

FCC TEST REPORT

For

EMV Android Validator

**Model Number: FX925SF-ING-VWDC-PRE, 011P;
FX925SF-ING-VPDC-PRE, 011P; FX925SF-ING-VWDC-PRE, 010P;
FX925SF-ING-VPDC-PRE, 010P**

FCC ID: 2AGQIFX925F

Report Number : WT218003690

Test Laboratory : Shenzhen Academy of Metrology and Quality
Inspection

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TEST REPORT DECLARATION

Applicant : FAMOCO SAS
Address : 59 avenue Victor Hugo Paris, France
Manufacturer : FAMOCO SAS
Address : 59 avenue Victor Hugo Paris, France
EUT Description : EMV Android Validator
Model No : FX925SF-ING-VWDC-PRE, 011P;
FX925SF-ING-VPDC-PRE, 011P;
FX925SF-ING-VWDC-PRE, 010P;
FX925SF-ING-VPDC-PRE, 010P
Trade mark : Famoco
FCC ID : 2AGQIFX925F

Test Standards:

FCC Part 2.1091 (2020)

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Project Engineer:	 (Zhou Li 周立)	Date:	Jan.14, 2022
Checked by:	 (Lin Yixiang 林奕翔)	Date:	Jan.14, 2022
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1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	Test Results
RF Exposure	Pass

Remark: "N/A" means "Not applicable."

2. GENERAL INFORMATION

2.1. Report Information

This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

The lab will not be liable for any loss or damage resulting for false, inaccurate, inappropriate or incomplete product information provided by the applicant/manufacture.

2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is CNAS L0579.

The Laboratory is Accredited Testing Laboratory of FCC with Designation number CN1165 and Site registration number 582918.

The Laboratory is registered to perform emission tests with Innovation, Science and Economic Development (ISED), and the registration number is 11177A.

The Laboratory is registered to perform emission tests with VCCI, and the registration number are C-20048, G20076, R-20077, R-20078 and T-20047.

The Laboratory is Accredited Testing Laboratory of American Association for Laboratory Accreditation (A2LA) and certificate number is 3292.01.

3. PRODUCT DESCRIPTION

3.1.EUT Description

Table 2 Specification of the Equipment under Test

Product Type:	EMV Android Validator
Hardware Version:	FX925F-P
Software Version :	MOLY.LR12A.R2.MP.V44.1.P1
FCC ID:	2AGQIFX925F
Frequency:	<p>GSM850: TX 824MHz~849MHz RX 869MHz~894MHz</p> <p>PCS1900: TX 1850MHz~1910MHz RX 1930MHz~1990MHz</p> <p>WCDMA 850: TX 824MHz~849MHz RX 869MHz~894MHz</p> <p>WCDMA 1900: TX 1850MHz~1910MHz RX 1930MHz~1990MHz</p> <p>LTE Band 2: TX 1850MHz~1910MHz RX 1930MHz~1990MHz</p> <p>LTE Band 4: TX: 1710MHz~1755MHz RX 2110MHz~2155MHz</p> <p>LTE Band 5: TX 824MHz~849MHz RX 869MHz~894MHz</p> <p>LTE Band 7: TX 2500MHz~2570MHz RX 2620MHz~2690MHz</p> <p>LTE Band 12: TX 698 ~ 716 MHz RX 728 ~ 746MHz</p> <p>LTE Band 13: TX 777 ~ 787 MHz RX 746 ~ 756MHz</p> <p>LTE Band 17: TX 704 ~ 716 MHz RX 734 ~ 746MHz</p> <p>LTE Band 38: TX: 2572.5MHz~2610MHz RX 2572.5MHz~2610MHz</p> <p>LTE Band 41: TX: 2498.5MHz~2680MHz RX 2498.5MHz~2680MHz</p>
Type(s) of Modulation:	<p>DSSS (DBPSK, DQPSK, CCK) for 802.11b</p> <p>OFDM (BPSK, QPSK, 16QAM, 64QAM) for 802.11a/g/n</p> <p>OFDM (BPSK, QPSK, 16QAM, 64QAM , 256QAM) for 802.11ac</p> <p>Bluetooth : GFSK, pi/4-DQPSK, 8DPSK</p> <p>GSM850/PCS1900 :GMSK 8PSK</p> <p>WCDMA:QPSK</p> <p>LTE:QPSK, 16QAM</p>
Antenna	2G/3G/4G : Fixed External antenna

Type:	2.4G WiFi PIFA antenna 1.5dBi 5G WiFi PIFA antenna 1.3dBi 698MHz~800MHz: -0.4dBi 824MHz~849MHz: -1.0dBi 1710MHz~1780MHz: 0.45dBi 1850MHz~1910MHz: 0.46dBi 2500MHz~2570MHz: 1.17dBi
Operating voltage:	DC 12V

Remark: This is test report is for application of FCC ID: 2AGQIFX925F, which consists of reuse data of FCC ID: 2AGQIFX205. This report updates the standard FCC Part 2.1091 (2018) to FCC Part 2.1091 (2020). See the APPENDIX I Product Equality Declaration for the differences between the new model (FX925SF-ING-VWDC-PRE, 011P; FX925SF-ING-VPDC-PRE, 011P; FX925SF-ING-VWDC-PRE, 010P; FX925SF-ING-VPDC-PRE, 010P) and the original model (FX925F PM, FX925F WM).

