

RF Exposure Evaluation

FCC ID: 2AXUF-K300

1. Client Information

Applicant	:	Shenzhen Liontron Technology Co., Ltd.
Address	:	401-404, 405-408, 410-415, building 1, row 1, West District, heshuikou new village, heshuikou community , Matian street, Guangming District, Shenzhen,China
Manufacturer	:	Shenzhen Liontron Technology Co., Ltd.
Address	:	401-404, 405-408, 410-415, building 1, row 1, West District, heshuikou new village, heshuikou community , Matian street, Guangming District, Shenzhen,China

2. General Description of EUT

EUT Name	:	Embedded Computer
Models No.	:	K300, K010, K200, K400,K500, M100, M200, M300, C010, C300, C400,H010, H300, B500, G300, G500
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is way to install.
Product Description	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz Bluetooth 4.1: 2402MHz~2480MHz
	Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM,64QAM) BT:GFSK (1 Mbps) Pi/4-DQPSK (2 Mbps) 8-DPSK (3 Mbps)
	Antenna Gain:	2dBi External Antenna
Power Rating	Adapter: Input: AC 100~240V, 50/60Hz 0.6A Output: DC 12V, 2A.	
Software Version	4.0.2-200730-OEM	
Hardware Version	REV:V6.0	
Remark	The antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.	

Note: More test information about the EUT please refer the RF Test Report.

MPE Calculations for WIFI

1. Antenna Gain:

Internal Ant:	Model	Frequency Range
	N/A	2400~2483.5MHz
		2dBi

2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=(PG)/4\pi R^2$$

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna

4. Test Result:

2.4G WIFI&BT

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]	Limit of Power Density (mW/ cm ²) (S)
BT(GFSK)	3.482	3±1	4.0	2.0	20	0.0008	1
BT(π/4-DQPSK)	2.781	2±1	3.0	2.0	20	0.0006	1
BT(8-DPSK)	2.717	2±1	3.0	2.0	20	0.0006	1
802.11B	16.55	16±1	17	2.0	20	0.0158	1
802.11G	15.89	15±1	16	2.0	20	0.0126	1
802.11N(HT20)	14.92	14±1	15	2.0	20	0.0100	1

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm ²)
300-1,500	F/1500
1,500-100,000	1.0

For BT:2402~2480 MHz

For WIFI: 802.11b/g/n(HT20): 2412MHz~2462MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as **0.0158mW / cm² < limit 1mW / cm²**. So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

Note

For a more detailed features description, please refer to the RF Test Report.

-----END OF REPORT-----