

# FCC TEST REPORT

According to

## FCC Part 15 Class A

EQUIPMENT	:	Human Machine Interface
MODEL NO.	:	VX301, SD300, GP-30E, HMI311
APPLICANT	:	VX Technology, Inc.
ADDRESS	:	2F, NO. 262, SEC. 2, GUANGFU RD., EAST DISTRICT, HSINCHU CITY 300, TAIWAN, R.O.C.

CHECKED BY : \_\_\_\_\_ NICK LEE

ISSUED DATE : \_\_\_\_\_ DEC. 04, 2008

The test result refers exclusively to the test presented test model / sample.  
Without the written authorization of the test lab., the Test Report may not be copied.

## PEP TESTING LABORATORY

NO. 9-6, Huzi, Hubei Village, Linkou Shiang, Taipei Hsien, Taiwan 244, R. O. C.  
TEL : 886-2-26021042 FAX : 886-2-26021045

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**TABLE OF CONTENTS**

<b><u>1. General</u></b>	3
1.1 General Information	
1.2 Place of Measurement	
<b><u>2. Product Information</u></b>	4
<b><u>3. EUT Description And Test Methods/ Test Software Used Modification(s)</u></b>	5
<b><u>4. Supporting Devices To Test</u></b>	6
<b><u>5. Conducted Disturbance Test</u></b>	8
5.1 Setup of the Test Facilities	
<b><u>6. Radiated Disturbance Test</u></b>	9
6.1 Setup of the Test Facilities	
6.2 Open Test Site Setup Diagram	
6.3 Radiated Disturbance Emission Limit	
<b><u>7. Conducted Test Configuration Photo</u></b>	11
<b><u>8. Conducted Emissions Test Data</u></b>	11
<b><u>9. Radiated Test Configuration Photos</u></b>	12
<b><u>10. Radiated Emissions Test Data</u></b>	13
<b><u>11. List Of Test Equipment</u></b>	14
<b><u>12. Labelling Requirements</u></b>	15
<b><u>13. Information To The User</u></b>	16
<b><u>14. EUT Photographs</u></b>	17

# 1. General

## 1.1 General Information:

<b>Applicant :</b>	VX Technology, Inc.
<b>Address :</b>	2F, NO. 262, SEC. 2, GUANGFU RD., EAST DISTRICT, HSINCHU CITY 300, TAIWAN, R.O.C.

<b>Manufacturer :</b>	VX Technology, Inc.
<b>Address :</b>	2F, NO. 262, SEC. 2, GUANGFU RD., EAST DISTRICT, HSINCHU CITY 300, TAIWAN, R.O.C.

MEASUREMENT PROCEDURE : CISPR 22

## 1.2 Place of Measurement

### PEP TESTING LABORATORY

NO. 9-6, Huzi, Hubei Village, Linkou Shiang, Taipei Hsien, Taiwan 244,  
R.O.C.

E-Mail : [peplab@ms32.hinet.net](mailto:peplab@ms32.hinet.net)

TEL : 886-2-26021042

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Accreditation ---

NVLAP LAB CODE 200097-0

(U. S. A.)

FCC Registration No. : 90868

## 2. Product Information

<b>a. EUT Name:</b>	Human Machine Interface
<b>b. Model No. :</b>	VX301
<b>c. CPU Type :</b>	N/A
<b>d. CPU Frequency :</b>	N/A
<b>e. Crystal/Oscillator(s) :</b>	3.6864 MHz
<b>f. Chassis Used :</b>	ABS
<b>g. Port/Connector(s) :</b>	RS-232 Port * 1
<b>h. Power Rating :</b>	DC 24V (From DC Power Supply)
<b>i. Condition of the EUT :</b>	Prototype Sample ✓ Engineering Sample Production Sample
<b>j. Test Item Receipt Date :</b>	NOV. 27, 2008
<b>k. Date(s) of performance of test:</b>	NOV. 27, 2008 – DEC. 03, 2008

### 3. EUT Description And Test Methods/ Test Software Used/ Modification(s)

<b>EUT Name:</b>	Human Machine Interface		
<b>Representative Model:</b>	VX301		
<b>Serial Model:</b>	SD300, GP-30E, HMI311		
<b>Power Rating:</b>	DC 24V (From DC Power Supply)		
<b>Model Difference Description :</b>	OEM MODEL		
<b>EUT'S I/O Port(s):</b>	<b>I/O Port</b>	<b>Number</b>	<b>Connector Equipment</b>
	RS-232 Port	1	PC
<b>Operation Mode(s) of EUT for Preliminary test(s):</b>	To set the super terminal up, and typed the data to transmits through the RS-232 cable to the EUT through keyboard and showed in the display monitor.		
<b>Worst-case operation mode(s) of EUT:</b>	To set the super terminal up, and typed the data to transmits through the RS-232 cable to the EUT through keyboard and showed in the display monitor.		