Considering above changes, no test were performed in this report. All test data were reused the original test report No.: WT198005845.

4. RF EXPOSURE

4.1. LIMIT FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

This product can be classified as mobile device, so the 20cm separation distance warning is required. In this section, the power density at 20cm location is calculated to examine if it is lower than the limit.

(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)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	≤1500	30
1500–100,000	/	/	1.0	30

4.2. MPE Calculation Method

Power Density: $P_d \text{ (Mw/cm}^2\text{)} = P \cdot G / 4\pi d^2$

P=Peak RF output power (mW)

G=EUT Antenna numeric gain (numeric)

π=3.14

d=Separation distance between radiator and human body (cm)

4.3. CALCULATED RESULT

GSM850:

P=32.75 (1 Tx slot average power:32.75, all 8 slot, duty cycle:1/2 max:739.6mW)

G=-1.0dBi (numeric: 0.79)

d=20cm

1Tx slot: $P_d = 235 \cdot 0.79 / 4 \cdot 3.14 \cdot 400 = 0.040 < 850/1500$

8Tx slot: $P_d = 370 \cdot 0.79 / 4 \cdot 3.14 \cdot 400 = 0.093 < 850/1500$

PCS1900

P=30.27 (1 Tx slot average power:30.58, all 8 slot, duty cycle:1/2 max:467mW)

G=0.46dBi (numeric:1.11)

d=20cm

1Tx slot: $P_d = 143 \cdot 1.11 / 4 \cdot 3.14 \cdot 400 = 0.032 < 1$

8Tx slot: $P_d = 235 \cdot 1.11 / 4 \cdot 3.14 \cdot 400 = 0.052 < 1$

WCDMA Band V:

P=22.78 (max:218mW)

G=-1.0dBi (numeric: 0.79)

d=20cm

$P_d = 218 \cdot 0.79 / 4 \cdot 3.14 \cdot 400 = 0.034 < 850/1500$

WCDMA Band II

P=22.26 (max:168.3mW)

G=0.46dBi (numeric: 1.11)
d=20cm
 $P_d = 168.3 \times 1.11 / 4 \times 3.14 \times 400 = 0.037 < 1$

LTE Band 2
P=23.68 (max:233mW)
G=0.46dBi (numeric: 1.11)
d=20cm
 $P_d = 233 \times 1.11 / 4 \times 3.14 \times 400 = 0.051 < 1$

LTE Band 4
P=23.31 (max:214.3mW)
G=0.45dBi (numeric: 1.11)
d=20cm
 $P_d = 214.3 \times 1.11 / 4 \times 3.14 \times 400 = 0.047 < 1$

LTE Band 5
P=23.70 (max:234.4mW)
G=-1.0dBi (numeric: 0.79)
d=20cm
 $P_d = 234.4 \times 0.79 / 4 \times 3.14 \times 400 = 0.037 < 850 / 1500$

LTE Band 7
P=21.12 (max:129.4mW)
G=1.17dBi (numeric: 1.31)
d=20cm
 $P_d = 129.4 \times 1.31 / 4 \times 3.14 \times 400 = 0.034 < 1$

LTE Band 12
P=23.74 (max:236.5mW)
G=-0.4dBi (numeric: 0.91)
d=20cm
 $P_d = 236.5 \times 0.91 / 4 \times 3.14 \times 400 = 0.042 < 707.5 / 1500$

LTE Band 13
P=24.25 (max:266mW)
G=-0.4dBi (numeric: 0.91)
d=20cm
 $P_d = 266 \times 0.91 / 4 \times 3.14 \times 400 = 0.048 < 782 / 1500$

LTE Band 17
P=23.75 (max:237mW)
G=-0.4dBi (numeric: 0.91)
d=20cm
 $P_d = 237 \times 0.91 / 4 \times 3.14 \times 400 = 0.043 < 710 / 1500$

LTE Band 38
P=23.36 (max:216.8mW)
G=1.17dBi (numeric: 1.31)

d=20cm
 $P_d=216.8 \times 1.31/4 \times 3.14 \times 400=0.057 < 1$

LTE Band 41
P=23.39 (max:218.2mW)
G=1.17dBi (numeric: 1.31)
d=20cm
 $P_d=218.2 \times 1.31/4 \times 3.14 \times 400=0.057 < 1$

WLAN 802.11b
P=17.94dBm (max: 62.2mW)
G=1.5dBi (numeric: 1.41)
d=20cm
 $P_d=62.2 \times 1.41/4 \times 3.14 \times 400=0.017 < 1$

WLAN 802.11g
P=20.15dBm (max: 103.5mW)
G=1.5dBi (numeric: 1.41)
d=20cm
 $P_d=103.5 \times 1.41/4 \times 3.14 \times 400=0.029 < 1$

