

FCC CERTIFICATION  
On Behalf of  
DOBBS -STANFORD CORPORATION

PC Silicone Flexible Keyboard With Back Light  
Model No.: GLW-1000

FCC ID: RPZSFK1000

Equipment Class: FCC Part 15 Subpart B Class B

Prepared for : DOBBS -STANFORD CORPORATION  
Address : 2715 ELECTRONIC LANE DALLAS, TX 75220, USA

Prepared by : Accurate Technology Co., Ltd.  
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Report No. : ATE2005511  
Date of Test : Apr. 13, 2005  
Date of Report : Apr. 28, 2005

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## Test Report Declaration

Applicant : DOBBS -STANFORD CORPORATION  
 Manufacturer : DOBBS -STANFORD CORPORATION  
 Product : PC Silicone Flexible Keyboard With Back Light  
 (A) Model No.: GLW-1000  
 (B) Serial No.: N/A  
 (C) Rating: DC 5V

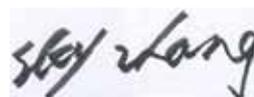
### Measurement Procedure Used:

FCC Rules and Regulations Part 15 Section 15.107(a), 15.109(a) November 2004 & ANSI C63.4: 2003

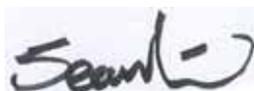
The device described above is tested by Accurate Technology Co., Ltd. To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Section 15.107(a), 15.109(a) limits. The measurement results are contained in this test report and Accurate Technology Co., Ltd. Is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Accurate Technology Co., Ltd.

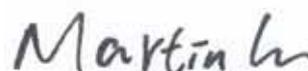
Date of Test : Apr. 13, 2005



Prepared by : (Engineer)



Reviewer : (Quality Manager)



Approved & Authorized Signer : (Manager)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

Product	:	PC Silicone Flexible Keyboard With Back Light
Model Number	:	GLW-1000
Rating	:	DC 5V
USB Cable	:	Non-shielded, Non-Detachable, 1.8m≤3.0m
USB to PS/2 Adapter	:	Detachable
PC (CE, FCC: DOC, VCCI)	:	Manufacturer: DELL Model No.: DMC Serial No.: 3R7LF1X
LCD Monitor (CE, FCC: DOC, VCCI)	:	Manufacturer: DELL Model No.: E172FPt Serial No.: 434
Keyboard (CE, FCC: DOC, VCCI)	:	Manufacturer: DELL Model No.: SK-8110 Serial No.: LR86682
Mouse (CE, FCC: DOC, VCCI)	:	Manufacturer: DELL Model No.: M071KC Serial No.: 410042355
Printer (CE, FCC: DOC)	:	Manufacturer: Canon Model No.: BJC-1000SP
Applicant	:	DOBBS -STANFORD CORPORATION
Address	:	2715 ELECTRONIC LANE DALLAS, TX 75220, USA
<b>MANUFACTURER</b>	:	Shenzhen Xinmaoda Electronic Tech Co., Ltd.
<b>ADDRESS</b>	:	No.287, Guxu One Rd., Guxu, Xixiang Town, Baoan District, Shenzhen, Guangdong, China
Date of sample received	:	Apr. 13, 2005
Date of Test	:	Apr. 13, 2005

## 1.2. Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen, May 10, 2004

Accredited by FCC, May 10, 2004  
The Certificate Registration Number is 253065

Accredited by Industry Canada, May 18, 2004  
The Certificate Registration Number is IC 5077

Name of Firm : Accurate Technology Co., Ltd.  
Site Location : F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.  
Science & Industry Park, Nanshan, Shenzhen, Guangdong  
P.R. China

