

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
300-1500	--	--	f/1500	30
1500-100 000	--	--	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)

802.11b

Maximum peak output power at antenna input	: 9.76 dBm (9.462 mW)
Prediction distance	: 20 cm
Predication frequency	: 2 412 MHz
Antenna gain(Max)	: 2.50 dBi (1.78 numeric)
Power density at predication frequency at 20 cm	: 0.00334757 mW/cm ²
MPE Limit for	: 1 mW/cm ²

802.11g

Maximum peak output power at antenna input	: 11.18 dBm (13.122 mW)
Prediction distance	: 20 cm
Predication frequency	: 2 442 MHz
Antenna gain(Max)	: 2.50 dBi (1.78 numeric)
Power density at predication frequency at 20 cm	: 0.000464227 mW/cm ²
MPE Limit for	: 1 mW/cm ²

Test Result

The power density level at 20 cm is 0.00334757 mW/cm² and 0.000464227 mW/cm², which is below the uncontrolled exposure limit of 1 mW/cm² at 2 412 MHz to 2 472 MHz