

RF EXPOSURE

Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1093 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm ²) | Averaging Time (minute) |
|---|-------------------------------|-------------------------------|-------------------------------------|-------------------------|
| Limits for General Population/Uncontrolled Exposure | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *(180/f ²) | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | / | / | F/1500 | 30 |
| 1500-15000 | / | / | 1.0 | 30 |

F = frequency in MHz

* = Plane-wave equipment power density

MPE Prediction

Prediction of MPE limit at a given distance

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

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

Where: S = Power density

P = Power input to 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: | 10.46 | (dBm) |
| Maximum peak output power at antenna input terminal: | 11.11731727 | (mW) |
| Duty cycle: | 99 | (%) |
| Maximum Pav : | 11.0061441 | (mW) |
| Antenna gain (typical): | -3.06 | (dBi) |
| Maximum antenna gain: | 0.494310687 | (numeric) |
| Prediction distance: | 20 | (cm) |
| Prediction frequency: | 2412 | (MHz) |
| | | |
| | | |
| MPE limit for uncontrolled exposure at prediction | 1 | (mW/cm ²) |
| Power density at predication frequency at 20 (cm) | 0.0010829 | (mW/cm ²) |
| | | |
| Measurement Result: | | |
| The predicted power density level at 20 cm is | 0.01082893 | (W/m ²) |
| This is below the uncontrolled exposure limit of 1 mW/cm | 2412 | MHz |

Measurement Result

The predicted power density level at 20 cm is 0.01082893 W/cm². This is below the uncontrolled exposure limit of 1 mW/cm² at 2412MHz.