

**USN Support of TT&C, In-orbit Testing and X-band Activities
for Formosat-8A from North Pole/Alaska Using USAK01 & USAK05**

Mission description: FORMOSAT-8 is Taiwan Space Agency's high-resolution optical Earth-observation satellite constellation. The program consists of multiple optical remote-sensing satellites deployed in sun-synchronous orbit to provide repeated Earth-imaging opportunities with consistent lighting conditions. FORMOSAT-8A is the first satellite in the constellation and supports high-resolution optical imaging for applications such as natural disaster assessment, agriculture, urban planning, environmental monitoring, ocean surveillance, land-use planning, and broader national resource monitoring. The satellite was launched on 28 November 2025 and is already in orbit.

FORMOSAT-8A is an NGSO/LEO Earth-observation satellite in a near-circular sun-synchronous orbit at approximately 561–575 km altitude and about 97.7° inclination. After launch from Vandenberg Space Force Base on the SpaceX Transporter-15 mission, the satellite was deployed directly into low Earth orbit and then commissioned into its operational sun-synchronous orbit. Its ground track repeats over the Earth with consistent local solar-time lighting, which supports optical remote-sensing imaging and regular revisit opportunities. No geostationary relocation or intermediate GSO stopping point is applicable.

During the SSC-supported test period, SSC ground stations will support in-orbit testing, including TT&C and S/X-band downlink activities, using the stated S-band and X-band interfaces.

The frequency coordination report will be provided as soon as it is ready.

Location of data source for spacecraft uplink.

The data source for uplink will be from TASA mission control center in Hsinchu, Taiwan

Location of data destination for spacecraft downlink.

The data destination will be from TASA mission control center in Hsinchu, Taiwan

Taiwan Space Agency

Hsinchu Science Park at 8F, No. 9, Zhanye 1st Rd., East Dist., Hsinchu City, Taiwan 300091 (R.O.C.).

Satellite Downlink

Beam Designation	Polarization	Center Freq. [MHz]	Min Freq. [MHz]	Max Freq. [MHz]	Occupied BW [kHz]
Error! Reference source not found.	CR	2215	2211	2219	8000
Error! Reference source not found.	CR	8200	8065	8335	270000

Beam Designation	Design. of Emission ⁴ (C7a)	Data Rate ⁵ (not in ITU)		Modulation (not in ITU)	TM Subcarrier Freq. (not in ITU)
Error! Reference source not found.	500KG1D-S	.25/2	Mbps	BPSK	TM Subc Freq.kHz
Error! Reference source not found.	500KG1D-X	75/600	Mbps	8PSK	TM Subc Freq.kHz

Satellite EIRP and Maximum Power Density		
Beam Designation	Satellite EIRP (C8a1/C8b1 + B3a1)	Maximum Power Density (C8a2/C8b2)
Error! Reference source not found.	11dBW	-114.2 dBW/Hz
Error! Reference source not found.	26 dBW	-99.2 dBW/Hz

Spacecraft Output Power	
Maximum spacecraft output power (C8a1/C8b1)	2.5,3 (S,X) dBW
Maximum downlink EIRP (C8a1/C8b1 + B3a1)	11.26 (S,X) dBW

Satellite Uplink

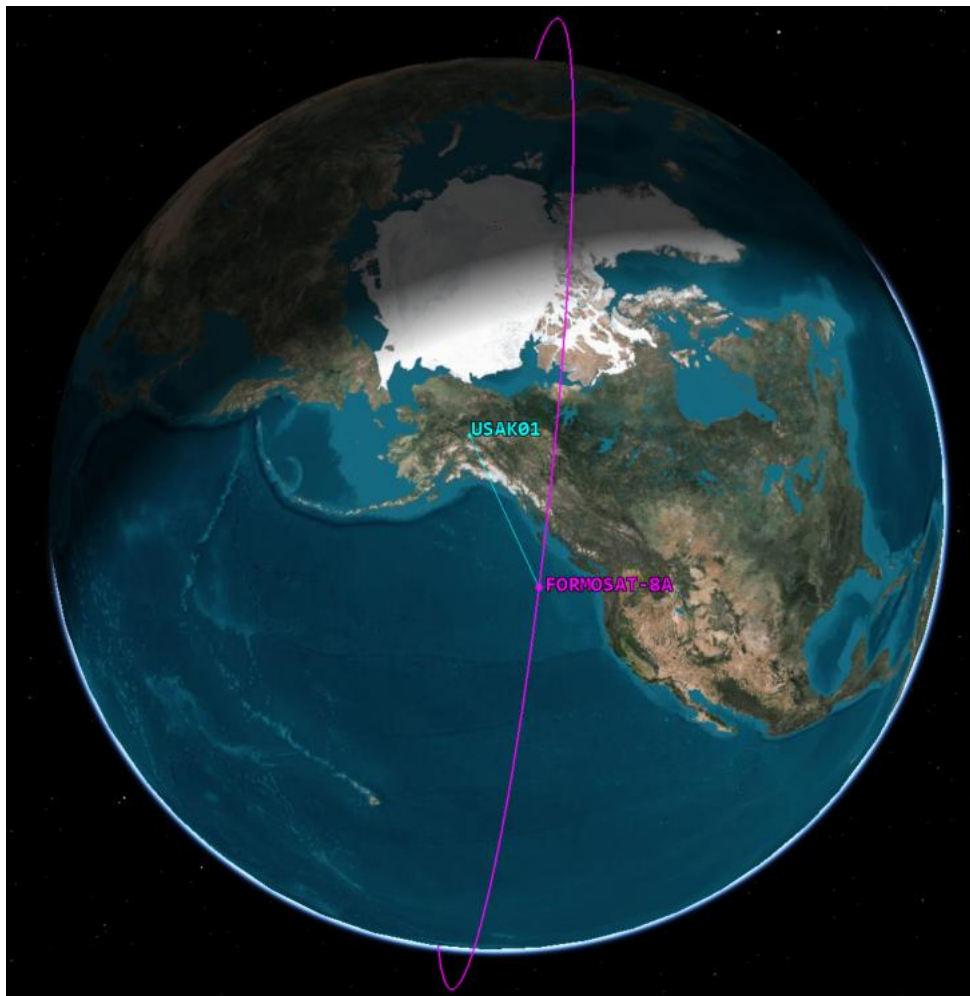
Beam Designation	Polarization	Center Freq. [MHz]	Min Freq. [MHz]	Max Freq. [MHz]	Occupied BW [kHz]
Error! Reference source not found.	CR	2039.645833	2037.645833	2041.645833	4000

