

Raysat, Inc. Experimental Authorization Request

Exhibit B – Antenna Patterns and Adjacent Satellite Interference Analysis

The effective main beam gain of this antenna is 26.5 dBi. The off-axis gain at angles up to ± 7 degrees is shown in the attached Figure 1. The maximum RF power to be used by the system is -14.7 dBW/4 kHz. Figure 1 below shows the antenna pattern under normal and worst case operating conditions. The antenna operation will be kept to a maximum of ± 0.5 degree pointing error under any operating conditions. The worst case skew angle is at 45 degrees. The antenna pattern does not comply with FCC Part 25.209 under worst case pointing error and worst case skew by 0.6 dB at ± 1.9 degrees, as can be seen in Figure 1 and Table 1 below. Figure 2 shows the off-axis EIRP density for angles between ± 7 degrees. Also, Tables 2-4 show the off-axis gain, power, and EIRP and compares them to the FCC Part 25 limits, for normal and worst case operations. As can be seen for all off-axis angles to 7 degrees the Raysat system will be compliant with FCC Part 25 antenna sidelobe and off-axis EIRP emissions.

Simulated 45 Degree Skew With 0.5 Degree Pointing Accuracy

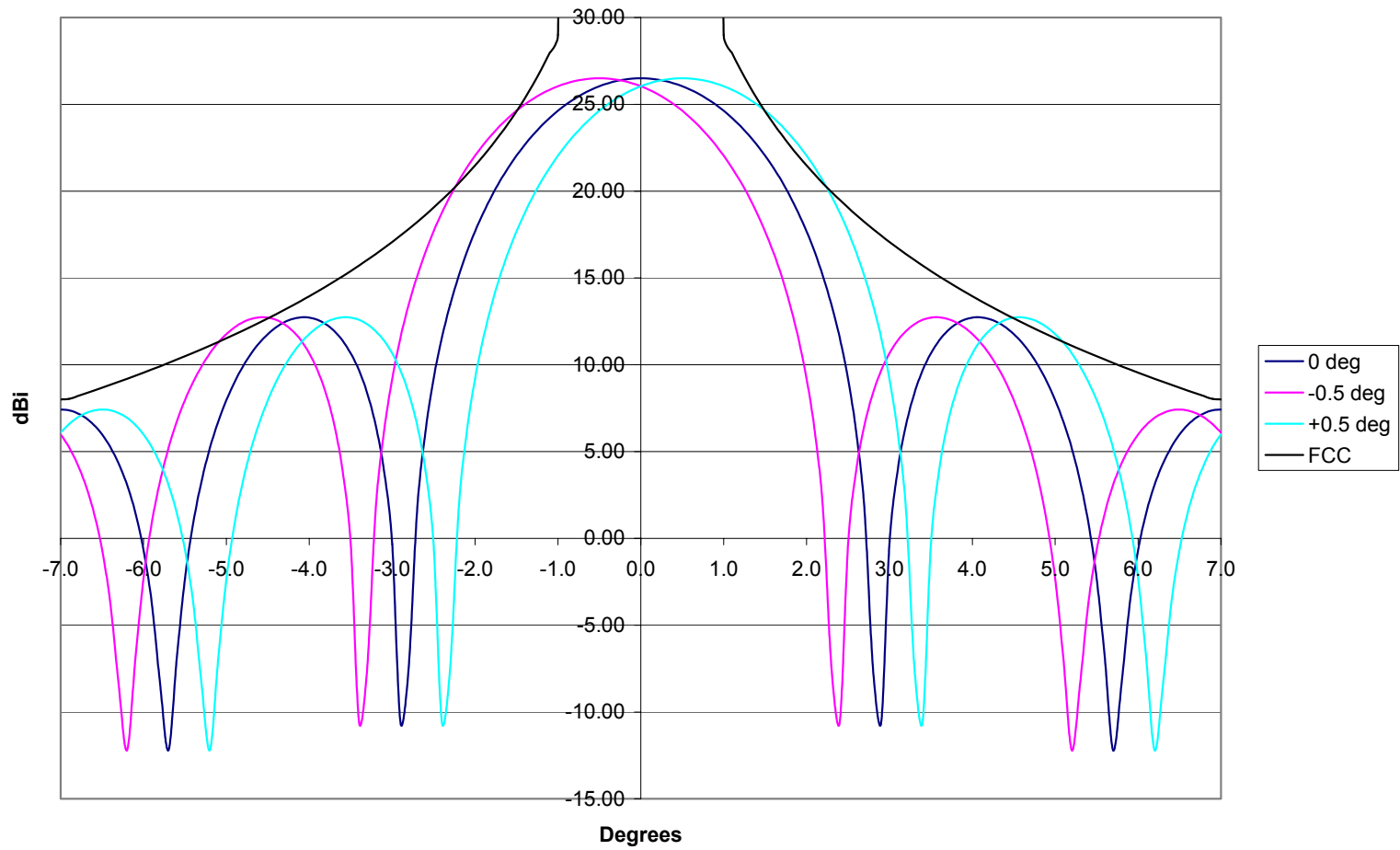


Figure 1 – Normal and worst case antenna patterns versus FCC requirement

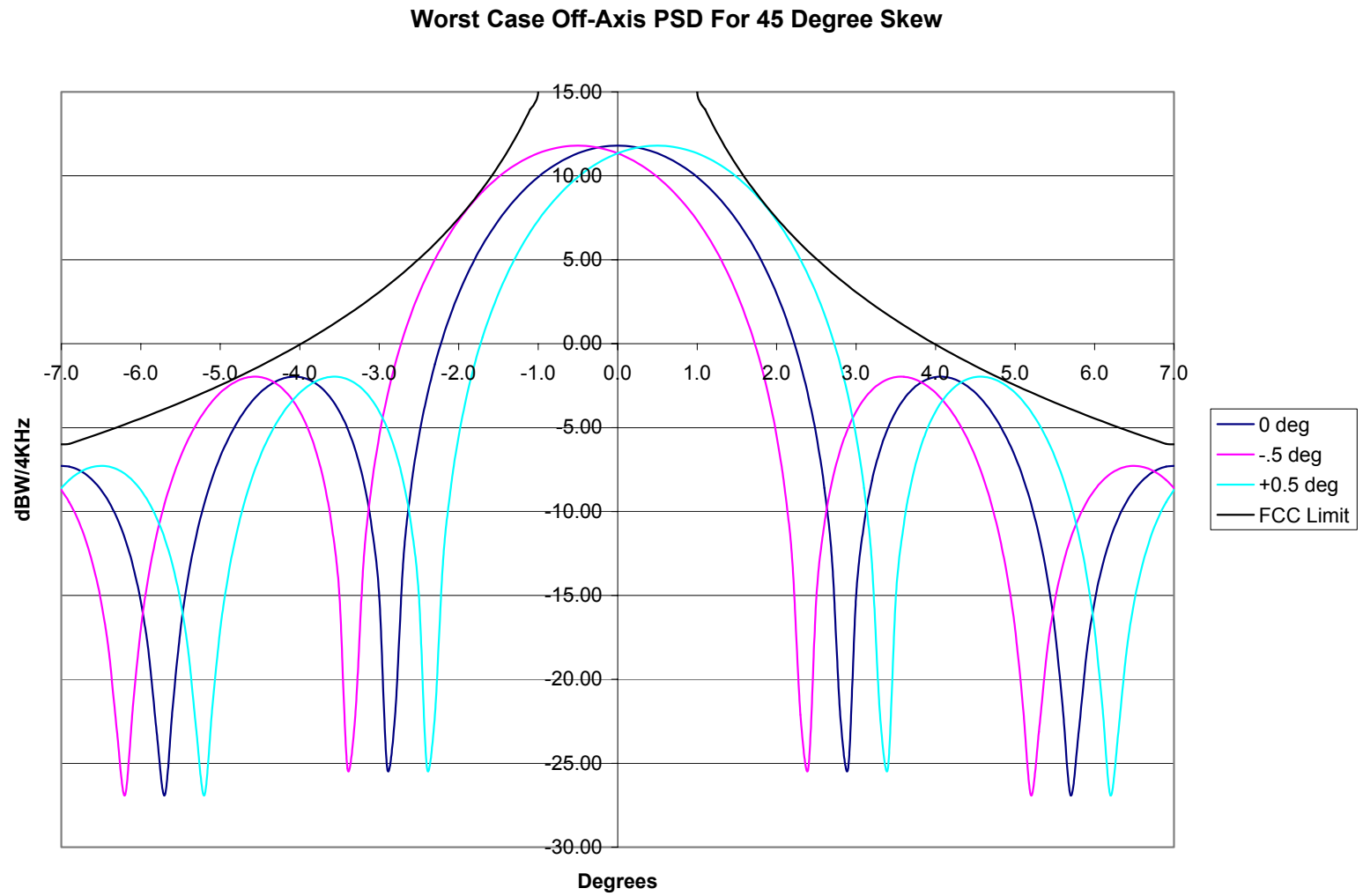


Figure 2 – Normal and worst case off-Axis EIRP density versus FCC requirement

Table 1 - RaySat EagleRay Antenna Pattern

Off-Axis Angles	Antenna Gain (dBi)	FCC Reference Pattern	Antenna Gain (dBi)	Meet or Exceeds FCC 25.209		Antenna Gain (dBi)	Meet or Exceeds FCC 25.209	
