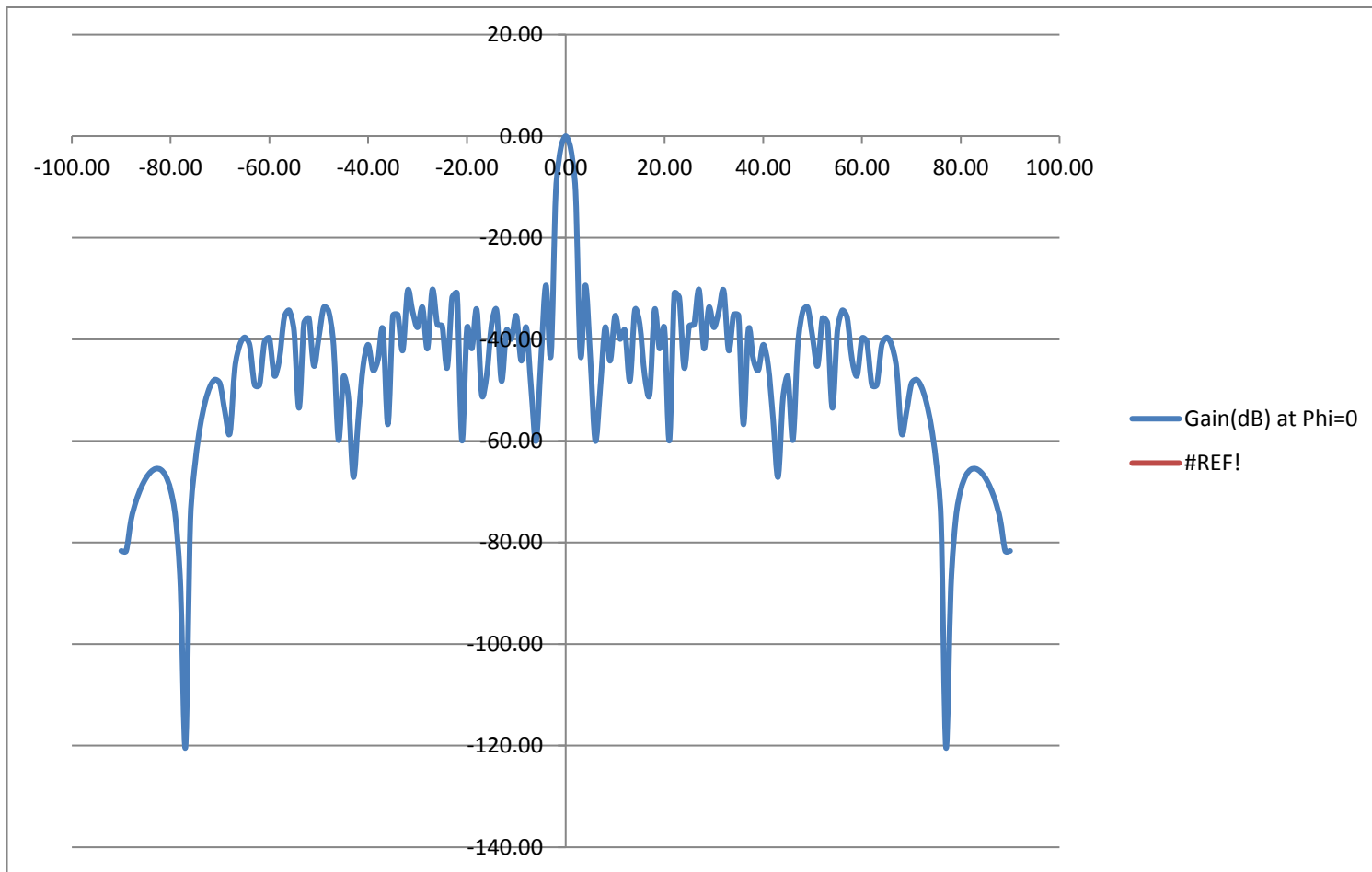


Exhibit 4

Ku-band Downlink Satellite Antenna Patterns

Applicant: **Space Exploration Technologies Corp. (SpaceX)**



theta(deg)	Gain(dB) at Phi=0
-90.00	-81.66
-89.00	-81.66
-88.00	-75.51
-87.00	-71.83
-86.00	-69.23
-85.00	-67.34
-84.00	-66.08
-83.00	-65.47
-82.00	-65.66
-81.00	-66.88
-80.00	-69.65
-79.00	-75.25
-78.00	-88.87
-77.00	-120.34
-76.00	-75.52
-75.00	-64.06
-74.00	-57.02
-73.00	-52.29
-72.00	-49.27
-71.00	-47.92
-70.00	-48.75
-69.00	-54.27
-68.00	-58.48
-67.00	-45.72
-66.00	-41.10
-65.00	-39.61
-64.00	-41.13
-63.00	-48.96
-62.00	-48.96
-61.00	-40.58
-60.00	-39.80
-59.00	-47.14
-58.00	-44.05

-57.00	-35.75
-56.00	-34.30
-55.00	-38.40
-54.00	-53.50
-53.00	-36.85
-52.00	-35.85
-51.00	-45.22
-50.00	-39.62
-49.00	-33.71
-48.00	-34.48
-47.00	-41.26
-46.00	-59.81
-45.00	-47.37
-44.00	-51.56
-43.00	-67.10
-42.00	-55.70
-41.00	-45.18
-40.00	-41.07
-39.00	-46.07
-38.00	-43.95
-37.00	-38.10
-36.00	-56.74
-35.00	-35.34
-34.00	-35.14
-33.00	-42.17
-32.00	-30.41
-31.00	-34.54
-30.00	-37.63
-29.00	-33.70
-28.00	-41.83
-27.00	-30.20
-26.00	-37.05
-25.00	-37.42
-24.00	-45.61

-23.00	-31.75
-22.00	-30.95
-21.00	-59.93
-20.00	-37.85
-19.00	-41.80
-18.00	-34.18
-17.00	-50.83
-16.00	-47.13
-15.00	-37.03
-14.00	-34.30
-13.00	-48.20
-12.00	-38.27
-11.00	-39.92
