FCC Test Report

for

Contactless Module

Trade Name	**: VeriFone**
Model Number	**: VX810 CTLS**
P/N	**: P281-XXX-XX-R(X:0~9,A~Z)**
FCC ID	**: B32VX810-CTLS**
Report Number	**: S2RF-V040-0810-326**
Date of Receipt	**: December 12, 2010**
Date of Report	**: January 5, 2011**

Prepared for

VeriFone Inc.

1400 West Stanford Ranch Road Suite 200 Rocklin, CA 95765 USA

Prepared by

Central Research Technology Co.

EMC Test Laboratory

No.11, Lane41, Fushuen St., Jungshan Chiu, Taipei, Taiwan, 104, R.O.C.

NVLAP LAB CODE 200575-0

Certification

Equipment under Test	**: Contactless Module**
Model No.	**: VX810 CTLS**
P/N	**: P281-XXX-XX-R(X:0~9,A~Z)**
FCC ID	**: B32VX810-CTLS**
Manufacturer	**: Inventec Appliances (Pudong) Co.,Ltd.** **VeriFone Inc.** **Inventec Appliances (Shanghai) Co.,Ltd.** **Sanmina-SCI Systems (Kunshan) Co.,Ltd.**
Applicant	**: VeriFone Inc.**
Address	**: 1400 West Stanford Ranch Road Suite 200 Rocklin, CA 95765 USA**
Date of Testing	**: December 20, 2010**
Applicable Standards	**: 47 CFR part 15, Subpart C** - Field Strength of fundamental - Radiated Emission
Deviation	**: N/A**
Condition of Test Sample	**: Enigneering Sample**

We, **Central Research Technology Co**., hereby certify that one sample of the designated product was tested in our facility during the period mentioned above. The test records, data evaluation and Equipment Under Test (EUT) configurations shown in the present report are true and accurate representation of the measurements of the sample's RF characteristics under the conditions herein specified.

The test results show that the EUT as described in the present report is in compliance with the requirements set forth in the standards mentioned above and apply to the tested sample identified in the present report only. The test report shall not be reproduced, except in its entirety, without the written approval of Central Research Technology Co.

PREPARED BY : Cathy Chen , **DATE :** Jan. 5, 2011
(Cathy Chen/Technical Manager)

APPROVED BY : J. Y. Shih , **DATE :** Jan. 5, 2011
(Tsun-Yu Shih/General Manager)

Contents

1 General Description

1.1 General Description of EUT

Equipment under Test: Contactless Module

Model No. : VX810 CTLS

P/N : P281-XXX-XX-R(X:0~9,A~Z)

Power in : 3.3Vdc, 500mA (Power supplied by POS terminal VX810)

Test Voltage : 120Vac/ 50Hz to the adapter

Manufacturer : Inventec Appliances (Pudong) Co.,Ltd.
VeriFone Inc.
Inventec Appliances (Shanghai) Co.,Ltd.
Sanmina-SCI Systems (Kunshan) Co.,Ltd.

Channel Numbers : 1

Frequency Range : 13.56MHz

Function Modulation : ASK

Function Description :

The EUT is used to transmit and receive signal both. Please refer to the user's manual for the details.

This serier report is based on the report: RF-V040-0810-326 of Central Research Technology Co. for firmware update due to the requirements of marketing.

The Field Strength of fundamental and Radiated Emission were applied to verify the compliance of the EUT. For all other test items can directly refer to the Report: RF-V040-0810-326