## 1.3. Measurement Uncertainty

Radiation Uncertainty :  $U_r = \pm 4.26\text{dB}$

Conduction Uncertainty :  $U_c = \pm 2.66\text{dB}$

## 1.4. Test Equipment

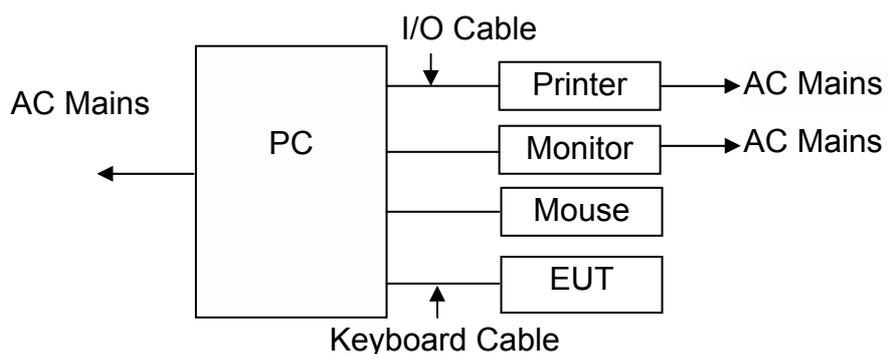
Kind of equipment	Manufacturer	Type	S/N	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	01.02.2006
EMI Test Receiver	Rohde&Schwarz	ESI26	838786/013	01.02.2006
Bilog Antenna	Schwarzbeck	VULB9163	9163-194	01.02.2006
Horn Antenna	Rohde&Schwarz	HF906	100013	01.02.2006
Spectrum Analyzer	Anritsu	MS2651B	6200238856	01.02.2006
Pre-Amplifier	Agilent	8447D	2944A10619	01.02.2006
L.I.S.N.	Rohde&Schwarz	ESH3-Z5	100305	01.02.2006
L.I.S.N.	Rohde&Schwarz	ESH3-Z5	100310	01.02.2006

## 2. CONDUCTED EMISSION MEASUREMENT FOR FCC PART 15

### SECTION 15.107(A)

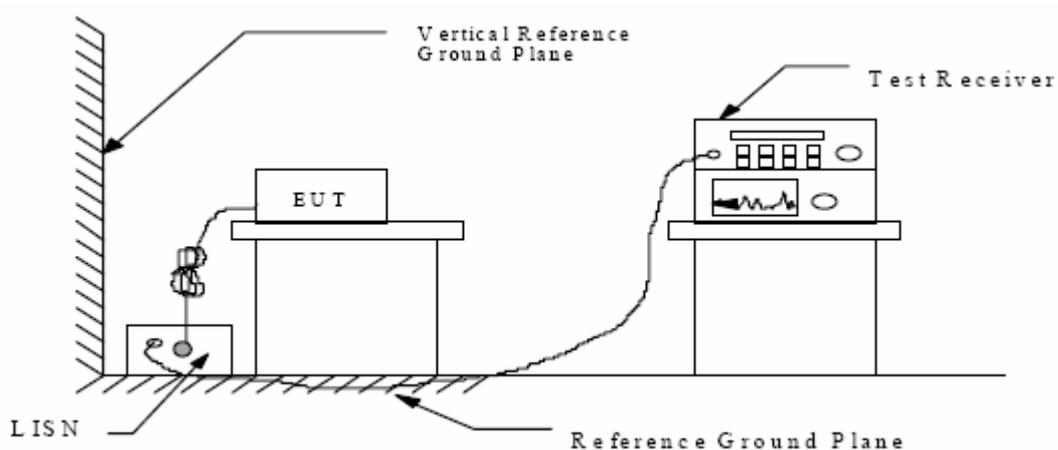
#### 2.1. Block Diagram of Test Setup

##### 2.1.1. Block diagram of connection between the EUT and simulators



(EUT: PC Silicone Flexible Keyboard With Back Light)

##### 2.1.2. Shielding Room Test Setup Diagram



(EUT: PC Silicone Flexible Keyboard With Back Light)

## 2.2.The Emission Limit For Section 15.107(a)

### 2.2.1 Conducted Emission Measurement Limits According to Section 15.107(a)

Frequency (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

\* Decreases with the logarithm of the frequency

## 2.3.EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

### 2.3.1.PC Silicone Flexible Keyboard With Back Light (EUT)

Model No.: GLW-1000

Serial No.: N/A

Manufacturer: Shenzhen Xinmaoda Electronic Tech Co., Ltd.

