



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

Name: Comsat, Inc.

Call Sign: KB34

Authorization Type: Modification of License

File Number: SES-MOD-20151009-00695

Common Carrier

Grant date: 04/25/2016

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 April 25, 2017 (3 AM Eastern Standard Time). Grantee must file with the Commission a certification upon completion of construction and commencement of operation.

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

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

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
1)	5925.0000-6425.0000	H, V, L, R	36M0F8F	Tx	82.50	55.50	12.8M		ANALOG VIDEO
2)	5925.0000-6425.0000	H, V, L, R	18M0F8F-	Tx	82.50	55.50	12.8M		ANALOG VIDEO
3)	5925.0000-6425.0000	H, V, L, R	36M0G7F	Tx	87.80	48.30	12.8M		DIGITAL VIDEO
4)	5925.0000-6425.0000	H, V, L, R	4M00G7F-	Tx	83.30	53.30	12.8M		DIGITAL VIDEO
5)	5925.0000-6425.0000	H, V, L, R	72M0G7W	Tx	87.80	45.20	12.8M		DIGITAL VOICE, AND DATA
6)	5925.0000-6425.0000	H, V, L, R	21K9G7W-	Tx	60.70	53.30	12.8M		DIGITAL VOICE, AND DATA
7)	3700.0000-4200.0000	H, V, L, R	36M0F8F	Rx			12.8M		ANALOG VIDEO
8)	3700.0000-4200.0000	H, V, L, R	18M0F8F-	Rx			12.8M		ANALOG VIDEO
9)	3700.0000-4200.0000	H, V, L, R	4M00G7F-	Rx			12.8M		DIGITAL VIDEO



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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)	6454.4000-6456.6000	R		Tx			12.8M		
13)	6443.0000-6454.0000	R		Tx			12.8M		
14)	6440.0000-6443.0000	R	600HG1D	Tx	70.00	70.00	12.8M		AERO
15)	6440.0000-6443.0000	R	1K20G1D	Tx	70.00	70.00	12.8M		AERO
16)	6440.0000-6443.0000	R	2K40G1D	Tx	70.00	70.00	12.8M		AERO
17)	6440.0000-6443.0000	R	10K5G1E	Tx	70.00	70.00	12.8M		AERO
18)	6425.0000-6443.0000	R	NON	Tx	70.00	70.00	12.8M		Communications System Monitoring (CSM)
19)	6425.0000-6443.0000	R	600KFXN	Tx	70.00	70.00	12.8M		CSM
20)	6425.0000-6440.0000	R	NON	Tx	77.00	77.00	12.8M		PILOT
21)	6425.0000-6440.0000	R	30K0F3E	Tx	77.00	77.00	12.8M		
22)	6425.0000-6440.0000	R	600HG1D	Tx	77.00	77.00	12.8M		
23)	6425.0000-6440.0000	R	1K20G1D	Tx	77.00	77.00	12.8M		
24)	6420.0000-6424.0000	R	24K0F3E	Tx	67.00	59.00	12.8M		
25)	6420.0000-6424.0000	R	2K50G1D	Tx	68.00	68.00	12.8M		
26)	6420.0000-6424.0000	R	24K0G1D	Tx	65.00	57.00	12.8M		
27)	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
28)	6417.0000-6443.0000	R	4K00G3E	Tx	77.00	77.00	12.8M		
29)	6417.0000-6443.0000	R	6K00G1D	Tx	77.00	77.00	12.8M		
30)	6417.0000-6443.0000	R	7K50G3E	Tx	77.00	74.30	12.8M		
31)	6417.0000-6443.0000	R	12K0G3E	Tx	77.00	72.20	12.8M		