WLAN 802.11a
P=8.44dBm (max: 6.98mW)
G=1.3dBi (numeric: 1.35)
d=20cm
 $P_d=6.98 \times 1.35/4 \times 3.14 \times 400=0.002 < 1$

WLAN 802.11n HT20
P=20.19dBm (max: 104.4mW)
G=1.5dBi (numeric: 1.41)
d=20cm
 $P_d=104.4 \times 1.41/4 \times 3.14 \times 400=0.029 < 1$

WLAN 802.11n HT40
P=20.31dBm (max: 107.4mW)
G=1.5dBi (numeric: 1.41)
d=20cm
 $P_d=107.4 \times 1.41/4 \times 3.14 \times 400=0.030 < 1$

BT
P=8.21dBm (max: 6.62mW)
G=1.5dBi (numeric: 1.41)
d=20cm
 $P_d=6.62 \times 1.41/4 \times 3.14 \times 400=0.002 < 1$

GSM+WIFI=0.093+0.03=0.123<1
WCDMA+WIFI=0.037+0.03=0.067<1
LTE+WIFI=0.057+0.03=0.087<1

GSM+BT=0.093+0.002=0.095<1
WCDMA+ BT =0.037+0.002=0.039<1
LTE+ BT =0.057+0.002=0.059<1

5. APPENDIX I PRODUCT EQUALITY DECLARATION

Product Equality Declaration

We: FAMOCO SAS, declare on our sole responsibility the differences between the hardware revision of **NFC Android Validator** products.

The new models of **NFC Android Validator** are:

- FX925SF-ING-VWDC-PRE,011P
- FX925SF-ING-VPDC-PRE,011P
- FX925SF-ING-VWDC-PRE,010P
- FX925SF-ING-VPDC-PRE,010P

All parts of hardware revision: FX925F-P.

NFC Android Validator models are made of two parts, a Front Casing, and a Back Casing. The composition of each model is described below.

Models	Front Casing Models	Back Casing Models
FX925SF-ING-VWDC-PRE,011P	FC-FX925SF-ING-PRE,0112	BC-VWDC-P366C,4
FX925SF-ING-VPDC-PRE,011P	FC-FX925SF-ING-PRE,0112	BC-VPDC-P366C,4
FX925SF-ING-VWDC-PRE,010P	FC-FX925SF-ING-PRE,0102	BC-VWDC-P366C,4
FX925SF-ING-VPDC-PRE,010P	FC-FX925SF-ING-PRE,0102	BC-VPDC-P366C,4

The original models of **NFC Android Validator** are:

- FX925F PM
- FX925F WM

All parts of hardware revision: FX925F,1

They are also made of two parts, a Front Casing and a Back Casing. The composition of each model is described below.

Models	Front Casing Models	Back Casing Models
FX925F WM	FC-FX925SF-ING-PRE,0112	BC-VWDC-P366C,2
FX925F PM	FC-FX925SF-ING-PRE,0112	BC-VPDC-P366C,2

Differences between **NFC Android Validator** hardware revisions FX925F,1 and FX925F-P are listed below.

To identify product pieces described below products exploded views are at the end of this document.

*Table 1: List of differences between the two Front Casing versions of NFC Android Validators
FC-FX925SF-ING-PRE,0112 and FC-FX925SF-ING-PRE,0102:*

#	Differences	FC-FX925SF-ING-PRE,0112	FC-FX925SF-ING-PRE,0102
#1	Battery	• 1 Smartphone battery	• No smartphone battery

*Table 2: List of differences between the two Back Casing versions of NFC Android Validators
BC-VWDC-P447C,4 and BC-VPDC-P447C,4:*

#	Differences	BC-VWDC-P366C,4	BC-VPDC-P366C,4
#1	Mechanical parts	• Wall mount	• Pole mount

Table 3: List of differences between the NFC Android Validator Back Casings Wall BC-VWDC-P366C,2 and BC-VWDC-P366C,4:

#	Differences	NFC Android Validator BC-VWDC-P366C,2	NFC Android Validator BC-VWDC-P366C,4
#1	PCBA POWER	• PCBA PWR V18 with ferrites on cables	• PCBA PWR V07

Table 4: List of differences between the NFC Android Validator Back Casing Pole BC-VPDC-P366C,4 and BC-VPDC-P366C,4:

#	Differences	NFC Android Validator BC-VPDC-P366C,2	NFC Android Validator BC-VPDC-P366C,4
#1	PCBA PWR	• PCBA PWR V18 with ferrites on cables	• PCBA PWR V07

*Table 5: List of differences between the FX925SF-ING-VWDC-PRE,011P,FX925SF-ING-VWDC-PRE,010P
FX925SF-ING-VPDC-PRE,011P,FX925SF-ING-VPDC-PRE,010P, and FX925F WM,FX925F PM*

Models	Software version
FX925SF-ING-VWDC-PRE,011P,FX925SF-ING-VWDC-PRE,010P FX925SF-ING-VPDC-PRE,011P,FX925SF-ING-VPDC-PRE,010P	MOLY.LR12A.R2.MP.V44.1.P1
FX925F WM,FX925F PM	MOLY.LR12A.R2.MP.V44.1

END OF REPORT