(Deg)	(0 degree Skew)	(dBi)	-0.5 degree pointing error	(Y/N)	Margin dB	+0.5 degree pointing error	(Y/N)	Margin dB
			45 degree skew			45 degree skew		
-5.2	8.41	11.10	10.65	Y		-12.21	Y	
-5.1	8.61	11.31	11.27	Y		-6.98	Y	
-5	8.61	11.53	11.77	N	-0.24	-2.31	Y	
-4.9	8.40	11.75	12.16	N	-0.42	0.91	Y	
-4.8	7.96	11.97	12.45	N	-0.49	3.31	Y	
-4.7	7.26	12.20	12.64	N	-0.45	5.18	Y	
-4.6	6.24	12.43	12.73	N	-0.30	6.71	Y	
-4.5	4.80	12.67	12.71	N	-0.04	7.97	Y	
-4.4	2.75	12.91	12.58	Y		9.03	Y	
-4.3	-0.33	13.16	12.33	Y		9.91	Y	
-4.2	-5.45	13.42	11.94	Y		10.65	Y	
-4.1	-11.23	13.68	11.40	Y		11.27	Y	
-4	-4.13	13.95	10.66	Y		11.77	Y	
-3.9	1.04	14.22	9.67	Y		12.16	Y	
-3.8	4.36	14.51	8.35	Y		12.45	Y	
-3.7	6.74	14.79	6.55	Y		12.64	Y	
-3.6	8.54	15.09	3.94	Y		12.73	Y	
-3.5	9.94	15.40	-0.33	Y		12.71	Y	
-3.4	11.03	15.71	-10.59	Y		12.58	Y	
-3.3	11.87	16.04	-7.41	Y		12.33	Y	
-3.2	12.48	16.37	1.57	Y		11.94	Y	
-3.1	12.90	16.72	6.10	Y		11.40	Y	
-3	13.12	17.07	9.19	Y		10.66	Y	
-2.9	13.14	17.44	11.55	Y		9.67	Y	
-2.8	12.96	17.82	13.47	Y		8.35	Y	
-2.7	12.53	18.22	15.08	Y		6.55	Y	
-2.6	11.82	18.63	16.47	Y		3.94	Y	
-2.5	10.75	19.05	17.68	Y		-0.33	Y	
-2.4	9.17	19.49	18.75	Y		-10.59	Y	
-2.3	6.77	19.96	19.71	Y		-7.41	Y	
-2.2	2.72	20.44	20.57	N	-0.13	1.57	Y	
-2.1	-7.05	20.94	21.34	N	-0.40	6.10	Y	
-2	-4.68	21.47	22.04	N	-0.57	9.19	Y	
-1.9	4.63	22.03	22.67	N	-0.64	11.55	Y	
-1.8	9.28	22.62	23.24	N	-0.62	13.47	Y	
-1.7	12.44	23.24	23.76	N	-0.52	15.08	Y	
-1.6	14.84	23.90	24.22	N	-0.32	16.47	Y	
-1.5	16.77	24.60	24.63	N	-0.03	17.68	Y	
-1.4	18.37	25.35	24.99	Y		18.75	Y	
-1.3	19.73	26.15	25.32	Y		19.71	Y	
-1.2	20.90	27.02	25.60	Y		20.57	Y	

Table 1 - RaySat EagleRay Antenna Pattern

