

### 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 device output terminal: 25.25 (dBm)  
Cable and Jumper loss 0.0 (dB)

Maximum peak output power at antenna input terminal: 25.25 (dBm)

Maximum peak output power at antenna input terminal: 334.9654392 (mW)

Single Antenna gain(typical): 7.7 (dBi) See note below

Number of Antennae 2

Total Antenna gain(typical): 10.71029996 (dBi)

Maximum antenna gain: 11.77687311 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 2437 (MHz)

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

Power density at prediction frequency: 0.784802 (mW/cm<sup>2</sup>)  
7.848021 (W/m<sup>2</sup>)

Tx On time: 1.000000

Tx period time: 1.000000

Average Factor: 100.000000

Average Power density at prediction frequency: 7.848021 (W/m<sup>2</sup>)

Maximum allowable antenna gain: 11.76269855 (dBi)

Margin of Compliance: 1.052398597 dB

Note: Antenna gain: 7.7 dBi + 10 × log10 (2) dB = 10.7 dBi

(MIMO 3x3 combined, one uncorrelated and two cross polarized correlated antennas)

