

RF Exposure Report

Report No.: SA180524C35

FCC ID: B32QI7

Test Model: QI7

Received Date: May 24, 2018

Test Date: Jun. 28 ~ Jun. 29, 2018

Issued Date: Jul. 09, 2018

Applicant: Verifone, Inc.

Address: 1400 West Stanford Ranch Road Suite 200 Rocklin CA 95765 USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
SA180524C35	Original release	Jul. 09, 2018

1 Certificate of Conformity

Product: Cup

Brand: Verifone

Model No.: QI7

Sample Status: Identical Prototype

Applicant: Verifone, Inc.

Test Date: Jun. 28 ~ Jun. 29, 2018

Standards: FCC Part 1 (Section 1.1307(b), 1.1310)

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The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen , **Date:** Jul. 09, 2018
Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Jul. 09, 2018
Bruce Chen / Project Engineer

2 General Information

2.1 General Description of EUT

Product	Cup
Brand	Verifone
Test Model	QI7
Sample Status	Identical Prototype
Power Supply Rating	12Vdc (Charger)
Operating Frequency	135kHz~176kHz
Antenna Type	Loop antenna
Field Strength	88.0dBuV/m
Accessory Device	Smart Charger, Adapter
Data Cable Supplied	NA

Note:

1. The EUT was tested with the following Charger and adapter.

Smart Charger	
Brand	Verifone
Model	e355 Smart charger
Power Rating	12Vdc, 5.0A

Adapter (Smart Charger use)	
Brand	Verifone
Model	AU1601201n
Input Power	100-240Vac, 50/60Hz, 1.6A
Output Power	12Vdc, 5.0A

2.2 Description of Test Modes

1 channel is provided to this EUT

Channel	Freq. (kHz)
1	135

3 RF Exposure

3.1 Description of Support Units

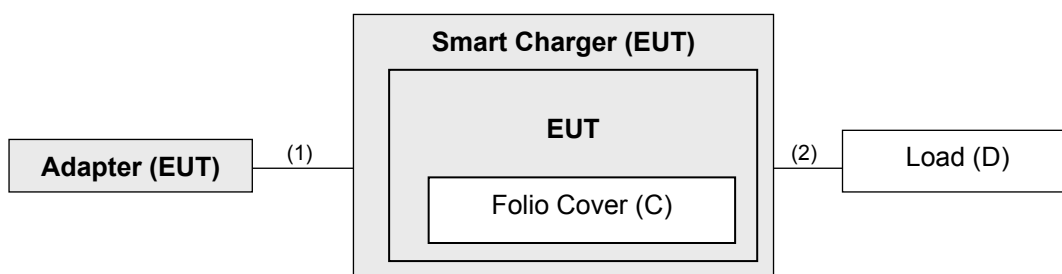
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Smart Charger	Verifone	e355 Smart charger	NA	NA	Accessory
B.	Adapter	Verifone	AU1601201n	NA	NA	Accessory
C.	Folio Cover	Verifone	e285 Folio	NA	NA	Provided by manufacturer
D.	Load	NA	NA	NA	NA	-

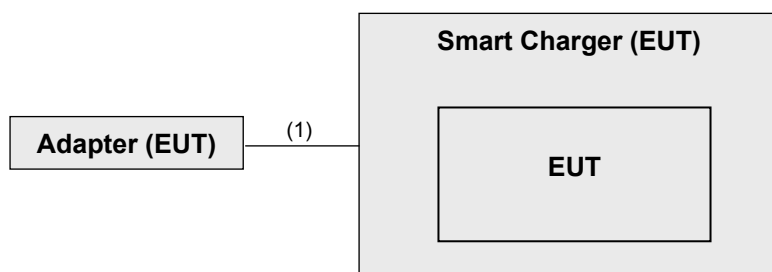
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Power cable	1	0.8	N	0	-
2.	DC cable	2	0.3	-	0	-

