



UNITED STATES OF AMERICA

FEDERAL COMMUNICATIONS COMMISSION

EARTH STATION AUTHORIZATION

Name: Panasonic Avionics Corporation

Authorization Type: MFS Modification

Call Sign: E100089

File Number: SES-MFS-20241113-02366

Expiration Date: 08-31-2026

Nature of Service: Fixed-Satellite Service

Class of Station: BES

A) Site Location(s):

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
1	SPA Remotes	National and International Airspace ,, Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				N/A	
2	TECOM Remotes	US&P, International waters ,, Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				N/A	
3	MELCO Remotes	US&P, International waters ,, Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				N/A	
4	PPA Remotes	National and International Airspace ,, Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				N/A	



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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 Wednesday, August 31, 2011 (3 AM Eastern Standard Time) and ending Monday, August 31, 2026 (3 AM Eastern Standard Time). The required date of completion of construction and commencement of operation is [Grant Date / Construction Commencement Date not found]. Grantee must file with the Commission a certification upon completion of construction and commencement of operation.

B) Particulars of Operation

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)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
1	11450 - 11700		1M20G7D	Space-to-Earth			1,000		QPSK, 8PSK, 16APSK
2	10700 - 12200		1M05G7D	Space-to-Earth			1,000		QPSK, 8PSK, 16APSK
3	11450 - 12450		1M05G7D	Space-to-Earth			1,000		QPSK, 16APSK
4	10950 - 11200		1M20G7D	Space-to-Earth			1,000		QPSK, 8PSK, 16APSK
5	10950 - 12750		1M05G7D	Space-to-Earth			1,000		QPSK
6	10950 - 11700		72M0G7D	Space-to-Earth			1,000		QPSK, 16APSK
7	11450 - 12200		1M05G7D	Space-to-Earth			1,000		QPSK, 16APSK
8	14000 -		8M00G7D	Earth-	45	11.99	1,000		QPSK, SES-4

	14500		to-Space				& SES-10 ops. outside U.S.
9	10950 - 12500	1M20G7D	Space-to-Earth			1,000	QPSK, 8PSK, 16APSK
10	10700 - 11450	1M05G7D	Space-to-Earth			1,000	QPSK, 16APSK
11	11450 - 12750	1M20G7D	Space-to-Earth			1,000	QPSK, 8PSK, 16APSK
12	12200 - 12750	1M20G7D	Space-to-Earth			1,000	QPSK, 8PSK, 16APSK
13	10950 - 12200	125MG7D	Space-to-Earth			1,000	QPSK, 16APSK
14	11700 - 12200	1M20G7D	Space-to-Earth			1,000	QPSK, 8PSK, 16APSK
15	12500 - 12600	1M20G7D	Space-to-Earth			1,000	QPSK, 8PSK, 16APSK
16	12250 - 12750	54M0G7D	Space-to-Earth			1,000	QPSK, 8PSK, 16APSK
17	11450 - 11950	1M05G7D	Space-to-Earth			1,000	QPSK, 16APSK
18	10700 - 12750	1M05G7D	Space-to-Earth			1,000	QPSK, 16APSK
19	11200 - 11450	139MG7D	Space-to-Earth			1,000	QPSK, 16APSK
20	12500 - 12750	72M0G7D	Space-to-Earth			1,000	QPSK, 16APSK
21	11200 - 11450	139MG7D	Space-to-Earth			1,000	QPSK, 16APSK
22	12200 - 12750	139MG7D	Space-to-Earth			1,000	QPSK, 16APSK
23	14000 - 14500	32K0G7D	Earth-to-Space	23.831	14.8	1,000	QPSK
24	10700 - 12200	139MG7D	Space-to-Earth			1,000	QPSK, 16APSK
25	11450 - 11700	139MG7D	Space-to-Earth			1,000	QPSK, 16APSK
26	10950 - 12200	54M0G7D	Space-to-			1,000	QPSK, 8PSK, 16APSK

