Prediction of MPE Limit for a Specified Distance

Reference: OET Bulletin 65, Edition 97-01

The power density formula is as follows:

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

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

Table 1 – MPE Calculation for OET Bulletin 65 Compliance

Maximum peak output power at antenna terminal:	-18.86	(dBm)
Maximum peak output power at antenna terminal:	0.0130	(mW)
Antenna Gain (typical):	0.00	(dBi)
Maximum Antenna Gain:	1.00	(numeric)
Prediction Distance:	20.00	(cm)
Prediction Frequency:	390.00	(MHz)
MPE Limit for Uncontrolled Exposure at Prediction Frequency:	0.26	(mW/cm^2)
Power Density at the Prediction Frequency:	0.0000026	(mW/cm^2)
Maximum Allowable Antenna Gain:	50.02	(dBi)
Margin of Compliance at 20 cm:	50.02	(dB)

Notes:

The peak power was calculated using the measure field strength of 76.4 dBµV/m @ 3 m. It is an effective radiated power figure by setting the antenna gain to 0 dBi.