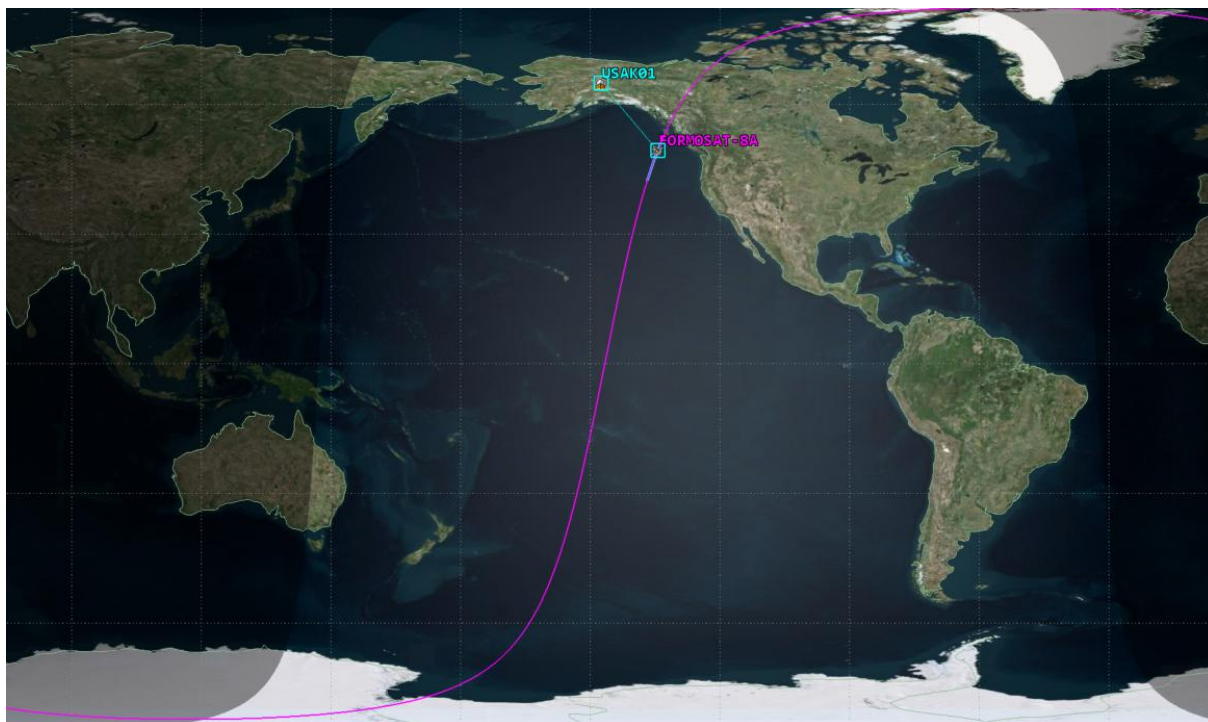
Beam Designation	Design. of Emission ⁴ (C7a)	Data Rate ⁵		Modulation	PCM code
Error! Reference source not found.	500KG1D	32	kbps	BPSK	NRZ-M

Earth Station Output Power		
Output EIRP + <i>C8a1/C8b1</i>	<i>(C10d3</i>	54 dBW
Output power at the Antenna Feed <i>(C8a1/C8b1)</i>		Click here to enter text. dBW

Formosat-8A Typical Coverage from Alaska

The below analysis covers all possible visibilities from USN Alaska.





2 Sep 2026 06:54:59
Facility-USAK01-To-Satellite-FORMOSAT-8A: Access Summary Report

USAK01-To-FORMOSAT-8A

Access (sec)	Start Time (YYYY:MM:DD)	Stop Time (YYYY:MM:DD)	Duration
1	2026:10:01:10:03:31.445	2026:10:01:10:11:37.522	486.076
2	2026:10:01:18:16:25.506	2026:10:01:18:24:00.252	454.746
3	2026:10:01:19:50:55.839	2026:10:01:20:02:33.967	698.127
4	2026:10:01:21:26:00.674	2026:10:01:21:38:26.782	746.109
5	2026:10:01:23:01:06.953	2026:10:01:23:12:28.343	681.390
6	2026:10:02:00:35:53.969	2026:10:02:00:45:19.046	565.077
7	2026:10:02:02:09:49.363	2026:10:02:02:18:06.506	497.143
8	2026:10:02:03:42:39.967	2026:10:02:03:51:56.491	556.525
9	2026:10:02:05:15:27.430	2026:10:02:05:26:40.823	673.392
10	2026:10:02:06:49:21.636	2026:10:02:07:01:46.445	744.809
11	2026:10:02:08:25:04.294	2026:10:02:08:36:52.149	707.855
12	2026:10:02:10:03:21.503	2026:10:02:10:11:28.285	486.781
13	2026:10:02:18:16:16.281	2026:10:02:18:23:50.143	453.862
14	2026:10:02:19:50:46.445	2026:10:02:20:02:24.227	697.781
15	2026:10:02:21:25:51.246	2026:10:02:21:38:17.252	746.006
16	2026:10:02:23:00:57.526	2026:10:02:23:12:18.961	681.435
17	2026:10:03:00:35:44.579	2026:10:03:00:45:09.740	565.161
18	2026:10:03:02:09:40.056	2026:10:03:02:17:57.145	497.089
19	2026:10:03:03:42:30.694	2026:10:03:03:51:47.029	556.336

