

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: 22.80 (dBm) 15.247

Maximum peak output power at antenna input terminal: 190.5460718 (mW)

Antenna gain(typical): 13 (dBi)

Maximum antenna gain: 19.95262315 (numeric)

Prediction distance: 100 (cm)

Prediction frequency: 927.7 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 0.618466667 (mW/cm²)

Power density at prediction frequency: 0.030255 (mW/cm²)
0.302545 (W/m²)

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Part 90.353

Maximum peak output power at antenna input terminal: _____ (dBm) max ERP=30W

Maximum peak output power at antenna input terminal: 30000 (mW)

Antenna gain(typical): 2.15 (dBi)

Maximum antenna gain: 1.640589773 (numeric) EIRP=ERP*1.64

Prediction distance: 100 (cm)

Prediction frequency: 920.45 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 0.613633333 (mW/cm²)

Power density at prediction frequency: 0.391662 (mW/cm²)

3.916620 (W/m²)