			Earth					
27	10950 - 11200	1M20G7D	Space- to- Earth			1,000		QPSK, 8PSK, 16APSK
28	11450 - 12200	1M20G7D	Space- to- Earth			1,000		QPSK, 8PSK, 16APSK
29	10950 - 11700	1M20G7D	Space- to- Earth			1,000		QPSK, 8PSK, 16APSK
30	11700 - 12200	54M0G7D	Space- to- Earth			1,000		QPSK, 16APSK
31	11450 - 12200	27M0G7D	Space- to- Earth			50		BPSK, QPSK DIGITAL DATA
32	14000 - 14400	9M00G7D	Earth- to- Space	42.15	8.63	50		BPSK, QPSK DIGITAL DATA
33	11700 - 12200	54M0G7D	Space- to- Earth			50		BPSK, QPSK DIGITAL DATA
34	10950 - 11200	27M0G7D	Space- to- Earth			50		BPSK, QPSK DIGITAL DATA
35	11450 - 12750	1M20G7D	Space- to- Earth			2,000		PSK
36	12250 - 12750	72M0G7D	Space- to- Earth			2,000		QPSK, 16APSK
37	10950 - 12750	54M0G7D	Space- to- Earth			2,000		QPSK
38	10950 - 12200	54M0G7D	Space- to- Earth			2,000		PSK
39	12500 - 12750	1M20G7D	Space- to- Earth			2,000		PSK
40	11200 - 11450	54M0G7D	Space- to- Earth			2,000		QPSK, 16APSK
41	14000 - 14500	32K0G7D	Earth- to- Space	32.031	23	2,000		QPSK,SES- 4,(S2828) operations outside U.
42	11700 - 12200	54M0G7D	Space- to- Earth			2,000		PSK
43	11450 - 12450	1M05G7D	Space- to- Earth			2,000		QPSK, 16APSK
44	10950 - 12500	54M0G7D	Space- to-			2,000		PSK

			Earth		
45	10950 - 11200	97M2G7D	Space- to- Earth	2,000	QPSK, 16APSK
46	11450 - 11700	139MG7D	Space- to- Earth	2,000	QPSK, 16APSK
47	10700 - 12200	139MG7D	Space- to- Earth	2,000	QPSK, 16APSK
48	12200 - 12750	54M0G7D	Space- to- Earth	2,000	QPSK, 16APSK
49	10700 - 11450	1M05G7D	Space- to- Earth	2,000	QPSK, 16APSK
50	10700 - 12750	1M20G7D	Space- to- Earth	2,000	PSK
51	10950 - 11700	72M0G7D	Space- to- Earth	2,000	QPSK, 16APSK
52	11450 - 12200	1M20G7D	Space- to- Earth	2,000	PSK
53	12500 - 12600	1M20G7D	Space- to- Earth	2,000	PSK



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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	11450 - 11700	154	154	5	5	0	360		1,000
2	11450 - 11700	122	122	5	5	0	360		1,000
3	11450 - 11700	53	53	5	5	0	360		1,000
4	11450 - 11700	172	172	5	5	0	360		1,000
5	11450 - 11700	172	172	5	5	0	360		1,000
6	10700 - 12200	129.15	129.15	5	5	0	360		1,000
7	10700 - 12200	61	61	5	5	339.7	142.3		1,000
8	11450 - 12450	47.5	47.5	5	5	0	360		1,000
9	10950 - 11200	53	53	5	5	0	360		1,000
10	10950 - 11200	122	122	5	5	0	360		1,000
11	10950 - 11200	47.5	47.5	5	5	0	360		1,000
12	10950 - 11200	172	172	5	5	0	360		1,000
13	10950 - 11200	60	60	5	5	0	360		1,000
14	10950 - 11200	140	140	5	5	0	360		1,000
15	10950 - 11200	8	177	5	5	0	360		1,000
16	10950 - 11200	90	90	5	5	0	360		1,000
17	10950 - 12750	57	57	5	5	0	360		1,000
18	10950 - 11700	70.5	70.5	5	5	0	360		1,000
19	10950 - 11700	177	177	5	5	0	360		1,000
20	11450 - 12200	100.5	100.5	5	5	0	360		1,000
21	11450 - 12200	37.5	37.5	5	5	0	360		1,000
22	11450 - 12200	63	63	5	5	0	360		1,000
23	11450 - 12200	60	60	5	5	0	360		1,000
24	11450 - 12200	22	22	5	5	0	360		1,000
25	11450 - 12200	8	177	5	5	0	360		1,000
26	11450 - 12200	58	58	5	5	0	360		1,000
27	11450 - 12200	37.5	37.5	5	5	0	360		1,000
28	14000 - 14500	114.9	114.9	5	5	0	360	-2.71	1,000
29	14000 - 14500	50	50	5	5	0	360	0.29	1,000
30	14000 - 14500	58	58	5	5	0	360	2.5	1,000
31	14000 - 14500	57	57	5	5	0	360	0.32	1,000
32	14000 - 14500	108.3	108.3	5	5	0	360	0	1,000