-10.00	-35.38
-9.00	-44.21
-8.00	-37.63
-7.00	-49.68
-6.00	-59.97
-5.00	-43.86
-4.00	-29.36
-3.00	-43.19
-2.00	-10.89
-1.00	-2.40
0.00	0.00
1.00	-2.40
2.00	-10.89
3.00	-43.19
4.00	-29.36
5.00	-43.86
6.00	-59.97
7.00	-49.68
8.00	-37.63
9.00	-44.21
10.00	-35.38

11.00	-39.92
12.00	-38.27
13.00	-48.20
14.00	-34.30
15.00	-37.03
16.00	-47.13
17.00	-50.83
18.00	-34.18
19.00	-41.80
20.00	-37.85
21.00	-59.93
22.00	-30.95
23.00	-31.75
24.00	-45.61
25.00	-37.42
26.00	-37.05
27.00	-30.20
28.00	-41.83
29.00	-33.70
30.00	-37.63
31.00	-34.54
32.00	-30.41
33.00	-42.17
34.00	-35.14
35.00	-35.34
36.00	-56.74
37.00	-38.10
38.00	-43.95
39.00	-46.07
40.00	-41.07
41.00	-45.18
42.00	-55.70
43.00	-67.10
44.00	-51.56

45.00	-47.37
46.00	-59.81
47.00	-41.26
48.00	-34.48
49.00	-33.71
50.00	-39.62
51.00	-45.22
52.00	-35.85
53.00	-36.85
54.00	-53.50
55.00	-38.40
56.00	-34.30
57.00	-35.75
58.00	-44.05
59.00	-47.14
60.00	-39.80
61.00	-40.58
62.00	-48.96
63.00	-48.96
64.00	-41.13
65.00	-39.61
66.00	-41.10
67.00	-45.72
68.00	-58.48
69.00	-54.27
70.00	-48.75
71.00	-47.92
72.00	-49.27
73.00	-52.29
74.00	-57.02
75.00	-64.06
76.00	-75.52
77.00	-120.34
78.00	-88.87

79.00	-75.25
80.00	-69.65
81.00	-66.88
82.00	-65.66
83.00	-65.47
84.00	-66.08
85.00	-67.34
86.00	-69.23
87.00	-71.83
88.00	-75.51
89.00	-81.66
90.00	-81.66