

RF Exposure Report

FCC ID: 2BVCA-LS32

The EUT is a Digital Signage 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

Unit dbuv/m@3m to mW calculation method

$$E = \text{EIRP} - 20\log(d) + 104.8$$

E: is the electric field strength in dBuv/m;

EIRP: is the equivalent isotropically radiated power in dBm;

d: is the specified measurement distance in m

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)
BLE	-6.16	0.242	1.919	0.000093	1
802.11b	10.331	10.792	1.919	0.004122	1
802.11g	10.744	11.869	1.919	0.004533	1
802.11n20	10.523	11.280	1.919	0.004308	1
802.11n40	10.886	12.263	1.919	0.004684	1
802.11a	10.670	11.668	2.472	0.005741	1
5G Wi-Fi 802.11 n20	10.612	11.513	2.472	0.005665	1
5G Wi-Fi 802.11 n40	10.631	11.564	2.472	0.00569	1
5G Wi-Fi 802.11 ac20	10.650	11.614	2.472	0.005715	1
5G Wi-Fi 802.11 ac40	10.753	11.893	2.472	0.005852	1
5G Wi-Fi 802.11 ac80	10.414	11.000	2.472	0.005413	1

For BT mode

-- The max. field strength of fundamental frequency is 91.87 dBuV/m.

$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 91.87 - 95.2 = -3.33dBm$,

conducted power = EIRP - ANT gain = $-3.33 - (2.83) = -6.16dBm(0.242mW)$.

Note1: the antenna gain is 2.83dBi for BT/2.4GWIFI;3.93dBi for 5G WIFI.

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