UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: Comsat, Inc.
Call Sign: E930320
Authorization Type: Renewal of License
File Number: SES-RWL-20180619-01609
Common Carrier **Grant date:** 10/02/2018 **Expiration Date:** 08/06/2033

Nature of Service: Earth Stations on-board Vessels

Class of Station: Earth Stations on-board Vessels/VSAT

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
1)	Hub (4.5m)	7676 PINE GROVE ROAD SANTA PAULA, VENTURA, CA 93061	34°24'5.0"N	119°4'26.0"W	228.6	83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
2)	REMOTE-1 ESV	250 (1.0 m antennas) CONUS,				NA	
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
3)	REMOTE-2 ESV	250 (1.0 m antennas) CONUS,				NA	
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
4)	REMOTE-3 ESV	50 (1.2 m antennas) CONUS,				NA	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
5)	REMOTE-4 ESV	350 (1.5 m antennas) CONUS,				NA	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
6)	REMOTE-5 ESV	500 (1.05M. antennas) CONUS,				NA	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					

FCC Form 488

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Subject to the provisions of the Communications Act of 1934, The Communications Satellite Act of 1962, subsequent acts and treaties, and all present and future regulations made by this Commission, and further subject to the conditions and requirements set forth in this license, the grantee is authorized to construct, use and operate the radio facilities described below for radio communications for the term beginning August 6, 2018 (3 AM Eastern Standard Time) and ending August 6, 2033 (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)	14000.0000-14500.0000	H,V	44K8G1W	Tx	34.40	23.90	ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
2)	14000.0000-14500.0000	H,V	538KG1W	Tx	45.20	23.90	ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
3)	14000.0000-14500.0000	H,V	89K6G1W	Tx	37.40	23.90	ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
4)	14000.0000-14500.0000	H,V	227KG7W	Tx	41.50	23.90	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
5)	14000.0000-14500.0000	H,V	340KG7W	Tx	43.20	23.90	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
6)	14000.0000-14500.0000	H,V	378KG7W	Tx	43.60	23.90	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
7)	14000.0000-14500.0000	H,V	454KG7W	Tx	44.50	23.90	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
8)	14000.0000-14500.0000	H,V	908KG7W	Tx	45.80	22.20	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
9)	14000.0000-14500.0000	H,V	1M40G7W	Tx	45.80	20.30	ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
10)	14000.0000-14500.0000	H,V	316KG7W	Tx	42.80	23.90	ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
11)	14000.0000-14500.0000	H,V	607KG7W	Tx	45.70	23.90	ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
12)	11450.0000-12200.0000	H,V	44K8G1W	Rx			ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
13)	11450.0000-12200.0000	H,V	717KG1W	Rx			ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
14)	11450.0000-12200.0000	H,V	89K6G1W	Rx			ESV-4003A		SCPC USING QPSK AND BPSK MODULATION

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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
15)	11450.0000-12200.0000	H,V	151KG7W	Rx			ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
16)	11450.0000-12200.0000	H,V	54M0G7W	Rx			ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
17)	11450.0000-12200.0000	H,V	2M60G7W	Rx			ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
18)	11450.0000-12200.0000	H,V	54M0G7W	Rx			ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
19)	10950.0000-11200.0000	H,V	44K8G1W	Rx			ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
20)	10950.0000-11200.0000	H,V	717KG1W	Rx			ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
21)	10950.0000-11200.0000	H,V	89K6G1W	Rx			ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
22)	10950.0000-11200.0000	H,V	151KG7W	Rx			ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
23)	10950.0000-11200.0000	H,V	54M0G7W	Rx			ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
24)	10950.0000-11200.0000	H,V	2M60G7W	Rx			ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
25)	10950.0000-11200.0000	H,V	54M0G7W	Rx			ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
26)	14000.0000-14500.0000	H,V	44K8G1W	Tx	34.40	23.90	ESV-4006		SCPC USING QPSK AND BPSK MODULATION
27)	14000.0000-14500.0000	H,V	717KG1W	Tx	46.40	23.90	ESV-4006		SCPC USING QPSK AND BPSK MODULATION
28)	14000.0000-14500.0000	H,V	89K6G1W	Tx	37.40	23.90	ESV-4006		SCPC USING QPSK AND BPSK MODULATION
29)	14000.0000-14500.0000	H,V	227KG7W	Tx	41.50	23.90	ESV-4006		TDM/TDMA USING QPSK AND BPSK MODULATION
30)	14000.0000-14500.0000	H,V	340KG7W	Tx	43.20	23.90	ESV-4006		TDM/TDMA USING QPSK AND BPSK MODULATION
31)	14000.0000-14500.0000	H,V	378KG7W	Tx	43.60	23.90	ESV-4006		TDM/TDMA USING QPSK AND BPSK MODULATION
32)	14000.0000-14500.0000	H,V	454KG7W	Tx	44.50	23.90	ESV-4006		TDM/TDMA USING QPSK AND BPSK MODULATION

