

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

**ID** Applicant: IWL Comm. Date of Application: 11/10/05

**HEADING**

a1 Antenna Manufacturer: SeaTel c main bore gain  
 a2 Antenna Model: 2.4m d frequency at which gain was measured  
 a3 Antenna ID: Ant1 e maximum input power density (dBw/4KHz)  
 b Transmit band (b): 6.000 GHz

1.0 to 7 degrees calculated maximum difference in off-axis eirp density:

**TABLE**

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

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

1 Angle (degrees)	2 25.209 Gain (dBi)	3 Off-Axis EIRP Density for -2.70 dBw/4Kz
1.00	29.00	26.30
1.10	27.97	25.27
1.20	27.02	24.32
1.25	26.58	23.88
1.30	26.15	23.45
1.40	25.35	22.65
1.50	24.60	21.90
1.60	23.90	21.20
1.70	23.24	20.54
1.80	22.62	19.92
1.90	22.03	19.33
2.00	21.47	18.77
2.10	20.94	18.24
2.20	20.44	17.74
2.30	19.96	17.26
2.40	19.49	16.79
2.50	19.05	16.35
2.60	18.63	15.93
2.70	18.22	15.52
2.80	17.82	15.12
2.90	17.44	14.74
3.00	17.07	14.37
3.33	15.94	13.24
3.67	14.88	12.18
4.00	13.95	11.25
4.33	13.09	10.39
4.67	12.27	9.57
5.00	11.53	8.83
5.33	10.83	8.13
5.67	10.16	7.46
6.00	8.00	5.30
7.00	8.00	5.30

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 -25.70
-5.00	36.70	11.00
-6.00	35.70	10.00
-7.00	34.70	9.00
-7.50	34.20	8.50
-8.00	33.70	8.00
-9.05	32.65	6.95
-10.10	31.60	5.90
-11.15	30.55	4.85
-12.20	29.50	3.80
-15.47	26.23	0.53
-18.73	22.97	-2.73
-22.00	19.70	-6.00
-23.53	18.17	-7.53
-25.07	16.63	-9.07
-26.60	15.10	-10.60
-26.73	14.98	-10.73
-26.85	14.85	-10.85
-26.98	14.73	-10.98
-27.10	14.60	-11.10
-29.07	12.63	-13.07
-31.03	10.67	-15.03
-33.00	8.70	-17.00
-34.00	7.70	-18.00
-31.00	10.70	-15.00
-31.50	10.20	-15.50
-38.00	3.70	-22.00
-34.50	7.20	-18.50
-31.70	10.00	-15.70
-30.30	11.40	-14.30
-32.00	9.70	-16.00
-38.00	3.70	-22.00
-34.00	7.70	-18.00



er

41.70 dBi  
5.93 GHz  
-25.70 dBw/4Khz

-15.27 dBw/4Khz  
-15.27

5.209(a)

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**Difference  
in Off-Axis  
EIRP Density  
(6) minus (3)**

-15.30  
-15.27  
-15.32  
-15.38  
-15.45  
-15.70  
-16.00  
-16.35  
-16.74  
-19.38  
-22.06  
-24.77  
-25.78  
-26.81  
-27.86  
-27.52  
-27.20  
-26.90  
-26.62  
-28.19  
-29.77  
-31.37  
-31.24  
-27.18  
-26.75  
-32.39  
-28.07  
-24.53  
-22.43  
-23.46  
-27.30  
-23.30

