

### 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: 22.40 (dBm)  
Cable and Jumper loss 0.0 (dB)

Maximum peak output power at antenna input terminal: 22.40 (dBm)

Maximum peak output power at antenna input terminal: 173.7800829 (mW)

Single Antenna gain(typical): 7.2 (dBi) See note below

Number of Antennae 1

Total Antenna gain(typical): 7.2 (dBi)

Maximum antenna gain: 5.248074602 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 5270 (MHz)

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

Power density at prediction frequency: 0.181439 (mW/cm<sup>2</sup>)  
1.814388 (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: 1.814388 (W/m<sup>2</sup>)

Maximum allowable antenna gain: 14.61269855 (dBi)

Margin of Compliance: 7.412698554 dB

Note: (Directional gain for MIMO cross-polarized 2 x 2 is 7.2 dBi. No summation of gain is needed for cross-polarized antennas as per manufacturer's definition of the cross-polarized MIMO type.)

