MPE CALCULATIONS

The following MPE calculations are based on an inverted-F printed circuit board trace antenna, with a 56mm straight section, and18 mm away from the ground plane. The measured ERP of the EUT was 124.4 dBµV/m at 3 meters, and conducted RF power of +26.7 dBm as presented to the antenna. The calculated gain of this antenna, based on the ERP measurements is 2.5 dB.

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:	26.70	(dBm)
Maximum peak output power at antenna input terminal:	467.735	(mW)
Antenna gain(typical):	2.5	(dBi)
Maximum antenna gain:	1.778	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	915	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	0.62	(mW/cm^2)
Power density at prediction frequency:	0.165474	(mW/cm^2)
Maximum allowable antenna gain:	8.2	(dBi)
Margin of Compliance at 20 cm =	5.7	dB