

EXHIBIT 1 – MARK UP OF E930320 LICENSE SHOWING DELETIONS TO BE MADE FROM LICENSE

In Section A) Site Location(s) – Remove - Site ID 2) SAPA19(6.3M)

In Section B) Particulars of Operations – Remove – Lines 119), 120), 121) & 122)

In Section C) Frequency Coordination – Remove – Lines 3 & 4

In Section D) Point of Communications – Remove - Lines 3, 4 & 5

In Section E) Antenna Facilities – Remove – Site ID SAPA19(6.3M)



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

*Current Authorization : FCC WEB Reproduction
Unofficial Copy*

Name: COMSAT, INC.

Call Sign: E930320
File Number: SES-MOD-20151009-00732

Authorization Type: Modification of License
Common Carrier Grant Date: 04/25/2016 Expiration Date: 08/06/2018

Nature of Service: Earth Stations on-board Vessels

Class of Station: Earth Stations on-board

A) Site Location(s)

# Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
1) REMOTE-4 ESV	350 (1.5 m antennas) CONUS				NA	
Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209						
2) SAPA-9 (6.3M)	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						
3) 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	
4) 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.						
5) 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.						
6) REMOTE-3 ESV	50 (1.2 m antennas) CONUS				NA	
Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209						
7) REMOTE-5 ESV	500 (1.05M. antennas) CONUS				NA	
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 Wednesday, August 06, 2003 (3 AM Eastern Standard Time) and ending Monday, August 06, 2018 (3 AM Eastern Standard Time). The required date of completion of construction and commencement of operation is Tuesday, April 25, 2017 (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 II.

#	Frequency	Polarization	Emission	Tx/Rx Mode	Max EIRP /Carrier	Max EIRP Density	Associated Antenna	Special Provisions (Refer to Section II)	Modulation/ Services
1)	14000.0000 - 14500.0000	H,V	44K8G1W	T	34.40	23.90	ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
2)	14000.0000 - 14500.0000	H,V	538KG1W	T	45.20	23.90	ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
3)	14000.0000 - 14500.0000	H,V	89K6G1W	T	37.40	23.90	ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
4)	14000.0000 - 14500.0000	H,V	227KG7W	T	41.50	23.90	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
5)	14000.0000 - 14500.0000	H,V	340KG7W	T	43.20	23.90	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
6)	14000.0000 - 14500.0000	H,V	378KG7W	T	43.60	23.90	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
7)	14000.0000 - 14500.0000	H,V	454KG7W	T	44.50	23.90	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
8)	14000.0000 - 14500.0000	H,V	908KG7W	T	45.80	22.20	ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
9)	14000.0000 - 14500.0000	H,V	1M40G7W	T	45.80	20.30	ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
10)	14000.0000 - 14500.0000	H,V	316KG7W	T	42.80	23.90	ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
11)	14000.0000 - 14500.0000	H,V	607KG7W	T	45.70	23.90	ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
12)	11450.0000 - 12200.0000	H,V	89K6G1W	R			ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
13)	11450.0000 - 12200.0000	H,V	44K8G1W	R			ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
14)	11450.0000 - 12200.0000	H,V	717KG1W	R			ESV-4003A		SCPC USING QPSK AND BPSK MODULATION
15)	11450.0000 - 12200.0000	H,V	151KG7W	R			ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
16)	11450.0000 - 12200.0000	H,V	54M0G7W	R			ESV-4003A		TDM/TDMA USING QPSK AND BPSK MODULATION
17)	11450.0000 - 12200.0000	H,V	2M60G7W	R			ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION
18)	11450.0000 - 12200.0000	H,V	54M0G7W	R			ESV-4003A		DVB/MFTDMA USING QPSK AND BPSK MODULATION



