RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in § 1.1307(b)

Limits for Maximum Permissible Exposure(MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm^2)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500			**F/300**	**6**
1500-100000	**--**		**5**	**6**
(B) Limits for General Population/Uncontrol Exposures				
300-1500			**F/1500**	**6**
1500-100000	**--**		**1**	**30**

Friis transmission formula: $Pd=(Pout*G)\backslash(4*pi*R^2)$

Where Pd= Power density in mW/cm^2
Pout=output power to antenna in mW
G= gain of antenna in linear scale
Pi=3.1416
R= distance between observation point and center of the radiator in cm
Pd the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

	Channel	Channel Frequency (MHz)	Output Peak power (dBm)	Output Peak power (mW)	Antenna Gain (dBi)	Power density at 20cm (mW/cm^2)	Power density Limits (mW/cm^2)
IEEE 802.11b	Low	2412.00	16.40	43.65	2	0.017368	1
	Mid	2437.00	16.89	48.87	2	0.019445	1
	High	2462.00	17.25	53.09	2	0.021124	1
IEEE 802.11g	Low	2412.00	16.02	39.99	2	0.015912	1
	Mid	2437.00	16.30	42.66	2	0.016974	1
	High	2462.00	15.96	39.45	2	0.015697	1
Draft 802.11n Standard-20 MHz	Low	2412.00	15.18	32.96	2	0.013114	1
	Mid	2437.00	16.05	40.27	2	0.016023	1
	High	2462.00	15.13	32.58	2	0.012963	1
Draft 802.11n Wide-40 MHz	Low	2422.00	14.32	27.04	2	0.010759	1
	Mid	2437.00	14.70	29.51	2	0.011742	1
	High	2452.00	13.85	24.27	2	0.009657	1

The MPE is calculated as 0.021124 mW / cm^2 < limit 1 mW / cm^2. So, RF exposure limit warning or SAR test are not required.