3.1.1 Configuration of System under Test

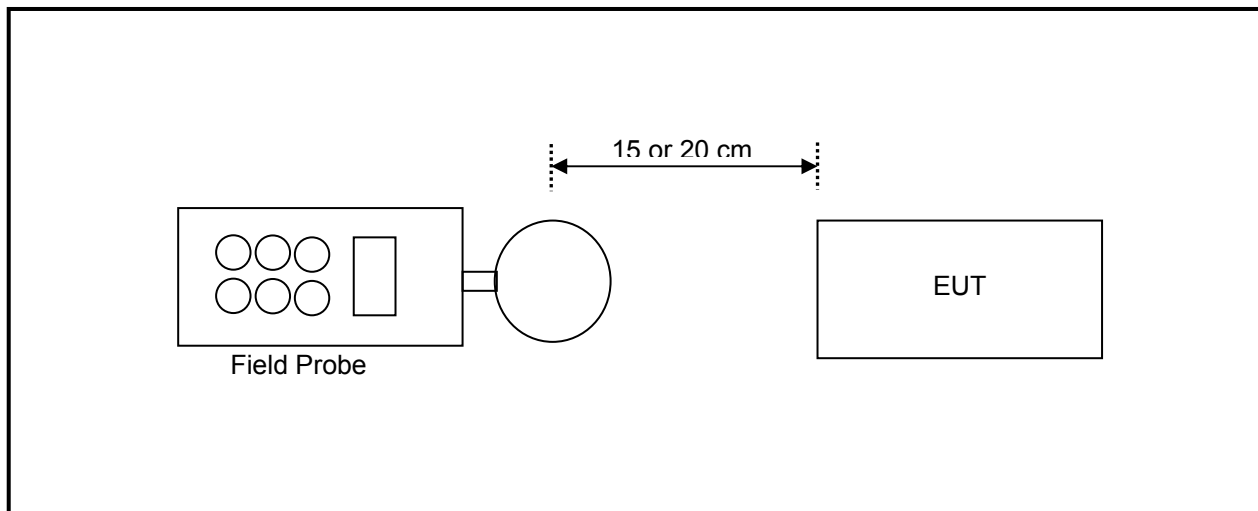
Charging Mode (Test Mode A)



Standby Mode (Test Mode B)



3.2 Test Setup



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15 or 20 cm measured from the center of the probe(s) to the edge of the device.

3.3 Test Instruments

Description	Brand	Model No.	Frequency Range	Calibrated Date	Calibrated Until
Broadband Field Meter	NARDA	NBM-550	-	Mar. 28, 2018	Mar. 27, 2020
Magnetic Field Meter	NARDA	ELT-400	1 – 400kHz	Apr. 12, 2018	Apr. 11, 2020
Broadband Field Meter	NARDA	NBM-550	-	Mar. 28, 2018	Mar. 27, 2020
Magnetic Field Probe	NARDA	2300/90.10	1Hz – 400kHz	Apr. 12, 2018	Apr. 11, 2020
E-Field Probe	NARDA	EF 0391	100kHz – 3GHz	Mar. 28, 2018	Mar. 27, 2020

Note: 1. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa RF Chamber

3.4 Limits for Maximum Permissible Exposure (MPE)

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

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/f ²)	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/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

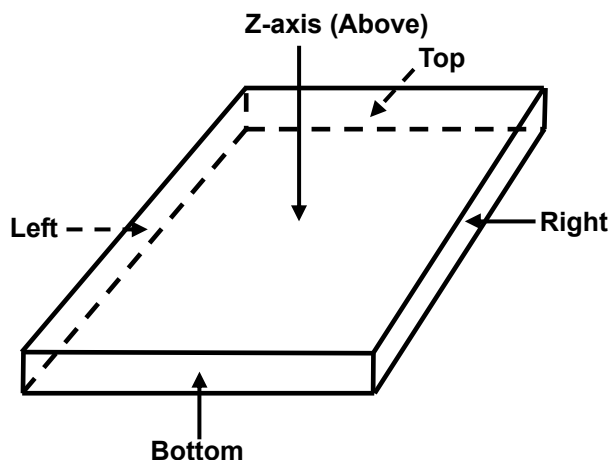
NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

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The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

3.5 Test Point Description



4 Calculation Result of Maximum Conducted Power

Charging Mode with Load

H-Field Measurement (15cm)					H-Field Measurement (20cm)
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max E-field (V/m)	0.74	0.67	0.25	0.45	0.61
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.26	-613.33	-613.75	-613.55	-613.39
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.26	-306.33	-306.75	-306.55	-306.39

H-Field Measurement (15cm)					H-Field Measurement (20cm)
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max H-field (uT)	0.186	0.162	0.152	0.15	0.197
Max H-field (A/m)	0.1488	0.1296	0.1216	0.12	0.1576
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.4812	-1.5004	-1.5084	-1.51	-1.4724
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.629	-0.653	-0.663	-0.665	-0.618

Measurement was made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device, with the 20 cm measured from the center of the probe(s) to the edge of the device. Z-axis (Above)

The highest emission level was recorded.

Standby Mode

H-Field Measurement (15cm)					H-Field Measurement (20cm)
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max E-field (V/m)	0.3	0.14	0.15	0.24	0.33
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.7	-613.86	-613.85	-613.76	-613.67
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.70	-306.86	-306.85	-306.76	-306.67

H-Field Measurement (15cm)					H-Field Measurement (20cm)
EUT Side	Left	Right	Top	Bottom	Z-axis (Above)
Max H-field (uT)	0.126	0.124	0.14	0.118	0.117
Max H-field (A/m)	0.1008	0.0992	0.112	0.0944	0.0936
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.5292	-1.5308	-1.518	-1.5356	-1.5364
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.689	-0.691	-0.675	-0.697	-0.698

Measurement was made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device, with the 20 cm measured from the center of the probe(s) to the edge of the device. Z-axis (Above)
The highest emission level was recorded.

5 Photographs of the Test Configuration

Please refer to the attached file (Test Setup Photo).

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