33	14000 - 14500	134	134	5	5	0	360	-3.59	1,000
34	14000 - 14500	76.5	76.5	5	5	0	360	1.83	1,000
35	14000 - 14500	37.5	37.5	5	5	0	360	-1.39	1,000
36	14000 - 14500	95	95	5	5	0	360	-7.33	1,000
37	14000 - 14500	63	63	5	5	0	360	1.29	1,000
38	14000 - 14500	99	99	5	5	0	360	-5.85	1,000
39	14000 - 14500	116.8	116.8	5	5	0	360	-9.16	1,000
40	14000 - 14500	60	60	5	5	0	360	0.29	1,000
41	14000 - 14500	129.15	129.15	5	5	0	360	-7.95	1,000
42	14000 - 14500	57	57	5	5	0	360	-12.9	1,000
43	14000 - 14500	67	67	5	5	0	360	0	1,000
44	14000 - 14500	144	144	5	5	0	360	2.12	1,000
45	14000 - 14500	85	85	5	5	0	360	2.98	1,000
46	14000 - 14500	10	10	5	5	0	360	-1.65	1,000
47	14000 - 14500	172	172	5	5	0	360	3.29	1,000
48	14000 - 14500	107.3	107.3	5	5	0	360	6.46	1,000
49	14000 - 14500	169	169	5	5	0	360	3.1	1,000
50	14000 - 14500	8	177	5	5	0	360	-1.99	1,000
51	14000 - 14500	100.5	100.5	5	5	0	360	-7.76	1,000
52	14000 - 14500	74	74	5	5	0	360	3.32	1,000
53	14000 - 14500	15	15	5	5	0	360	-1.99	1,000
54	14000 - 14500	134	134	5	5	0	360	-11.6327	1,000
55	14000 - 14500	63	63	5	5	0	360	-5.34	1,000
56	14000 - 14500	140	140	5	5	0	360	0.29	1,000
57	14000 - 14500	22	22	5	5	0	360	0	1,000
58	14000 - 14500	10	10	5	5	268.7	71.3	-6.63	1,000
59	14000 - 14500	61	61	5	5	339.7	142.3	-6.63	1,000
60	14000 - 14500	70.5	70.5	5	5	0	360	0.71	1,000
61	14000 - 14500	177	177	5	5	0	360	-0.28	1,000
62	14000 - 14500	90	90	5	5	0	360	2.29	1,000
63	14000 - 14500	154	154	5	5	0	360	-12.48	1,000
64	14000 - 14500	105.5	105.5	5	5	0	360	-0.28	1,000
65	14000 - 14500	63	63	5	5	0	360	-1.68	1,000
66	14000 - 14500	45	45	5	5	0	360	2.73	1,000
67	14000 - 14500	53	53	5	5	0	360	0.29	1,000
68	10700 - 11450	95	95	5	5	0	360		1,000
69	11450 - 12750	90	90	5	5	0	360		1,000
70	11450 - 12750	95	95	5	5	0	360		1,000
71	12200 - 12750	172	172	5	5	0	360		1,000
72	12200 - 12750	144	144	5	5	0	360		1,000
73	10950 - 12200	15	15	5	5	0	360		1,000
74	10950 - 12200	50	50	5	5	0	360		1,000
75	11700 - 12200	10	10	5	5	0	360		1,000
76	11700 - 12200	114.9	114.9	5	5	0	360		1,000
77	11700 - 12200	116.8	116.8	5	5	0	360		1,000
78	11700 - 12200	63	63	5	5	0	360		1,000
79	11700 - 12200	63	63	5	5	0	360		1,000
80	11700 - 12200	99	99	5	5	0	360		1,000
81	11700 - 12200	107.3	107.3	5	5	0	360		1,000