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33)	14000.0000-14500.0000	H,V	908KG7W	Tx	47.40	23.80	ESV-4006		TDM/TDMA USING QPSK AND BPSK MODULATION
34)	14000.0000-14500.0000	H,V	1M40G7W	Tx	47.40	21.90	ESV-4006		DVB/MFTDMA USING QPSK AND BPSK MODULATION
35)	14000.0000-14500.0000	H,V	316KG7W	Tx	43.80	23.90	ESV-4006		DVB/MFTDMA USING QPSK AND BPSK MODULATION
36)	14000.0000-14500.0000	H,V	607KG7W	Tx	45.70	23.90	ESV-4006		DVB/MFTDMA USING QPSK AND BPSK MODULATION
37)	11450.0000-12200.0000	H,V	44K8G1W	Rx			ESV-4006		SCPC USING QPSK AND BPSK MODULATION
38)	11450.0000-12200.0000	H,V	717KG1W	Rx			ESV-4006		SCPC USING QPSK AND BPSK MODULATION
39)	11450.0000-12200.0000	H,V	89K6G1W	Rx			ESV-4006		SCPC USING QPSK AND BPSK MODULATION
40)	11450.0000-12200.0000	H,V	151KG7W	Rx			ESV-4006		TDM/TDMA USING QPSK AND BPSK MODULATION
41)	11450.0000-12200.0000	H,V	54M0G7W	Rx			ESV-4006		TDM/TDMA USING QPSK AND BPSK MODULATION
42)	11450.0000-12200.0000	H,V	2M60G7W	Rx			ESV-4006		DVB/MFTDMA USING QPSK AND BPSK MODULATION
43)	11450.0000-12200.0000	H,V	54M0G7W	Rx			ESV-4006		DVB/MFTDMA USING QPSK AND BPSK MODULATION
44)	10950.0000-11200.0000	H,V	44K8G1W	Rx			ESV-4006		SCPC USING QPSK AND BPSK MODULATION
45)	10950.0000-11200.0000	H,V	717KG1W	Rx			ESV-4006		SCPC USING QPSK AND BPSK MODULATION
46)	10950.0000-11200.0000	H,V	89K6G1W	Rx			ESV-4006		SCPC USING QPSK AND BPSK MODULATION
47)	10950.0000-11200.0000	H,V	151KG7W	Rx			ESV-4006		TDM/TDMA USING QPSK AND BPSK MODULATION
48)	10950.0000-11200.0000	H,V	54M0G7W	Rx			ESV-4006		TDM/TDMA USING QPSK AND BPSK MODULATION
49)	10950.0000-11200.0000	H,V	2M60G7W	Rx			ESV-4006		DVB/MFTDMA USING QPSK AND BPSK MODULATION
50)	10950.0000-11200.0000	H,V	54M0G7W	Rx			ESV-4006		DVB/MFTDMA USING QPSK AND BPSK MODULATION

