

# RF Exposure Evaluation

## 1. Limits for Maximum Permissible Exposure

According to FCC Part 1.1307, 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 level in excess of the commission's guidelines.

According to FCC Part 1.1310 RF exposure is calculated.

<b>Limits for General Population/ Uncontrolled Exposure</b>			
Frequency Range (MHz)	Electric Field Strength(E)(V/m)	Magnetic Field Strength (H)(A/m)	Power Density (S)(mW/cm <sup>2</sup> )
0.3-1.34	614	1.63	(100)*
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*
30-300	27.5	0.073	0.2
300-1500			f/1500
1500-100,000			1.0

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

Where:

S = power density

P = power input to the antenna in 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

## 2. Test result

### Product Type: 4 Port Wireless DSL Router

Maximum peak output power at antenna input terminal(mW):	<b>270</b>
Prediction distance(cm):	<b>20</b>
Predication frequency(MHz):	<b>2437</b>
Antenna Gain (typical) (dBi):	<b>3</b>
Power density at predication frequency at <u>20</u> cm(mW/cm <sup>2</sup> ):	<b>0.161</b>
MPE limit for RF exposure at prediction frequency(mW/cm <sup>2</sup> ):	<b>1</b>

## 3. Conclusion

Test result is passed.