

MPE CALCULATIONS

The following MPE calculations are based on a measured ERP of 122.6 dBμV/m at 3m and conducted RF power of +20.5 dBm as presented to the antenna. The calculated gain of this antenna, based on the ERP measurements (over a conducting ground plane) is 6.88 dBi.

Prediction of MPE limit at a given distance

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

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal:	<u>20.50</u>	(dBm)
Maximum peak output power at antenna input terminal:	<u>112.202</u>	(mW)
Antenna gain(typical):	<u>6.88</u>	(dBi)
Maximum antenna gain:	<u>4.875</u>	(numeric)
Prediction distance:	<u>20</u>	(cm)
Prediction frequency:	<u>2400</u>	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	<u>1</u>	(mW/cm ²)
Power density at prediction frequency:	0.108825	(mW/cm ²)
Maximum allowable antenna gain:	16.5	(dBi)
Margin of Compliance at 20 cm =	9.6	dB