

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

See § 1.1307(b)(1) of this Chapter.

Limit

Limits for general population/Uncontrolled exposure

Frequency Range [MHz]	Electric Field Strength (E) [V/m]	Magnetic Field Strength (H) [A/m]	Power Density (S) [mW/cm ²]	Averaging Time E ² , H ² or S [minutes]
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 - 1 500	--	--	f/1500	30
1 500 - 100 000	--	--	1.0	30

f = frequency in MHz

*Plane-wave equivalent power density

MPE Prediction

Predication of MPE limit at a given distance.

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

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

Where: S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

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 (appropriate units, e.g., cm)

1) Bluetooth

Maximum peak output power at antenna input : 0.50 dBm (1.122 mW)

Prediction distance : 20 cm

Predication frequency : 2 402 MHz

Antenna gain(Max) : 0 dBi (1 numeric)

Power density at predication frequency at 20 cm : 0.000 223 22 mW/cm²

MPE Limit for : 1.0 mW/cm²

Test Result

The power density level at 20 cm is **0.000 223 22 mW/cm²**

2) 2.4 GHz RF

Maximum peak output power at antenna input	: 0 dBm (1.00 mW)
Prediction distance	: 20 cm
Predication frequency	: 2 477 MHz
Antenna gain(Max)	: -5.11 dBi (0.308 numeric)
Power density at predication frequency at 20 cm	: 0.000 061 274 mW/cm ²
MPE Limit for	: 1.0 mW/cm ²

Test Result

The power density level at 20 cm is **0.000 061 274 mW/cm²**

Note: EUT doesn't work both BT and 2.4 GHz RF at the same time.