Off-Axis Angles	Antenna Gain (dBi)	FCC Reference Pattern	Antenna Gain (dBi)	Meet or Exceeds FCC 25.209		Antenna Gain (dBi)	Meet or Exceeds FCC 25.209	
(Deg)	(0 degree Skew)	(dBi)	-0.5 degree pointing error	(Y/N)	Margin dB	+0.5 degree pointing error	(Y/N)	Margin dB
			45 degree skew			45 degree skew		
1.2	20.90	27.02	20.57	Y		25.60	Y	
1.3	19.73	26.15	19.71	Y		25.32	Y	
1.4	18.37	25.35	18.75	Y		24.99	Y	
1.5	16.77	24.60	17.68	Y		24.63	N	-0.03
1.6	14.84	23.90	16.47	Y		24.22	N	-0.32
1.7	12.44	23.24	15.08	Y		23.76	N	-0.52
1.8	9.28	22.62	13.47	Y		23.24	N	-0.62
1.9	4.63	22.03	11.55	Y		22.67	N	-0.64
2	-4.68	21.47	9.19	Y		22.04	N	-0.57
2.1	-7.05	20.94	6.10	Y		21.34	N	-0.40
2.2	2.72	20.44	1.57	Y		20.57	N	-0.13
2.3	6.77	19.96	-7.41	Y		19.71	Y	
2.4	9.17	19.49	-10.59	Y		18.75	Y	
2.5	10.75	19.05	-0.33	Y		17.68	Y	
2.6	11.82	18.63	3.94	Y		16.47	Y	
2.7	12.53	18.22	6.55	Y		15.08	Y	
2.8	12.96	17.82	8.35	Y		13.47	Y	
2.9	13.14	17.44	9.67	Y		11.55	Y	
3	13.12	17.07	10.66	Y		9.19	Y	
3.1	12.90	16.72	11.40	Y		6.10	Y	
3.2	12.48	16.37	11.94	Y		1.57	Y	
3.3	11.87	16.04	12.33	Y		-7.41	Y	
3.4	11.03	15.71	12.58	Y		-10.59	Y	
3.5	9.94	15.40	12.71	Y		-0.33	Y	
3.6	8.54	15.09	12.73	Y		3.94	Y	
3.7	6.74	14.79	12.64	Y		6.55	Y	
3.8	4.36	14.51	12.45	Y		8.35	Y	
3.9	1.04	14.22	12.16	Y		9.67	Y	
4	-4.13	13.95	11.77	Y		10.66	Y	
4.1	-11.23	13.68	11.27	Y		11.40	Y	
4.2	-5.45	13.42	10.65	Y		11.94	Y	
4.3	-0.33	13.16	9.91	Y		12.33	Y	
4.4	2.75	12.91	9.03	Y		12.58	Y	
4.5	4.80	12.67	7.97	Y		12.71	N	-0.04
4.6	6.24	12.43	6.71	Y		12.73	N	-0.30
4.7	7.26	12.20	5.18	Y		12.64	N	-0.45
4.8	7.96	11.97	3.31	Y		12.45	N	-0.49
4.9	8.40	11.75	0.91	Y		12.16	N	-0.42
5	8.61	11.53	-2.31	Y		11.77	N	-0.24
5.1	8.61	11.31	-6.98	Y		11.27	Y	
5.2	8.41	11.10	-12.21	Y		10.65	Y	