2 Field Strength of fundamental

Result: Pass

2.1 Test Data

Field strength of fundamental

Test Mode : Continuous Transmitting

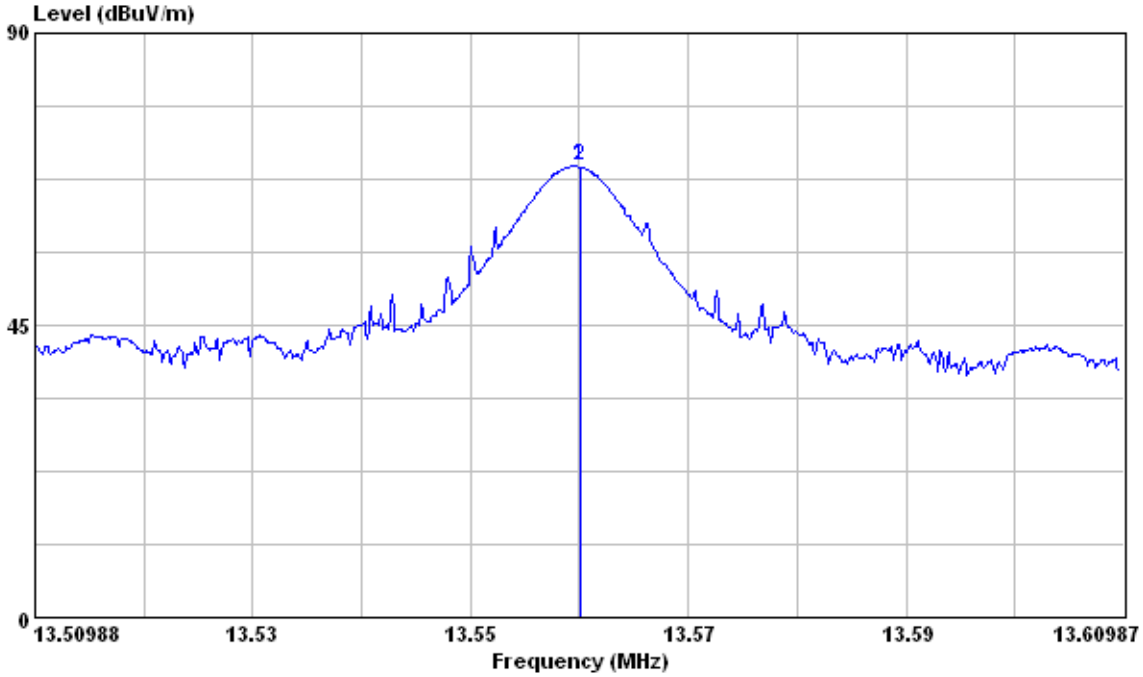
Test Distance : 3m **Tester :** Liu

Freq. (MHz)	Polarization	Reading Data (dBuV)	Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
13.56	V	55.44	14.03	69.47	124	54.53
13.56	H	48.25	14.03	62.28	124	61.72