20	2026:10:03:05:15:18.063	2026:10:03:05:26:31.313	673.250
21	2026:10:03:06:49:12.100	2026:10:03:07:01:36.909	744.809
22	2026:10:03:08:24:54.537	2026:10:03:08:36:42.627	708.090
23	2026:10:03:10:03:11.399	2026:10:03:10:11:18.863	487.465
24	2026:10:03:18:16:06.898	2026:10:03:18:23:39.848	452.950
25	2026:10:03:19:50:36.887	2026:10:03:20:02:14.305	697.418
26	2026:10:03:21:25:41.651	2026:10:03:21:38:07.543	745.892
27	2026:10:03:23:00:47.928	2026:10:03:23:12:09.409	681.481
28	2026:10:04:00:35:35.022	2026:10:04:00:45:00.256	565.234
29	2026:10:04:02:09:30.587	2026:10:04:02:17:47.606	497.020
30	2026:10:04:03:42:21.260	2026:10:04:03:51:37.392	556.131
31	2026:10:04:05:15:08.542	2026:10:04:05:26:21.619	673.078
32	2026:10:04:06:49:02.402	2026:10:04:07:01:27.196	744.794
33	2026:10:04:08:24:44.603	2026:10:04:08:36:32.927	708.324
34	2026:10:04:10:03:01.116	2026:10:04:10:11:09.263	488.147
35	2026:10:04:18:15:57.353	2026:10:04:18:23:29.350	451.997
36	2026:10:04:19:50:27.160	2026:10:04:20:02:04.198	697.038
37	2026:10:04:21:25:31.885	2026:10:04:21:37:57.653	745.768
38	2026:10:04:23:00:38.162	2026:10:04:23:11:59.672	681.510
39	2026:10:05:00:35:25.299	2026:10:05:00:44:50.595	565.296
40	2026:10:05:02:09:20.956	2026:10:05:02:17:37.890	496.935
41	2026:10:05:03:42:11.668	2026:10:05:03:51:27.573	555.904
42	2026:10:05:05:14:58.850	2026:10:05:05:26:11.746	672.896
43	2026:10:05:06:48:52.533	2026:10:05:07:01:17.306	744.773
44	2026:10:05:08:24:34.508	2026:10:05:08:36:23.041	708.534
45	2026:10:05:10:02:50.665	2026:10:05:10:10:59.482	488.816
46	2026:10:05:18:15:47.644	2026:10:05:18:23:18.666	451.021
47	2026:10:05:19:50:17.265	2026:10:05:20:01:53.905	696.641
48	2026:10:05:21:25:21.950	2026:10:05:21:37:47.584	745.634
49	2026:10:05:23:00:28.228	2026:10:05:23:11:49.765	681.537
50	2026:10:06:00:35:15.410	2026:10:06:00:44:40.757	565.347
51	2026:10:06:02:09:11.162	2026:10:06:02:17:27.994	496.832
52	2026:10:06:03:42:01.913	2026:10:06:03:51:17.571	555.658
53	2026:10:06:05:14:49.004	2026:10:06:05:26:01.692	672.688
54	2026:10:06:06:48:42.505	2026:10:06:07:01:07.232	744.728
55	2026:10:06:08:24:24.236	2026:10:06:08:36:12.981	708.745
56	2026:10:06:10:02:40.041	2026:10:06:10:10:49.519	489.479
57	2026:10:06:18:15:37.773	2026:10:06:18:23:07.778	450.006
58	2026:10:06:19:50:07.199	2026:10:06:20:01:43.430	696.231
59	2026:10:06:21:25:11.845	2026:10:06:21:37:37.334	745.490
60	2026:10:06:23:00:18.125	2026:10:06:23:11:39.673	681.549
61	2026:10:07:00:35:05.354	2026:10:07:00:44:30.742	565.388
62	2026:10:07:02:09:01.206	2026:10:07:02:17:17.920	496.714
63	2026:10:07:03:41:52.000	2026:10:07:03:51:07.390	555.390
64	2026:10:07:05:14:38.986	2026:10:07:05:25:51.457	672.471
65	2026:10:07:06:48:32.305	2026:10:07:07:00:56.981	744.676
66	2026:10:07:08:24:13.803	2026:10:07:08:36:02.735	708.932
67	2026:10:07:10:02:29.245	2026:10:07:10:10:39.375	490.130
68	2026:10:07:18:15:27.737	2026:10:07:18:22:56.705	448.969
69	2026:10:07:19:49:56.964	2026:10:07:20:01:32.769	695.805

70	2026:10:07:21:25:01.569	2026:10:07:21:37:26.906	745.337
71	2026:10:07:23:00:07.852	2026:10:07:23:11:29.412	681.560
72	2026:10:08:00:34:55.131	2026:10:08:00:44:20.550	565.419
73	2026:10:08:02:08:51.086	2026:10:08:02:17:07.665	496.580
74	2026:10:08:03:41:41.922	2026:10:08:03:50:57.029	555.107
75	2026:10:08:05:14:28.815	2026:10:08:05:25:41.042	672.227
76	2026:10:08:06:48:21.945	2026:10:08:07:00:46.547	744.602
77	2026:10:08:08:24:03.194	2026:10:08:08:35:52.314	709.121
78	2026:10:08:10:02:18.275	2026:10:08:10:10:29.050	490.774
79	2026:10:08:18:15:17.537	2026:10:08:18:22:45.430	447.893
80	2026:10:08:19:49:46.558	2026:10:08:20:01:21.926	695.368
81	2026:10:08:21:24:51.122	2026:10:08:21:37:16.297	745.175
82	2026:10:08:22:59:57.409	2026:10:08:23:11:18.966	681.557
83	2026:10:09:00:34:44.740	2026:10:09:00:44:10.182	565.442
84	2026:10:09:02:08:40.803	2026:10:09:02:16:57.234	496.431
85	2026:10:09:03:41:31.685	2026:10:09:03:50:46.486	554.801
86	2026:10:09:05:14:18.471	2026:10:09:05:25:30.446	671.975
87	2026:10:09:06:48:11.413	2026:10:09:07:00:35.934	744.521
88	2026:10:09:08:23:52.423	2026:10:09:08:35:41.707	709.284
89	2026:10:09:10:02:07.136	2026:10:09:10:10:18.542	491.406
90	2026:10:09:18:15:07.172	2026:10:09:18:22:33.969	446.797
91	2026:10:09:19:49:35.982	2026:10:09:20:01:10.898	694.916
92	2026:10:09:21:24:40.503	2026:10:09:21:37:05.510	745.007
93	2026:10:09:22:59:46.795	2026:10:09:23:11:08.351	681.556
94	2026:10:10:00:34:34.182	2026:10:10:00:43:59.637	565.455
95	2026:10:10:02:08:30.355	2026:10:10:02:16:46.622	496.266
96	2026:10:10:03:41:21.284	2026:10:10:03:50:35.764	554.480
97	2026:10:10:05:14:07.974	2026:10:10:05:25:19.669	671.695
98	2026:10:10:06:48:00.722	2026:10:10:07:00:25.140	744.418
99	2026:10:10:08:23:41.475	2026:10:10:08:35:30.925	709.450
100	2026:10:10:10:01:55.821	2026:10:10:10:10:07.853	492.032
101	2026:10:10:18:14:56.641	2026:10:10:18:22:22.306	445.664
102	2026:10:10:19:49:25.234	2026:10:10:20:00:59.687	694.454
103	2026:10:10:21:24:29.714	2026:10:10:21:36:54.543	744.829
104	2026:10:10:22:59:36.011	2026:10:10:23:10:57.552	681.541
105	2026:10:11:00:34:23.455	2026:10:11:00:43:48.916	565.461
106	2026:10:11:02:08:19.744	2026:10:11:02:16:35.833	496.089
107	2026:10:11:03:41:10.722	2026:10:11:03:50:24.860	554.137
108	2026:10:11:05:13:57.303	2026:10:11:05:25:08.712	671.408
109	2026:10:11:06:47:49.858	2026:10:11:07:00:14.165	744.307
110	2026:10:11:08:23:30.366	2026:10:11:08:35:19.956	709.591
111	2026:10:11:10:01:44.337	2026:10:11:10:09:56.983	492.645
112	2026:10:11:18:14:45.945	2026:10:11:18:22:10.459	444.513
113	2026:10:11:19:49:14.314	2026:10:11:20:00:48.296	693.982
114	2026:10:11:21:24:18.751	2026:10:11:21:36:43.398	744.647
115	2026:10:11:22:59:25.055	2026:10:11:23:10:46.584	681.529
116	2026:10:12:00:34:12.560	2026:10:12:00:43:38.019	565.459
117	2026:10:12:02:08:08.967	2026:10:12:02:16:24.864	495.897
118	2026:10:12:03:40:59.996	2026:10:12:03:50:13.777	553.781
119	2026:10:12:05:13:46.479	2026:10:12:05:24:57.572	671.094

