



Prediction of MPE limit at a given distance

802.11b Radio

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

Note: TX power at 95% duty cycle

Maximum peak output power at antenna input terminal: 26.27 (dBm)

Maximum peak output power at antenna input terminal: 423.642966 (mW)

Antenna gain(typical): 8.5 (dBi)

Maximum antenna gain: 7.079457844 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 2400-2483.5 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: 0.596664 (mW/cm²)

Maximum allowable antenna gain: 10.74269855 (dBi)

Margin of Compliance: 2.242698554

Note: The power delivered to the antenna is reduced by 0.5dB due to cable loss.