

FCC ID : 2ANH7ALB428B

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 20cm

Pd the limit of MPE, $1\text{mW}/\text{cm}^2$. 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 Antenna gain: 0 dBi

2.4G WIFI

modulation	Channel Freq. (MHz)	Measured 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)
11b	2.412	17.69	17.0 ± 1	18.0	1	0.01255	1
	2.437	18.24	18.0 ± 1	19.0	1	0.01580	1
	2.462	18.07	18.0 ± 1	19.0	1	0.01580	1
11g	2.412	16.93	16.0 ± 1	17.0	1	0.00997	1
	2.437	17.63	17.0 ± 1	18.0	1	0.01255	1
	2.462	17.48	17.0 ± 1	18.0	1	0.01255	1
11n HT20	2.412	16.56	16.0 ± 1	17.0	1	0.00997	1
	2.437	17.24	16.5 ± 1	17.5	1	0.01119	1
	2.462	17.11	16.5 ± 1	17.5	1	0.01119	1
11n HT40	2.422	16.10	16.0 ± 1	17.0	1	0.00997	1
	2.437	16.69	16.0 ± 1	17.0	1	0.00997	1
	2.452	16.58	16.0 ± 1	17.0	1	0.00997	1

BT Antenna gain: 0 dBi

Bluetooth DSS

modulation	Channel Freq. (MHz)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
GFSK	2402	-7.07	-7.0 ± 1	-6.0	1	0.00005	1
	2441	-8.19	-8.0 ± 1	-7.0	1	0.00004	1
	2480	-9.8	-9.0 ± 1	-8.0	1	0.00003	1
pi/4-DQPSK	2402	-7.12	-7.0 ± 1	-6.0	1	0.00005	1
	2441	-8.24	-8.0 ± 1	-7.0	1	0.00004	1
	2480	-9.89	-9.0 ± 1	-8.0	1	0.00003	1
8DPSK	2402	-7.12	-7.0 ± 1	-6.0	1	0.00005	1
	2441	-8.22	-8.0 ± 1	-7.0	1	0.00004	1
	2480	-9.84	-9.0 ± 1	-8.0	1	0.00003	1