Table 2 - Off-Axis EIRP Calculations for Normal Operation Conditions , 0 degree skew

Data in support of claim that proposed operation meets off-axis criteria of 1986 Declaratory Order

ID Applicant: Date of Application: 07/29/05

HEADING

a1 Antenna Manufacturer: RaySat c main bore gain 26.50 dBi
a2 Antenna Model: RaySat d frequency at which gain was measured 11.95 GHz
a3 Antenna ID: Ant1 e maximum input power density (dBW/4KHz) -14.70 dBW/4KHz
b Transmit band (b): 11950 MHz

1.0 to 7 degrees calculated maximum difference in off-axis eirp density: -2.50 dBW/4KHz

TABLE

1.0 to 180 degrees calculated maximum difference in off-axis eirp density: -2.50

EIRP for Antenna Conforming to 25.209(a) operating at 25.212 power density limits

1.0 Angle (degrees)	2 25.209 Gain (dBi)	3 Off-Axis EIRP Density for -14.00 dBW/4Kz
-5.0	11.53	-2.47
-4.9	11.75	-2.25
-4.8	11.97	-2.03
-4.7	12.20	-1.80
-4.6	12.43	-1.57
-4.5	12.67	-1.33
-4.4	12.91	-1.09
-4.3	13.16	-0.84
-4.2	13.42	-0.58
-4.1	13.68	-0.32
-4.0	13.95	-0.05
-3.9	14.22	0.22
-3.8	14.51	0.51
-3.7	14.79	0.79
-3.6	15.09	1.09
-3.5	15.40	1.40
-3.4	15.71	1.71
-3.3	16.04	2.04
-3.2	16.37	2.37
-3.1	16.72	2.72
-3.0	17.07	3.07
-2.9	17.44	3.44
-2.8	17.82	3.82
-2.7	18.22	4.22
-2.6	18.63	4.63
-2.5	19.05	5.05
-2.4	19.49	5.49
-2.3	19.96	5.96
-2.2	20.44	6.44
-2.1	20.94	6.94
-2.0	21.47	7.47
-1.9	22.03	8.03
-1.8	22.62	8.62
-1.7	23.24	9.24
-1.6	23.90	9.90

Gain and EIRP for Antenna Not Conforming to 25.209(a) operating at stated maximum power density

4 Gain relative to main bore gain (dB)	5 Actual Gain in dBi	6 Off-Axis EIRP Density for input of -14.70	7 Difference in Off-Axis EIRP Density (6) minus (3)
-21.70	4.80	-9.90	-7.42
-23.75	2.75	-11.95	-9.70
-26.83	-0.33	-15.03	-13.00
-31.95	-5.45	-20.15	-18.35
-37.73	-11.23	-25.93	-24.36
-30.63	-4.13	-18.83	-17.50
-25.46	1.04	-13.66	-12.58
-22.14	4.36	-10.34	-9.50
-19.76	6.74	-7.96	-7.38
-17.96	8.54	-6.16	-5.84
-16.56	9.94	-4.76	-4.71
-15.47	11.03	-3.67	-3.89
-14.63	11.87	-2.83	-3.34
-14.02	12.48	-2.22	-3.01
-13.60	12.90	-1.80	-2.89
-13.38	13.12	-1.58	-2.98
-13.36	13.14	-1.56	-3.27
-13.54	12.96	-1.74	-3.78
-13.97	12.53	-2.17	-4.54
-14.68	11.82	-2.88	-5.59
-15.75	10.75	-3.95	-7.02
-17.33	9.17	-5.53	-8.97
-19.73	6.77	-7.93	-11.75
-23.78	2.72	-11.98	-16.20
-33.55	-7.05	-21.75	-26.38
-31.18	-4.68	-19.38	-24.43
-21.87	4.63	-10.07	-15.56
-17.22	9.28	-5.42	-11.38
-14.06	12.44	-2.26	-8.70
-11.66	14.84	0.14	-6.81
-9.73	16.77	2.07	-5.41
-8.13	18.37	3.67	-4.36
-6.77	19.73	5.03	-3.59
-5.60	20.90	6.20	-3.04
-4.59	21.91	7.21	-2.69