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19) 10950.0000 - 11200.0000	H,V	44K8G1W	R		ESV-4003A	SCPC USING QPSK AND BPSK MODULATION	
20) 10950.0000 - 11200.0000	H,V	717KG1W	R		ESV-4003A	SCPC USING QPSK AND BPSK MODULATION	
21) 10950.0000 - 11200.0000	H,V	89K6G1W	R		ESV-4003A	SCPC USING QPSK AND BPSK MODULATION	
22) 10950.0000 - 11200.0000	H,V	54M0G7W	R		ESV-4003A	TDM/TDMA USING QPSK AND BPSK MODULATION	
23) 10950.0000 - 11200.0000	H,V	151KG7W	R		ESV-4003A	TDM/TDMA USING QPSK AND BPSK MODULATION	
24) 10950.0000 - 11200.0000	H,V	2M60G7W	R		ESV-4003A	DVB/MFTDMA USING QPSK AND BPSK MODULATION	
25) 10950.0000 - 11200.0000	H,V	54M0G7W	R		ESV-4003A	DVB/MFTDMA USING QPSK AND BPSK MODULATION	
26) 14000.0000 - 14500.0000	H,V	44K8G1W	T	34.40	23.90	ESV-4006	SCPC USING QPSK AND BPSK MODULATION
27) 14000.0000 - 14500.0000	H,V	717KG1W	T	46.40	23.90	ESV-4006	SCPC USING QPSK AND BPSK MODULATION
28) 14000.0000 - 14500.0000	H,V	89K6G1W	T	37.40	23.90	ESV-4006	SCPC USING QPSK AND BPSK MODULATION
29) 14000.0000 - 14500.0000	H,V	227KG7W	T	41.50	23.90	ESV-4006	TDM/TDMA USING QPSK AND BPSK MODULATION
30) 14000.0000 - 14500.0000	H,V	340KG7W	T	43.20	23.90	ESV-4006	TDM/TDMA USING QPSK AND BPSK MODULATION
31) 14000.0000 - 14500.0000	H,V	378KG7W	T	43.60	23.90	ESV-4006	TDM/TDMA USING QPSK AND BPSK MODULATION
32) 14000.0000 - 14500.0000	H,V	454KG7W	T	44.50	23.90	ESV-4006	TDM/TDMA USING QPSK AND BPSK MODULATION
33) 14000.0000 - 14500.0000	H,V	908KG7W	T	47.40	23.80	ESV-4006	TDM/TDMA USING QPSK AND BPSK MODULATION
34) 14000.0000 - 14500.0000	H,V	1M40G7W	T	47.40	21.90	ESV-4006	DVB/MFTDMA USING QPSK AND BPSK MODULATION
35) 14000.0000 - 14500.0000	H,V	316KG7W	T	43.80	23.90	ESV-4006	DVB/MFTDMA USING QPSK AND BPSK MODULATION
36) 14000.0000 - 14500.0000	H,V	607KG7W	T	45.70	23.90	ESV-4006	DVB/MFTDMA USING QPSK AND BPSK MODULATION
37) 11450.0000 - 12200.0000	H,V	44K8G1W	R			ESV-4006	SCPC USING QPSK AND BPSK MODULATION
38) 11450.0000 - 12200.0000	H,V	717KG1W	R			ESV-4006	SCPC USING QPSK AND BPSK MODULATION
39) 11450.0000 - 12200.0000	H,V	89K6G1W	R			ESV-4006	SCPC USING QPSK AND BPSK MODULATION
40) 11450.0000 - 12200.0000	H,V	151KG7W	R			ESV-4006	TDM/TDMA USING QPSK AND BPSK MODULATION
41) 11450.0000 - 12200.0000	H,V	54M0G7W	R			ESV-4006	TDM/TDMA USING QPSK AND BPSK MODULATION



