

Raysat, Inc. Special Temporary Authority Request

Exhibit 1 - Adjacent Satellite Interference Analysis

The effective main beam gain of this antenna is 26.2 dBi. The off-axis gain at angles up to +/-8 degrees is shown in the attached figures. The maximum RF power to be used by the system is -14 dBW/4 kHz. The following chart shows the off-axis gain, power, and EIRP and compares them to the FCC Part 25 limits. As can be seen for all off-axis angles to 6 degrees the Raysat system will be compliant with FCC Part 25 antenna sidelobe and off-axis EIRP emissions.

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

ID Applicant: RaySat

Date of Application: 02/24/05

HEADING

a1	Antenna Manufacturer:	RaySat	c	main bore gain	26.20	dBi
a2	Antenna Model:	2.4m	d	frequency at which gain was measured	14.25	GHz
a3	Antenna ID:	RaySat	e	maximum input power density (dBw/4KHz)	-14.00	dBw/4KHz
b	Transmit band (b):	14250.00				

1.0 to 7 degrees calculated maximum difference in off-axis eirp density: -1.69 dBw/4KHz

TABLE

1.0 to 180 degrees calculated maximum difference in off-axis eirp density: -1.69

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

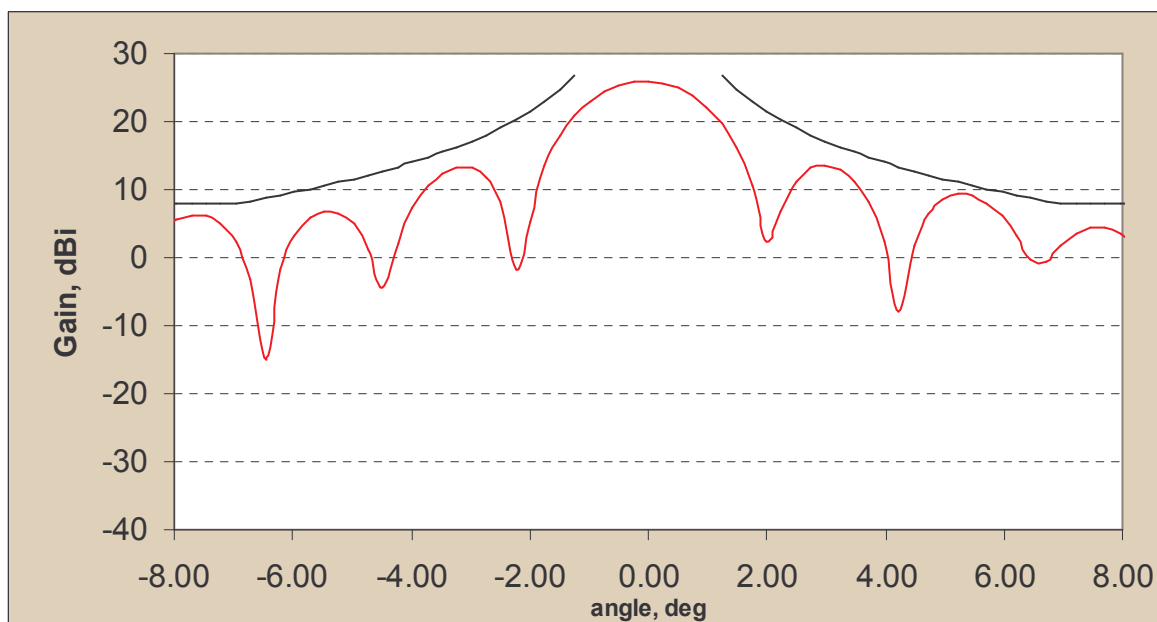
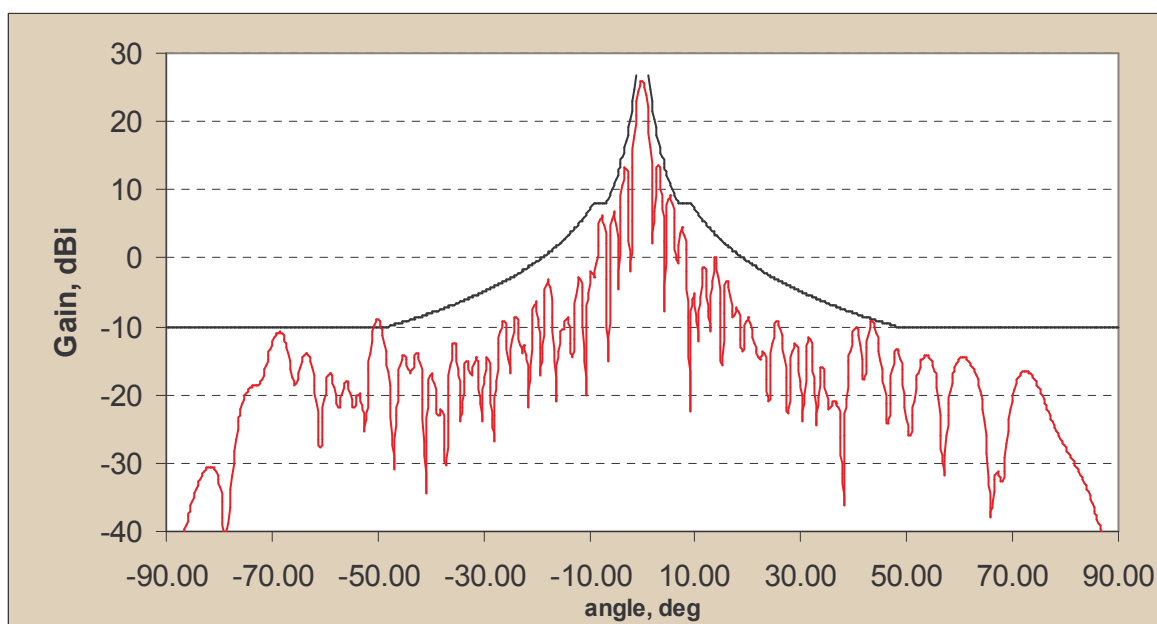
1	2	3
Angle (degrees)	25.209 Gain (dBi)	Off-Axis EIRP Density for -14.00 dBw/4Kz
1.00	29.00	15.00
1.25	26.58	12.58
1.50	24.60	10.60
1.75	22.92	8.92
2.00	21.47	7.47
2.25	20.20	6.20
2.50	19.05	5.05
2.75	18.02	4.02
3.00	17.07	3.07
3.25	16.20	2.20
3.50	15.40	1.40
3.75	14.65	0.65
4.00	13.95	-0.05
4.25	13.29	-0.71
4.50	12.67	-1.33
4.75	12.08	-1.92
5.00	11.53	-2.47
5.25	11.00	-3.00
5.50	10.49	-3.51
5.75	10.01	-3.99
6.00	9.55	-4.45