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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
32)	6417.0000-6443.0000	R	12K0G1D	Tx	77.00	72.20	12.8M		
33)	6416.0000-6418.0000	R	600KFXN	Tx	75.00	70.00	12.8M		TT&C / MARECS
34)	6416.0000-6418.0000	R	900KF2D	Tx	75.00	75.00	12.8M		TT&C / MARECS
35)	6174.6000-6175.4000	H	800KFXD	Tx	85.00	85.00	12.8M		
36)	6170.0000-6180.0000	R	900KF2D	Tx	89.00	77.00	12.8M		TT&C / INMARSAT II
37)	5927.0000-5927.0000	H	800KFXD	Tx	85.00	85.00	12.8M		
38)	5925.0000-6425.0000	H, V	34M0FXN	Tx	85.00	62.00	12.8M		
39)	4195.0000-4199.0000	L	24K0F3E	Rx			12.8M		
40)	4195.0000-4199.0000	L	2K50G1D	Rx			12.8M		
41)	4195.0000-4199.0000	L	24K0G1D	Rx			12.8M		
42)	4192.5000-4200.0000	L	3K00G1D	Rx			12.8M		
43)	4192.5000-4200.0000	L	4K00G1D	Rx			12.8M		
44)	4192.5000-4200.0000	L	4K00G3E	Rx			12.8M		
45)	4192.5000-4200.0000	L	7K50G3E	Rx			12.8M		
46)	4192.5000-4200.0000	L	12K0G1D	Rx			12.8M		
47)	4192.5000-4200.0000	L	12K0G3E	Rx			12.8M		
48)	4192.5000-4200.0000	L	NON	Rx			12.8M		PILOT
49)	4192.5000-4200.0000	L	600HG1D	Rx			12.8M		
50)	4192.5000-4200.0000	L	1K20G1D	Rx			12.8M		
51)	4192.5000-4200.0000	L	4K80G1D	Rx			12.8M		
52)	4188.0000-4189.0000	L	1K00G1D	Rx			12.8M		TT&C / MARECS
53)	3954.5000-3954.5000	L	1K00G1D	Rx			12.8M		
54)	3945.5000-3945.5000	L	1K00G1D	Rx			12.8M		
55)	3945.5000-3945.5000	V	1K00G1D	Rx			12.8M		



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56)	3945.5000-3945.5000	L	14K5F2D	Rx			12.8M		
57)	3945.0000-3955.0000	L	1K00G1D	Rx			12.8M		TT&C / INMARSAT II
58)	3700.5000-3700.5000	H	1K00G1D	Rx			12.8M		
59)	3620.0000-3623.0000	L	600HG1D	Rx			12.8M		AERO
60)	3620.0000-3623.0000	L	1K20G1D	Rx			12.8M		AERO
61)	3620.0000-3623.0000	L	2K40G1D	Rx			12.8M		AERO
62)	3620.0000-3623.0000	L	10K5G1E	Rx			12.8M		AERO
63)	3600.0000-3629.0000	L		Rx			12.8M		
64)	3600.0000-3623.0000	L	NON	Rx			12.8M		CSM
65)	3600.0000-3623.0000	L	300KFXN	Rx			12.8M		CSM
66)	3600.0000-3623.0000	L	3K00G1D	Rx			12.8M		
67)	3600.0000-3623.0000	L	4K00G1D	Rx			12.8M		
68)	3600.0000-3623.0000	L	4K00G3E	Rx			12.8M		
69)	3600.0000-3623.0000	L	7K50G3E	Rx			12.8M		
70)	3600.0000-3623.0000	L	12K0G1D	Rx			12.8M		
71)	3600.0000-3623.0000	L	12K0G3E	Rx			12.8M		
72)	3600.0000-3620.0000	L	NON	Rx			12.8M		PILOT
73)	3600.0000-3620.0000	L	600HG1D	Rx			12.8M		
74)	3600.0000-3620.0000	L	4K80G1D	Rx			12.8M		
75)	3600.0000-3620.0000	L	30K0F3E	Rx			12.8M		
76)	1646.5000-1649.5000	R	600HG1D	Tx	15.00	15.00	12.8M		AERO
77)	1646.5000-1649.5000	R	1K20G1D	Tx	18.00	18.00	12.8M		AERO
78)	1646.5000-1649.5000	R	2K40G1D	Tx	21.00	21.00	12.8M		AERO
79)	1646.5000-1649.5000	R	10K5G1E	Tx	27.00	27.00	12.8M		AERO



