its receiving earth station. Additionally, per US 245, in the band 3600-3650 MHz, these fixed-satellite service operations are limited to international inter-continental satellite systems.

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

90399 --- The licensee shall, at all times, take all necessary measures to ensure that operation of this (these) authorized earth station(s) does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR §§ 1.1307(b) and 1.1310. Physical measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions, such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling, or by field measurements. The FCC's OET Bulletin 65 (available on-line at [www.fcc.gov/oet/rfsafety](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.

900407 --- 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. The Permitted List currently includes the following frequency bands per §25.103 and §25.115(k)(1):

- 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).

Earth stations with "Permitted List" designated as a point of communication may access any space station on the Permitted List, provided the operations comply with the applicable "routine" uplink and downlink limits, are within the specific frequency bands authorized in the earth station license, have completed coordination with terrestrial stations pursuant to §25.203, and otherwise comply with all terms and conditions of both the earth station license and the space station grant.



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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.**