82	12500 - 12600	60	60	5	5	0	360		1,000
83	12250 - 12750	134	134	5	5	0	360		1,000
84	12250 - 12750	122	122	5	5	0	360		1,000
85	12250 - 12750	85	85	5	5	0	360		1,000
86	12250 - 12750	105.5	105.5	5	5	0	360		1,000
87	12250 - 12750	110.5	110.5	5	5	0	360		1,000
88	12250 - 12750	108.3	108.3	5	5	0	360		1,000
89	11450 - 11950	45	45	5	5	0	360		1,000
90	10700 - 12750	76.5	76.5	5	5	0	360		1,000
91	10700 - 12750	169	169	5	5	0	360		1,000
92	10700 - 12750	134	134	5	5	0	360		1,000
93	10700 - 12750	74	74	5	5	0	360		1,000
94	10700 - 12750	134	134	5	5	0	360		1,000
95	10700 - 12750	63	63	5	5	0	360		1,000
96	11200 - 11450	172	172	5	5	0	360		1,000
97	12500 - 12750	10	10	5	5	268.7	71.3		1,000
98	12500 - 12750	53	53	5	5	0	360		1,000
99	12500 - 12750	70.5	70.5	5	5	0	360		1,000
100	12500 - 12750	95	95	5	5	0	360		1,000
101	12500 - 12750	140	140	5	5	0	360		1,000
102	11200 - 11450	172	172	5	5	0	360		1,000
103	12200 - 12750	172	172	5	5	0	360		1,000
104	14000 - 14500	58	58	5	5	0	360	-3.17	1,000
105	14000 - 14500	99	99	5	5	0	360	-12.28	1,000
106	14000 - 14500	8	177	5	5	0	360	-10.07	1,000
107	14000 - 14500	114.9	114.9	5	5	0	360	-6.7	1,000
108	14000 - 14500	107.3	107.3	5	5	0	360	4.43	1,000
109	14000 - 14500	37.5	37.5	5	5	0	360	-7.66	1,000
110	14000 - 14500	63	63	5	5	0	360	-2.7	1,000
111	14000 - 14500	129.15	129.15	5	5	0	360	-14.56	1,000
112	14000 - 14500	172	172	5	5	0	360	-0.7	1,000
113	14000 - 14500	177	177	5	5	0	360	-5.82	1,000
114	14000 - 14500	50	50	5	5	0	360	-3.7	1,000
115	10700 - 12200	129.15	129.15	5	5	0	360		1,000
116	11450 - 11700	172	172	5	5	0	360		1,000
117	10950 - 12200	50	50	5	5	0	360		1,000
118	10950 - 11200	8	177	5	5	0	360		1,000
119	10950 - 11200	172	172	5	5	0	360		1,000
120	11450 - 12200	63	63	5	5	0	360		1,000
121	11450 - 12200	8	177	5	5	0	360		1,000
122	11450 - 12200	37.5	37.5	5	5	0	360		1,000
123	11450 - 12200	58	58	5	5	0	360		1,000
124	10950 - 11700	177	177	5	5	0	360		1,000
125	11700 - 12200	99	99	5	5	0	360		1,000
126	11700 - 12200	37.5	37.5	5	5	0	360		1,000
127	11700 - 12200	107.3	107.3	5	5	0	360		1,000
128	11700 - 12200	114.9	114.9	5	5	0	360		1,000
129	11700 - 12200	50	50	5	5	0	360		1,000
130	11700 - 12200	99	99	5	5	0	360		1,000

131	11450 - 12200	47.5	47.5	5	5	325.7	128.3		50
132	11450 - 12200	63	63	5	5	0	360		50
133	14000 - 14400	37.5	37.5	5	5	0	360	-8.62	50
134	14000 - 14400	63	63	5	5	0	360	-5.8	50
135	11700 - 12200	116.8	116.8	5	5	35.7	198.3		50
136	11700 - 12200	63	63	5	5	0	360		50
137	10950 - 11200	37.5	37.5	5	5	0	360		50
138	10950 - 11200	47.5	47.5	5	5	325.7	128.3		50
139	11450 - 12750	90	90	5	5	0	360		2,000
140	12250 - 12750	105.5	105.5	5	5	0	360		2,000
141	12250 - 12750	108.3	108.3	5	5	0	360		2,000
142	12250 - 12750	134	134	5	5	0	360		2,000
143	12250 - 12750	122	122	5	5	0	360		2,000
144	12250 - 12750	45	45	5	5	0	360		2,000
145	10950 - 12200	15	15	5	5	0	360		2,000
146	10950 - 12200	50	50	5	5	0	360		2,000
147	12500 - 12750	10	10	5	5	0	360		2,000
148	12500 - 12750	10	10	5	5	268.7	71.3		2,000
149	12500 - 12750	70.5	70.5	5	5	0	360		2,000
150	12500 - 12750	85	85	5	5	0	360		2,000
151	12500 - 12750	53	53	5	5	0	360		2,000
152	12500 - 12750	95	95	5	5	0	360		2,000
153	12500 - 12750	140	140	5	5	0	360		2,000
154	11200 - 11450	172	172	5	5	0	360		2,000
155	14000 - 14500	105.5	105.5	5	5	0	360	1.37	2,000
156	14000 - 14500	63	63	5	5	0	360	5.97	2,000
157	14000 - 14500	134	134	5	5	0	360	3.89	2,000
158	14000 - 14500	177	177	5	5	0	360	2.41	2,000
159	14000 - 14500	8	177	5	5	0	360	0.44	2,000
160	14000 - 14500	37.5	37.5	5	5	0	360	3.23	2,000
161	14000 - 14500	129.15	129.15	5	5	0	360	-5.39	2,000
162	14000 - 14500	57	57	5	5	0	360	4.971	2,000
163	14000 - 14500	58	58	5	5	0	360	7.38	2,000
164	14000 - 14500	60	60	5	5	0	360	0	2,000
165	14000 - 14500	22	22	5	5	0	360	0	2,000
166	14000 - 14500	63	63	5	5	0	360	2.971	2,000
167	14000 - 14500	95	95	5	5	0	360	-3.4	2,000
168	14000 - 14500	45	45	5	5	0	360	7.44	2,000
169	14000 - 14500	107.3	107.3	5	5	0	360	13.31	2,000
170	14000 - 14500	70.5	70.5	5	5	0	360	3.9	2,000
171	14000 - 14500	144	144	5	5	0	360	6.42	2,000
172	14000 - 14500	10	10	5	5	0	360	0.43	2,000
173	14000 - 14500	140	140	5	5	0	360	4.19	2,000
174	14000 - 14500	57	57	5	5	0	360	-7.048	2,000
175	14000 - 14500	108.3	108.3	5	5	0	360	0	2,000
176	14000 - 14500	10	10	5	5	268.7	71.3	-1.04	2,000
177	14000 - 14500	61	61	5	5	339.7	142.3	-0.97	2,000
178	14000 - 14500	15	15	5	5	0	360	2.59	2,000
179	14000 - 14500	99	99	5	5	0	360	-5.59	2,000