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42) 11450.0000 - 12200.0000	H,V	2M60G7W	R		ESV-4006	DVB/MFTDMA USING QPSK AND BPSK MODULATION	
43) 11450.0000 - 12200.0000	H,V	54M0G7W	R		ESV-4006	DVB/MFTDMA USING QPSK AND BPSK MODULATION	
44) 10950.0000 - 11200.0000	H,V	44K8G1W	R		ESV-4006	SCPC USING QPSK AND BPSK MODULATION	
45) 10950.0000 - 11200.0000	H,V	717KG1W	R		ESV-4006	SCPC USING QPSK AND BPSK MODULATION	
46) 10950.0000 - 11200.0000	H,V	89K6G1W	R		ESV-4006	SCPC USING QPSK AND BPSK MODULATION	
47) 10950.0000 - 11200.0000	H,V	151KG7W	R		ESV-4006	TDM/TDMA USING QPSK AND BPSK MODULATION	
48) 10950.0000 - 11200.0000	H,V	54M0G7W	R		ESV-4006	TDM/TDMA USING QPSK AND BPSK MODULATION	
49) 10950.0000 - 11200.0000	H,V	2M60G7W	R		ESV-4006	DVB/MFTDMA USING QPSK AND BPSK MODULATION	
50) 10950.0000 - 11200.0000	H,V	54M0G7W	R		ESV-4006	DVB/MFTDMA USING QPSK AND BPSK MODULATION	
51) 14000.0000 - 14500.0000	H,V	1M43G1W	T	51.10	26.60	ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
52) 14000.0000 - 14500.0000	H,V	44K8G1W	T	36.10	25.60	ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
53) 14000.0000 - 14500.0000	H,V	717KG1W	T	48.10	25.60	ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
54) 14000.0000 - 14500.0000	H,V	89K6G1W	T	39.10	25.60	ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
55) 11450.0000 - 12200.0000	H,V	1M43G1W	R			ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
56) 11450.0000 - 12200.0000	H,V	44K8G1W	R			ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
57) 11450.0000 - 12200.0000	H,V	717KG1W	R			ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
58) 11450.0000 - 12200.0000	H,V	89K6G1W	R			ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
59) 10950.0000 - 11200.0000	H,V	1M43G1W	R			ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
60) 10950.0000 - 11200.0000	H,V	44K8G1W	R			ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
61) 10950.0000 - 11200.0000	H,V	717KG1W	R			ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
62) 10950.0000 - 11200.0000	H,V	89K6G1W	R			ESV-4996T	SCPC USING QPSK AND BPSK MODULATION
63) 14000.0000 - 14500.0000	H,V	44K8G1W	T	40.00	29.50	ESV-6006	SCPC USING QPSK AND BPSK MODULATION
64) 14000.0000 - 14500.0000	H,V	717KG1W	T	52.00	29.50	ESV-6006	SCPC USING QPSK AND BPSK MODULATION



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65) 14000.0000 - 14500.0000	H,V	89K6G1W	T	43.00	29.50	ESV-6006	SCPC USING QPSK AND BPSK MODULATION
66) 14000.0000 - 14500.0000	H,V	194KG7W	T	46.40	29.50	ESV-6006	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
67) 14000.0000 - 14500.0000	H,V	291KG7W	T	48.10	29.50	ESV-6006	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
68) 14000.0000 - 14500.0000	H,V	388KG7W	T	49.10	29.50	ESV-6006	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
69) 14000.0000 - 14500.0000	H,V	81K0G7W	T	42.50	29.50	ESV-6006	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
70) 14000.0000 - 14500.0000	H,V	97K0G7W	T	43.40	29.50	ESV-6006	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
71) 14000.0000 - 14500.0000	H,V	1M43G1W	T	52.00	29.50	ESV-6006	SCPC USING QPSK AND BPSK MODULATION
72) 14000.0000 - 14500.0000	H,V	2M35G1W	T	52.00	29.50	ESV-6006	SCPC USING QPSK AND BPSK MODULATION
73) 11450.0000 - 12200.0000	H,V	44K8G1W	R			ESV-6006	SCPC USING QPSK AND BPSK MODULATION
74) 11450.0000 - 12200.0000	H,V	717KG1W	R			ESV-6006	SCPC USING QPSK AND BPSK MODULATION
75) 11450.0000 - 12200.0000	H,V	89K6G1W	R			ESV-6006	SCPC USING QPSK AND BPSK MODULATION
76) 11450.0000 - 12200.0000	H,V	36M0G7W	R			ESV-6006	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
77) 11450.0000 - 12200.0000	H,V	81K0G7W	R			ESV-6006	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
78) 11450.0000 - 12200.0000	H,V	1M43G1W	R			ESV-6006	SCPC USING QPSK ANAD BPSK MODULATION
79) 11450.0000 - 12200.0000	H,V	2M35G1W	R			ESV-6006	SCPC USING QPSK ANAD BPSK MODULATION
80) 10950.0000 - 11200.0000	H,V	44K8G1W	R			ESV-6006	SCPC USING QPSK AND BPSK MODULATION
81) 10950.0000 - 11200.0000	H,V	89K6G1W	R			ESV-6006	SCPC USING QPSK AND BPSK MODULATION
82) 10950.0000 - 11200.0000	H,V	1M43G1W	R			ESV-6006	SCPC USING QPSK AND BPSK MODULATION
83) 10950.0000 - 11200.0000	H,V	2M35G1W	R			ESV-6006	SCPC USING QPSK AND BPSK MODULATION
84) 10950.0000 - 11200.0000	H,V	717KG1W	R			ESV-6006	SCPC USING QPSK AND BPSK MODULATION
85) 10950.0000 - 11200.0000	H,V	36M0G7W	R			ESV-6006	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION



