## 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 isotropic radiator
R = distance to the center of radiation of the antenna

| | | | |
|---|---|---|---|
| PWR in dBm → | Maximum peak output power at antenna input terminal: | 46.1 | dBm |
| | Maximum peak output power at antenna input terminal: | 40738.0 | mW |
| Ant. gain in dBi → | Antenna gain(maximum): | 16.4 | dBi |
| | Maximum antenna gain: | 43.7 | numeric |
| Use the duty cycle from test report or 100% → | Time Averaging: | 100 | % |
| Separation distance from antenna to user in cm. → | Prediction distance: | 580 | cm |
| Freq. in MHz → | Prediction frequency: | 2110 | MHz |
| | FCC MPE limit for uncontrolled exposure at prediction frequency: | 1.00 | $mW/cm^2$ |
| | IC MPE limit for uncontrolled exposure at prediction frequency: | 4.90 | $W/m^2$ |
| | Power density at prediction frequency: | 0.42 | $mW/cm^2$ |
| | This equates to: | 4.21 | $W/m^2$ |