120	2026:10:12:06:47:38.834	2026:10:12:07:00:03.010	744.176
121	2026:10:12:08:23:19.083	2026:10:12:08:35:08.813	709.729
122	2026:10:12:10:01:32.676	2026:10:12:10:09:45.930	493.254
123	2026:10:12:18:14:35.083	2026:10:12:18:21:58.409	443.327
124	2026:10:12:19:49:03.223	2026:10:12:20:00:36.716	693.494
125	2026:10:12:21:24:07.617	2026:10:12:21:36:32.074	744.457
126	2026:10:12:22:59:13.932	2026:10:12:23:10:35.433	681.501
127	2026:10:13:00:34:01.494	2026:10:13:00:43:26.946	565.452
128	2026:10:13:02:07:58.025	2026:10:13:02:16:13.718	495.693
129	2026:10:13:03:40:49.109	2026:10:13:03:50:02.512	553.403
130	2026:10:13:05:13:35.481	2026:10:13:05:24:46.254	670.773
131	2026:10:13:06:47:27.637	2026:10:13:06:59:51.675	744.037
132	2026:10:13:08:23:07.630	2026:10:13:08:34:57.482	709.853
133	2026:10:13:10:01:20.847	2026:10:13:10:09:34.696	493.849
134	2026:10:13:18:14:24.053	2026:10:13:18:21:46.177	442.123
135	2026:10:13:19:48:51.959	2026:10:13:20:00:24.960	693.001
136	2026:10:13:21:23:56.307	2026:10:13:21:36:20.572	744.265
137	2026:10:13:22:59:02.627	2026:10:13:23:10:24.113	681.485
138	2026:10:14:00:33:50.260	2026:10:14:00:43:15.698	565.438
139	2026:10:14:02:07:46.917	2026:10:14:02:16:02.393	495.476
140	2026:10:14:03:40:38.056	2026:10:14:03:49:51.069	553.013
141	2026:10:14:05:13:24.323	2026:10:14:05:24:34.754	670.431
142	2026:10:14:06:47:16.277	2026:10:14:06:59:40.157	743.880
143	2026:10:14:08:22:56.006	2026:10:14:08:34:45.974	709.968
144	2026:10:14:10:01:08.842	2026:10:14:10:09:23.280	494.439
145	2026:10:14:18:14:12.857	2026:10:14:18:21:33.748	440.891
146	2026:10:14:19:48:40.522	2026:10:14:20:00:13.019	692.496
147	2026:10:14:21:23:44.828	2026:10:14:21:36:08.892	744.065
148	2026:10:14:22:58:51.155	2026:10:14:23:10:12.614	681.459
149	2026:10:15:00:33:38.854	2026:10:15:00:43:04.274	565.420
150	2026:10:15:02:07:35.643	2026:10:15:02:15:50.892	495.248
151	2026:10:15:03:40:26.841	2026:10:15:03:49:39.444	552.603
152	2026:10:15:05:13:13.000	2026:10:15:05:24:23.073	670.072
153	2026:10:15:06:47:04.750	2026:10:15:06:59:28.459	743.709
154	2026:10:15:08:22:44.213	2026:10:15:08:34:34.285	710.072
155	2026:10:15:10:00:56.662	2026:10:15:10:09:11.683	495.021
156	2026:10:15:18:14:01.492	2026:10:15:18:21:21.127	439.635
157	2026:10:15:19:48:28.912	2026:10:15:20:00:00.895	691.983
158	2026:10:15:21:23:33.172	2026:10:15:21:35:57.035	743.863
159	2026:10:15:22:58:39.509	2026:10:15:23:10:00.940	681.430
160	2026:10:16:00:33:27.278	2026:10:16:00:42:52.676	565.398
161	2026:10:16:02:07:24.202	2026:10:16:02:15:39.213	495.011
162	2026:10:16:03:40:15.461	2026:10:16:03:49:27.639	552.178
163	2026:10:16:05:13:01.513	2026:10:16:05:24:11.211	669.698
164	2026:10:16:06:46:53.054	2026:10:16:06:59:16.580	743.526
165	2026:10:16:08:22:32.248	2026:10:16:08:34:22.415	710.166
166	2026:10:16:10:00:44.309	2026:10:16:10:08:59.905	495.596
167	2026:10:16:18:13:49.958	2026:10:16:18:21:08.315	438.356
168	2026:10:16:19:48:17.128	2026:10:16:19:59:48.591	691.463
169	2026:10:16:21:23:21.342	2026:10:16:21:35:45.000	743.658