## 2.4.Operating Condition of EUT

2.4.1.Setup the EUT as shown in Section 2.1.

2.4.2.Let the EUT work in test modes (Connect to PC USB Port, PC run keyboard test program) and turn on back light.

The keyboard can connect to PC USB port or PS/2 port, We select keyboard connect to USB port to test.

## 2.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2003 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.  
The frequency range from 150kHz to 30MHz is checked.

## 2.6. Power Line Conducted Emission Measurement Results

**PASS.**

The frequency range from 150kHz to 30MHz is checked.

Date of Test	Apr. 13, 2005	Temperature	: 22°C
EUT	: PC Silicone Flexible Keyboard With Back Light	Humidity	: 50%
Model No.	: GLW-1000	Test Mode	: Connect to PC
Power Supply:	AC 120V/ 60Hz	Test Engineer :	Pei

Test Line	Frequency MHz	Emission Level(dBμV)		Limits(dBμV)		Margin(dBμV)	
		QP	AV	QP	AV	QP	AV
Va	0.241	37.3	37.2	62.06	52.06	24.76	14.86
Va	0.797	36.8	20.5	56	46	19.2	25.5
Va	0.914	44.5	27.8	56	46	11.5	18.2
Va	0.966	45.3	31.6	56	46	10.7	14.4
<b>Va</b>	<b>1.670</b>	<b>43.0</b>	<b>43.0</b>	<b>56</b>	<b>46</b>	<b>13.0</b>	<b>3.0</b>
Vb	0.360	35.5	35.5	58.73	48.73	23.23	13.23
Vb	0.795	36.8	20.2	56	46	19.2	25.8
Vb	0.897	43.7	26.7	56	46	12.3	19.3
Vb	0.988	44.1	26.4	56	46	11.9	19.6
<b>Vb</b>	<b>1.672</b>	<b>43.0</b>	<b>42.9</b>	<b>56</b>	<b>46</b>	<b>13.0</b>	<b>3.1</b>

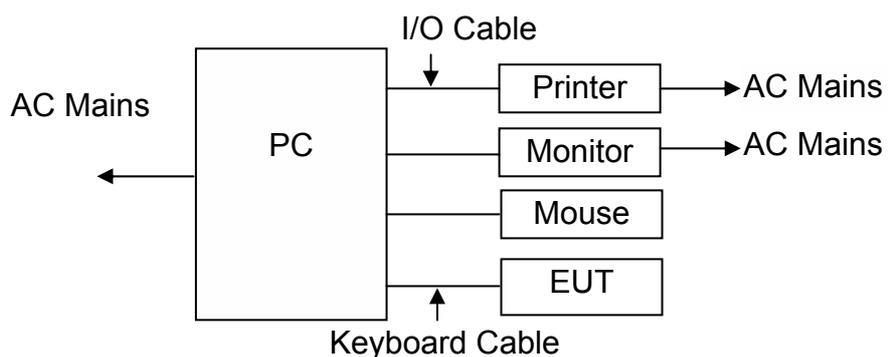
All the tested peak value& Average value curves are attached in Appendix I.