<b>Software used to Operate EUT Function(s) :</b>	(1) EMCTEST program that continuously generates a complete line of repeating "H" letter was the software used during test.
	(2) Super terminal: It is a platform to transmit the data to the EUT.

<b>Modification(s):</b>	N/A
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## 4. Support Equipment Used

<b>Personal Computer (PC4)</b>	<b>CPU</b> : Intel Pentium 4 524MHz <b>FCC ID</b> : Declaration of Conformity(DoC) <b>Manufacturer</b> : ACER <b>Model Number</b> : Aspire T650 <b>Power Supply</b> : Switching <b>Power Cord</b> : Non-Shielded, Detachable, 1.8m <b>Data Cable</b> : N/A
<b>LCD (LCD1 15")*2</b>	<b>FCC ID</b> : Declaration of Conformity(DoC) <b>Manufacturer</b> : ViewSonic <b>Model Number</b> : VLCD21588-1 <b>Power Supply</b> : Switch, 12Vdc <b>Power Cord</b> : Non-Shielded, Detachable, 1.8m <b>Data Cable</b> : 1 > Shielded , Detachable,1.7m 2 > Back Shell : Metal
<b>Printer (PRN1)</b>	<b>FCC ID</b> : B94C2642X <b>Manufacturer</b> : Hewlett-Packard <b>Model Number</b> : C2642E <b>Power Supply</b> : Linear, 30Vdc O/P <b>Power Cable</b> : Non-Shielded , Detachable,1.8m <b>Data Cable</b> : 1 > Shielded , Detachable,1.2m 2 > Back Shell : Metal
<b>Mouse (MOUS/1 PS/2)</b>	<b>FCC ID</b> : DZL211106 <b>Manufacturer</b> : LOGITECH <b>Model Number</b> : M-S43 <b>Power Supply</b> : +5Vdc from PS2 of PC <b>Power Cord</b> : N/A <b>Data Cable</b> : 1 > Shielded , Non-detachable,1.8m 2 > Back Shell : Metal
<b>Modem (MOD1)</b>	<b>FCC ID</b> : IFAXDM1414 <b>Manufacturer</b> : ACEEX <b>Model Number</b> : 1414 <b>Power Supply</b> : Linear, 9Vac O/P <b>Power Cable</b> : Non-Shielded , Detachable,1.7m <b>Data Cable</b> : 1 > Shielded , Detachable,1m 2 > Back Shell : Metal

<b>Keyboard (KBS1 PS/2)</b>	<b>FCC ID</b> : E5XKB5121WTH0110
	<b>Manufacturer</b> : BTC <b>Model Number</b> : 5121W <b>Power Supply</b> : +5Vdc from PS2 of PC <b>Power Cord</b> : N/A <b>Data Cable</b> : 1 > Shielded , Non-detachable,1.6m 2 > Back Shell : Metal
<b>DC Power Supply</b>	<b>Manufacturer</b> : SCHMIDT
	<b>Model Number</b> : EPS-3030SD (DC-0-30V)

## 5. Conducted Disturbance Test

### 5.1 Conducted Disturbance Emission Limit

Frequency	Maximum RF Line Voltage dB(uV)
	Class A
MHz	QUASI- PEAK
0.15 – 0.5	79
0.5 – 30.0	73

Remarks : In the above table, the tighter limit applies at the band edges.