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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
51)	14000.0000-14500.0000	H,V	1M43G1W	Tx	51.10	26.60	ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
52)	14000.0000-14500.0000	H,V	44K8G1W	Tx	36.10	25.60	ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
53)	14000.0000-14500.0000	H,V	717KG1W	Tx	48.10	25.60	ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
54)	14000.0000-14500.0000	H,V	89K6G1W	Tx	39.10	25.60	ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
55)	11450.0000-12200.0000	H,V	1M43G1W	Rx			ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
56)	11450.0000-12200.0000	H,V	44K8G1W	Rx			ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
57)	11450.0000-12200.0000	H,V	717KG1W	Rx			ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
58)	11450.0000-12200.0000	H,V	89K6G1W	Rx			ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
59)	10950.0000-11200.0000	H,V	1M43G1W	Rx			ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
60)	10950.0000-11200.0000	H,V	44K8G1W	Rx			ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
61)	10950.0000-11200.0000	H,V	717KG1W	Rx			ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
62)	10950.0000-11200.0000	H,V	89K6G1W	Rx			ESV-4996T		SCPC USING QPSK AND BPSK MODULATION
63)	14000.0000-14500.0000	H,V	1M43G1W	Tx	52.00	29.50	ESV-6006		SCPC USING QPSK AND BPSK MODULATION
64)	14000.0000-14500.0000	H,V	2M35G1W	Tx	52.00	29.50	ESV-6006		SCPC USING QPSK AND BPSK MODULATION
65)	14000.0000-14500.0000	H,V	44K8G1W	Tx	40.00	29.50	ESV-6006		SCPC USING QPSK AND BPSK MODULATION
66)	14000.0000-14500.0000	H,V	717KG1W	Tx	52.00	29.50	ESV-6006		SCPC USING QPSK AND BPSK MODULATION
67)	14000.0000-14500.0000	H,V	89K6G1W	Tx	43.00	29.50	ESV-6006		SCPC USING QPSK AND BPSK MODULATION
68)	14000.0000-14500.0000	H,V	194KG7W	Tx	46.40	29.50	ESV-6006		SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION

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69)	14000.0000-14500.0000	H,V	291KG7W	Tx	48.10	29.50	ESV-6006		SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
70)	14000.0000-14500.0000	H,V	388KG7W	Tx	49.10	29.50	ESV-6006		SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
71)	14000.0000-14500.0000	H,V	81K0G7W	Tx	42.50	29.50	ESV-6006		SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
72)	14000.0000-14500.0000	H,V	97K0G7W	Tx	43.40	29.50	ESV-6006		SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
73)	11450.0000-12200.0000	H,V	44K8G1W	Rx			ESV-6006		SCPC USING QPSK AND BPSK MODULATION
74)	11450.0000-12200.0000	H,V	717KG1W	Rx			ESV-6006		SCPC USING QPSK AND BPSK MODULATION
75)	11450.0000-12200.0000	H,V	89K6G1W	Rx			ESV-6006		SCPC USING QPSK AND BPSK MODULATION
76)	11450.0000-12200.0000	H,V	1M43G1W	Rx			ESV-6006		SCPC USING QPSK ANAD BPSK MODULATION
77)	11450.0000-12200.0000	H,V	2M35G1W	Rx			ESV-6006		SCPC USING QPSK ANAD BPSK MODULATION
78)	11450.0000-12200.0000	H,V	36M0G7W	Rx			ESV-6006		SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
79)	11450.0000-12200.0000	H,V	81K0G7W	Rx			ESV-6006		SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
80)	10950.0000-11200.0000	H,V	1M43G1W	Rx			ESV-6006	257	SCPC USING QPSK AND BPSK MODULATION
81)	10950.0000-11200.0000	H,V	2M35G1W	Rx			ESV-6006	257	SCPC USING QPSK AND BPSK MODULATION
82)	10950.0000-11200.0000	H,V	44K8G1W	Rx			ESV-6006	257	SCPC USING QPSK AND BPSK MODULATION
83)	10950.0000-11200.0000	H,V	717KG1W	Rx			ESV-6006	257	SCPC USING QPSK AND BPSK MODULATION
84)	10950.0000-11200.0000	H,V	89K6G1W	Rx			ESV-6006	257	SCPC USING QPSK AND BPSK MODULATION
85)	10950.0000-11200.0000	H,V	36M0G7W	Rx			ESV-6006	257	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
86)	10950.0000-11200.0000	H,V	81K0G7W	Rx			ESV-6006	257	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION

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87)	14000.0000-14500.0000	H,V	194KG7W	Tx	42.40	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
88)	14000.0000-14500.0000	H,V	1M16G7W	Tx	49.80	25.20	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
89)	14000.0000-14500.0000	H,V	1M36G7W	Tx	49.80	24.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
90)	14000.0000-14500.0000	H,V	1M55G7W	Tx	49.80	23.90	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
91)	14000.0000-14500.0000	H,V	291KG7W	Tx	44.10	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
92)	14000.0000-14500.0000	H,V	388KG7W	Tx	45.40	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
93)	14000.0000-14500.0000	H,V	44K8G1W	Tx	36.00	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
94)	14000.0000-14500.0000	H,V	485KG7W	Tx	46.30	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
95)	14000.0000-14500.0000	H,V	582KG7W	Tx	47.10	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
96)	14000.0000-14500.0000	H,V	64K0G7W	Tx	37.50	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
97)	14000.0000-14500.0000	H,V	679KG7W	Tx	47.80	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
98)	14000.0000-14500.0000	H,V	717KG1W	Tx	48.00	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
99)	14000.0000-14500.0000	H,V	776KG7W	Tx	48.40	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
100)	14000.0000-14500.0000	H,V	89K6G1W	Tx	39.00	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
101)	14000.0000-14500.0000	H,V	970KG7W	Tx	49.30	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
102)	14000.0000-14500.0000	H,V	97K0G7W	Tx	39.30	25.50	ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
103)	11450.0000-12200.0000	H,V	151KG7W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
104)	11450.0000-12200.0000	H,V	2M60G7W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION

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105)	11450.0000-12200.0000	H,V	44K8G1W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
106)	11450.0000-12200.0000	H,V	54M0G7W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
107)	11450.0000-12200.0000	H,V	717KG1W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
108)	11450.0000-12200.0000	H,V	89K6G1W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
109)	10950.0000-11200.0000	H,V	151KG7W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
110)	10950.0000-11200.0000	H,V	2M60G7W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
111)	10950.0000-11200.0000	H,V	44K8G1W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
112)	10950.0000-11200.0000	H,V	54M0G7W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
113)	10950.0000-11200.0000	H,V	717KG1W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
114)	10950.0000-11200.0000	H,V	89K6G1W	Rx			ESV-V110		DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
115)	14000.0000-14500.0000	H,V	50K0F3X	Tx	57.30	46.30	Hub		DIGITAL SERVICES
116)	14000.0000-14500.0000	H,V	50K0G3D	Tx	51.30	40.30	Hub		DIGITAL SERVICES
117)	11700.0000-12200.0000	H,V	50K0F3X	Rx			Hub		DIGITAL SERVICES
118)	11700.0000-12200.0000	H,V	50K0G3D	Rx			Hub		DIGITAL SERVICES

C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.) East Limit	Satellite Arc (Deg. Long.) West Limit	Elevation (Degrees) East Limit	Elevation (Degrees) West Limit	Azimuth (Degrees) East Limit	Azimuth (Degrees) West Limit	Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
1)	11450.0000-12200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-6006
2)	10950.0000-11200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-6006
3)	14000.0000-14500.0000	60.0W-143.0W		16.8-42.6		108.7-218.1		11.5	Hub

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C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.) East Limit	Satellite Arc (Deg. Long.) West Limit	Elevation (Degrees) East Limit	Elevation (Degrees) West Limit	Azimuth (Degrees) East Limit	Azimuth (Degrees) West Limit	Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
4)	11700.0000-12200.0000	60.0W-143.0W		16.8-42.6		108.7-218.1			Hub
5)	14000.0000-14500.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-4003A
6)	11450.0000-12200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-4003A
7)	10950.0000-11200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-4003A
8)	14000.0000-14500.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-4006
9)	11450.0000-12200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-4006
10)	10950.0000-11200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-4006
11)	14000.0000-14500.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-4996T
12)	11450.0000-12200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-4996T
13)	10950.0000-11200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-4996T
14)	14000.0000-14500.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-V110
15)	11450.0000-12200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-V110
16)	10950.0000-11200.0000	60.0W-143.0W		20.0-42.0		164.0-260.0			ESV-V110

D) Points of Communications

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

1) REMOTE-4 ESV to EUTELSAT 117 WA (S2873) @ 116.8 W.L. (France licensed)
2) REMOTE-4 ESV to Permitted Space Station List
3) Hub (4.5m) to EUTELSAT 117 WA (S2873) @ 116.8 W.L. (France licensed)
4) Hub (4.5m) to Permitted Space Station List
5) REMOTE-1 ESV to EUTELSAT 117 WA (S2873) @ 116.8 W.L. (France licensed)
6) REMOTE-1 ESV to Permitted Space Station List
7) REMOTE-2 ESV to EUTELSAT 117 WA (S2873) @ 116.8 W.L. (France licensed)
8) REMOTE-2 ESV to Permitted Space Station List
9) REMOTE-3 ESV to EUTELSAT 117 WA (S2873) @ 116.8 W.L. (France licensed)
10) REMOTE-3 ESV to Permitted Space Station List
11) REMOTE-5 ESV to Permitted Space Station List

