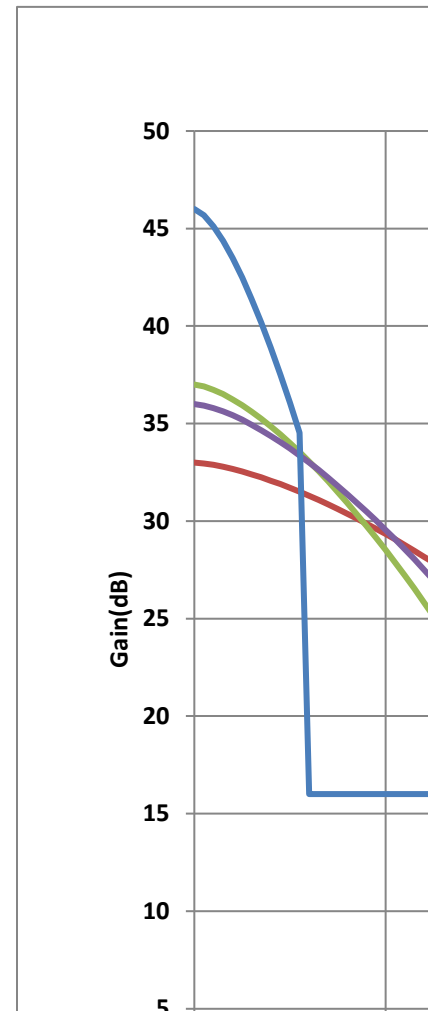


Exhibit 7

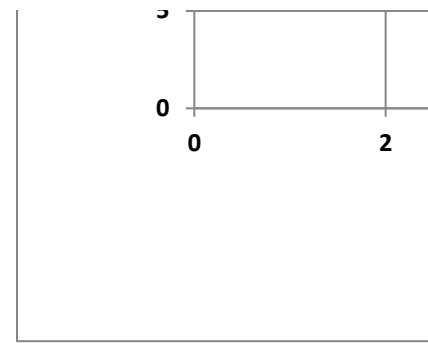
Uplink Antenna Patterns

Applicant: **Space Exploration Technologies Corp. (SpaceX)****Table 1: Ku-band Uplink Patterns**

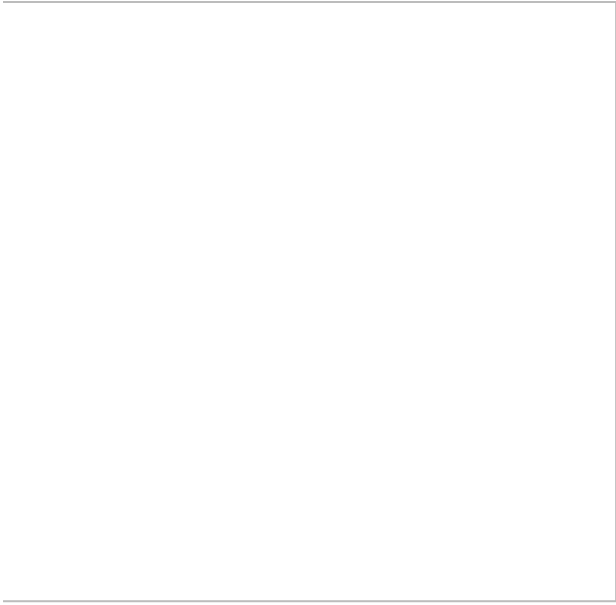
Phi [deg]	Antenna gain			
	ES-A	ES-B	ES-C	ES-D
0	33.00	37.00	36.00	46.00
0.1	32.96	36.91	35.93	45.69
0.2	32.88	36.73	35.80	45.11
0.3	32.79	36.51	35.63	44.37
0.4	32.67	36.24	35.42	43.49
0.5	32.54	35.94	35.19	42.49
0.6	32.40	35.61	34.94	41.38
0.7	32.24	35.24	34.66	40.18
0.8	32.07	34.85	34.37	38.89
0.9	31.89	34.44	34.05	37.51
1	31.70	34.00	33.72	36.06
1.1	31.50	33.54	33.37	34.53
1.2	31.30	33.06	33.00	33.00
1.3	31.08	32.55	32.62	31.50
1.4	30.85	32.03	32.22	30.00
1.5	30.62	31.49	31.81	28.50
1.6	30.38	30.93	31.38	27.00
1.7	30.13	30.35	30.94	25.50
1.8	29.87	29.76	30.49	24.00
1.9	29.61	29.14	30.02	22.50
2	29.33	28.51	29.55	21.00
2.1	29.06	27.87	29.05	20.00
2.2	28.77	27.21	28.55	19.00
2.3	28.48	26.54	28.04	18.00
2.4	28.18	25.85	27.51	17.00