180	14000 - 14500	50	50	5	5	0	360	5	2,000
181	14000 - 14500	114.9	114.9	5	5	0	360	1.08	2,000
182	14000 - 14500	76.5	76.5	5	5	0	360	6.26	2,000
183	14000 - 14500	154	154	5	5	0	360	-8.33	2,000
184	14000 - 14500	169	169	5	5	0	360	8.012	2,000
185	14000 - 14500	172	172	5	5	0	360	7.97	2,000
186	14000 - 14500	90	90	5	5	0	360	6.89	2,000
187	14000 - 14500	100.5	100.5	5	5	0	360	-3.39	2,000
188	14000 - 14500	60	60	5	5	0	360	4.89	2,000
189	14000 - 14500	116.8	116.8	5	5	0	360	-6.38	2,000
190	14000 - 14500	85	85	5	5	0	360	7.34	2,000
191	14000 - 14500	74	74	5	5	0	360	7.67	2,000
192	14000 - 14500	53	53	5	5	0	360	1.02	2,000
193	14000 - 14500	67	67	5	5	0	360	0	2,000
194	11700 - 12200	107.3	107.3	5	5	0	360		2,000
195	11700 - 12200	114.9	114.9	5	5	0	360		2,000
196	11700 - 12200	116.8	116.8	5	5	0	360		2,000
197	11700 - 12200	99	99	5	5	0	360		2,000
198	11450 - 12450	47.5	47.5	5	5	0	360		2,000
199	10950 - 11200	172	172	5	5	0	360		2,000
200	10950 - 11200	53	53	5	5	0	360		2,000
201	10950 - 11200	47.5	47.5	5	5	0	360		2,000
202	10950 - 11200	8	177	5	5	0	360		2,000
203	10950 - 11200	60	60	5	5	0	360		2,000
204	10950 - 11200	90	90	5	5	0	360		2,000
205	10950 - 11200	122	122	5	5	0	360		2,000
206	11450 - 11700	172	172	5	5	0	360		2,000
207	11450 - 11700	53	53	5	5	0	360		2,000
208	11450 - 11700	8	177	5	5	0	360		2,000
209	11450 - 11700	95	95	5	5	0	360		2,000
210	11450 - 11700	122	122	5	5	0	360		2,000
211	11450 - 11700	154	154	5	5	0	360		2,000
212	10700 - 12200	61	61	5	5	339.7	142.3		2,000
213	10700 - 12200	129.15	129.15	5	5	0	360		2,000
214	10700 - 12200	61	61	5	5	339.7	142.3		2,000
215	12200 - 12750	144	144	5	5	0	360		2,000
216	12200 - 12750	172	172	5	5	0	360		2,000
217	10700 - 11450	95	95	5	5	0	360		2,000
218	10700 - 12750	134	134	5	5	0	360		2,000
219	10700 - 12750	169	169	5	5	0	360		2,000
220	10700 - 12750	76.5	76.5	5	5	0	360		2,000
221	10700 - 12750	74	74	5	5	0	360		2,000
222	10700 - 12750	134	134	5	5	0	360		2,000
223	10700 - 12750	63	63	5	5	0	360		2,000
224	10950 - 11700	177	177	5	5	0	360		2,000
225	10950 - 11700	10	10	5	5	0	360		2,000
226	10950 - 11700	70.5	70.5	5	5	0	360		2,000
227	11450 - 12200	37.5	37.5	5	5	0	360		2,000
228	11450 - 12200	58	58	5	5	0	360		2,000