-1.5	24.60	10.60
-1.4	25.35	11.35
-1.3	26.15	12.15
-1.2	27.02	13.02
1.2	27.02	13.02
1.3	26.15	12.15
1.4	25.35	11.35
1.5	24.60	10.60
1.6	23.90	9.90
1.7	23.24	9.24
1.8	22.62	8.62
1.9	22.03	8.03
2.0	21.47	7.47
2.1	20.94	6.94
2.2	20.44	6.44
2.3	19.96	5.96
2.4	19.49	5.49
2.5	19.05	5.05
2.6	18.63	4.63
2.7	18.22	4.22
2.8	17.82	3.82
2.9	17.44	3.44
3.0	17.07	3.07
3.1	16.72	2.72
3.2	16.37	2.37
3.3	16.04	2.04
3.4	15.71	1.71
3.5	15.40	1.40
3.6	15.09	1.09
3.7	14.79	0.79
3.8	14.51	0.51
3.9	14.22	0.22
4.0	13.95	-0.05
4.1	13.68	-0.32
4.2	13.42	-0.58
4.3	13.16	-0.84
4.4	12.91	-1.09
4.5	12.67	-1.33
4.6	12.43	-1.57
4.7	12.20	-1.80
4.8	11.97	-2.03
4.9	11.75	-2.25
5.0	11.53	-2.47

-3.72	22.78	8.08	-2.51
-2.96	23.54	8.84	-2.50
-2.30	24.20	9.50	-2.65
-1.74	24.76	10.06	-2.96
-14.06	12.44	-2.26	-15.28
-17.22	9.28	-5.42	-17.57
-21.87	4.63	-10.07	-21.41
-31.18	-4.68	-19.38	-29.98
-33.55	-7.05	-21.75	-31.65
-23.78	2.72	-11.98	-21.22
-19.73	6.77	-7.93	-16.55
-17.33	9.17	-5.53	-13.56
-15.75	10.75	-3.95	-11.42
-14.68	11.82	-2.88	-9.82
-13.97	12.53	-2.17	-8.61
-13.54	12.96	-1.74	-7.70
-13.36	13.14	-1.56	-7.05
-13.38	13.12	-1.58	-6.63
-13.60	12.90	-1.80	-6.43
-14.02	12.48	-2.22	-6.43
-14.63	11.87	-2.83	-6.65
-15.47	11.03	-3.67	-7.11
-16.56	9.94	-4.76	-7.83
-17.96	8.54	-6.16	-8.87
-19.76	6.74	-7.96	-10.33
-22.14	4.36	-10.34	-12.37
-25.46	1.04	-13.66	-15.38
-30.63	-4.13	-18.83	-20.23
-37.73	-11.23	-25.93	-27.02
-31.95	-5.45	-20.15	-20.95
-26.83	-0.33	-15.03	-15.54
-23.75	2.75	-11.95	-12.18
-21.70	4.80	-9.90	-9.85
-20.26	6.24	-8.46	-8.14
-19.24	7.26	-7.44	-6.86
-18.54	7.96	-6.74	-5.90
-18.10	8.40	-6.30	-5.22
-17.89	8.61	-6.09	-4.76
-17.89	8.61	-6.09	-4.52
-18.09	8.41	-6.29	-4.48
-18.48	8.02	-6.68	-4.65
-19.09	7.41	-7.29	-5.03
-19.93	6.57	-8.13	-5.65

Table 3 - Off-Axis EIRP Calculations for Worst Case Operation +0.5 Pointing Error and 45 degree Skew
Data in support of claim that proposed operation meets off-axis criteria of 1986 Declaratory Order

ID	Applicant:		Date of Application:	08/02/05		
HEADING						
a1	Antenna Manufacturer:	RaySat	c	main bore gain	26.50	dBi
a2	Antenna Model:	EagleRay	d	frequency at which gain was measured	14.25	GHz
a3	Antenna ID:	Ant1	e	maximum input power density (dBw/4KHz)	-14.70	dBw/4KHz
b	Transmit band (b):	14 GHz				

