Application: M9H95V3L



Prediction of MPE limit at given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

 $S = PG / 4\pi R^2$

where: S = Power density

- P = Power input to the antenna
- G = Antenna gain
- R = Distance to the center of radiation of the antenna

Solving this equation for G

 $G = S \left(4\pi R^2 \right) / P$

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure"

Frequency Range (MHz)	Power Density (mW/cm ²)	Averaging Time (minutes)
300 -1500	f/1500	30
1500 - 100000	1.0	30

where f = Frequency (MHz)

Prediction:

G	Antenna gain:	7.11 dBi
G	Antenna gain:	5.14 numerical
P R S	Max power input to the antenna: Distance: MPE limit for uncontrolled exposure:	29.9 dBm / 977 mW 20 cm 1 mW/cm ²

This prediction demonstrates the following:

1) The antenna gain where 1 mW/cm² would be reached at 20 cm distance is 7.11 dBi

2) The power density levels at a distance of 20 cm with typical antennas of 0 – 7 dBi are below the maximum levels allowed by FCC regulations