

## Timco Engineering

### 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: 21.80 (dBm)

Maximum peak output power at antenna input terminal: 151.3561248 (mW)

Antenna gain(typical): 5.1 (dBi)

Maximum antenna gain: 3.235936569 (numeric)

Time Averaging: 100 (%)

Prediction distance: 20 (cm)

Prediction frequency: 2450 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm<sup>2</sup>)

Power density at prediction frequency: 0.097438 (mW/cm<sup>2</sup>)

Margin of compliance: -10.1 (dB)

This equates to 0.974384002 W/m<sup>2</sup>