RADIATION CALCULATIONS FOR		0.69 meter EARTH STATION			
Nomenclature	Formula	Value	Unit		
INPUT PARAMETERS					
M = Antenna Aperture Major Axis m = Antenna Aperture Minor Axis d = Diameter of Feed Mouth f = frequency		0.78 0.62 0.152 30	meters meters meters <sup>GHz</sup>		
P = Max Power into Antenna		1.5	Watts		
n = Aperture Effeciency		65%			
k = Wavelength @ 30.00 GHz		0.0100	meters		
CALCULATED VALUES					
A = Area of Reflector	PlxMxm/4	0.380	meters^2		
I = Length of Near Field	M^2/4k	15	meters		
L = Beginning of Far Field	0.6M^2/k	37	meters		
G = Antenna Gain @ 30.00 GHz	n(4xPlxA)/k^2	31,067	(44.9) dBi		
a = Area of Feed Mouth	PI*d^2/4	0.0181	meters^2		
POWER DENSITY CALCULATIONS					
Region	Maximum Power Density in Region				
	Formula	Value (mW/cm^2		Hazard Assessment (FCC MPE Limit = 1 mW/cm^2)	
1 Near Field	4nP/A	1.00		< FCC MPE Limit	
2 Far Field	GP/(4(PI)L^2)	0.27		< FCC MPE Limit	
3 Transition	<= Nr Fld Region	1.00		< FCC MPE Limit	
4 Near Reflector Surface	4P/A	1.54		> FCC MPE Limit (See Exhibit A)	
5 Between Reflector & Ground	P/A	0.38		< FCC MPE Limit	
6 Between Reflector and Feed	4P/a	32.2		> FCC MPE Limit (See Exhibit A)	