1.0 to 7 degrees calculated maximum difference in off-axis eirp density: **-0.06** dBw/4KHz

TABLE *1.0 to 180 degrees calculated maximum difference in off-axis eirp density:* **-0.06**

EIRP for Antenna Conforming to 25.209(a) operating at 25.212 power density limits

1.0 Angle (degrees)	2 25.209 Gain (dBi)	3 Off-Axis EIRP Density for -14.00 dBw/4Kz
-5.0	8.00	-6.00
-4.9	11.75	-2.25
-4.8	11.97	-2.03
-4.7	12.20	-1.80
-4.6	12.43	-1.57
-4.5	12.67	-1.33
-4.4	12.91	-1.09
-4.3	13.16	-0.84
-4.2	13.42	-0.58
-4.1	13.68	-0.32
-4.0	13.95	-0.05
-3.9	14.22	0.22
-3.8	14.51	0.51
-3.7	14.79	0.79
-3.6	15.09	1.09
-3.5	15.40	1.40
-3.4	15.71	1.71
-3.3	16.04	2.04
-3.2	16.37	2.37
-3.1	16.72	2.72
-3.0	17.07	3.07
-2.9	17.44	3.44
-2.8	17.82	3.82
-2.7	18.22	4.22
-2.6	18.63	4.63
-2.5	19.05	5.05
-2.4	19.49	5.49
-2.3	19.96	5.96
-2.2	20.44	6.44
-2.1	20.94	6.94
-2.0	21.47	7.47
-1.9	22.03	8.03
-1.8	22.62	8.62
-1.7	23.24	9.24
-1.6	23.90	9.90

Gain and EIRP for Antenna Not Conforming to 25.209(a) operating at stated maximum power density

4 Gain relative to main bore gain (dB)	5 Actual Gain in dBi	6 Off-Axis EIRP Density for input of -14.70	7 Difference in Off-Axis EIRP Density (6) minus (3)
-28.81	-2.31	-17.01	-11.01
-25.59	0.91	-13.79	-11.53
-23.19	3.31	-11.39	-9.36
-21.32	5.18	-9.52	-7.71
-19.79	6.71	-7.99	-6.42
-18.53	7.97	-6.73	-5.40
-17.47	9.03	-5.67	-4.59
-16.59	9.91	-4.79	-3.95
-15.85	10.65	-4.05	-3.46
-15.23	11.27	-3.43	-3.11
-14.73	11.77	-2.93	-2.88
-14.34	12.16	-2.54	-2.76
-14.05	12.45	-2.25	-2.75
-13.86	12.64	-2.06	-2.85
-13.77	12.73	-1.97	-3.06
-13.79	12.71	-1.99	-3.39
-13.92	12.58	-2.12	-3.83
-14.17	12.33	-2.37	-4.40
-14.56	11.94	-2.76	-5.13
-15.10	11.40	-3.30	-6.02
-15.84	10.66	-4.04	-7.12
-16.83	9.67	-5.03	-8.47
-18.15	8.35	-6.35	-10.17
-19.95	6.55	-8.15	-12.37
-22.56	3.94	-10.76	-15.39
-26.83	-0.33	-15.03	-20.08
-37.09	-10.59	-25.29	-30.78
-33.91	-7.41	-22.11	-28.07
-24.93	1.57	-13.13	-19.57
-20.40	6.10	-8.60	-15.55
-17.31	9.19	-5.51	-12.98
-14.95	11.55	-3.15	-11.18
-13.03	13.47	-1.23	-9.85
-11.42	15.08	0.38	-8.86
-10.03	16.47	1.77	-8.13

-1.5	24.60	10.60
-1.4	25.35	11.35
-1.3	26.15	12.15
-1.2	27.02	13.02
1.2	27.02	13.02
1.3	26.15	12.15
1.4	25.35	11.35
1.5	24.60	10.60
1.6	23.90	9.90
1.7	23.24	9.24
1.8	22.62	8.62
1.9	22.03	8.03
2.0	21.47	7.47
2.1	20.94	6.94
2.2	20.44	6.44
2.3	19.96	5.96
2.4	19.49	5.49
2.5	19.05	5.05
2.6	18.63	4.63
2.7	18.22	4.22
2.8	17.82	3.82
2.9	17.44	3.44
3.0	17.07	3.07
3.1	16.72	2.72
3.2	16.37	2.37
3.3	16.04	2.04
3.4	15.71	1.71
3.5	15.40	1.40
3.6	15.09	1.09
3.7	14.79	0.79
3.8	14.51	0.51
3.9	14.22	0.22
4.0	13.95	-0.05
4.1	13.68	-0.32
4.2	13.42	-0.58
4.3	13.16	-0.84
4.4	12.91	-1.09
4.5	12.67	-1.33
4.6	12.43	-1.57
4.7	12.20	-1.80
4.8	11.97	-2.03
4.9	11.75	-2.25
5.0	11.53	-2.47