170	2026:10:16:22:58:27.690	2026:10:16:23:09:49.087	681.397
171	2026:10:17:00:33:15.531	2026:10:17:00:42:40.903	565.372
172	2026:10:17:02:07:12.594	2026:10:17:02:15:27.357	494.763
173	2026:10:17:03:40:03.917	2026:10:17:03:49:15.655	551.739
174	2026:10:17:05:12:49.860	2026:10:17:05:23:59.170	669.309
175	2026:10:17:06:46:41.192	2026:10:17:06:59:04.521	743.329
176	2026:10:17:08:22:20.113	2026:10:17:08:34:10.364	710.251
177	2026:10:17:10:00:31.781	2026:10:17:10:08:47.945	496.164
178	2026:10:17:18:13:38.256	2026:10:17:18:20:55.312	437.056
179	2026:10:17:19:48:05.169	2026:10:17:19:59:36.105	690.935
180	2026:10:17:21:23:09.337	2026:10:17:21:35:32.789	743.452
181	2026:10:17:22:58:15.697	2026:10:17:23:09:37.064	681.367
182	2026:10:18:00:33:03.612	2026:10:18:00:42:28.957	565.345
183	2026:10:18:02:07:00.818	2026:10:18:02:15:15.325	494.508
184	2026:10:18:03:39:52.207	2026:10:18:03:49:03.492	551.285
185	2026:10:18:05:12:38.042	2026:10:18:05:23:46.947	668.905
186	2026:10:18:06:46:29.161	2026:10:18:06:58:52.281	743.120
187	2026:10:18:08:22:07.809	2026:10:18:08:33:58.133	710.324
188	2026:10:18:10:00:19.077	2026:10:18:10:08:35.805	496.727
189	2026:10:18:18:13:26.384	2026:10:18:18:20:42.119	435.735
190	2026:10:18:19:47:53.036	2026:10:18:19:59:23.438	690.402
191	2026:10:18:21:22:57.157	2026:10:18:21:35:20.400	743.243
192	2026:10:18:22:58:03.529	2026:10:18:23:09:24.867	681.338
193	2026:10:19:00:32:51.520	2026:10:19:00:42:16.836	565.317
194	2026:10:19:02:06:48.873	2026:10:19:02:15:03.117	494.244
195	2026:10:19:03:39:40.332	2026:10:19:03:48:51.150	550.818
196	2026:10:19:05:12:26.058	2026:10:19:05:23:34.545	668.487
197	2026:10:19:06:46:16.962	2026:10:19:06:58:39.861	742.899
198	2026:10:19:08:21:55.331	2026:10:19:08:33:45.721	710.390
199	2026:10:19:10:00:06.198	2026:10:19:10:08:23.483	497.285
200	2026:10:19:18:13:14.341	2026:10:19:18:20:28.736	434.395
201	2026:10:19:19:47:40.727	2026:10:19:19:59:10.591	689.863
202	2026:10:19:21:22:44.801	2026:10:19:21:35:07.836	743.035
203	2026:10:19:22:57:51.186	2026:10:19:23:09:12.496	681.310
204	2026:10:20:00:32:39.252	2026:10:20:00:42:04.543	565.290
205	2026:10:20:02:06:36.759	2026:10:20:02:14:50.733	493.974
206	2026:10:20:03:39:28.291	2026:10:20:03:48:38.630	550.339
207	2026:10:20:05:12:13.907	2026:10:20:05:23:21.963	668.056
208	2026:10:20:06:46:04.594	2026:10:20:06:58:27.260	742.667
209	2026:10:20:08:21:42.681	2026:10:20:08:33:33.129	710.448
210	2026:10:20:09:59:53.143	2026:10:20:10:08:10.981	497.839
211	2026:10:20:18:13:02.128	2026:10:20:18:20:15.164	433.035
212	2026:10:20:19:47:28.243	2026:10:20:19:58:57.564	689.320
213	2026:10:20:21:22:32.269	2026:10:20:21:34:55.096	742.826
214	2026:10:20:22:57:38.668	2026:10:20:23:08:59.951	681.284
215	2026:10:21:00:32:26.814	2026:10:21:00:41:52.077	565.262
216	2026:10:21:02:06:24.475	2026:10:21:02:14:38.174	493.699
217	2026:10:21:03:39:16.083	2026:10:21:03:48:25.930	549.847
218	2026:10:21:05:12:01.589	2026:10:21:05:23:09.201	667.611
219	2026:10:21:06:45:52.057	2026:10:21:06:58:14.480	742.423

