



### 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: 17.00 (dBm)  
Maximum peak output power at antenna input terminal: 50.11872 (mW)  
Antenna gain (typical): 5 (dBi)  
Maximum antenna gain: 3.162278 (numeric)  
Prediction distance: 20 (cm)  
Prediction frequency: 2400 (MHz)  
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm<sup>2</sup>)

Power density at prediction frequency: **0.03153** (mW/cm<sup>2</sup>)

Maximum allowable antenna gain: **20.0127** (dBi)

This prediction, along with the following photograph, demonstrate the following:

- 1) The power density levels at a distance of 20 cm. are well below the maximum levels allowed by the FCC regulations. At a distance of 5 cm. the power density levels are still below the maximum specified by the FCC regulations.
- 2) A minimum separation distance of 20 cm. can practically be maintained during normal use of the equipment.



Antenna  
Location

6" ruler