-8.82	17.68	2.98	-7.62
-7.75	18.75	4.05	-7.29
-6.79	19.71	5.01	-7.14
-5.93	20.57	5.87	-7.15
-0.90	25.60	10.90	-2.12
-1.18	25.32	10.62	-1.53
-1.51	24.99	10.29	-1.05
-1.87	24.63	9.93	-0.67
-2.28	24.22	9.52	-0.38
-2.74	23.76	9.06	-0.18
-3.26	23.24	8.54	-0.08
-3.83	22.67	7.97	-0.06
-4.46	22.04	7.34	-0.13
-5.16	21.34	6.64	-0.30
-5.93	20.57	5.87	-0.57
-6.79	19.71	5.01	-0.94
-7.75	18.75	4.05	-1.44
-8.82	17.68	2.98	-2.07
-10.03	16.47	1.77	-2.86
-11.42	15.08	0.38	-3.84
-13.03	13.47	-1.23	-5.05
-14.95	11.55	-3.15	-6.59
-17.31	9.19	-5.51	-8.58
-20.40	6.10	-8.60	-11.32
-24.93	1.57	-13.13	-15.50
-33.91	-7.41	-22.11	-24.15
-37.09	-10.59	-25.29	-27.00
-26.83	-0.33	-15.03	-16.43
-22.56	3.94	-10.76	-11.86
-19.95	6.55	-8.15	-8.95
-18.15	8.35	-6.35	-6.86
-16.83	9.67	-5.03	-5.25
-15.84	10.66	-4.04	-3.99
-15.10	11.40	-3.30	-2.98
-14.56	11.94	-2.76	-2.17
-14.17	12.33	-2.37	-1.53
-13.92	12.58	-2.12	-1.03
-13.79	12.71	-1.99	-0.66
-13.77	12.73	-1.97	-0.40
-13.86	12.64	-2.06	-0.25
-14.05	12.45	-2.25	-0.21
-14.34	12.16	-2.54	-0.28
-14.73	11.77	-2.93	-0.46

Table 4 - Off-Axis EIRP Calculations for Worst Case Operation -0.5 Pointing Error and 45 degree Skew
Data in support of claim that proposed operation meets off-axis criteria of 1986 Declaratory Order

ID	Applicant:		Date of Application:	07/29/05		
HEADING						
a1	Antenna Manufacturer:	RaySat	c	main bore gain	26.50	dBi
a2	Antenna Model:	EagleRay	d	frequency at which gain was measured	14.25	GHz
a3	Antenna ID:	Ant1	e	maximum input power density (dBw/4KHz)	-14.70	dBw/4KHz
b	Transmit band (b):	14 GHz				

1.0 to 7 degrees calculated maximum difference in off-axis eirp density: **-0.06** dBw/4KHz

TABLE *1.0 to 180 degrees calculated maximum difference in off-axis eirp density:* **-0.06**

EIRP for Antenna Conforming to 25.209(a) operating at 25.212 power density limits

1.0 Angle (degrees)	2 25.209 Gain (dBi)	3 Off-Axis EIRP Density for -14.00 dBw/4Kz
-5.0	11.53	-2.47
-4.9	11.75	-2.25
-4.8	11.97	-2.03
-4.7	12.20	-1.80
-4.6	12.43	-1.57
-4.5	12.67	-1.33
-4.4	12.91	-1.09
-4.3	13.16	-0.84
-4.2	13.42	-0.58
-4.1	13.68	-0.32
-4.0	13.95	-0.05
-3.9	14.22	0.22
-3.8	14.51	0.51
-3.7	14.79	0.79
-3.6	15.09	1.09
-3.5	15.40	1.40
-3.4	15.71	1.71
-3.3	16.04	2.04
-3.2	16.37	2.37
-3.1	16.72	2.72
-3.0	17.07	3.07
-2.9	17.44	3.44
-2.8	17.82	3.82
-2.7	18.22	4.22
-2.6	18.63	4.63
-2.5	19.05	5.05
-2.4	19.49	5.49
-2.3	19.96	5.96
-2.2	20.44	6.44
-2.1	20.94	6.94
-2.0	21.47	7.47
-1.9	22.03	8.03
-1.8	22.62	8.62
-1.7	23.24	9.24
-1.6	23.90	9.90

Gain and EIRP for Antenna Not Conforming to 25.209(a) operating at stated maximum power density