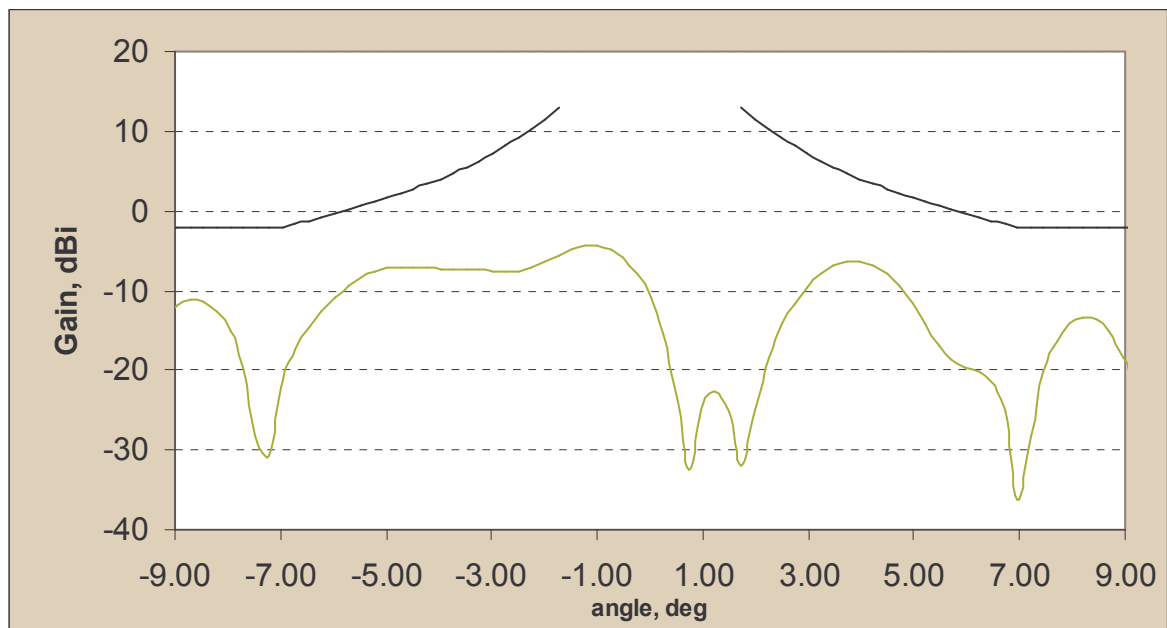
Gain and EIRP for Antenna Not Conforming to 25.209(a) operating at stated maximum power density