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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)	1638.5000-1642.5000	R	NON	Tx	37.00	37.00	12.8M		
81)	1626.5000-1660.5000	R		Tx			12.8M		
82)	1626.5000-1649.5000	R	300KFXN	Tx	62.00	62.00	12.8M		CSM
83)	1626.5000-1649.5000	R	NON	Tx	62.00	62.00	12.8M		PILOT
84)	1626.5000-1646.5000	R	600HG1D	Tx	16.00	16.00	12.8M		CSM
85)	1626.5000-1646.5000	R	1K20G1D	Tx	16.00	16.00	12.8M		CSM
86)	1626.5000-1646.5000	R	4K80G1D	Tx	37.00	37.00	12.8M		CSM
87)	1626.5000-1646.5000	R	30K0F3E	Tx	37.00	37.00	12.8M		CSM
88)	1574.4000-1576.6000	R		Rx			12.8M		
89)	1545.0000-1548.0000	R	600HG1D	Rx			12.8M		AERO
90)	1545.0000-1548.0000	R	1K20G1D	Rx			12.8M		AERO
91)	1545.0000-1548.0000	R	2K40G1D	Rx			12.8M		AERO
92)	1545.0000-1548.0000	R	10K5G1E	Rx			12.8M		AERO
93)	1541.5000-1541.5000	R	NON	Rx			12.8M		
94)	1530.0000-1548.0000	R	NON	Rx			12.8M		CSM
95)	1530.0000-1548.0000	R	600KFXN	Rx			12.8M		CSM
96)	1530.0000-1545.0000	R	NON	Rx			12.8M		PILOT
97)	1530.0000-1545.0000	R	600HG1D	Rx			12.8M		CSM
98)	1530.0000-1545.0000	R	1K20G1D	Rx			12.8M		CSM
99)	1530.0000-1545.0000	R	30K0F3E	Rx			12.8M		CSM
100)	1525.0000-1559.0000	R		Rx			12.8M		
101)	6420.0000-6424.0000	R	24K0F3E	Tx	67.00	59.00	10.4M		
102)	6420.0000-6424.0000	R	2K50G1D	Tx	68.00	68.00	10.4M		
103)	6420.0000-6424.0000	R	24K0G1D	Tx	65.00	57.00	10.4M		



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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)	6174.6000-6175.4000	H	800KFXD	Tx	85.00	85.00	10.4M		
105)	5927.0000-5927.0000	H	800KFXD	Tx	85.00	85.00	10.4M		
106)	5925.0000-6425.0000	H, V	34M0FXN	Tx	85.00	62.00	10.4M		
107)	5925.0000-6425.0000	H, V, L, R	36M0F8F	Tx	80.00	53.00	10.4M		ANALOG VIDEO
108)	5925.0000-6425.0000	H, V, L, R	18M0F8F-	Tx	80.00	53.00	10.4M		ANALOG VIDEO
109)	5925.0000-6425.0000	H, V, L, R	36M0G7F	Tx	85.30	45.80	10.4M		DIGITAL VIDEO
110)	5925.0000-6425.0000	H, V, L, R	4M00G7F-	Tx	80.80	50.80	10.4M		DIGITAL VIDEO
111)	5925.0000-6425.0000	H, V, L, R	72M0G7W	Tx	85.30	42.70	10.4M		DIGITAL VOICE, AND DATA
112)	4195.0000-4199.0000	L	24K0F3E	Rx			10.4M		
113)	4195.0000-4199.0000	L	2K50G1D	Rx			10.4M		
114)	4195.0000-4199.0000	L	24K0G1D	Rx			10.4M		
115)	3954.5000-3954.5000	L	1K00G1D	Rx			10.4M		
116)	3954.5000-3954.5000	L	14K5F2D	Rx			10.4M		
117)	3945.5000-3945.5000	L	1K00G1D	Rx			10.4M		
118)	3945.5000-3945.5000	V	1K00G1D	Rx			10.4M		
119)	3945.5000-3945.5000	L	14K5F2D	Rx			10.4M		
120)	3700.5000-3700.5000	H	1K00G1D	Rx			10.4M		
121)	3700.0000-4200.0000	H, V, L, R	36M0F8F	Rx			10.4M		ANALOG VIDEO
122)	3700.0000-4200.0000	H, V, L, R	18M0F8F-	Rx			10.4M		ANALOG VIDEO
123)	3700.0000-4200.0000	H, V, L, R	36M0G7F	Rx			10.4M		DIGITAL VIDEO
124)	3700.0000-4200.0000	H, V, L, R	4M00G7F-	Rx			10.4M		DIGITAL VIDEO
125)	3700.0000-4200.0000	H, V, L, R	72M0G7W	Rx			10.4M		DIGITAL VOICE, AND DATA
126)	3700.0000-4200.0000	H, V, L, R	21K9G7W-	Rx			10.4M		DIGITAL VOICE, AND DATA
127)	1638.5000-1642.5000	R	NON	Tx	37.00	37.00	10.4M		