4 Gain relative to main bore gain (dB)	5 Actual Gain in dBi	6 Off-Axis EIRP Density for input of -14.70	7 Difference in Off-Axis EIRP Density (6) minus (3)
-14.73	11.77	-2.93	-0.46
-14.34	12.16	-2.54	-0.28
-14.05	12.45	-2.25	-0.21
-13.86	12.64	-2.06	-0.25
-13.77	12.73	-1.97	-0.40
-13.79	12.71	-1.99	-0.66
-13.92	12.58	-2.12	-1.03
-14.17	12.33	-2.37	-1.53
-14.56	11.94	-2.76	-2.17
-15.10	11.40	-3.30	-2.98
-15.84	10.66	-4.04	-3.99
-16.83	9.67	-5.03	-5.25
-18.15	8.35	-6.35	-6.86
-19.95	6.55	-8.15	-8.95
-22.56	3.94	-10.76	-11.86
-26.83	-0.33	-15.03	-16.43
-37.09	-10.59	-25.29	-27.00
-33.91	-7.41	-22.11	-24.15
-24.93	1.57	-13.13	-15.50
-20.40	6.10	-8.60	-11.32
-17.31	9.19	-5.51	-8.58
-14.95	11.55	-3.15	-6.59
-13.03	13.47	-1.23	-5.05
-11.42	15.08	0.38	-3.84
-10.03	16.47	1.77	-2.86
-8.82	17.68	2.98	-2.07
-7.75	18.75	4.05	-1.44
-6.79	19.71	5.01	-0.94
-5.93	20.57	5.87	-0.57
-5.16	21.34	6.64	-0.30
-4.46	22.04	7.34	-0.13
-3.83	22.67	7.97	-0.06
-3.26	23.24	8.54	-0.08
-2.74	23.76	9.06	-0.18
-2.28	24.22	9.52	-0.38

-1.5	24.60	10.60
-1.4	25.35	11.35
-1.3	26.15	12.15
-1.2	27.02	13.02
1.2	27.02	13.02
1.3	26.15	12.15
1.4	25.35	11.35
1.5	24.60	10.60
1.6	23.90	9.90
1.7	23.24	9.24
1.8	22.62	8.62
1.9	22.03	8.03
2.0	21.47	7.47
2.1	20.94	6.94
2.2	20.44	6.44
2.3	19.96	5.96
2.4	19.49	5.49
2.5	19.05	5.05
2.6	18.63	4.63
2.7	18.22	4.22
2.8	17.82	3.82
2.9	17.44	3.44
3.0	17.07	3.07
3.1	16.72	2.72
3.2	16.37	2.37
3.3	16.04	2.04
3.4	15.71	1.71
3.5	15.40	1.40
3.6	15.09	1.09
3.7	14.79	0.79
3.8	14.51	0.51
3.9	14.22	0.22
4.0	13.95	-0.05
4.1	13.68	-0.32
4.2	13.42	-0.58
4.3	13.16	-0.84
4.4	12.91	-1.09
4.5	12.67	-1.33
4.6	12.43	-1.57
4.7	12.20	-1.80
4.8	11.97	-2.03
4.9	11.75	-2.25
5.0	11.53	-2.47

-1.87	24.63	9.93	-0.67
-1.51	24.99	10.29	-1.05
-1.18	25.32	10.62	-1.53
-0.90	25.60	10.90	-2.12
-5.93	20.57	5.87	-7.15
-6.79	19.71	5.01	-7.14
-7.75	18.75	4.05	-7.29
-8.82	17.68	2.98	-7.62
-10.03	16.47	1.77	-8.13
-11.42	15.08	0.38	-8.86
-13.03	13.47	-1.23	-9.85
-14.95	11.55	-3.15	-11.18
-17.31	9.19	-5.51	-12.98
-20.40	6.10	-8.60	-15.55
-24.93	1.57	-13.13	-19.57
-33.91	-7.41	-22.11	-28.07
-37.09	-10.59	-25.29	-30.78
-26.83	-0.33	-15.03	-20.08
-22.56	3.94	-10.76	-15.39
-19.95	6.55	-8.15	-12.37
-18.15	8.35	-6.35	-10.17
-16.83	9.67	-5.03	-8.47
-15.84	10.66	-4.04	-7.12
-15.10	11.40	-3.30	-6.02
-14.56	11.94	-2.76	-5.13
-14.17	12.33	-2.37	-4.40
-13.92	12.58	-2.12	-3.83
-13.79	12.71	-1.99	-3.39
-13.77	12.73	-1.97	-3.06
-13.86	12.64	-2.06	-2.85
-14.05	12.45	-2.25	-2.75
-14.34	12.16	-2.54	-2.76
-14.73	11.77	-2.93	-2.88
-15.23	11.27	-3.43	-3.11
-15.85	10.65	-4.05	-3.46
-16.59	9.91	-4.79	-3.95
-17.47	9.03	-5.67	-4.59
-18.53	7.97	-6.73	-5.40
-19.79	6.71	-7.99	-6.42
-21.32	5.18	-9.52	-7.71
-23.19	3.31	-11.39	-9.36
-25.59	0.91	-13.79	-11.53
-28.81	-2.31	-17.01	-14.54