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86) 10950.0000 - 11200.0000	H,V	81K0G7W	R			ESV-6006	SCPC AND TDM/TDMA USING QPSK AND BPSK MODULATION
87) 14000.0000 - 14500.0000	H,V	97K0G7W	T	39.30	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
88) 14000.0000 - 14500.0000	H,V	970KG7W	T	49.30	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
89) 14000.0000 - 14500.0000	H,V	89K6G1W	T	39.00	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
90) 14000.0000 - 14500.0000	H,V	776KG7W	T	48.40	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
91) 14000.0000 - 14500.0000	H,V	717KG1W	T	48.00	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
92) 14000.0000 - 14500.0000	H,V	679KG7W	T	47.80	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
93) 14000.0000 - 14500.0000	H,V	64K0G7W	T	37.50	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
94) 14000.0000 - 14500.0000	H,V	582KG7W	T	47.10	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
95) 14000.0000 - 14500.0000	H,V	485KG7W	T	46.30	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
96) 14000.0000 - 14500.0000	H,V	44K8G1W	T	36.00	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
97) 14000.0000 - 14500.0000	H,V	388KG7W	T	45.40	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
98) 14000.0000 - 14500.0000	H,V	291KG7W	T	44.10	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
99) 14000.0000 - 14500.0000	H,V	1M55G7W	T	49.80	23.90	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
100) 14000.0000 - 14500.0000	H,V	1M36G7W	T	49.80	24.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
101) 14000.0000 - 14500.0000	H,V	1M16G7W	T	49.80	25.20	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
102) 14000.0000 - 14500.0000	H,V	194KG7W	T	42.40	25.50	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION
103) 11450.0000 - 12200.0000	H,V	89K6G1W	R			ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION



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104) 11450.0000 - 12200.0000	H,V	717KG1W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
105) 11450.0000 - 12200.0000	H,V	54M0G7W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
106) 11450.0000 - 12200.0000	H,V	44K8G1W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
107) 11450.0000 - 12200.0000	H,V	2M60G7W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
108) 11450.0000 - 12200.0000	H,V	151KG7W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
109) 10950.0000 - 11200.0000	H,V	89K6G1W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
110) 10950.0000 - 11200.0000	H,V	717KG1W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
111) 10950.0000 - 11200.0000	H,V	54M0G7W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
112) 10950.0000 - 11200.0000	H,V	44K8G1W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
113) 10950.0000 - 11200.0000	H,V	2M60G7W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
114) 10950.0000 - 11200.0000	H,V	151KG7W	R	ESV-V110	DIGITAL TRAFFIC USING QPSK AND BPSK MODULATION	
115) 14000.0000 - 14500.0000	H,V	50K0G3D	T	51.30 40.30	Hub	DIGITAL SERVICES
116) 14000.0000 - 14500.0000	H,V	50K0F3X	T	57.30 46.30	Hub	DIGITAL SERVICES
117) 11700.0000 - 12200.0000	H,V	50K0G3D	R		Hub	DIGITAL SERVICES
118) 11700.0000 - 12200.0000	H,V	50K0F3X	R		Hub	DIGITAL SERVICES
119) 5925.0000 - 6425.0000	L,R	108KG7W	T	54.30 49.30	SAPA19	DIGITAL DATA
120) 5925.0000 - 6425.0000	L,R	203KG7W	T	64.40 54.10	SAPA19	DIGITAL DATA
121) 3700.0000 - 4200.0000	L,R	108KG7W	R		SAPA19	DIGITAL DATA
122) 3700.0000 - 4200.0000	L,R	203KG7W	R		SAPA19	DIGITAL DATA

C) Frequency Coordination

#	Frequency Limits(MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East	West	East	West	East	West		
1)	11450.0000 - 12200.0000	60.0W	143.0W	20.0	42.0	164.0	260.0	ESV-6006	



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

*Current Authorization : FCC WEB Reproduction
Unofficial Copy*

Name: COMSAT, INC.

