RADIATION HAZARD CALCULATIONS FOR

Nomenclature	formula	value
Input parameters		
D = antenna apperture major axis		2.4
d = diameter of feed horn		0.18
P = Max power into antenna		25.7
n = apperture efficiency		66.7
k = wavelenght @ 5.2 GHz		0.058
Calculated values		
A = area of reflector	pi*D^2/4	4.524
l = lengt of near field	D^2/(4*k)	24.960
L = beginning of far field	0.6*D^2 /k	59.904
G - antenna gain	n(4*pi*A)/k^2	11392.32
a = area of feed mouth	pi*d^2/4	0.0254

Power density calculations

Region	Maximum power density in region	
	Formula	**Value (mW/cm2)**
1. Near field	4*n*P/A	1.16
2. Far field	G*P/(4*pi*L^2)	0.65
3. Transition	<= Nr Fld region	1.16
4. Near reflector surface	4*P/A	2.27
5. Between reflector & ground	P/A	0.57
6. Between subreflector & feed horn	4*P/a	403.98

2.4 meter EARTH STATION

unit
meters
meters
Watts
%
meters
$meters^2$
meters
meters
dBi
$meters^2$
Hazard assesment (FCC MPE limit = 5 mW/cm^2)
< FCC MPE limit
< FCC MPE limit
< FCC MPE limit
< FCC MPE limit
< FCC MPE limit
> FCC MPE limit