229	11450 - 12200	63	63	5	5	0	360	2,000
230	11450 - 12200	60	60	5	5	0	360	2,000
231	11450 - 12200	22	22	5	5	0	360	2,000
232	11450 - 12200	100.5	100.5	5	5	0	360	2,000
233	12500 - 12600	60	60	5	5	0	360	2,000



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Name: Panasonic Avionics Corporation
Authorization Type: MFS Modification

Call Sign: E100089
File Number: SES-MFS-20241113-02366

Expiration Date: 08-31-2026

D) Points of Communications

#	Common Name	ITU Name	Orbit Location	Country	Destination Points	Permitted List
1	INTELSAT 29e (S2913)	INTELSAT 29E	50.0 W.L.			False
2	JCSAT-2B (M174163)	JCSAT-2B (M174163)	154 E.L.			False
3	NSS-12	NSS-12	57.0 E.L.			False
4	Eutelsat 10A (W2A)	Eutelsat 10A	10.0 E.L.			False
5	EUTELSAT 172B (S3021)	US & F filings	172 E.L.			False
6	SES-10 (S2950)	SES-10	66.9 W.L.			False
7	SES-12 (M192103)	SES-12	95 E.L.			False
8	APSTAR 6(M292090)	APSTAR VI	226 W.L.			False
9	Yamal 401	Yamal 401	90 E.L.			False
10	Chinasat 10(M246191)	Chinasat 10	110.5 E.L.			False
11	INTELSAT 15 (S2789)	INTELSAT 15 (S2789)	85.15 E.L.			False
12	ANIK G1	ANIK G1	107.3 W.L.			False
13	INTELSAT 14 (S2785)	INTELSAT 14 (S2785)	45.0 W.L.			False
14	TELSTAR 19 V	TELSTAR 19 V	63 W.L.			False
15	Eutelsat 10B	F-SAT-N3-10E	10 E.L.			False
16	EUTELSAT 115 WB (S2938)	EUTELSAT 115 WB	114.9 W.L.			False
17	GALAXY 16 (S2687)	GALAXY 16	99 W.L.			False
18	GSAT-14	GSAT-14	GSO			False
19	Apstar 7	Apstar 7	76.5 E.L.			False
20	INTELSAT 21 (S2863)	INTELSAT 21	58.0 W.L.			False
21	SES-14 (S2974)	SES-14	47.5 W.L.			False
22	AsiaSat 5	AsiaSat 5	100.5E			False
23	TELSTAR 12 V (S2933)	ORION F2(S2933)	15 W.L.			False
24	INTELSAT 33e (S2939)	INTELSAT 33e	60.0 E.L.			False
25	INTELSAT 46 (3086)	F-SAT-E-30B-61W	61 W.L.			False
26	Eutelsat 70B	Eutelsat 70B	70.5 E.L.			False
27	PERMITTED LIST					False
28	SES-4 (S2828)	New Skies	22.0 W.L.			False
29	Express AM5	Express AM5	140.0 E. L			False
30	EUTELSAT 117 WA (S2873)	EUTELSAT 117 WA	116.8 W.L.			False
31	Express AM6	Express AM6	53.0 E.L.			False

