

FCC §15.247(i) & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to FCC §15.247(i) and §2.1091 (Mobile Devices) RF exposure is calculated.

Limits for General Population/Uncontrolled Exposure

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
1500-100,000	/	/	1.0	30

Note: f = frequency in MHz

* = Plane-wave equivalent power density

MPE Prediction

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

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 (dBm): 12.88

Maximum peak output power (mW): 19.409

Prediction distance (cm): 20.0

Prediction frequency (MHz): 2475

Antenna Gain, typical (dBi): 1.0

Maximum Antenna Gain (numeric): 1.259

Power density at predication frequency and distance (mW/cm²): 0.00386

MPE limit for uncontrolled exposure at predication frequency (mW/cm²): 1.0

Result:

The predicted power density level at 20 cm is 0.00386 mw/cm² which is below the uncontrolled exposure limit of 1.0 mw/cm², The EUT is used at least 20 cm away from user's body. It is determined as mobile equipment and complies with the MPE limit.