

FCC ID : 2ADDWTB1206

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: $P_d = \frac{P_{out} \cdot G}{4 \cdot \pi \cdot R^2}$

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 20cm

P_d the limit of MPE, 1mW/cm². 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

WIFI 2.4G:

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/cm2)	Power density Limits (mW/cm2)
2.412	11b	102.80	20.12	19dBm to 21dBm	21	1.58	0.03957	<1
2.437	11b	99.31	19.97	19dBm to 21dBm	21	1.58	0.03957	<1
2.462	11b	112.72	20.52	19dBm to 21dBm	21	1.58	0.03957	<1
2.412	11g	236.05	23.73	23dBm to 25dBm	25	1.58	0.09940	<1
2.437	11g	272.27	24.35	23dBm to 25dBm	25	1.58	0.09940	<1
2.462	11g	244.91	23.89	23dBm to 25dBm	25	1.58	0.09940	<1
2.412	11n HT20	233.88	23.69	23dBm to 25dBm	25	1.58	0.09940	<1
2.437	11n HT20	266.07	24.25	23dBm to 25dBm	25	1.58	0.09940	<1
2.462	11n HT20	239.33	23.79	23dBm to 25dBm	25	1.58	0.09940	<1