

Prediction of Distance for a specific MPE Limit

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

$$R = \sqrt{\frac{PG}{4\pi S}}$$

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 centre of radiation of the antenna

Max input to antenna terminal

Max Antenna gain

Prediction Freq

MPE limit for uncontrolled exposure at prediction frequency

23	dBm	199.53
2.2	dBi	1.67
2.405	GHz	2.405E+09
1	mW/cm ²	

Permitted distance at MPE limit (1 mW/cm²) in cm

5.15*

Application is for a mobile device manufacturer is recommending 20cm min distance.