

FCC ID: 2BMIS-MTT2

Maximum Permissible Exposure (MPE)

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)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	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: 2402MHz~2480MHz

Power density limited: $1\text{mW}/\text{cm}^2$

Antenna gain: 3.37dBi;

antenna gain Numeric= $10^{(\text{dBi}/10)} = 10^{(3.77/10)} = 2.17$

R=20cm

$\text{mW} = 10^{(\text{dBm}/10)}$

BLE:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density
		(dBm)		tune-up power		Gain			
				(dBm)	(dBm)	(mW)	(dBi)	Numeric	(mW/cm2)
2402	GFSK1M	12.44	12±1	13	19.953	3.37	2.17	0.0086	1
2440		14.19	14±1	15	31.623	3.37	2.17	0.0137	1
2480		13.46	13±1	14	25.119	3.37	2.17	0.0109	1
2402	GFSK2M	12.65	12±1	13	19.953	3.37	2.17	0.0086	1
2440		14.51	14±1	15	31.623	3.37	2.17	0.0137	1
2480		13.56	13±1	14	25.119	3.37	2.17	0.0109	1

Note: The tune-up power was declared by manufacturer.

BLE 1M/BLE 2M cannot transmit at same time

Conclusion:

Compliance RF exposure.

Signature:



Date: 2025-10-27

NAME AND TITLE (Please print or type): alex li/Manager

COMPANY (Please print or type): Shenzhen NTEK Testing Technology Co., Ltd./ 1/F, Building E,
Fenda Science Park, Sanwei Community, Xixiang Street Bao'an District, Shenzhen P.R. China.