

RF Exposure Report

FCC ID: 2BUTN-V319

The EUT is a Projector in the 2402 ~ 2480MHz、2412 ~ 2462MHz 、5180-5240and 5745-5825 MHz 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	8.203	6.611	1.469	0.001933	1
802.11g	8.014	6.330	1.469	0.001851	1
802.11n20	8.081	6.428	1.469	0.001880	1
802.11n40	8.151	6.533	1.469	0.001910	1
802.11a	8.101	6.458	1.413	0.001816	1
5G Wi-Fi 802.11 n20 Band1	8.319	6.790	1.413	0.001910	1
5G Wi-Fi 802.11 n40 Band1	8.024	6.345	1.413	0.001784	1
5G Wi-Fi 802.11 ac20 Band1	7.953	6.242	1.413	0.001755	1
5G Wi-Fi 802.11 ac40 Band1	7.983	6.285	1.413	0.001768	1
5G Wi-Fi 802.11 ac80 Band1	8.094	6.448	1.413	0.001813	1
802.11a	8.288	6.742	1.413	0.001896	1
5G Wi-Fi 802.11 n20 Band4	8.276	6.724	1.413	0.001891	1
5G Wi-Fi 802.11 n40 Band4	8.178	6.574	1.413	0.001849	1
5G Wi-Fi 802.11 ac20 Band4	8.311	6.778	1.413	0.001906	1
5G Wi-Fi 802.11 ac40 Band4	8.235	6.660	1.413	0.001873	1
5G Wi-Fi 802.11 ac80 Band4	8.123	6.491	1.413	0.001826	1
BLE	2.53	1.79	1.469	0.000523	1

For BLE mode

-- The max. field strength of fundamental frequency is 99.40 dBuV/m.

$$\text{EIRP[dBm]} = \text{E[dB}\mu\text{V/m]} - 95.2 = 99.40 - 95.2 = 4.2\text{dBm},$$

$$\text{conducted power} = \text{EIRP} - \text{ANT gain} = 4.2 - (1.67) = 2.53\text{dBm}(1.79\text{mW}).$$

Note1: the antenna gain is 1.67dBi for BLE / 2.4GWIFI;

the antenna gain is 1.5dBi for 5GWIFI;

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