RF Exposure Evaluation Report

APPLICANT	:	VeriFone, Inc.
EQUIPMENT	:	Point of Sale Terminal
BRAND NAME	:	Verifone or VERIFONE or verifone
MODEL NAME	:	UX700-4G-A
FCC ID	:	B32UX7004GA
STANDARD	:	47 CFR Part 2.1091 FCC KDB 447498 D01 v06

The product evaluation date was started from Apr. 16, 2025 and completed on Apr. 16, 2025. We, Sporton International Inc. (Kunshan), would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and pass the limit. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Si Zhang

Approved by: Si Zhang

ACCREDITED Cert #5145.02

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

Table of Contents

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA4D0503	Rev. 01	Initial issue of report	Apr. 24, 2025

1. Administration Data

1.1. Testing Laboratory

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR01-KS	CN1257	314309

Applicant	
Company Name	VeriFone, Inc.
Address	1400 West Stanford Ranch Road Suite 150 Rocklin CA 95765 USA

Manufacturer	
Company Name	VeriFone, Inc.
Address	1400 West Stanford Ranch Road Suite 150 Rocklin CA 95765 USA

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Point of Sale Terminal
Brand Name	Verifone or VERIFONE or verifone
Model Name	UX700-4G-A
FCC ID	B32UX7004GA
Wireless Technology and Frequency Range	LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7 : 2500 MHz ~ 2570 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 814 MHz ~ 849 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	LTE: QPSK, 16QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK
Antenna Gain	LTE Band 2 : 4.9 dBi LTE Band 4 : 4.5 dBi LTE Band 5 : 2.8 dBi LTE Band 7 : 2.6 dBi LTE Band 12 : 2.3 dBi LTE Band 13 : 2.8 dBi LTE Band 14 : 2.8 dBi LTE Band 17 : 2.3 dBi LTE Band 25 : 4.9 dBi LTE Band 26 : 2.8 dBi LTE Band 41 : 5.2 dBi LTE Band 66: 4.5 dBi LTE Band 71: 2.3 dBi WLAN2.4GHz/Bluetooth: 0.63 dBi WLAN5.2GHz: 1.25 dBi WLAN5.3GHz: 1.25 dBi WLAN5.5GHz: 0.92 dBi WLAN5.8GHz: 0.82 dBi
Antenna Type	WWAN : Dipole Antenna WLAN/Bluetooth : PIFA Antenna NFC: Loop Antenna
EUT Stage	Identical Prototype
Remark: 1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.	

Comments and Explanations:
1. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.
2. The maximum RF output tune up power, antenna gain also the safe distance used for evaluate RF exposure were declared by manufacturer.

3. Maximum RF average output tune up power among production units

<LTE>

Mode		Maximum Average power(dBm)
LTE	Band 2	25.00
	Band 4	25.00
	Band 5	25.00
	Band 7	25.00
	Band 12	25.00
	Band 13	25.00
	Band 14	25.00
	Band 17	25.00
	Band 25	25.00
	Band 26	25.00
	Band 41	25.00
	Band 66	25.00
	Band 71	25.00

<2.4GHz WLAN>

Frequency	Mode	Maximum Average Power (dBm)
WLAN 2.4GHz	802.11b	18.00
	802.11g	18.00
	802.11n-HT20	18.00
	802.11n-HT40	17.00

<Bluetooth>

Frequency	Mode	Maximum Average Power (dBm)
Bluetooth	BR/EDR	12.00
	LE	6.00

<5GHz WLAN>

Frequency	Mode	Maximum Average Power (dBm)
WLAN 5.2GHz	802.11a	19.00
	802.11n-HT20	19.00
	802.11n-HT40	18.00
	802.11ac-VHT20	19.00
	802.11ac-VHT40	18.00
	802.11ac-VHT80	12.00
WLAN 5.3GHz	802.11a	19.00
	802.11n-HT20	19.00
	802.11n-HT40	18.00
	802.11ac-VHT20	19.00
	802.11ac-VHT40	18.00
	802.11ac-VHT80	10.00
WLAN 5.5GHz	802.11a	19.00
	802.11n-HT20	19.00
	802.11n-HT40	18.00
	802.11ac-VHT20	19.00
	802.11ac-VHT40	18.00
	802.11ac-VHT80	18.00
WLAN 5.8GHz	802.11a	18.00
	802.11n-HT20	18.00
	802.11n-HT40	18.00
	802.11ac-VHT20	18.00
	802.11ac-VHT40	18.00
	802.11ac-VHT80	16.00