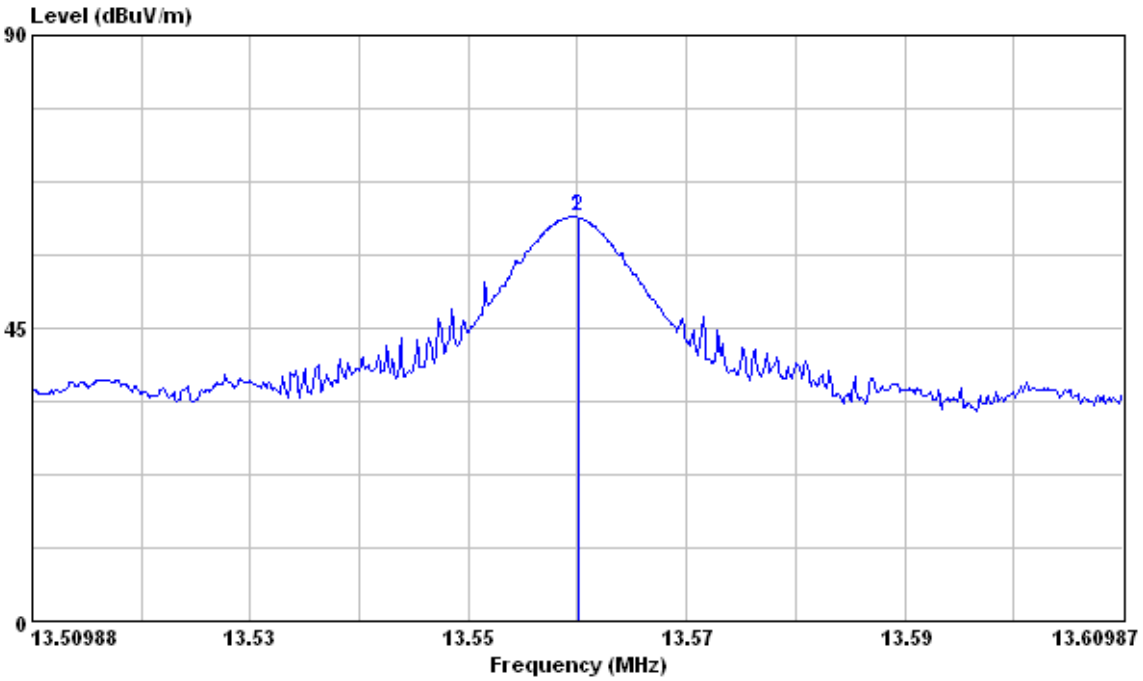
Note：

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor
2. Output Field Strength (dBuV/m) = Reading Data + Correction Factor
3. The limit is 15848 (uV/m)=84dBuV/m @ 30 m , The formula transfers the limit at 30 m to 3m is $L_3 = L_{30} \times (d_{30} / d_3)^2 = L_{30}$(dBuV/m) + 40 =124 dBuV/m
4. Margin (dB) = Limit – Output Field Strength

