

# FCC ID : 2APN5T0US

## 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 <sup>2</sup> )	Average Time
<b>(A) Limits for Occupational/Control Exposures</b>				
<b>300-1500</b>	--	--	<b>F/300</b>	<b>6</b>
<b>1500-100000</b>	--	--	<b>5</b>	<b>6</b>
<b>(B) Limits for General Population/Uncontrol Exposures</b>				
<b>300-1500</b>	--	--	<b>F/1500</b>	<b>6</b>
<b>1500-100000</b>	--	--	<b>1</b>	<b>30</b>

### 11.1 Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

$P_d$ = Power density in mW/cm<sup>2</sup>

$P_{out}$ =output power to antenna in mW

$G$ = Numeric gain of the antenna relative to isotropic antenna

$\pi$ =3.1416

$R$ = distance between observation point and center of the radiator in 20cm

$P_d$  the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the nd total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

### 11.2 Measurement Result

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
2.412	11b	13.37	11.26	10dBm to 12dBm	12	1.26	0.00397	<1
2.437	11b	15.03	11.77	10dBm to 12dBm	12	1.26	0.00397	<1
2.462	11b	11.32	10.54	10dBm to 12dBm	12	1.26	0.00397	<1
2.412	11g	25.59	14.08	14dBm to 16dBm	16	1.26	0.00998	<1
2.437	11g	32.14	15.07	14dBm to 16dBm	16	1.26	0.00998	<1
2.462	11g	17.74	12.49	11dBm to 13dBm	13	1.26	0.00500	<1
2.412	11n HT20	24.72	13.93	13dBm to 15dBm	15	1.26	0.00793	<1
2.437	11n HT20	30.97	14.91	13dBm to 15dBm	15	1.26	0.00793	<1
2.462	11n HT20	16.67	12.22	11dBm to 13dBm	13	1.26	0.00500	<1