§15.247 (i) and §1.1307 (b) (1) - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Standard Applicable

According to subpart 15.247 (i) and subpart 1.1307 (b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

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				
0.3–3.0	614	1.63	*(100)	30
3.0–30	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

Test Data

Prediction of MPE limit at a given distance

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

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

S: Power density, in mW/cm^2
P: Power input to the antenna, in mW
G: numeric gain of the antenna
R: distance to the center of the antenna, in cm

802.11b Mode

Maximum peak output power at antenna input terminal (dBm):	19.78
Maximum peak output power at antenna input terminal (mW):	95.06
Prediction distance (cm):	20
Prediction frequency (MHz):	2412
Antenna Gain, typical (dBi):	2.0
Maximum Antenna Gain (numeric):	1.584
The worst case is power density at predication frequency at 20 cm:	0.0300
MPE limit for general population exposure at prediction frequency (mW/cm^2):	1.0

802.11g Mode

Maximum peak output power at antenna input terminal (dBm):	19.32
Maximum peak output power at antenna input terminal (mW):	85.51
Prediction distance (cm):	20
Prediction frequency (MHz):	2412
Antenna Gain, typical (dBi):	2.0
Maximum Antenna Gain (numeric):	1.584
The worst case is power density at predication frequency at 20 cm:	0.02696
MPE limit for general population exposure at prediction frequency (mW/cm^2):	1.0

Test Result

The EUT complies with 20 cm distance.