4	5	6	7
Gain relative to main bore gain (dB)	Actual Gain in dBi	Off-Axis EIRP Density for input of -14.00	Difference in Off-Axis EIRP Density (6) minus (3)
-4.24	21.96	7.96	-7.04
-7.60	18.60	4.60	-7.98
-11.30	14.90	0.90	-9.70
-14.80	11.40	-2.60	-11.52
-24.20	2.00	-12.00	-19.47
-18.70	7.50	-6.50	-12.70
-14.60	11.60	-2.40	-7.45
-12.50	13.70	-0.30	-4.32
-12.40	13.80	-0.20	-3.27
-13.20	13.00	-1.00	-3.20
-15.70	10.50	-3.50	-4.90
-19.80	6.40	-7.60	-8.25
-26.80	-0.60	-14.60	-14.55
-35.00	-8.80	-22.80	-22.09
-22.70	3.50	-10.50	-9.17
-19.80	6.40	-7.60	-5.68
-17.70	8.50	-5.50	-3.03
-16.90	9.30	-4.70	-1.70
-17.40	8.80	-5.20	-1.69
-18.30	7.90	-6.10	-2.11
-20.30	5.90	-8.10	-3.65

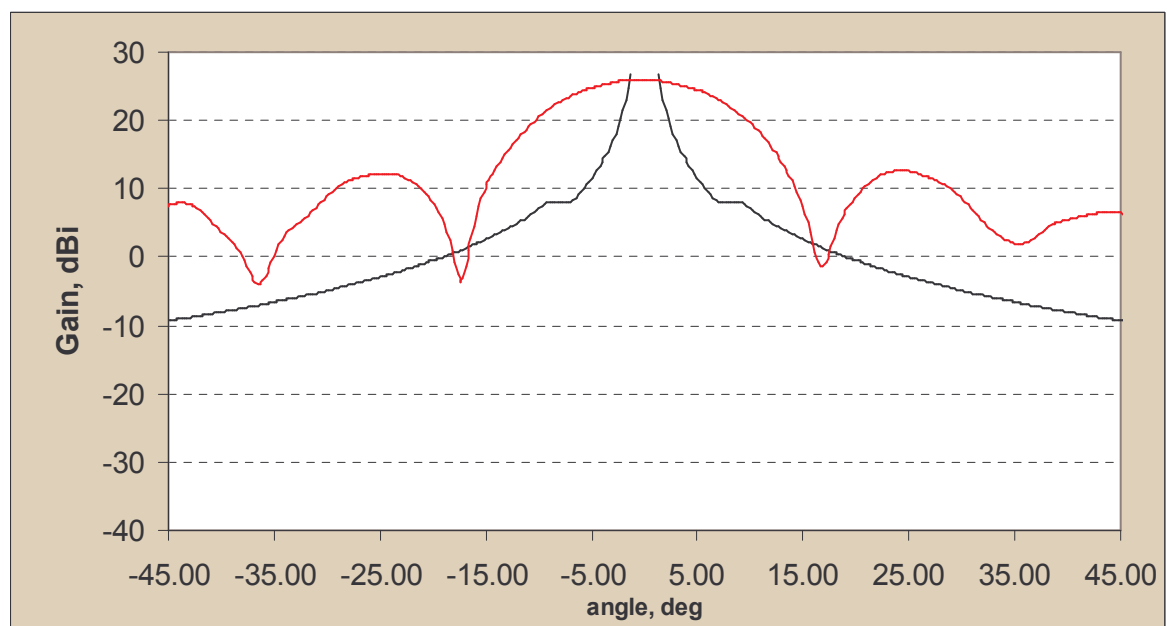
Transmit panel pattern cuts

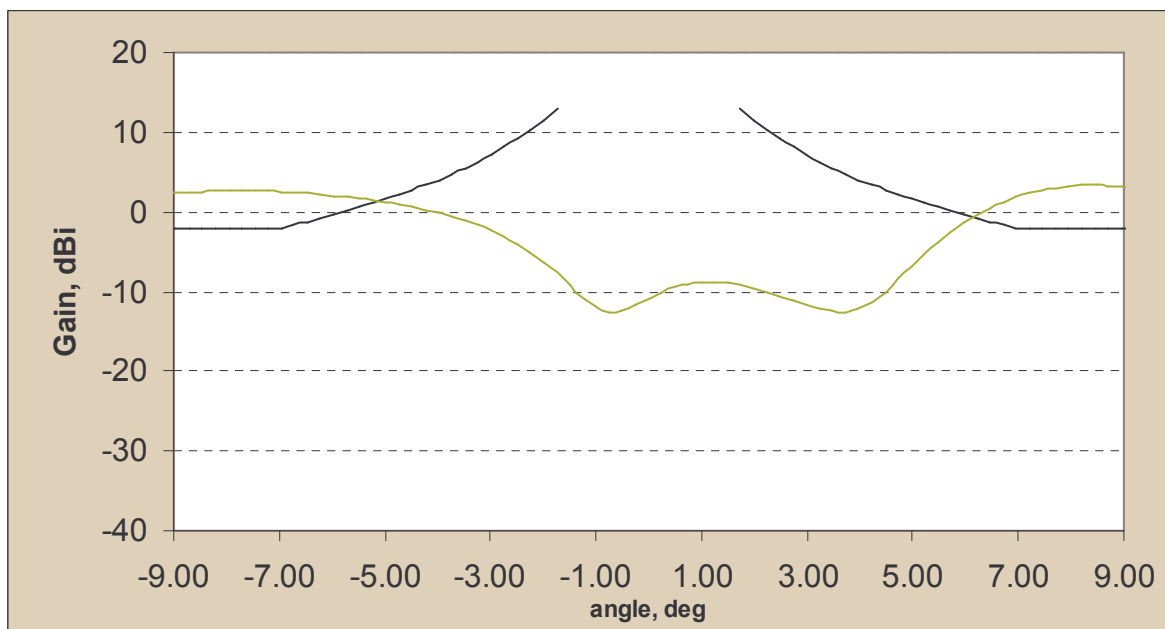
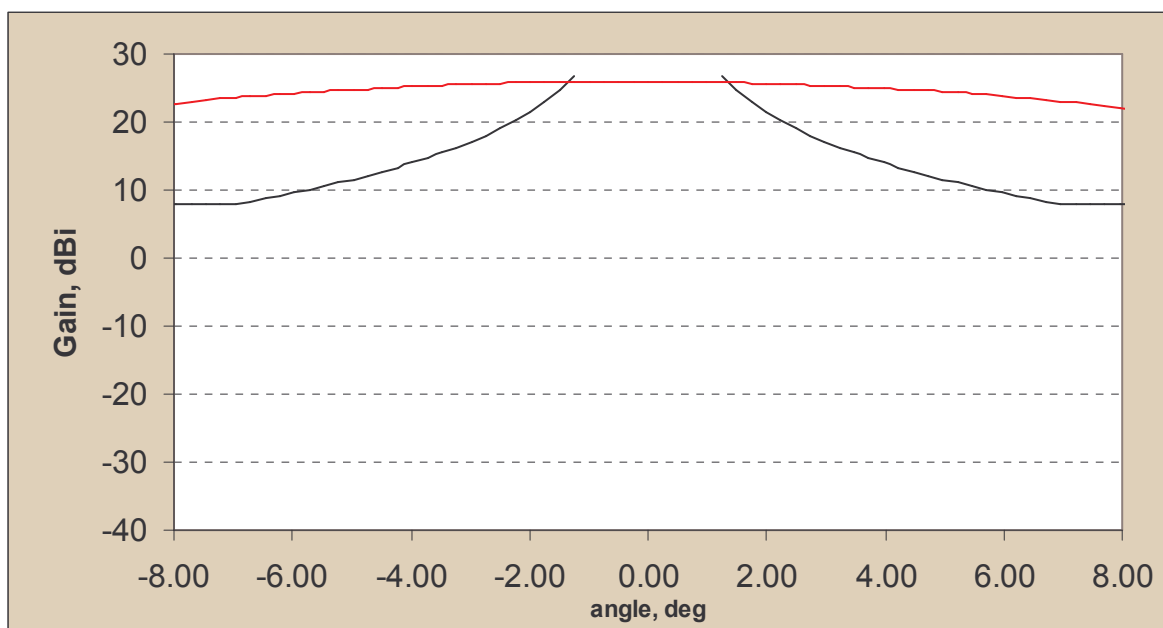
1. Azimuth pattern cuts:





2. Elevation pattern cuts





22. Feb.2005
RaySat BG