2.5	27.88	25.14	26.98	16.00
2.6	27.57	7.00	26.43	16.00
2.7	27.25	7.00	25.88	16.00
2.8	26.93	7.00	25.31	16.00
2.9	26.60	7.00	24.73	15.79
3	26.27	7.00	24.14	15.42
3.1	25.93	7.00	6.00	15.06
3.2	25.58	7.00	6.00	14.72
3.3	25.23	7.00	6.00	14.39
3.4	24.88	7.00	6.00	14.06
3.5	24.51	7.00	6.00	13.75
3.6	24.15	7.00	6.00	13.44
3.7	23.78	7.00	6.00	13.14
3.8	23.40	7.00	6.00	12.85
3.9	23.02	7.00	6.00	12.57
4	22.63	7.00	6.00	12.30
4.1	22.24	7.00	6.00	12.03
4.2	21.85	7.00	6.00	11.77
4.3	21.45	7.00	6.00	11.51
4.4	21.04	7.00	6.00	11.26
4.5	20.63	7.00	6.00	11.02
4.6	3.00	7.00	6.00	10.78
4.7	3.00	7.00	6.00	10.55
4.8	3.00	7.00	6.00	10.32
4.9	3.00	7.00	6.00	10.09
5	3.00	7.00	6.00	9.87
5.1	3.00	7.00	6.00	9.66
5.2	3.00	7.00	6.00	9.45
5.3	3.00	7.00	6.00	9.24
5.4	3.00	7.00	6.00	9.04
5.5	3.00	7.00	6.00	8.84
5.6	3.00	7.00	6.00	8.64
5.7	3.00	7.00	6.00	8.45
5.8	3.00	7.00	6.00	8.26
5.9	3.00	7.00	6.00	8.08
6	3.00	7.00	6.00	7.89
6.1	3.00	7.00	6.00	7.71
6.2	3.00	7.00	6.00	7.54
6.3	3.00	7.00	6.00	7.36
6.4	3.00	6.86	6.00	7.19
6.5	3.00	6.70	6.00	7.03
6.6	3.00	6.53	6.00	6.86
6.7	3.00	6.37	6.00	6.70
6.8	3.00	6.21	6.00	6.54
6.9	3.00	6.05	6.00	6.38
7	3.00	5.89	6.00	6.22
7.1	3.00	5.74	6.00	6.07



7.2	3.00	5.58	6.00	5.91
7.3	3.00	5.43	6.00	5.77
7.4	3.00	5.29	6.00	5.62
7.5	3.00	5.14	6.00	5.47
7.6	3.00	5.00	5.98	5.33
7.7	3.00	4.86	5.84	5.19
7.8	3.00	4.72	5.70	5.05
7.9	3.00	4.58	5.56	4.91
8	3.00	4.44	5.42	4.77
9	3.00	3.16	4.14	3.49
10	3.00	2.02	3.00	2.35
11	3.00	0.98	1.96	1.31
12	2.11	0.04	1.02	0.37
13	1.25	0.00	0.15	0.00
14	0.44	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00



Gain at boresight