220	2026:10:21:08:21:29.858	2026:10:21:08:33:20.357	710.499
221	2026:10:21:09:59:39.911	2026:10:21:10:07:58.299	498.388
222	2026:10:21:18:12:49.744	2026:10:21:18:20:01.402	431.659
223	2026:10:21:19:47:15.583	2026:10:21:19:58:44.357	688.774
224	2026:10:21:21:22:19.561	2026:10:21:21:34:42.180	742.619
225	2026:10:21:22:57:25.973	2026:10:21:23:08:47.234	681.260
226	2026:10:22:00:32:14.202	2026:10:22:00:41:39.438	565.236
227	2026:10:22:02:06:12.021	2026:10:22:02:14:25.440	493.419
228	2026:10:22:03:39:03.708	2026:10:22:03:48:13.053	549.345
229	2026:10:22:05:11:49.104	2026:10:22:05:22:56.259	667.155
230	2026:10:22:06:45:39.351	2026:10:22:06:58:01.520	742.169
231	2026:10:22:08:21:16.863	2026:10:22:08:33:07.405	710.542
232	2026:10:22:09:59:26.503	2026:10:22:10:07:45.437	498.935
233	2026:10:22:18:12:37.187	2026:10:22:18:19:47.453	430.266
234	2026:10:22:19:47:02.747	2026:10:22:19:58:30.971	688.224
235	2026:10:22:21:22:06.676	2026:10:22:21:34:29.089	742.413
236	2026:10:22:22:57:13.103	2026:10:22:23:08:34.344	681.241
237	2026:10:23:00:32:01.415	2026:10:23:00:41:26.627	565.213
238	2026:10:23:02:05:59.397	2026:10:23:02:14:12.532	493.135
239	2026:10:23:03:38:51.166	2026:10:23:03:47:59.998	548.832
240	2026:10:23:05:11:36.452	2026:10:23:05:22:43.139	666.687
241	2026:10:23:06:45:26.474	2026:10:23:06:57:48.380	741.906
242	2026:10:23:08:21:03.695	2026:10:23:08:32:54.273	710.578
243	2026:10:23:09:59:12.917	2026:10:23:10:07:32.396	499.479
244	2026:10:23:18:12:24.459	2026:10:23:18:19:33.316	428.857
245	2026:10:23:19:46:49.733	2026:10:23:19:58:17.406	687.673
246	2026:10:23:21:21:53.614	2026:10:23:21:34:15.823	742.210
247	2026:10:23:22:57:00.055	2026:10:23:23:08:21.282	681.226
248	2026:10:24:00:31:48.453	2026:10:24:00:41:13.645	565.193
249	2026:10:24:02:05:46.600	2026:10:24:02:13:59.450	492.850
250	2026:10:24:03:38:38.455	2026:10:24:03:47:46.766	548.311
251	2026:10:24:05:11:23.631	2026:10:24:05:22:29.839	666.208
252	2026:10:24:06:45:13.428	2026:10:24:06:57:35.061	741.633
253	2026:10:24:08:20:50.355	2026:10:24:08:32:40.961	710.606
254	2026:10:24:09:58:59.153	2026:10:24:10:07:19.175	500.023
255	2026:10:24:18:12:11.557	2026:10:24:18:19:18.991	427.435
256	2026:10:24:19:46:36.543	2026:10:24:19:58:03.663	687.120
257	2026:10:24:21:21:40.376	2026:10:24:21:34:02.383	742.007
258	2026:10:24:22:56:46.831	2026:10:24:23:08:08.048	681.217
259	2026:10:25:00:31:35.315	2026:10:25:00:41:00.492	565.177
260	2026:10:25:02:05:33.632	2026:10:25:02:13:46.195	492.562
261	2026:10:25:03:38:25.576	2026:10:25:03:47:33.357	547.781
262	2026:10:25:05:11:10.642	2026:10:25:05:22:16.361	665.719
263	2026:10:25:06:45:00.211	2026:10:25:06:57:21.562	741.351
264	2026:10:25:08:20:36.839	2026:10:25:08:32:27.470	710.632
265	2026:10:25:09:58:45.210	2026:10:25:10:07:05.776	500.566
266	2026:10:25:18:11:58.482	2026:10:25:18:19:04.480	425.999
267	2026:10:25:19:46:23.174	2026:10:25:19:57:49.741	686.567
268	2026:10:25:21:21:26.958	2026:10:25:21:33:48.769	741.812
269	2026:10:25:22:56:33.429	2026:10:25:23:07:54.643	681.214

270	2026:10:26:00:31:22.001	2026:10:26:00:40:47.169	565.167
271	2026:10:26:02:05:20.491	2026:10:26:02:13:32.767	492.275
272	2026:10:26:03:38:12.527	2026:10:26:03:47:19.771	547.244
273	2026:10:26:05:10:57.483	2026:10:26:05:22:02.704	665.221
274	2026:10:26:06:44:46.823	2026:10:26:06:57:07.885	741.062
275	2026:10:26:08:20:23.148	2026:10:26:08:32:13.801	710.653
276	2026:10:26:09:58:31.088	2026:10:26:10:06:52.198	501.109
277	2026:10:26:18:11:45.233	2026:10:26:18:18:49.783	424.550
278	2026:10:26:19:46:09.628	2026:10:26:19:57:35.642	686.014
279	2026:10:26:21:21:13.361	2026:10:26:21:33:34.982	741.621
280	2026:10:26:22:56:19.849	2026:10:26:23:07:41.067	681.218
281	2026:10:27:00:31:08.511	2026:10:27:00:40:33.675	565.164
282	2026:10:27:02:05:07.178	2026:10:27:02:13:19.167	491.989
283	2026:10:27:03:37:59.309	2026:10:27:03:47:06.010	546.700
284	2026:10:27:05:10:44.156	2026:10:27:05:21:48.870	664.714
285	2026:10:27:06:44:33.265	2026:10:27:06:56:54.029	740.763
286	2026:10:27:08:20:09.283	2026:10:27:08:31:59.952	710.670
287	2026:10:27:09:58:16.787	2026:10:27:10:06:38.442	501.655
288	2026:10:27:18:11:31.809	2026:10:27:18:18:34.900	423.091
289	2026:10:27:19:45:55.903	2026:10:27:19:57:21.366	685.463
290	2026:10:27:21:20:59.586	2026:10:27:21:33:21.021	741.436
291	2026:10:27:22:56:06.090	2026:10:27:23:07:27.320	681.230
292	2026:10:28:00:30:54.844	2026:10:28:00:40:20.012	565.169
293	2026:10:28:02:04:53.690	2026:10:28:02:13:05.395	491.705
294	2026:10:28:03:37:45.921	2026:10:28:03:46:52.073	546.152
295	2026:10:28:05:10:30.658	2026:10:28:05:21:34.858	664.200
296	2026:10:28:06:44:19.534	2026:10:28:06:56:39.994	740.460
297	2026:10:28:08:19:55.243	2026:10:28:08:31:45.926	710.683
298	2026:10:28:09:58:02.306	2026:10:28:10:06:24.506	502.200
299	2026:10:28:18:11:18.210	2026:10:28:18:18:19.832	421.622
300	2026:10:28:19:45:42.000	2026:10:28:19:57:06.913	684.913
301	2026:10:28:21:20:45.631	2026:10:28:21:33:06.888	741.257
302	2026:10:28:22:55:52.153	2026:10:28:23:07:13.403	681.250
303	2026:10:29:00:30:40.999	2026:10:29:00:40:06.180	565.181
304	2026:10:29:02:04:40.028	2026:10:29:02:12:51.452	491.424
305	2026:10:29:03:37:32.362	2026:10:29:03:46:37.961	545.599
306	2026:10:29:05:10:16.990	2026:10:29:05:21:20.669	663.678
307	2026:10:29:06:44:05.630	2026:10:29:06:56:25.782	740.152
308	2026:10:29:08:19:41.027	2026:10:29:08:31:31.721	710.694
309	2026:10:29:09:57:47.644	2026:10:29:10:06:10.396	502.752
310	2026:10:29:18:11:04.436	2026:10:29:18:18:04.580	420.143
311	2026:10:29:19:45:27.918	2026:10:29:19:56:52.284	684.366
312	2026:10:29:21:20:31.498	2026:10:29:21:32:52.582	741.084
313	2026:10:29:22:55:38.037	2026:10:29:23:06:59.317	681.280
314	2026:10:30:00:30:26.976	2026:10:30:00:39:52.180	565.204
315	2026:10:30:02:04:26.191	2026:10:30:02:12:37.338	491.147
316	2026:10:30:03:37:18.632	2026:10:30:03:46:23.674	545.043
317	2026:10:30:05:10:03.152	2026:10:30:05:21:06.303	663.151
318	2026:10:30:06:43:51.554	2026:10:30:06:56:11.392	739.838
319	2026:10:30:08:19:26.635	2026:10:30:08:31:17.339	710.704