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E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
REMOTE-1 ESV	ESV-4003A	250	1	SEATEL	4003A			
Max Gains(s):	40.1 dBi @	11.9500 GHz	41.8 dBi @	14.2500 GHz				
Maximum total input power at antenna flange (Watts) =	2.50							
Maximum aggregate output EIRP for all carriers (dBW) =	45.80							
REMOTE-2 ESV	ESV-4006	250	1	SEATEL	4006			
Max Gains(s):	40.1 dBi @	11.9500 GHz	41.8 dBi @	14.2500 GHz				
Maximum total input power at antenna flange (Watts) =	3.60							
Maximum aggregate output EIRP for all carriers (dBW) =	47.40							
REMOTE-3 ESV	ESV-4996T	50	1.2	SEATEL	4996T			
Max Gains(s):	41.6 dBi @	11.9500 GHz	42.5 dBi @	14.2500 GHz				
Maximum total input power at antenna flange (Watts) =	7.10							
Maximum aggregate output EIRP for all carriers (dBW) =	51.10							
REMOTE-4 ESV	ESV-6006	350	1.5	SEATEL	6006			
Max Gains(s):	42.5 dBi @	12.0000 GHz	43.5 dBi @	14.2000 GHz				
Maximum total input power at antenna flange (Watts) =	7.13							
Maximum aggregate output EIRP for all carriers (dBW) =	52.00							
REMOTE-5 ESV	ESV-V110	500	1.05	INTELLIAN	V110			
Max Gains(s):	39.6 dBi @	12.2000 GHz	41.7 dBi @	14.2500 GHz				
Maximum total input power at antenna flange (Watts) =	6.97							
Maximum aggregate output EIRP for all carriers (dBW) =	49.83							
Hub (4.5m)	Hub	1	4.5	ANDREW	ESA-45	228.6	4.9 AGL/ 233.5 AMSL	
Max Gains(s):	53.1 dBi @	12.0000 GHz	54.3 dBi @	14.0000 GHz				
Maximum total input power at antenna flange (Watts) =	32.00							
Maximum aggregate output EIRP for all carriers (dBW) =	63.00							

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F) Remote Control Point:

REMOTE-1 ESV
7676 PINE GROVE ROAD
SANTA PAULA, VENTURA, CA 93060
805-933-4000
Call Sign:

REMOTE-2 ESV
7676 PINE GROVE ROAD
SANTA PAULA, VENTURA, CA 93060
805-933-4000
Call Sign:

REMOTE-3 ESV
7676 PINE GROVE ROAD
SANTA PAULA, VENTURA, CA 93060
805-933-4000
Call Sign:

REMOTE-4 ESV
7676 PINE GROVE ROAD
SANTA PAULA, VENTURA, CA 93060
805-933-4000
Call Sign:

REMOTE-5 ESV
7676 PINE GROVE ROAD
SANTA PAULA, VENTURA, CA 93060
805-933-4030
Call Sign: E930320

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.

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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:

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

102 --- 24 Hour Contact: Applicant has provided the name and telephone number of a contact person in the United States, available seven days a week, twenty-four hours a day, for cessation of emissions from suspected source of interference in the event of need to resolve interference issues, on direction from authority with jurisdiction for licensing in the area of operation.

105 --- Subject to Rule Making: This license is subject to the outcome of any future rule making concerning ESV operations. Grant of this authorization shall not prejudice the outcome of any rulemaking.

249 --- This license is granted authority to provide services for both Earth Stations on-board Vessels (ESV) and VSAT Network.

257 --- Licensee is authorized to use the conventional Ku-band frequencies only 14.0-14.5 GHz and 11.7-12.2 GHz to communicate with ALSAT as a point of communication.

90013 --- The licensee shall not operate in the band 14.0-14.2 GHz within 125 km of the NASA TDRSS facilities on Guam (located at latitude 13°36'55" N, longitude 144°51'22" E) or White Sands, New Mexico (located at latitude 32°20'59" N, longitude 106°36'31" W and latitude 32°32'40" N, longitude 106°36'48" W), or any future TDRSS facility NTIA notifies to the FCC, unless and until the licensee enters into an agreement 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.

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.

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

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

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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:

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.

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

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