V Polarization



H Polarization



3 Radiated Emission

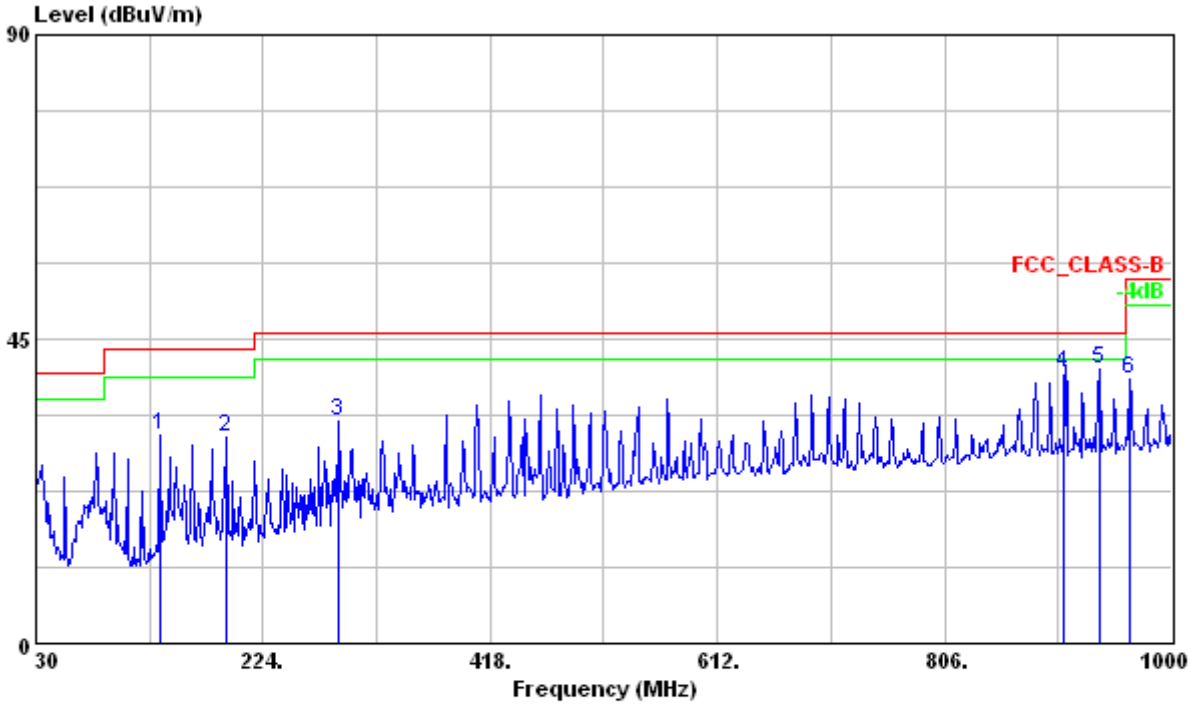
Result: Pass

3.1 Test Data

Test Mode : **Continuous Transmitting**

Test Distance : 3m **Tester** : Liu

Polarization : Vertical **Frequency Range** : 30MHz~1000MHz



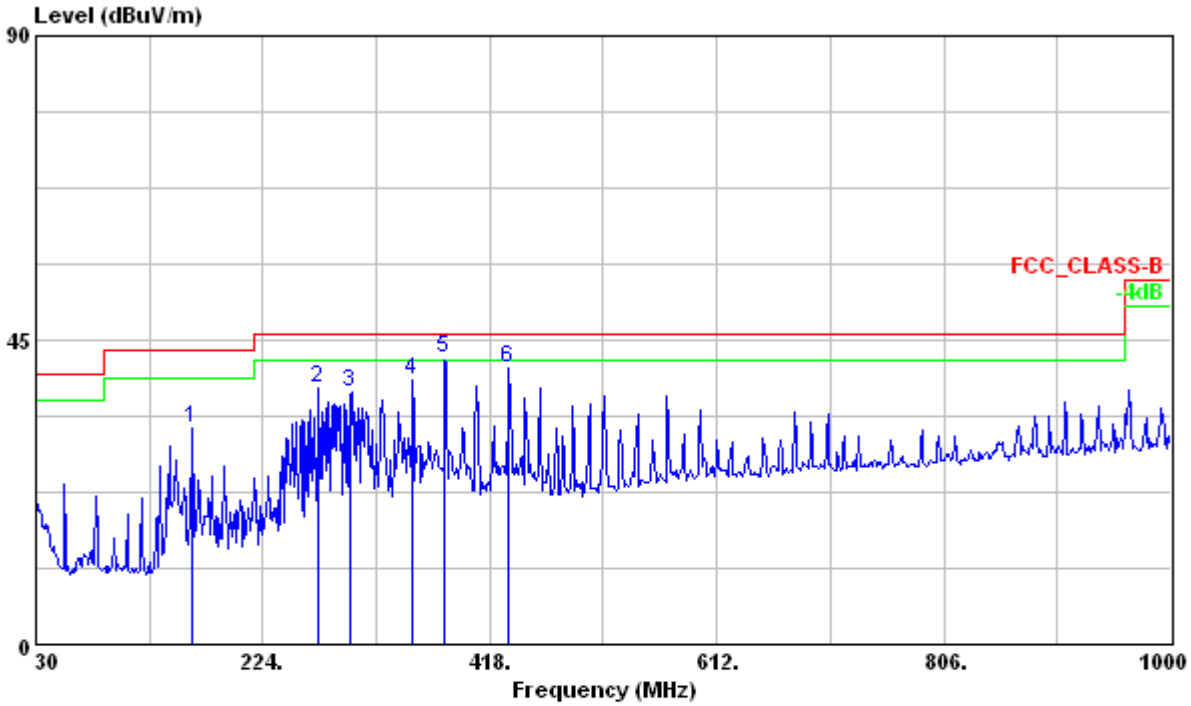
	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dB/m	dBuV	dBuV/m	dB	cm	deg		
1	135.300	30.80	-18.91	49.71	43.50	-12.70	---	---	VERTICAL	Peak
2	192.270	30.54	-15.92	46.46	43.50	-12.96	---	---	VERTICAL	Peak
3	288.390	32.98	-13.03	46.01	46.00	-13.02	---	---	VERTICAL	Peak
4	908.452	40.11	-0.87	40.98	46.00	-5.89	192	190	VERTICAL	QP
5	938.400	40.69	-0.71	41.40	46.00	-5.31	---	---	VERTICAL	Peak
6	964.300	39.10	-0.43	39.53	54.00	-14.90	---	---	VERTICAL	Peak

Note：

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

No obvious signal can be detected from 9kHz to 30MHz, so the graphs are omitted below 30MHz.

Test Mode	**: Continuous Transmitting**		
Test Distance	**:** 3m	**Tester**	**:** Liu
Polarization	**:** Horizontal	**Frequency Range**	**:** 30MHz~1000MHz



	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dB/m	dBuV	dBuV/m	dB	cm	deg		
1	163.110	31.96	-17.02	48.98	43.50	-11.54	---	---	HORIZONTAL	Peak
2	271.380	37.93	-13.14	51.07	46.00	-8.07	---	---	HORIZONTAL	Peak
3	299.190	37.17	-12.37	49.54	46.00	-8.83	---	---	HORIZONTAL	Peak
4	351.800	39.03	-10.45	49.48	46.00	-6.97	---	---	HORIZONTAL	Peak
5 !	379.646	42.39	-9.67	52.06	46.00	-3.61	100	259	HORIZONTAL	QP
6	434.400	40.87	-8.31	49.18	46.00	-5.13	---	---	HORIZONTAL	Peak

Note：

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

No obvious signal can be detected from 9kHz to 30MHz, so the graphs are omitted below 30MHz.