320	2026:10:30:09:57:32.800	2026:10:30:10:05:56.109	503.308
321	2026:10:30:18:10:50.487	2026:10:30:18:17:49.143	418.656
322	2026:10:30:19:45:13.656	2026:10:30:19:56:37.478	683.822
323	2026:10:30:21:20:17.184	2026:10:30:21:32:38.104	740.919
324	2026:10:30:22:55:23.741	2026:10:30:23:06:45.061	681.320
325	2026:10:31:00:30:12.775	2026:10:31:00:39:38.011	565.236
326	2026:10:31:02:04:12.179	2026:10:31:02:12:23.055	490.876
327	2026:10:31:03:37:04.729	2026:10:31:03:46:09.214	544.484
328	2026:10:31:05:09:49.142	2026:10:31:05:20:51.760	662.618
329	2026:10:31:06:43:37.304	2026:10:31:06:55:56.825	739.520
330	2026:10:31:08:19:12.067	2026:10:31:08:31:02.779	710.712
331	2026:10:31:09:57:17.778	2026:10:31:10:05:41.645	503.868
332	2026:10:31:18:10:36.361	2026:10:31:18:17:33.523	417.162
333	2026:10:31:19:44:59.215	2026:10:31:19:56:22.497	683.282
334	2026:10:31:21:20:02.691	2026:10:31:21:32:23.454	740.763
335	2026:10:31:22:55:09.266	2026:10:31:23:06:30.637	681.371

Global Statistics

Min Duration	1355	2027:02:01:11:02:49.187	2027:02:01:11:02:53.577	4.391
Max Duration	4	2026:10:01:21:26:00.674	2026:10:01:21:38:26.782	746.109
Mean Duration			604.435	
Total Duration			1209475.373	

Flux Density impinging on the ground in Alaska from Formosat-8A

The Flux density is calculated as:

$$\text{flux density} = \text{EIRP} / (4\pi RSE^2)$$

where RSE is the distance from spacecraft to the ground,

and EIRP is the Effective Isotropic Radiated Power of the spacecraft.

Data from the spacecraft vendor indicates that the nominal EIRP of the FORMOSAT-8A spacecraft is 11.26 dBW for both S and X-band. The closest distance to earth during an overhead pass is 562.6 km.

Converting 11.26 dBW to scalar watts = 13.37 Watts transmitted at 2215 & 8200 MHz

Therefore:

$$\text{flux density} = 13.37 / (4\pi(562600)^2)$$

$$\text{Flux density} = 3.36 \times 10^{-12} \text{ Watts/meter}^2$$

Or

$$\text{Flux density} = 3.36 \times 10^{-13} \text{ mW/cm}^2$$

Number of Satellites	1
Number of Orbital Planes	1
Inclination	97.7 °
Apogee	575.7 km
Perigee	562.6 km

**Waiver
Exhibit C**

**PETITION FOR WAIVER OF SECTION 25.137 AND 25.114 AND OF
THE U.S. TABLE OF FREQUENCY ALLOCATIONS**

**I. TO THE EXTENT THEY APPLY, GOOD CAUSE EXISTS FOR A WAIVER OF
CERTAIN PORTIONS OF SECTIONS 25.137 AND 25.114**

Universal Space Network, Inc. (USN) is provided limited legal and technical information for the Formosat-8A satellite.¹ Pursuant to Section 25.137 of the Federal Communications Commission’s (“Commission” or “FCC”) rules, the same technical information required by Section 25.114 for U.S.-licensed space station, and certain legal information, must be submitted by earth station applicants “requesting authority to operate with a non-U.S. licensed space station to serve the United States...”² USN seeks authority to support a critical event during space craft TT&C, in-orbit testing and S-/X-band downlink activities, and not commercial service to the United States, and thus believes that Section 25.137 does not apply.

To the extent the Commission determines, however, that USN’s request for authority to provide critical spacecraft support on a special temporary basis is a request to serve the United States with a non-U. S.-licensed satellite, USN respectfully requests a waiver of Sections 25.137 and 25.114 of the Commission’s rules, to the extent that USN has not herein provided the information required by these rules.³

The Commission may grant a waiver for good cause shown.⁴ A waiver is therefore appropriate if special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest.

The US public interest is supported by supporting the Formosat-8A mission.

In this case, good cause for a waiver of portions of Section 25.114 exists. USN seeks authority to conduct TT&C, in-orbit testing and S-/X-band downlink activities for Formosat-8A. Thus, any information sought by Section 25.114 that is not relevant to the critical support – e.g., antenna patterns, energy and propulsion and orbital debris - USN does not have. In addition, USN would not easily be able to obtain such information because USN

is not the operator of the Formosat-8A satellite, nor is USN in contractual privity with that operator. Rather, USN has contracted with Swedish Space Corporation, Solna Sweden (SSC) to support TT&C and testing of the Formosat-8A space craft.

¹ FCC Form 312 Section B

² 47 C.F.R. § 25.137(a)

³ 47 C.F.R. §§25.137 and 25.114

⁴ 47 C.F.R. §1.3

Because it is not relevant to the service for which USN seeks authorization, and because obtaining the information would be a hardship, USN seeks a waiver of all the technical and legal information required by Section 25.114, to the extent it is not provided herein. As noted above, USN has provided the required information to the extent that it is relevant to TT&C, in-orbit testing and S-/X-band downlink activities for which USN seeks authorization.

