



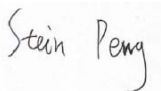
RF EXPOSURE REPORT

For

Fujian Wazan Technology Co., Ltd.

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FCC ID: 2BGEKU0301

Report Type:	Product Name:
Original Report	Unattended Payment Terminal Su3
Report Number:	2407S72267E-RF-04
Report Date:	2024-07-08
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Approved By:	Miles Chen 
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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	2407S72267E-RF-04	R1V1	2024-07-08	Initial Release

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Xiamen) to collect test data is located on the Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone Xiamen.

Bay Area Compliance Laboratories Corp. (Xiamen) Lab is accredited to ISO/IEC 17025 by A2LA (Certificate Number: 7134.01) and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN1384.

Applicable Standard

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Limits for Maximum Permissible Exposure (MPE)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;
According to §1.1310 & §2.1091 RF exposure is calculated.

Calculated Formulary:

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Lim,i}} \leq 1$$

EUT Information

Operation Modes	Operation Frequency (MHz)	Max Conducted output power including Tune-up Tolerance (dBm)	Maximum Antenna Gain (dBi)
2.4G WLAN	2412-2462	18.5	-3.35
BLE	2402-2480	4.5	-3.35
BT	2402-2480	5.5	-3.35
WCDMA B2	1850-1910	24	1.47
WCDMA B4	1710-1755	24	1.58
WCDMA B5	824-849	24	1.34
LTE B2	1850-1910	24.5	1.47
LTE B4	1710-1755	24.5	1.58
LTE B5	824-849	24.5	1.34
LTE B12	699-716	24.5	0.40
LTE B13	777-787	24.5	-0.24
LTE B25	1850-1915	25	1.47
LTE B26	814-849	25	1.34
Note: The above parameters were provided by the manufacturer. Please refer to the FCC ID: XMR202008EG91NAXD for power about the certified WWAN module.			

Calculated Data:

Mode	Frequency (MHz)	Antenna Gain		Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
BT	2402-2480	-3.35	0.46	5.5	3.55	20	0.0003	1
BLE	2402-2480	-3.35	0.46	4.5	2.82	20	0.0003	1
2.4G WLAN	2412-2462	-3.35	0.46	18.5	70.79	20	0.0065	1
WCDMA B2	1850-1910	1.47	1.4	24	251.19	20	0.0701	1
WCDMA B4	1710-1755	1.58	1.44	24	251.19	20	0.0719	1
WCDMA B5	824-849	1.34	1.36	24	251.19	20	0.0680	0.5493
LTE B2	1850-1910	1.47	1.4	24.5	281.84	20	0.0786	1
LTE B4	1710-1755	1.58	1.44	24.5	281.84	20	0.0807	1
LTE B5	824-849	1.34	1.36	24.5	281.84	20	0.0763	0.5493
LTE B12	699-716	0.40	1.10	24.5	281.84	20	0.0615	0.466
LTE B13	777-787	-0.24	0.95	24.5	281.84	20	0.0530	0.518
LTE B25	1850-1915	1.47	1.40	25	316.23	20	0.0882	1
LTE B26	814-849	1.34	1.36	25	316.23	20	0.0856	0.5427
NFC	13.56	0	1.00	-25.89	0.0026	20	<<0.0001	0.9

Note: 1. The Tune-up output power was declared by the Manufacturer.

2. The device contains a certificated LTE module, FCC ID: XMR202008EG91NAXD.

3. NFC field strength is 69.31dB μ V/m @ 3m = -25.89 dBm(0.0026mW) EIRP. That equal to antenna gain is 0dBi and used the EIRP value as conducted power.

Simultaneous transmission:

2.4G Wifi, WWAN, NFC can transmissions simultaneously:

$$\sum_i \frac{S_i}{S_{\text{limit},i}} \leq 1$$

$$= S_{2.4G \text{ Wifi}}/S_{\text{limit-2.4G Wifi}} + S_{\text{WWAN}}/S_{\text{limit-WWAN}} + S_{\text{NFC}}/S_{\text{limit-NFC}}$$

$$= 0.0065/1 + 0.0856/0.5427 + 0.0001/0.9$$

$$= 0.1643$$

$$< 1.0$$

Result: The device meets MPE at distance 20cm.

Declarations

1. Bay Area Compliance Laboratories Corp. (Xiamen) is not responsible for authenticity of any information provided by the applicant. Information from the applicant that may affect test results are marked with an asterisk “★”.
2. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.
3. Unless required by the rule provided by the applicant or product regulations, then decision rule in this report did not consider the uncertainty.
4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor $k=2$ with the 95.45% confidence interval.
5. This report cannot be reproduced except in full, without prior written approval of Bay Area Compliance Laboratories Corp. (Xiamen).
6. This report is valid only with a valid digital signature. The digital signature may be available only under the adobe software above version 7.0.

******* END OF REPORT *******