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128)	1541.5000-1541.5000	R	NON	Rx			10.4M		
129)	6425.0000-6454.0000	L,R	100KG1X	Tx	61.80	47.80	SAPA 13		O-QPSK, 64 KBPS DATA
130)	6425.0000-6454.0000	L,R	1K65G1D	Tx	52.30	52.30	SAPA 13		DIFFERENTIAL GPS DATA
131)	6425.0000-6454.0000	L,R	20K0G1E	Tx	58.60	51.60	SAPA 13		O-QPSK, VOICE TELEPHONY
132)	6425.0000-6454.0000	L,R	10K0G1X	Tx	51.60	47.60	SAPA 13		BPSK, 9.6 KBPS FAX AND DATA
133)	6425.0000-6454.0000	L,R	100KG1X	Tx	60.80	46.80	SAPA 13		DIGITAL DATA
134)	6425.0000-6454.0000	L,R	10K0G1W	Tx	59.70	55.70	SAPA 13		DIGITAL DATA
135)	6425.0000-6454.0000	L,R	10K0G1X	Tx	61.20	57.20	SAPA 13		DIGITAL DATA
136)	6425.0000-6454.0000	L,R	17K5G1D	Tx	61.40	55.00	SAPA 13		DIGITAL DATA
137)	6425.0000-6454.0000	L,R	2K50F1D	Tx	58.80	58.80	SAPA 13		DIGITAL DATA
138)	6425.0000-6454.0000	L,R	2K50G1D	Tx	65.70	65.70	SAPA 13		DIGITAL DATA
139)	6425.0000-6454.0000	L,R	45K0G7D	Tx	66.00	55.50	SAPA 13		DIGITAL DATA
140)	6425.0000-6454.0000	L,R	5K00G1D	Tx	61.80	60.80	SAPA 13		DIGITAL DATA
141)	6425.0000-6454.0000	L,R	5K00G1E	Tx	51.90	50.90	SAPA 13		DIGITAL DATA
142)	6425.0000-6454.0000	L,R	5K00G1W	Tx	51.90	50.90	SAPA 13		DIGITAL DATA
143)	6425.0000-6454.0000	L,R	60K0D1W	Tx	65.90	54.10	SAPA 13		DIGITAL DATA
144)	6425.0000-6454.0000	L,R	7K50G1D	Tx	59.10	56.40	SAPA 13		DIGITAL DATA
145)	6425.0000-6454.0000	L,R	7K50G1E	Tx	62.20	59.50	SAPA 13		DIGITAL DATA
146)	6425.0000-6454.0000	L,R	7K50G1W	Tx	58.40	55.70	SAPA 13		DIGITAL DATA
147)	3600.0000-3629.0000	L,R	100KG1X	Rx			SAPA 13		O-QPSK, 64 KBPS DATA
148)	3600.0000-3629.0000	L,R	20K0G1E	Rx			SAPA 13		O-QPSK, VOICE TELEPHONY
149)	3600.0000-3629.0000	L,R	20K0G1X	Rx			SAPA 13		BPSK, 9.6 KBPS FAX AND DATA
150)	3600.0000-3629.0000	L,R	100KG1X	Rx			SAPA 13		DIGITAL DATA



