

FCC ID : A5JC633701

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/cm²)	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: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

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 ($R=20$ cm)

Under the limit of MPE, $1\text{mW}/\text{cm}^2$. If we know the maximum gain of the antenna, through the calculation, we will know the distance where the MPE limit is reached.

11.2 Measurement Result

WIFI Antenna Gain: 3dBi

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm^2)	Power density Limits (mW/cm^2)
2.412	11b	19.47	20 ± 1	21	1.995	0.0500	1
2.437	11b	19.86	20 ± 1	21	1.995	0.0500	1
2.462	11b	20.34	20 ± 1	21	1.995	0.0500	1
2.412	11g	19.14	20 ± 1	21	1.995	0.0500	1
2.437	11g	19.58	20 ± 1	21	1.995	0.0500	1
2.462	11g	20.06	20 ± 1	21	1.995	0.0500	1
2.412	11n HT20	19.15	20 ± 1	21	1.995	0.0500	1
2.437	11n HT20	19.57	20 ± 1	21	1.995	0.0500	1
2.462	11n HT20	20.06	20 ± 1	21	1.995	0.0500	1
2.422	11n HT40	18.82	19 ± 1	20	1.995	0.0397	1
2.437	11n HT40	19.05	19 ± 1	20	1.995	0.0397	1
2.452	11n HT40	19.32	19 ± 1	20	1.995	0.0397	1