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	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				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
LTE Band 2	1850.7	4.90	25.00	29.900	977.237	0.195	1.000	0.195
LTE Band 4	1710.7	4.50	25.00	29.500	891.251	0.177	1.000	0.177
LTE Band 5	824.7	2.80	25.00	27.800	602.560	0.120	0.550	0.218
LTE Band 7	2502.5	2.60	25.00	27.600	575.440	0.115	1.000	0.115
LTE Band 12	699.7	2.30	25.00	27.300	537.032	0.107	0.466	0.229
LTE Band 13	779.5	2.80	25.00	27.800	602.560	0.120	0.520	0.231
LTE Band 14	790.5	2.80	25.00	27.800	602.560	0.120	0.527	0.228
LTE Band 17	706.5	2.30	25.00	27.300	537.032	0.107	0.471	0.227
LTE Band 26	814.7	2.80	25.00	27.800	602.560	0.120	0.543	0.221
LTE Band 25	1850.7	4.90	25.00	29.900	977.237	0.195	1.000	0.195
LTE Band 41	2496.0	5.20	25.00	30.200	1047.129	0.208	1.000	0.208
LTE Band 66	1710.7	4.50	25.00	29.500	891.251	0.177	1.000	0.177
LTE Band 71	665.5	2.30	25.00	27.300	537.032	0.107	0.444	**0.241**
Bluetooth	2402.0	0.63	12.00	12.630	18.323	0.004	1.000	**0.004**
2.4GHz WLAN	2412.0	0.63	18.00	18.630	72.946	0.015	1.000	**0.015**
5.2GHz WLAN	5180.0	1.25	19.00	20.250	105.925	0.021	1.000	**0.021**
5.3GHz WLAN	5260.0	1.25	19.00	20.250	105.925	0.021	1.000	0.021
5.5GHz WLAN	5500.0	0.92	19.00	19.920	98.175	0.020	1.000	0.020
5.8GHz WLAN	5745.0	0.82	18.00	18.820	76.208	0.015	1.000	0.015
NFC	13.56			-9.590	0.110	0.00002	0.979	0.00002

Note:

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.
3. NFC maximum EIRP power calculate from NFC E-Field level from RF test report which can be referred to Sproton No: FR4D0503D.
   1) This device maximum E-Field level is 85.64dBuV/m at 3m, so the EIRP power is -9.59dBm(0.110mW).
   2) Pout EIRP (dBm) = Field Strength of Fundamental (dBuV/m) - 95.23 (dB)

5.2. Collocated Power Density Calculation

WWAN Power Density / Limit	WLAN2.4 GHz Power Density / Limit	Σ(Power Density / Limit) of WWAN+ WLAN 2.4GHz
0.241	0.015	0.256

WWAN Power Density / Limit	WLAN5GHz Power Density / Limit	Σ(Power Density / Limit) of WWAN + WLAN 5GHz
0.241	0.021	0.262

WWAN Power Density / Limit	Bluetooth Power Density / Limit	Σ(Power Density / Limit) of WWAN + Bluetooth
0.241	0.004	0.245

Note:

1. According to the EUT characteristic, WLAN 2.4GHz and Bluetooth can't transmit simultaneously.
2. According to the EUT characteristic, WLAN 5GHz and Bluetooth can't transmit simultaneously.
3. According to the EUT characteristic, WLAN 2.4GHz and WLAN 5GHz can't transmit simultaneously.
4. NFC only has standalone and cannot transmit simultaneously with any other frequency bands.
5. Σ(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)].
6. Considering all transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of collocated transmitters is compliant.

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

------THE END------