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151)	3600.0000-3629.0000	L,R	17K5G1D	Rx			SAPA 13		DIGITAL DATA
152)	3600.0000-3629.0000	L,R	20K0G1E	Rx			SAPA 13		DIGITAL DATA
153)	3600.0000-3629.0000	L,R	20K0G1X	Rx			SAPA 13		DIGITAL DATA
154)	3600.0000-3629.0000	L,R	2K50F1D	Rx			SAPA 13		DIGITAL DATA
155)	3600.0000-3629.0000	L,R	2K50G1D	Rx			SAPA 13		DIGITAL DATA
156)	3600.0000-3629.0000	L,R	45K0G7D	Rx			SAPA 13		DIGITAL DATA
157)	3600.0000-3629.0000	L,R	5K00G1D	Rx			SAPA 13		DIGITAL DATA
158)	3600.0000-3629.0000	L,R	5K00G1E	Rx			SAPA 13		DIGITAL DATA
159)	3600.0000-3629.0000	L,R	5K00G1W	Rx			SAPA 13		DIGITAL DATA
160)	3600.0000-3629.0000	L,R	60K0D1W	Rx			SAPA 13		DIGITAL DATA
161)	3600.0000-3629.0000	L,R	7K50G1D	Rx			SAPA 13		DIGITAL DATA
162)	3600.0000-3629.0000	L,R	7K50G1E	Rx		0.00	SAPA 13		DIGITAL DATA
163)	3600.0000-3629.0000	L,R	7K50G1W	Rx			SAPA 13		DIGITAL DATA
164)	1626.5000-1646.5000	R	NON	Tx	37.00	37.00	12.8M		PILOT
165)	5925.0000-6425.0000	H,V,L,R	21K9G7W-	Tx	58.20	50.80	10.4M		DIGITAL VOICE, AND DATA
166)	3700.0000-4200.0000	H,V,L,R	36M0G7F	Rx			12.8M		DIGITAL VIDEO
167)	6417.0000-6443.0000	R	4K00G1D	Tx	77.00	77.00	12.8M		
168)	3954.5000-3954.5000	L	14K5F2D	Rx			12.8M		
169)	6425.0000-6454.0000	L,R	20K0G1E	Tx	56.80	49.80	SAPA 13		DIGITAL DATA
170)	3600.0000-3629.0000	L,R	10K0G1W	Rx			SAPA 13		DIGITAL DATA



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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		
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)	5925.0000-6425.0000	60.0W	144.0W	05.0	05.0	101.9	258.1	32	12.8M
5)	6417.5000-6454.0000	48.0W	190.0W	06.9	07.0	101.0	258.9	43.4	12.8M
6)	3600.0000-3629.0000	48.0W	190.0W	06.9	07.0	101.0	258.9	0	12.8M
7)	4192.5000-4200.0000	48.0W	190.0W	06.9	07.0	101.0	258.9		12.8M
8)	1626.5000-1660.5000			06.9	07.0	101.0	258.9	43.4	12.8M
9)	1525.5000-1559.0000			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			05.0	05.0	101.9	258.1		10.4M
21)	1541.5000-1541.4000			05.0	05.0	101.9	258.1		10.4M
22)	3600.0000-3629.0000	100.0W	150.0W	45.1	38.2	148.5	226.7		SAPA 13
23)	6425.0000-6454.0000	100.0W	150.0W	45.1	38.2	148.5	226.7	42.4	SAPA 13
24)	3600.0000-3629.0000	100.0W	150.0W	45.1	38.2	148.5	226.7	6.6	SAPA 13
25)	6425.0000-6454.0000	100.0W	150.0W	45.1	38.2	148.5	226.7		SAPA 13