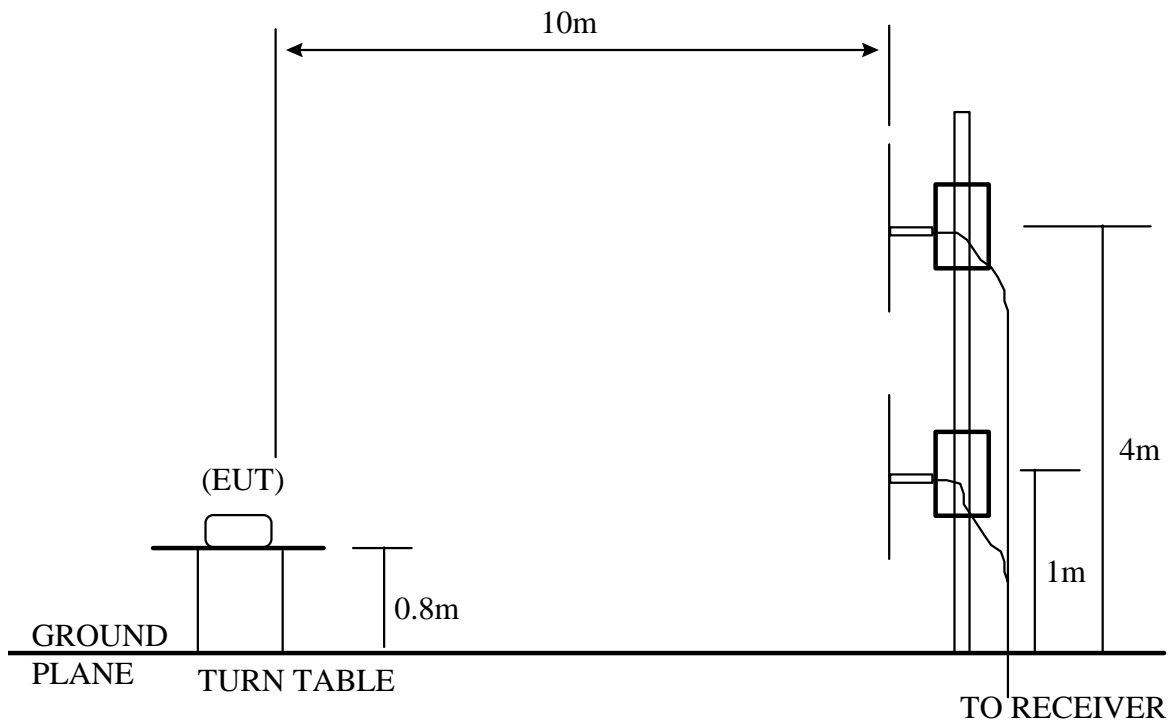


## 6. Radiated Disturbance Test

### 6.1 Setup of the Test Facilities

The equipment under test was setup on the non-conductive table in the open field site. The table was placed on a remote turntable constructed of a wooden material. The top of the table is located 1m above the ground plane. The turntable was rotated to obtain the maximum level of radiated emissions from the system containing the EUT for each emissions level investigated.

### 6.2 Open Test Site Setup Diagram



### 6.3 Radiated Disturbance Emission Limit

Limits for radiated disturbance of Class A ITE at  
a measuring distance of 10 m

Frequency MHz	Field Strength dB( $\mu$ V/m)
30 – 88	39.0
88 – 216	43.5
216 – 960	46.4
960 above	49.5

NOTES

- 1 The lower limit shall apply at the transition frequency.
- 2 Additional provisions may be required for cases where interference occurs.

## **7. Conducted Test Configuration Photo**

N/A

## **8. Conducted Emissions Test Data**

N/A

## 9. Radiated Test Configuration Photos

**\* FRONT VIEW \***



**\* REAR VIEW \***



## 10. Radiated Emissions Test Data

Model No.	: VX301		
Frequency range	: 30MHz to 1GHz	Detector	: Quasi-Peak Value
Frequency range	: above 1GHz	Detector	: Quasi-Peak/Average Value
Temperature	: 28° C	Humidity	: 54 %

Antenna polarization : HORIZONTAL ; Test distance : 10m ;

Freq. (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Azimuth (°angle)	Antenna High(m)
100.640	26.65	-16.85	43.50	33.36	10.80	3.10	20.61	83	4.0
218.040	29.91	-16.49	46.40	35.53	10.88	3.80	20.30	50	4.0
265.440	40.86	- 5.54	46.40	45.43	11.37	4.10	20.04	297	4.0
331.800	43.84	- 2.56	46.40	46.09	13.32	4.43	20.00	336	4.0
530.860	40.55	- 5.85	46.40	37.60	17.31	5.46	19.82	248	4.0
962.120	26.61	-22.89	49.50	16.11	23.06	6.89	19.45	327	4.0