### 3. RADIATED EMISSION MEASUREMENT FOR FCC PART 15

#### SECTION 15.109(A)

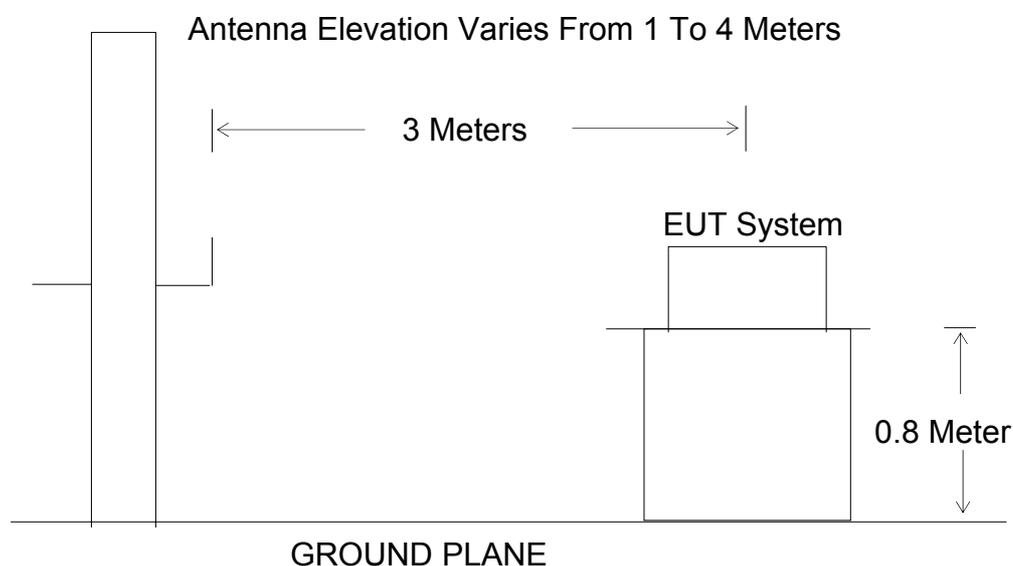
##### 3.1. Block Diagram of Test Setup

###### 3.1.1. Block diagram of connection between the EUT and simulators



(EUT: PC Silicone Flexible Keyboard With Back Light)

###### 3.1.2. Anechoic Chamber Test Setup Diagram



(EUT: PC Silicone Flexible Keyboard With Back Light)

### 3.2. Radiated Emission Limit For Section 15.109(A)

Except for Class A digital devices, the field strength of radiated emission from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency MHz	Distance Meters	Field Strengths Limit	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V/m})$
30 - 88	3	100	40.0
88 - 216	3	150	43.5
216 - 960	3	200	46.0
960 - 1000	3	500	54.0

Remark : (1) Emission level  $\text{dB}(\mu\text{V/m}) = 20 \log$  Emission level  $\mu\text{V/m}$

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument antenna and the closest point of any part of the device or system.

### 3.3. EUT Configuration on Measurement

The following equipments are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

#### 3.3.1. PC Silicone Flexible Keyboard With Back Light (EUT)

Model No.: GLW-1000

Serial No.: N/A

Manufacturer: Shenzhen Xinmaoda Electronic Tech Co., Ltd.

### 3.4. Operating Condition of EUT

3.4.1. Setup the EUT as shown in Section 3.1.

3.4.2. Let the EUT work in test modes (Connect to PC USB Port, PC run keyboard test program) and turn on back light.

The keyboard can connect to PC USB port or PS/2 port, We select keyboard connect to USB port to test.

### 3.5. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2003 on radiated emission measurement. The bandwidth of the EMI test receiver (ESCS30) is set at 120 kHz.

The frequency range from 30MHz to 1000MHz is checked.

### 3.6.Measuring Results

**PASS.**

The frequency range from 30MHz to 1000MHz is investigated.

Date of Test	<u>Apr. 13, 2005</u>	Temperature :	<u>22°C</u>
EUT	<u>PC Silicone Flexible Keyboard With Back Light</u>	Humidity :	<u>50%</u>
Model No. :	<u>GLW-1000</u>	Test Mode :	<u>Connect to PC</u>
Power Supply:	<u>AC 120V/ 60Hz</u>	Test Engineer :	<u>Lin</u>

Polarization	Frequency MHz	Emission Level dB( $\mu$ V/m)	Limits dB( $\mu$ V/m)	Margin dB( $\mu$ V/m)
Horizontal	<b>672.140</b>	<b>40.23</b>	<b>46.00</b>	<b>5.77</b>
Vertical	<b>35.820</b>	<b>32.40</b>	<b>40.00</b>	<b>7.60</b>

