FCC TEST REPORT
FCC ID: 2AWQ6CK821

Product	:	thermal printer
Model Name	:	CB821-USEWB
Brand	:	caysn
Report No.	:	PTC21122301202E-FC04

Prepared for
Xiamen Apt Electronic Tech. Co., Ltd
202, NO.46 HE NING LI, HULI DISTRICT,XIAMEN,FUJIAN

Prepared by
Precise Testing & Certification Co., Ltd
Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

TEST RESULT CERTIFICATION

Applicant's name	:	Xiamen Apt Electronic Tech.Co.,Ltd.
Address	:	202, NO.46 HE NING LI, HULI DISTRICT,XIAMEN,FUJIAN
Manufacture's name	:	Xiamen Apt Electronic Tech.Co.,Ltd
Address	:	202, NO.46 HE NING LI, HULI DISTRICT,XIAMEN,FUJIAN
Product name	:	thermal printer
Model name	:	CB821-USEWB
Test procedure	:	FCC CFR47 2.1091
Test Date	:	Dec. 28, 2021 to Jan. 07, 2022
Date of Issue	:	Jan. 07, 2022
Test Result	:	PASS

This device described above has been tested by PTS, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

Abel Yu / Engineer

Technical Manager:

Wu Weimin /Manager

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2 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS
Remark:		
N/A: Not Applicable		

3 General Information

3.1 General Description of E.U.T.

Product Name	:	thermal printer
Model Name		CB821-USEWB
Additional model		CN810-UWB,CK810-UWB,CB810-UWB,CN821-USEWB,CN835-USEWB,CN836C-WB,CK821-USEWB, CK835-USEWB,CK836C-WB,CB835-USEWB,KP80B-USEWB,CN835C-WB,CK835C-WB,CB835C-WB,CB836C-WB
Specification	:	BT 5.0 BDR+EDR；BLE 802.11b/g/n HT20
Operation Frequency	:	2402-2480MHz for BT 2412-2462MHz for 802.11b/g/ n(HT20)
Number of Channel	:	79 channels for BR+EDR 40 channels for BLE 11 channels For Wifi;
Type of Modulation	:	GFSK, П/4-DQPSK,8DPSK For DSS; GFSK For BLE; DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Antenna installation	:	PCB antenna
Antenna Gain	:	0 dBi
Power supply	:	Adapter model:DJ-240250-SA Input:100-240V~1.5A,50-60Hz;Output: 24V/2.5A
Hardware Version	:	CK810-USE V3.0
Software Version	:	N/A

4 RF Exposure

Test Requirement   :   FCC Part 1.1307(b)(1)

Evaluation Method   :   FCC Part 2.1091

4.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

4.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
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	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
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 ; *Plane-wave equivalent power density

4.3 MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m²)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak 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

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak 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

4.4 Test Result

Item	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm2)	Limit of Power Density (mW/cm2)	Result
WIFI	1	17.805	60.325	0.012	1	Pass
BR+EDR	1	0.289	1.069	0.000212	1	Pass
BLE	1	-0.280	0.938	0.000187	1	Pass

******THE END REPORT*****