



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

Example: +31 dBm carrier level with 55 cm. separation distance allows antenna gain of 12 dBi

Maximum peak eirp: 43.00 (dBm)

Maximum peak eirp: 19952.62315 (mW)

Time Averaging: 100 (%)

Prediction distance: 55 (cm)

Prediction frequency: 869 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 0.579333333 (mW/cm²)

Power density at prediction frequency: 0.524886 (mW/cm²)

Margin of compliance: -0.4 (dB)

This equates to 5.248857193 W/m²