Antenna polarization : VERTICAL ; Test distance : 10m ;

Freq. (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Azimuth (°angle)	Antenna High(m)
199.220	33.94	- 9.56	43.50	39.78	10.73	3.73	20.30	36	1.0
234.600	26.74	-19.66	46.40	32.53	10.49	3.92	20.20	244	1.0
265.450	38.09	- 8.31	46.40	42.66	11.37	4.10	20.04	232	1.0
331.790	41.04	- 5.36	46.40	43.29	13.32	4.43	20.00	228	1.0
464.500	33.20	-13.20	46.40	31.54	16.47	5.18	19.99	206	1.0
796.890	24.52	-21.88	46.40	16.02	21.47	6.37	19.34	271	1.0

Note :

1. Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor
2. Over Limit = Level – Limit Line

## 10. List of Test Equipment

Test Site	Instrument	Model No.	S/N	Next Cal. Date	Cal. Interval
<b>Radiation (OP No.3)</b>	R & S Receiver	ESVS 30	863342/012	Aug. 05, 2009	1 Year
	Schaffner Pre-Amp.	CPA-9232	1012	Aug. 15, 2009	1 Year
	SCHWARZBECK Antenna	9161	9161-4077	Aug. 02, 2009	1 Year
	RF Cable	No.3	N/A	Aug. 15, 2009	1 Year

## 11. Labelling Requirement

A warning label with the following statement shall be permanently attached and conspicuously located on the equipment :

This device complies with Part 15 of the FCC Rules . Operation is subject to the following two conditions : (1) This device may not cause harmful interference , and (2) this devices must accept any interference received , including interference that may cause undesired operation .

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## 12. Information to The User

The following FCC statement should be declared in a conspicuous location in the user's manual .

### Federal Communications Commission (FCC) Statement

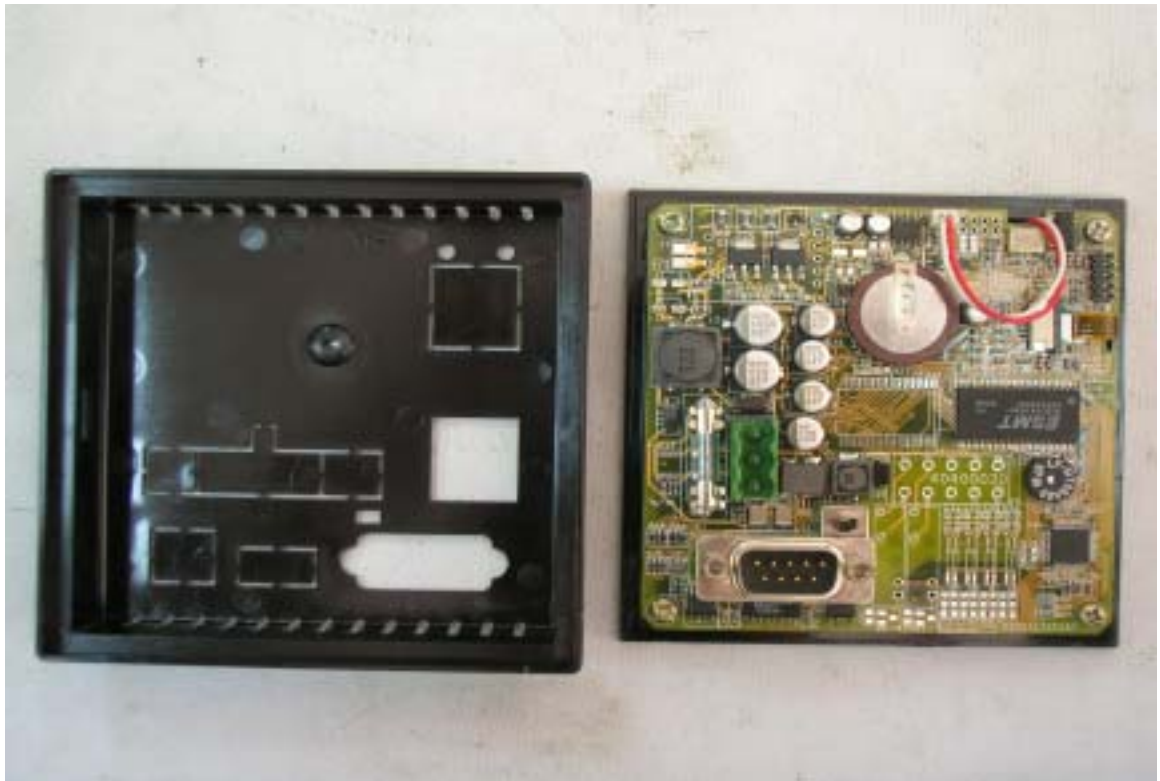
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

