

## **FCC ID : 2AJNW-BL809WN**

### **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)

<b>Frequency Range(MHz)</b>	<b>Electric Field Strength(V/m)</b>	<b>Magnetic Field Strength(A/m)</b>	<b>Power Density(mW/cm<sup>2</sup>)</b>	<b>Average Time</b>
<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 20 cm

Pd 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 Measurement Power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2 )	Power density Limits (mW/cm2 )
2.412	11b	40.18	16.04	15dBm to 17dBm	17	1.995	0.02000	1
2.437	11b	38.46	15.85	15dBm to 17dBm	17	1.995	0.02000	1
2.462	11b	37.58	15.75	15dBm to 17dBm	17	1.995	0.02000	1
2.412	11g	109.90	20.41	20.4dBm to 22.4dBm	22.4	1.995	0.06934	1
2.437	11g	161.44	22.08	20.4dBm to 22.4dBm	22.4	1.995	0.06934	1
2.462	11g	161.44	22.08	20.4dBm to 22.4dBm	22.4	1.995	0.06934	1
2.412	11n HT20	171.79	<b>22.35</b>	20.4dBm to 22.4dBm	22.4	1.995	0.06934	1
2.437	11n HT20	162.93	22.12	20.4dBm to 22.4dBm	22.4	1.995	0.06934	1
2.462	11n HT20	162.55	22.11	20.4dBm to 22.4dBm	22.4	1.995	0.06934	1