

RF Exposure Report

FCC ID: 2BT5H-A10MINI

The EUT is a Projector in the 2402 ~ 2480MHz、2412 ~ 2462MHz and 5180-5240MHz frequency band.

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)

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz

MPE calculation method

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2}$$

S: power density mW/ cm²;

P: power input to the antenna in mW;

g: numeric gain of antenna;

r: distance to centre of radiation in cm

Calculated result

Mode	Max. Peak output power (dBm)	Max. Peak output power (mW)	Antenna Gain (numeric)	Power Density (S) (mW/ cm ²)	Limit of Power Density (S) (mW/ cm ²)
802.11b	8.714	7.437	1.972	0.002919	1
802.11g	8.651	7.330	1.972	0.002877	1
802.11n20	8.639	7.310	1.972	0.002869	1
802.11n40	8.299	6.759	1.972	0.002653	1
802.11a	8.444	6.989	3.373	0.004692	1
5G Wi-Fi 802.11 n20	8.358	6.852	3.373	0.004600	1
5G Wi-Fi 802.11 n40	8.088	6.439	3.373	0.004323	1
5G Wi-Fi 802.11 ac20	8.385	6.894	3.373	0.004629	1
5G Wi-Fi 802.11 ac40	7.887	6.148	3.373	0.004127	1
5G Wi-Fi 802.11 ac80	7.242	5.299	3.373	0.003558	1
BLE	1.400	1.380	1.972	0.000542	1
MAX Peak output power in Simultaneous Transmission Mode				0.008153	1
BLE and WIFI can be work in simultaneous transmission mode, the MAX Peak output power in Simultaneous Transmission Mode is BLE+2.4GWIFI MAX+5GWIFI MAX=0.000542+0.002919+0.004692=0.008153mW/cm ²					

For BLE mode

-- The max. field strength of fundamental frequency is 99.55 dBuV/m.

$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 99.55 - 95.2 = 4.35dBm$,

conducted power = $EIRP - ANT\ gain = 4.35 - (2.95) = 1.4dBm(1.38mW)$.

Note1: the antenna gain is 2.95dBi for BLE / 2.4GWIFI;

the antenna gain is 5.28dBi for 5GWIFI;

Note2: Calculated distance is 20cm, which is declared by the manufacture.