

MPE Calculation for FCC Uncontrolled Environment

Formula 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

Source Based Time Averaged Duty Cycle is 100% in calculation below

Maximum peak output power at antenna input terminal: Maximum antenna gain: Maximum antenna gain: Prediction distance: Prediction frequency: Time Averaged Duty Cycle 0.069 (W) 4.467 (numeric) 20 (cm) 2437 (MHz) 100 %	Maximum peak output power at antenna input terminal:	18.40	(dBm)
Maximum antenna gain: Prediction distance: Prediction frequency: 4.467 (numeric) 20 (cm) Prediction frequency: 2437 (MHz)	Maximum peak output power at antenna input terminal:	0.069	(W)
Prediction distance: 20 (cm) Prediction frequency: 2437 (MHz)	Maximum antenna gain:	6.50	(dBi)
Prediction frequency: 2437 (MHz)	Maximum antenna gain:	4.467	(numeric)
· • • • • • • • • • • • • • • • • • • •	Prediction distance:	20	(cm)
Time Averaged Duty Cycle 100 %	Prediction frequency:	2437	(MHz)
	Time Averaged Duty Cycle	100	%
MPE limit for uncontrolled exposure at prediction frequency: 10.00 (W/m^2)	MPE limit for uncontrolled exposure at prediction frequency:	10.00	(W/m^2)
Power density at prediction frequency:0.0615 (mW/cm^2)	Power density at prediction frequency:	0.0615	(mW/cm^2)
Power density at prediction frequency:0.615 (W/m^2)	Power density at prediction frequency:	0.615	(W/m^2)
Maximum allowable antenna gain:18.61 (dBi)	Maximum allowable antenna gain:	18.61	(dBi)
Margin of Compliance: 12.11 (dB)	Margin of Compliance:	12.11	(dB)