D) Points of Communications

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

- 1) 1 to COMSTAR D-4 @ 76 W.L. (U.S.-licensed domestic satellite) (U.S.-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)



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Common Carrier

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D) Points of Communications

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

- 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	NEC	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) = .00 Maximum aggregate output EIRP for all carriers (dBW) = .00								
1	12.8M	1	12.8	PHILCO-FORD	42 FT	228.6	15.2 AGL/ 243.8 AMSL	
Max Gains(s): Maximum total input power at antenna flange (Watts) = 1,500.00 Maximum aggregate output EIRP for all carriers (dBW) = 87.80								
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	0	12.8	PHILCO-FORD		228.6		
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 13	1	10.4	NEC	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) = 400.00 Maximum aggregate output EIRP for all carriers (dBW) = 79.50								



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F) Remote Control Point:

1

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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 ± 10 degree of the 142° 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 ± 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.
- 1010 --- Applicable to all receiving frequency bands. Emission designator indicates the maximum bandwidth of received signal at associated station(s). Maximum EIRP and maximum EIRP density are not applicable to receive operations.
- 1900 --- Applicable to all transmitting frequency bands. Authority is granted to transmit any number of RF carriers with the specified parameters on any discrete frequencies within associated band in accordance with the other terms and conditions of this authorization, subject to any additional limitations that may be required to avoid unacceptable levels of inter-satellite interference.
- 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.
- 2010 --- This authorization is issued pursuant to the Commission's Second Report and Order adopted June 16, 1972 (35 FCC 2d 844) and Memorandum, Opinion and Order adopted December 21, 1972 (38 FCC 2d 665) in Docket No. 16495 and is subject to the policies adopted in that proceeding.
- 2038 --- The licensee shall take extraordinary measures to ensure that the antenna does not create the potential for exposure of persons who may be within the immediate vicinity to radiofrequency radiation in excess of FCC safety guidelines. The earth station antenna shall be surrounded by a fence, at least 2 meters tall with a locked gate, to prevent human exposure in excess of the FCC-specified safety limit of 1 mW/cm². Warning signs, such as those discussed in the FCC's OET Bulletin 65, shall be posted informing members of the public to keep outside the locked area.
- 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.



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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:

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.

2916 --- Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Appropriate measures must also be taken to restrict access to other regions in which the earth station's power flux density levels exceed the specified guidelines.

3219 --- All existing transmitting facilities, operations and devices regulated by the Commission must be in compliance with the Commission's radiofrequency (RF) exposure guidelines, pursuant to Section 1.1307(b)(1) through (b)(3) of the Commission's rules, or if not in compliance, file an Environmental Assessment (EA) as specified in Section 1.1311. See 47 CFR § 1.1307 (b) (5).

5012 --- The authority granted here is limited to the operation of the facilities described above and does not include any authority to install and operate channelizing equipment or any other authority under Section 214 of the Communications Act of 1934, as amended, to establish channels of communications.

5017 --- Operation of this station is governed by the terms, conditions and limitations in Part 25 of the Commission's Rules and Regulations and the following additional conditions: 1. This license shall not vest in the Licensee(s) any right to operate the station or any right in the use of the frequencies designated in the license beyond its term or in any other manner than authorized in the license; 2. Neither the license nor the right granted under it shall be assigned or otherwise transferred in violation of the Commissions or otherwise transferred in violation of the Communications Act of 1934, as amended, or the Commission's Rules and Regulations issued under it; and 3. This station is subject to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended.

5018 --- This license shall be forfeited automatically if this station is not ready for operation within the time specified unless, prior to the expiration date of this license, the Commission receives an Application for Additional Time to Construct a Radio Station (FCC Form 701) filed by the Licensee(s) showing good cause why the Licensee(s) could not complete construction on time.

5202 --- Use of this facility to provide international service on a common carrier basis will require appropriate authorization under Section 214 of the Communication Act of 1934, as amended.

5208 --- The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions, such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling, or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.



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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:

5215 --- All operations shall be on a common carrier basis.

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.

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.



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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.