

FCC ID : SSMMEFVBA22

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

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 cm (R=20cm)

Pd the limit of MPE, $1\text{mW}/\text{cm}^2$. 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

WIFI DTS

Channel Freq. (GHz)	modulation	conducted power (mW)	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	13.88	13.5dBm to 15.5dBm	15.5	1.58	0.0112	1
2.437	11b	14.80	13.5dBm to 15.5dBm	15.5	1.58	0.0112	1
2.462	11b	15.16	13.5dBm to 15.5dBm	15.5	1.58	0.0112	1
2.412	11g	19.46	19.0dBm to 21.0dBm	21.0	1.58	0.0397	1
2.437	11g	20.35	19.0dBm to 21.0dBm	21.0	1.58	0.0397	1
2.462	11g	20.66	19.0dBm to 21.0dBm	21.0	1.58	0.0397	1
2.412	11n HT20	18.05	18.0dBm to 20.0dBm	20.0	1.58	0.0315	1
2.437	11n HT20	18.96	18.0dBm to 20.0dBm	20.0	1.58	0.0315	1
2.462	11n HT20	19.29	18.0dBm to 20.0dBm	20.0	1.58	0.0315	1
2.422	11n HT40	16.18	16.0dBm to 18.0dBm	18.0	1.58	0.0199	1
2.437	11n HT40	16.79	16.0dBm to 18.0dBm	18.0	1.58	0.0199	1
2.452	11n HT40	17.28	16.0dBm to 18.0dBm	18.0	1.58	0.0199	1

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