

FCC ID : 2ACWIWD40FK2550

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 20 cm

Pd 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

Channel Freq. (MHz)	modulation	EIRP (mW)	EIRP (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	314.77	24.98	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.437	11b	306.20	24.86	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.462	11b	325.84	25.13	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.412	11g	373.25	25.72	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.437	11g	366.44	25.64	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.462	11g	386.37	25.87	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.412	11n HT20	393.55	25.95	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.437	11n HT20	383.71	25.84	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.462	11n HT20	405.51	26.08	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.422	11n HT40	350.75	25.45	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.437	11n HT40	355.63	25.51	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1
2.452	11n HT40	365.59	25.63	24.5dBm to 26.5dBm	26.5	1.58	0.14115	1