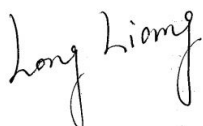


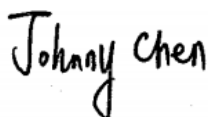
# RF Exposure Evaluation Report

**APPLICANT** : Verifone, Inc.  
**EQUIPMENT** : Point of Sale Terminal  
**BRAND NAME** : Verifone  
**MODEL NAME** : T650c  
**FCC ID** : B32T650C  
**STANDARD** : 47 CFR Part 2.1091  
FCC KDB 447498 D01 v06

We, Sporton International (ShenZhen) Inc., 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 (ShenZhen) Inc., the test report shall not be reproduced except in full.



Reviewed by: Long Liang / Supervisor



Approved by: Johnny Chen / Manager



**Sporton International (ShenZhen) Inc.**

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China



## **Table of Contents**

<b>1. ADMINISTRATION DATA .....</b>	<b>4</b>
1.1. Testing Laboratory .....	4
<b>2. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT) .....</b>	<b>5</b>
<b>3. MAXIMUM RF AVERAGE OUTPUT POWER AMONG PRODUCTION UNITS .....</b>	<b>6</b>
<b>4. RF EXPOSURE LIMIT INTRODUCTION .....</b>	<b>7</b>
<b>5. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION .....</b>	<b>8</b>
5.1. Standalone Power Density Calculation .....	8



**Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA9D1105	Rev. 01	Initial issue of report	Mar. 30, 2020



**1. Administration Data**

**1.1. Testing Laboratory**

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Testing Laboratory		
Test Firm	Sporton International (Shenzhen) Inc.	
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595	
Test Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CN1256	421272

Applicant	
Company Name	Verifone, Inc.
Address	Suite 200 1400 W Stanford Ranch Rd Rocklin CA 95765 USA

Manufacturer	
Company Name	Verifone Systems (China) Inc.
Address	Rm 318, south of Bld C18, Startup Headquarters Base, North of Fuyuan Road, Wuqing Development Area, Tianjin, China, 301700



## 2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Point of Sale Terminal
Brand Name	Verifone
Model Name	T650c
FCC ID	B32T650C
Wireless Technology and Frequency Range	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 ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	WLAN 2.4GHz : 802.11b/g/n/ HT20/HT40 WLAN 5GHz : 802.11a/n HT20/HT40 Bluetooth LE NFC:ASK
EUT Stage	Identical Prototype

**Remark:** WLAN operation in 5600 MHz ~ 5650 MHz is notched.

### Comments and Explanations:

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.



**3. Maximum RF average output power among production units**

**<WLAN 2.4GHz>**

Mode	Maximum Average Power (dBm)
802.11b	15.0
802.11g	12.5
802.11n-HT20	10.5
802.11n-HT40	9.0

**<Bluetooth>**

Mode	Maximum Average Power (dBm)
Bluetooth BR/EDR	7.0
Bluetooth LE	2.5

**<WLAN 5GHz>**

Mode	Maximum Average Power (dBm)	
WLAN 5.2GHz	802.11a	11.0
	802.11n-HT20	11.0
	802.11n-HT40	11.0
WLAN 5.3GHz	802.11a	11.0
	802.11n-HT20	11.0
	802.11n-HT40	11.0
WLAN 5.5GHz	802.11a	12.0
	802.11n-HT20	12.0
	802.11n-HT40	12.0
WLAN 5.8GHz	802.11a	11.5
	802.11n-HT20	11.5
	802.11n-HT40	11.5

**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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	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)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2.4GHz WLAN	2412	0.57	15.0	15.570	0.036	36.058	0.007	1.000
WLAN 5.2GHz	5180	0.22	11.0	11.220	0.013	13.243	0.003	1.000
WLAN 5.3GHz	5260	-0.41	11.0	10.590	0.011	11.455	0.002	1.000
WLAN 5.5GHz	5500	0.19	12.0	12.190	0.017	16.558	0.003	1.000
WLAN 5.8GHz	5745	-0.21	11.5	11.290	0.013	13.459	0.003	1.000
Bluetooth	2402	0.57	7.0	7.570	0.006	5.715	0.001	1.000

**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. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.

### Conclusion:

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

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