Good cause also exists to waive portions of Section 25.137, to the extent the information required is not herein provided. Section 25.137 is designed to ensure that “U.S.-licensed satellite systems have effective competitive opportunities to provide analogous services” in other countries. Here, there is no commercial service being provided by the satellite; USN is providing support for TT&C, in-orbit testing and S-/X-band downlink activities while the satellite is orbiting. Thus, the purpose of the information required by Section 25.137 is not implicated here. For example, Section 25.137(d) requires earth station applicants requesting authority to operate with a non-U.S.-licensed space station that is not in orbit and operating to post a bond.⁵ The underlying purpose in having to post a bond – i.e., to prevent warehousing of orbital locations by operators seeking to serve the United States – would not be served by requiring USN to post a bond in order to conduct the 30+180 days critical support of the Formosat-8A satellite.

It is USN’s understanding that Formosat-8A is licensed by the country of Taiwan. Formosat-8A is spacecraft meant to serve Science. Thus, the purpose of Section 25.137 – to ensure that U.S. satellite operators enjoy “effective competitive opportunities” to serve foreign markets and to prevent warehousing of orbital locations service the United States – will not be undermined by grant of this waiver request.

Finally, USN notes that it expects to communicate with the Formosat-8A satellite using its U.S. earth station for a period of a few months (30+180 days). Requiring USN to obtain technical and legal information from an unrelated party, where there is no risk of interference. Given these particular facts, the waiver sought herein is appropriate.

II. GOOD CAUSE EXISTS FOR A WAIVER OF THE UNITED STATES TABLE OF FREQUENCY ALLOCATIONS

With respect to Federal Users

USN further requests a waiver of the United States Table of Frequency Allocations ("U.S. Table") as described in section 2.106 of the rules for the frequency bands 2025 – 2110 MHz (Earth-to-Space), 2200 – 2290 MHz (Space-to-Earth) and 8025-8400 MHz (Space-to-Earth).⁶
Section footnote US96 allow for non-federal Government use of these bands in the United States

on a case-by-case non-interference basis. Such use by USN necessitates a waiver of the U.S. Table.

Good cause exists to grant USN a limited waiver of the U.S. Table to allow critical support for the Formosat-8A satellite.

In considering request for case-by-case spectrum uses, the Commission has indicated that it would generally grant such waivers “where there is little potential for interference into any service authorized under the Table of Frequency Allocations and when the case-by-case operator accepts any interference from authorized services.”⁷ USN will coordinate with other parties operating communication systems in compliance with the updated Table of Frequency Allocations to ensure that no harmful interference is caused. USN seeks to operate only pursuant to special temporary authorization and thus agrees to accept any interference from authorized services. In summary, USN’s operation on a non-interference, non-protected basis support waiver of the U.S. Table of Frequency Allocations.

⁵ 47 C.F.R. §25.137(d)(4)

⁶ 47 C.F.R. §2.106

⁷ Previously approved STAs for Universal Space Network SES-STA-20020725-01174; SES-STA-20021112-02008; SES-STA-20040315-00475; SES-STA-20220512-00477

With respect to Space Launch Services

Pursuant to Section 1.3 of the Commission’s rules (47 CFR § 1.3), USN respectfully requests a waiver of certain provisions of Part 25 and Part 26 of the Commission’s rules to permit the licensing and operation of a satellite earth station using the 2025–2110 MHz and 2200–2290 MHz frequency bands for Part 25, telemetry, tracking, and command (TTC) operations of its (LEO) orbit satellite constellation.

Under 47 CFR § 1.3, the Commission may waive its rules for good cause shown. USN submits that:

The proposed earth station will support the Formosat-8A space craft which cannot be accommodated in other bands due to technical/operational constraints. Besides these bands have been used in all previous STA applications for this spacecraft, they are also technically suitable due to their propagation characteristics and compatibility with existing ground infrastructure.

These bands have been partially reallocated to space launch services under Part 26. As per 47 CFR § 25 section 2.106, this application would not comply without a waiver due to limitations on non-federal use or non-space launch service in these bands which currently restrict or limit the use of the referenced bands due to the reallocation referenced above.

USN believe this is in the public interest, technically feasible, non-disruptive to existing services, improves connectivity, emergency services, enhancing navigation and positioning system.

It is also consistent with the FCC's goals of promoting innovation, efficient use of spectrum and being in line with FCC orders and rulemakings that support flexible use of these bands (e.g., the FCC's 2023 Report and Order on commercial space launch operations 1).

This request is also consistent with prior FCC-authorized STAs, including:

Lynk Global, Inc. (File No. SES-STA-20220512-00477), which was granted temporary authority for TT&C in both bands;

Space Telecommunications, Inc. (CTC-0 CubeSat, File Number: 1082-EX-ST-2024) which was granted temporary authority for TT&C in both bands.

Geometric Energy Corporation, which received STA for TT&C in these bands for a lunar mission via a UK-based earth station.

These precedents demonstrate the FCC's established practice of granting temporary, coordinated use of these bands for TT&C under appropriate conditions.

USN request a waiver to permit temporary earth station operations and continued use of the referenced bands for Part 25 TT&C satellite communications. A waiver is necessary due to the relocation of these bands.

For Coordination with NTIA/FAS/IRAC

Applicant: Universal Space Network, Inc.

File No.: _____

Call Sign: No Call Sign

Special Temporary Authority (“STA”)

Purpose of operation: Support TT&C, in-orbit testing & S-/X-band downlink activities for Formosat-8A

Start Date: Nov. 5th, 2026

End Date: Dec. 5th, 2026

Site Location: North Pole, AK

Latitude:

64 deg 48’ 15.268” N

Longitude:

(NAD-83) 147 deg 30’ 0.771” W (NAD-83)

Transmit frequency (MHz):	2039.645833	C. Freq
Polarization:	CR	
Antenna manufacturer:	Datron	
Antenna Size in meter:	13m	
Antenna model:	1453	
Antenna Gain Transmit:	46.3 dBi @ 2039.645833	

<u>Frequency Band</u> (MHz)	<u>Emissions</u>	<u>Max.EIRP</u> (dBW)	<u>Max.EIRP Density</u> (dBW/4KHz)
2037.645833–2041.645833	500KG1D	68	47

Satellite: Formosat-8A