



FCC TEST REPORT

FCC ID: 2AVZV-S1A01

Product	:	POS SYSTEM
Model Name	:	S1A01, S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be represented 1~9)
Brand	:	CITAQ
Report No.	:	PTC22062406203E-FC05
Prepared for		
CITAQ CO., LTD		
9F&13F., Chuangye Bldg., Keji Middle Road., Hi-Tech Zone, Shantou., Guangdong		
Prepared by		
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TEST RESULT CERTIFICATION

Applicant's name : CITAQ CO., LTD

Address : 9F&13F., Chuangye Bldg., Keji Middle Road., Hi-Tech Zone,
Shantou., Guangdong

Manufacture's name : CITAQ CO., LTD

Address : 9F&13F., Chuangye Bldg., Keji Middle Road., Hi-Tech Zone,
Shantou., Guangdong

Product name : POS SYSTEM

Model name : S1A01, S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be
represented 1~9)

Test procedure : FCC CFR47 Part 1.1307(b)(1)

Test Date : Aug. 18, 2022 to Sep. 05, 2022

Date of Issue : Jul. 05, 2023

Test Result : PASS

This device described above has been tested by PTC, 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:

A handwritten signature in black ink that reads "Simon Pu".

Simon Pu / Engineer

Technical Manager:

A handwritten signature in black ink that reads "Ronnie Liu".

Ronnie Liu / Manager



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2 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	15.247 (i)	PASS
Remark:		
N/A: Not Applicable		



3 General Information

3.1 General Description of E.U.T.

Product Name	:	POS SYSTEM
Model Name	:	S1A01, S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be represented 1~9)
Specification	:	802.11b/g/n HT20/HT40 BDR+EDR+BLE 802.11a/n HT20/HT40/ac20/ac40/ac80
Operation Frequency	:	2412-2462MHz for 802.11b/g/ n(HT20/HT40) 2402-2480MHz for Bluetooth 5G Wifi:5150-5250 MHz 5.8G Wifi:5725MHz~5850MHz
Number of Channel	:	11 channels for 802.11b/g/ n(HT20/HT40)
Type of Modulation	:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n/a/ac GFSK, Π/4-DQPSK,8DPSK For DSS GFSK, For DTS
Antenna installation	:	IFA antenna
Power supply	:	Adapter: K65S240250E1 Input: AC 100-240V~50/60Hz 1.8A Output: DC 24V $\overline{\text{---}}$ 2.5A 60W
Hardware Version	:	N/A
Software Version	:	N/A

Model difference:

Model	Model difference
S1A01, S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be represented 1~9)	S1A01, S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be represented 1~9) only the model name is different, the test model is S1A01.



4 RF Exposure

Test Requirement : 15.247 (i)

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

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

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)	Tune up tolerance (dBm)	Max Tune Up Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)	Result
BT	1.32	3.39	3.39 ± 1	2.747894	0.000721	1	Pass
BLE	1.32	1.49	1.49 ± 1	1.774189	0.000465	1	Pass
2.4GWi-Fi	1.32	20.10	20.10 ± 1	128.824955	0.033785	1	Pass
5.2GWi-Fi	1.73	12.76	12.76 ± 1	23.768403	0.008161	1	Pass
5.8GWi-Fi	2.37	11.08	11.08 ± 1	16.143586	0.007616	1	Pass

Note:1. Output power (Peak) including turn-up tolerance;

2. MPE evaluate distance is 20cm from user manual provide by manufacturer.

3. The BT and WLAN can not transmit at the same time. The 2.4G WLAN and 5G WLAN can not transmit at the same time.