

FCC ID : 2AL9D-FWR9600B

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

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

Where

P_d = Power density in mW/cm², P_{out} =output power to antenna in mW, G = Numeric gain of the antenna relative to isotropic antenna

π =3.1416, R = distance between observation point and center of the radiator in cm (R =20cm)

P_d the limit of MPE, 1mW/cm².

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.

11.2 Measurement Result

Tune up Power

Mode	2.4G WLAN	5.2G WLAN	5.8G WLAN
802.11b	16.5±1	N/A	N/A
802.11g	19.0±1	N/A	N/A
802.11a	N/A	13.0±1	10.0±1
802.11n HT20/ac VHT20	22±1	14.0±1	11.0±1
802.11n HT40/ ac VHT40	22±1	14.0±1	11.0±1
802.11ac VHT80	N/A	11.0±1	10.0±1

The power test data see the RF report

Two 2.4G WIFI Antenna Gain: 5dBi, Direction Gain: 8.01dBi

Two 5G WIFI Antenna Gain: 5dBi, Direction Gain: 8.01dBi

Mode	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
2.4G WIFI	23.0	6.324	0.2510	1
5G WIFI	15.0	6.324	0.0398	1
2.4G WIFI + 5G WIFI	/	/	0.2908	1

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