32	Yamal 300K	Yamal 300K	177 W.L	False
33	ESTRELA DO SUL 2	ESTRELA DO SUL 2	63 W.L.	False
34	AsiaSat-9	AsiaSat-9	122 E.L	False
35	EUTELSAT 174A (S2610)	EUTELSAT174A(S2610)	174 E. L.	False
36	AsiaSat 7	AsiaSat 7	105.5 E.L.	False
37	HORIZONS-3 (S2947)	HORIZONS-3	169 E.L.	False
38	AMAZONAS NEXUS (S3086)	AMAZONAS NEXUS	61 W.L.	False
39	TELSTAR 11N (S2357)	USASAT26A	37.5 W.L.	False
40	SES-15 (S2951)	GIBSAT-129W-B	129.15 W.L	False
41	SES-9	SES-9	108.3	False
42	INTELSAT 29e (S2913)	INTELSAT 29E	50.0 W.L.	False
43	EUTELSAT 172B (S3021)	US & F filings	172 E.L.	False
44	Yamal 300K (M174162)	Yamal 300K	177 W.L.	False
45	ESTRELA DO SUL 2 (S2821)	ESTRELA DO SUL 2	63 W.L.	False
46	EUTELSAT 174A (S2610)	EUTELSAT 174A (S2610)	174 E. L.	False
47	EUTELSAT 115 WB (S2938)	EUTELSAT 115 WB	114.9 W.L.	False
48	PERMITTED LIST			False
49	TELSTAR 11N (S2357)	USASAT26A	37.5 W.L.	False
50	SES-15 (S2951)	GIBSAT-129W-B	129.15 W.L	False
51	INTELSAT 21 (S2863)	INTELSAT 21	58.0 W.L.	False
52	ANIK G1 (M090164)	ANIK G1	107.3 W.L.	False
53	GALAXY 16 (S2687)	GALAXY 16	99 W.L.	False
54	EUTELSAT 117 WA (S2873)	EUTELSAT 117 WA	116.8 W.L.	False
55	INTELSAT 46 (3086)	F-SAT-E-30B-61W	61 W.L.	False
56	SES-14 (S2974)	B-SAT-1W-2	47.5 W.L.	False
57	TELSTAR 11N (S2357)	USASAT26A	37.5 W.L.	False
58	SES-15 (S2951)	GIBSAT-129W-B	129.15 W.L	False
59	Yamal 300K	Yamal 300K	177 W.L.	False
60	AsiaSat 7	AsiaSat 7	105.5 E.L.	False
61	EUTELSAT 172B (S3021)	US & F filings	172 E.L.	False
62	Express AM5	Express AM5	140.0 E. L	False
63	GSAT-14	GSAT-14	GSO	False
64	SES-9	SES-9	108.3	False
65	AsiaSat 5	AsiaSat 5	100.5E	False
66	TELSTAR 12V (S2933)	ORION F2(S2933)	15 W.L.	False
67	HORIZONS-3 (S2947)	HORIZONS-3	169 E.L.	False
68	INTELSAT 14 (S2785)	INTELSAT 14 (S2785)	45.0 W.L.	False
69	Eutelsat 70B	Eutelsat 70B	70.5 E.L.	False
70	Chinasat 10 (M246191)	Chinasat 10	110.5 E.L.	False
71	EUTELSAT 115 WB (S2938)	EUTELSAT 115 WB	114.9 W.L.	False
72	SES-12 (M192103)	SES-12	95 E.L.	False
73	INTELSAT 46 (3086)	F-SAT-E-30B-61W	61 W.L.	False

74	Apstar 7	Apstar 7	76.5 E.L.	False
75	AMAZONAS NEXUS (3086)	F-SAT-E-30B-61W	61 W.L.	False
76	INTELSAT 21 (S2863)	INTELSAT 21	58.0 W.L.	False
77	SES-10 (S2950)	SES-10	66.9 W.L.	False
78	EUTELSAT 117 WA (S2873)	EUTELSAT 117 WA	116.8 W.L.	False
79	INTELSAT 29e (S2913)	INTELSAT 29E	50.0 W.L.	False
80	SES-14 (S2974)	SES-14	47.5 W.L.	False
81	ANIK G1	ANIK G1	107.3 W.L.	False
82	JCSAT-2B (M174163)	JCSAT-2B (M174163)	154 E.L.	False
83	Express AM6	Express AM6	53.0 E.L.	False
84	INTELSAT 15 (S2789)	INTELSAT 15 (S2789)	85.15 E.L.	False
85	INTELSAT 33e (S2939)	INTELSAT 33e	60.0 E.L.	False
86	SES-15 (S2951)	GIBSAT-129W-B	129.15 W.L.	False
87	AsiaSat-9	AsiaSat-9	122 E.L.	False
88	NSS-12	NSS-12	57.0 E.L.	False
89	SES-4 (S2828)	New Skies	22.0 W.L.	False
90	Eutelsat 10A (W2A)	Eutelsat 10A	10.0 E.L.	False
91	Yamal 401	Yamal 401	90 E.L.	False
92	ESTRELA DO SUL 2	ESTRELA DO SUL 2	63 W.L.	False
93	TELSTAR 11N (S2357)	USASAT26A	37.5 W.L.	False
94	GALAXY 16 (S2687)	GALAXY 16	99 W.L.	False
95	Eutelsat 10B	F-SAT-N3-10E	10 E.L.	False
96	PERMITTED LIST			False
97	APSTAR 6 (M292090)	APSTAR VI	134 E.L.	False
98	TELSTAR 19V	TELSTAR 19V	63 W.L.	False