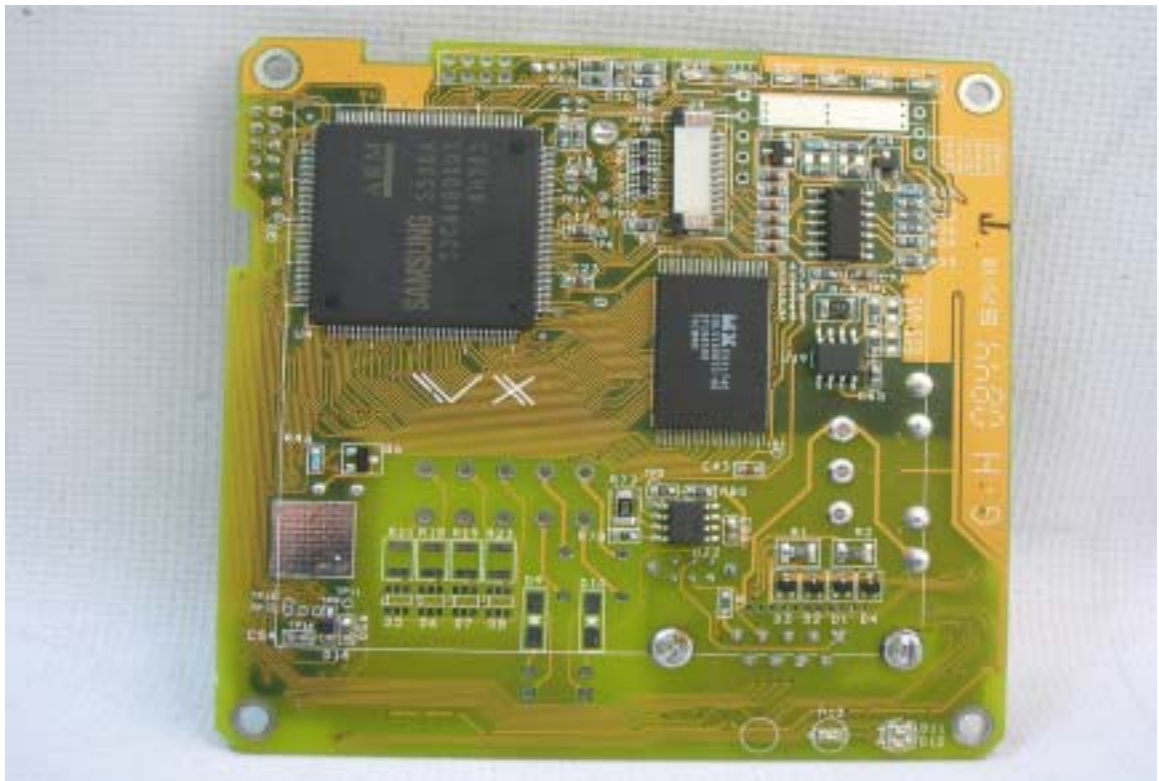


### 13. EUT Photographs

MODEL NO. : VX301







# VERIFICATION

**WE HEREBY VERIFY THAT:**

The Equipment Under Test (EUT) listed below has completed RFI testing by PEP Testing Laboratory and the interference emissions can pass FCC Class A limitations .

The test report shall not be reproduced except in full, without the written approval of the laboratory.

The estimate uncertainty of the test result is about  $\pm 3\text{dB}$ . The test result is only effect for the sample as below.

**APPLICANT** : VX Technology, Inc.  
**EQUIPMENT** : Human Machine Interface  
**MODEL NO.** : VX301, SD300, GP-30E, HMI311  
**REPORT NO.** : E960154-1



*M. Y. Tsui*

M. Y. TSUI / Manager



Date : DEC. 04, 2008