Call Sign: E930320
File Number: SES-MOD-20151009-00732

Authorization Type:	Modification of License				
Common Carrier	Grant Date:	04/25/2016	Expiration Date:	08/06/2018	
2)	10950.0000 - 11200.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-6006
3)	3700.0000 - 4100.0000	176.0W-192.0W	18.5 - 5.4	249.8 - 260.2	SAPA19
4)	5925.0000 - 6125.0000	176.0W-192.0W	18.5 - 5.4	249.8 - 260.2	SAPA19
5)	14000.0000 - 14500.0000	60.0W-143.0W	16.8 - 42.6	108.7 - 218.1	Hub
6)	11700.0000 - 12200.0000	60.0W-143.0W	16.8 - 42.6	108.7 - 218.1	Hub
7)	14000.0000 - 14500.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-4003A
8)	11450.0000 - 12200.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-4003A
9)	10950.0000 - 11200.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-4003A
10)	14000.0000 - 14500.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-4006
11)	11450.0000 - 12200.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-4006
12)	10950.0000 - 11200.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-4006
13)	14000.0000 - 14500.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-4996T
14)	11450.0000 - 12200.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-4996T
15)	10950.0000 - 11200.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-4996T
16)	14000.0000 - 14500.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-V110
17)	11450.0000 - 12200.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-V110
18)	10950.0000 - 11200.0000	60.0W-143.0W	20.0 - 42.0	164.0 - 260.0	ESV-V110

D) Point of Communications

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

- 1) REMOTE-4 ESV to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 2) REMOTE-4 ESV to Permitted Space Station List
- 3) SAPA19 (6.3M) to Permitted Space Station List
- 4) SAPA19 (6.3M) to NSS- 9 (S2756) @ 177 W.L. (Netherlands-licensed)
- 5) SAPA19 (6.3M) to INTELSAT 18 (S2817) @ 180 degrees E.L. (U.S.-licensed)
- 6) Hub (4.5m) to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 7) Hub (4.5m) to Permitted Space Station List
- 8) REMOTE-1 ESV to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 9) REMOTE-1 ESV to Permitted Space Station List
- 10) REMOTE-2 ESV to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 11) REMOTE-2 ESV to Permitted Space Station List



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12) REMOTE-3 ESV to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)

13) REMOTE-3 ESV to Permitted Space Station List

14) REMOTE-5 ESV to Permitted Space Station List

E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (Meters)	Manufacturer	Model Number	Site Elevation	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
REMOTE-1 ESV	ESV-4003A	250	1.0	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) = 2.5								
Maximum aggregate output EIRP for all carriers (dBW)45.8								
REMOTE-2 ESV	ESV-4006	250	1.0	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) = 3.6								
Maximum aggregate output EIRP for all carriers (dBW)47.4								
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) = 7.1								
Maximum aggregate output EIRP for all carriers (dBW)51.1								
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)52.0								
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) = 32.0								
Maximum aggregate output EIRP for all carriers (dBW)63.0								
SAPA19V (M)	SAPA19	1	6.1	VERY	RST	228.6	7.0 AGL/ 235.6 AMSL	
Max Gains(s):46.5 dBi @ 3.5250 GHz 50.7 dBi @ 6.1750 GHz								
Maximum total input power at antenna flange (Watts) = 25.0								
Maximum aggregate output EIRP for all carriers (dBW)74.7								



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F) Remote Control

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

- 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.
- 167 This authorization is limited to the total number of terminals listed in Section A of this license for this Site ID.
- 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.
- 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.
- 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.



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H) Special and General Provisions

- 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.
- 2938 Upon completion of construction, each licensee must file with the Commission a certification including the following information: (1) name of the licensee, (2) file number of the application, (3) call sign of the antenna, (4) date of the license, (5) certification that the facility as authorized has been completed, (6) certification that each antenna facility has been tested and is within 2 dB of the pattern specified in Section 25.209, and (7) certification that the station is operational (including the date of commencement of service) and will remain operational during the license period unless the license is submitted for cancellation.
- 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).
- 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.
- 5215 All operations shall be on a common carrier basis.
- 9659 The licensee is afforded 30 days from the date of issuance of this license to decline it as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.
- 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.



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II) Special and General Provisions

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 regulates 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.