

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: Prediction frequency: Time Averaged Duty Cycle MPE limit for uncontrolled exposure at prediction frequency: Power density at prediction frequency: Power density at prediction frequency: Maximum allowable antenna gain: Maximum allowable antenna gain: | Maximum peak output power at antenna input terminal: | 18.83 | (dBm) |
|---|--|--------|-----------|
| Maximum antenna gain: Prediction distance: Prediction frequency: Time Averaged Duty Cycle MPE limit for uncontrolled exposure at prediction frequency: Power density at prediction frequency: Power density at prediction frequency: Power density at prediction frequency: Maximum allowable antenna gain: 1.000 (numeric) (numeric) 1925 (MHz) 1000 % 10.00 (W/m^2) 0.0152 (mW/cm^2) 18.18 (dBi) | Maximum peak output power at antenna input terminal: | 0.076 | (W) |
| Prediction distance: 20 (cm) Prediction frequency: 1925 (MHz) Time Averaged Duty Cycle 100 % MPE limit for uncontrolled exposure at prediction frequency: 10.00 (W/m^2) Power density at prediction frequency: 0.0152 (mW/cm^2) Power density at prediction frequency: 0.152 (W/m^2) Maximum allowable antenna gain: 18.18 (dBi) | Maximum antenna gain: | 0.00 | (dBi) |
| Prediction frequency: 1925 (MHz) Time Averaged Duty Cycle 100 % MPE limit for uncontrolled exposure at prediction frequency: 10.00 (W/m^2) Power density at prediction frequency: 0.0152 (mW/cm^2) Power density at prediction frequency: 0.152 (W/m^2) Maximum allowable antenna gain: 18.18 (dBi) | Maximum antenna gain: | 1.000 | (numeric) |
| Time Averaged Duty Cycle MPE limit for uncontrolled exposure at prediction frequency: Power density at prediction frequency: Power density at prediction frequency: Power density at prediction frequency: Maximum allowable antenna gain: 100 W/m^2) 0.0152 (W/m^2) 18.18 (dBi) | Prediction distance: | 20 | (cm) |
| MPE limit for uncontrolled exposure at prediction frequency: Power density at prediction frequency: Power density at prediction frequency: Power density at prediction frequency: Maximum allowable antenna gain: 10.00 (W/m^2) 0.0152 (W/m^2) 18.18 (dBi) | Prediction frequency: | 1925 | (MHz) |
| Power density at prediction frequency: 0.0152 (mW/cm^2) Power density at prediction frequency: 0.152 (W/m^2) Maximum allowable antenna gain: 18.18 (dBi) | Time Averaged Duty Cycle | 100 | % |
| Power density at prediction frequency: 0.152 (W/m^2) Maximum allowable antenna gain: 18.18 (dBi) | MPE limit for uncontrolled exposure at prediction frequency: | 10.00 | (W/m^2) |
| Maximum allowable antenna gain: 18.18 (dBi) | Power density at prediction frequency: | 0.0152 | (mW/cm^2) |
| | Power density at prediction frequency: | 0.152 | (W/m^2) |
| Margin of Compliance 10.10 (dD) | Maximum allowable antenna gain: | 18.18 | (dBi) |
| Margin of Compliance:18.18 (dB) | Margin of Compliance: | 18.18 | (dB) |