

FCC ID : 2AFBR-TEEVY

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

Pd the limit of MPE, 1mW/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

BT DSS

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/cm ²)	Power density Limits (mW/cm ²)
2402	GFSK	2.73	4.355	4dBm to 6dBm	6	1.58	0.00126	1
2441	GFSK	4.76	6.778	6dBm to 8dBm	8	1.58	0.00199	1
2480	GFSK	5.24	7.195	6dBm to 8dBm	8	1.58	0.00199	1
2402	$\pi/4$ - DQPSK	1.61	2.065	1dBm to 3dBm	3	1.58	0.00063	1
2441	$\pi/4$ - DQPSK	3.33	5.220	4dBm to 6dBm	6	1.58	0.00126	1
2480	$\pi/4$ - DQPSK	3.74	5.724	4dBm to 6dBm	6	1.58	0.00126	1
2402	8DPSK	1.84	2.657	1dBm to 3dBm	3	1.58	0.00063	1
2441	8DPSK	3.59	5.548	4dBm to 6dBm	3	1.58	0.00063	1
2480	8DPSK	3.98	6.002	6dBm to 8dBm	8	1.58	0.00199	1

BT DTS

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/cm ²)	Power density Limits (mW/cm ²)
2402	GFSK	3.75	5.744	4dBm to 6dBm	6	1.58	0.00126	1
2441	GFSK	5.34	7.275	6dBm to 8dBm	8	1.58	0.00199	1
2480	GFSK	5.81	7.643	6dBm to 8dBm	8	1.58	0.00199	1

WIFI DTS

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	24.77	13.94	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.437	11b	25.23	14.02	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.462	11b	30.97	14.91	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.412	11g	33.65	15.27	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.437	11g	26.42	14.22	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.462	11g	29.44	14.69	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.412	11n HT20	28.51	14.55	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.437	11n HT20	27.61	14.41	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.462	11n HT20	24.32	13.86	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.422	11n HT40	24.77	15.36	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.437	11n HT40	25.23	14.16	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1
2.452	11n HT40	30.97	14.92	13.5dBm to 15.5dBm	15.5	1.58	0.01121	1