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E) Antenna Facilities

#	Site ID	Antenna ID	Units	Manufacturer	Model Number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
1	SPA Remotes	SPA	1,000	PANASONIC	SPA			
	Max Gains(s): Maximum aggregate output EIRP for all carriers(dBW): 10 Maximum total input power at antenna flange(Watts): 45							
2	TECOM Remotes	TECOM	1,000	TECOM	KU-STREAM 1000			
	Max Gains(s): Maximum aggregate output EIRP for all carriers(dBW): 31.6 Maximum total input power at antenna flange(Watts): 43.797							
3	MELCO Remotes	MELCO	50	Mitsubishi Electronics	726-20176-101	0	0	
	Max Gains(s): Maximum aggregate output EIRP for all carriers(dBW): 31.62 Maximum total input power at antenna flange(Watts): 47.2							
4	PPA Remotes	PPA	2,000	PANASONIC	AURA LE			
	Max Gains(s): Maximum aggregate output EIRP for all carriers(dBW): 10 Maximum total input power at antenna flange(Watts): 47.3							

G) Antenna Structure marking and lighting requirements:

None unless otherwise specified under Special and General Provisions.



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H) Special and General Provisions:

A) This EARTH 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 Communications Filing System (ICFS) using the "Pleadings and Comments" link on the ICFS homepage within 10 days of the change.
- 8 --- Licensee must notify the Commission when all earth stations under this authorization are no longer operational or when they have not been used to provide service during any continuous six-month period.
- 90062 --- Operation pursuant to this authorization outside the United States in the 14.0-14.5 GHz band must be in compliance with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz band.
- 90123 --- Operations authorized pursuant to this license are operations by U.S.-registered aircraft anywhere within the coverage area/frequency bands identified in the application for the satellites listed as points of communication. Operations authorized pursuant to this license also include operations by non-U.S.-registered aircraft within U.S. territory, including territorial waters. Authorization for operations by U.S.-registered aircraft outside U.S. territory, pursuant to this license, does not constitute a grant of access to the market in the United States under the Commission's DISCO II policies.
- 90535 --- Communications between licensee aircraft earth stations and the relevant space station must be in compliance with all existing and future space station coordination agreements reached between the space station Administration and other Administrations.
- 90640 --- Panasonic Avionics Corporation's ESAAs may communicate with the GSAT-14 space station outside of the United States, and may only receive communications from the GSAT-14 space station in the 10.7-10.95, 11.2-11.45, and 12.2-12.75 GHz bands on a non-conforming, non-interference basis. Additionally, operations with GSAT-14 must be consistent with ITU regulations.
- 90641 --- Panasonic Avionics Corporation's ESAAs may communicate with the NSS-12 space station outside of the United States, and may only receive communications from the NSS-12 space station in the 11.2-11.45 and 12.2-12.75 GHz bands on unprotected, non-harmful interference basis. Additionally, operations with NSS-12 must be consistent with ITU regulations.
- 90738 --- Operations are not authorized for Antenna IDs PPA and SPA to receive from SES-4 (S2828), SES-9, and SES-10 (S2950) on frequency band 12.2-12.75 GHz (space-to-Earth) in the United

States.

- 90739 --- Operations outside the United States must also ensure compliance with the applicable laws, regulations, and licensing procedures of other countries, including, as appropriate regulations concerning operations from national or adjacent airspace, and territorial or adjacent waters, as well as with the conditions of this authorization.
- 90898 --- Panasonic Avionics Corporation's ESAAs can receive communications in the 10.7-11.7 GHz band from Eutelsat 10B and Amazonas Nexus outside the United States, and from SES 14, SES 15, Intelsat 46, and Eutelsat E117WA within the United States.
- 90899 --- Panasonic Avionics Corporation's ESAAs can communicate outside the U.S. on a non-conforming, non-interference basis with Horizon 3e and Telstar 19V in the 10.7-10.95, 11.2-11.45, and 12.2-12.75 GHz bands, and with Eutelsat 10B in the 12.2-12.75 GHz band. Operations must comply with ITU regulations.
- 90900 --- Grant of the instant application is subject to the terms and condition of all associated current or future space station authorization(s) or grant(s) of market access. Operations pursuant to the instant authorization must be consistent with the associated space station(s) authorizations(s) or grant(s) of market access.

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.