

# FCC ID: 2AUF2TK-1044-T2BLK

## 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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density

### MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 * P * G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Average RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 * P * G}{377 * D^2}$$

From the EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

## Measurement Result

Operation Frequency: BT: 2402-2480MHz

Power density limited: 1mW/ cm<sup>2</sup>

Antenna Type: PCB Antenna

Antenna gain: -2dBi,

R=20cm

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits (mW/cm <sup>2</sup> )	
				tune-up power		Gain				
		(dBm)		(dBm)	(mW)	(dBi)	Numeric			
2402	GFSK	-1.42	-1±1	0	1.000	-2.00	0.63	0.0001	1	
2441		-1.24	-1±1	0	1.000	-2.00	0.63	0.0001	1	
2480		-0.87	-1±1	0	1.000	-2.00	0.63	0.0001	1	
2402	π/4-DQPSK	0.55	0.5±1	1.5	1.413	-2.00	0.63	0.0002	1	
2441		0.93	1±1	2	1.585	-2.00	0.63	0.0002	1	
2480		1.15	1±1	2	1.585	-2.00	0.63	0.0002	1	

### Conclusion:

For the max result : 0.0002≤ 1.0 for Max Power Density, compliance RF exposure..



Signature:

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