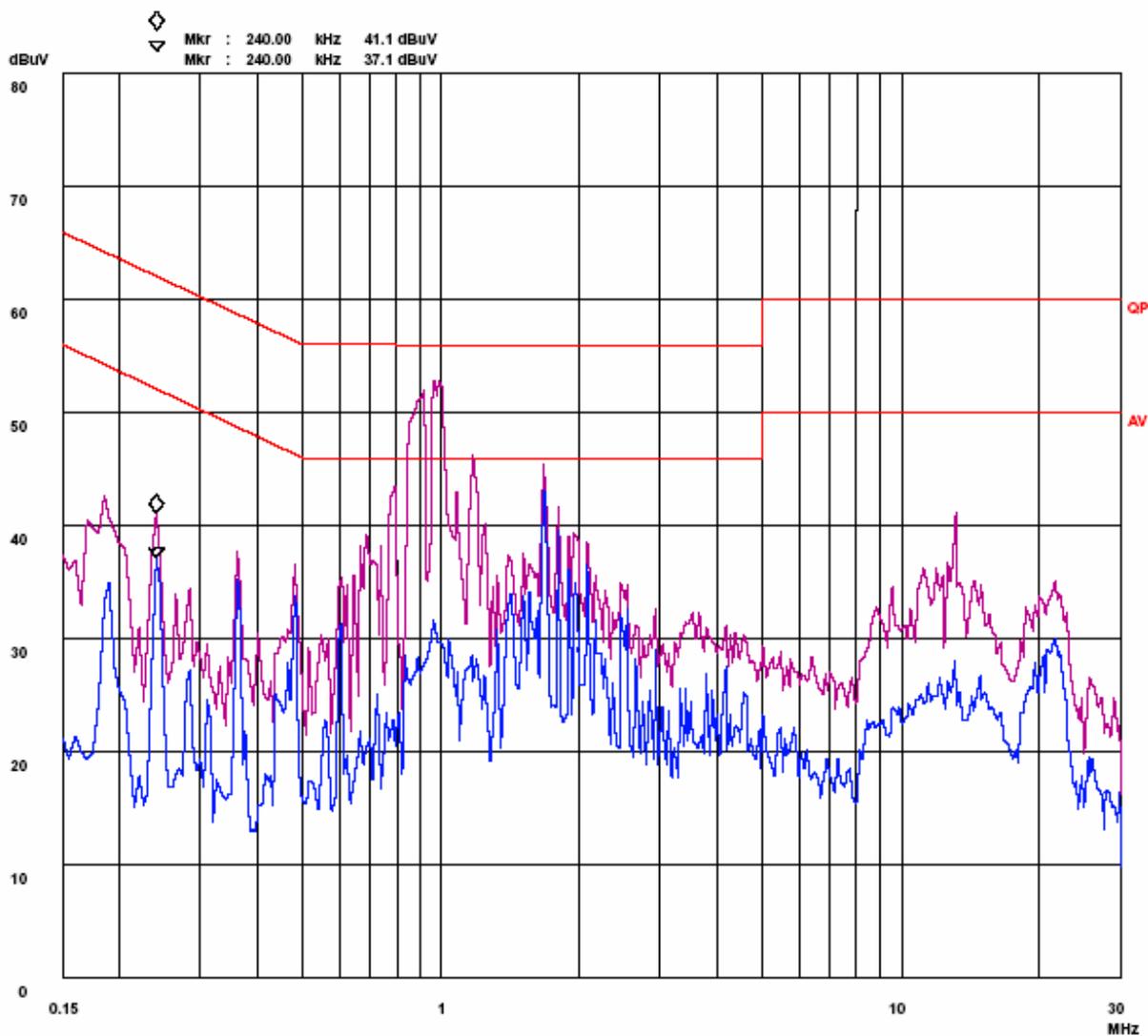
Remark: 1. All readings are Quasi-Peak values.  
 2. The worst emission at horizontal polarization was detected at 672.140MHz with corrected signal level of 40.23dB( $\mu$ V/m) (limit is 46.00dB( $\mu$ V/m)).  
 3. The worst emission at vertical polarization was detected at 35.820MHz with corrected signal level of 32.40dB( $\mu$ V/m) (limit is 40.00dB( $\mu$ V/m)).

All the tested peak value curves are attached in Appendix I.

## Appendix I (Test Curves)

## CONDUCTION EMISSION STANDARD FCC PART15B

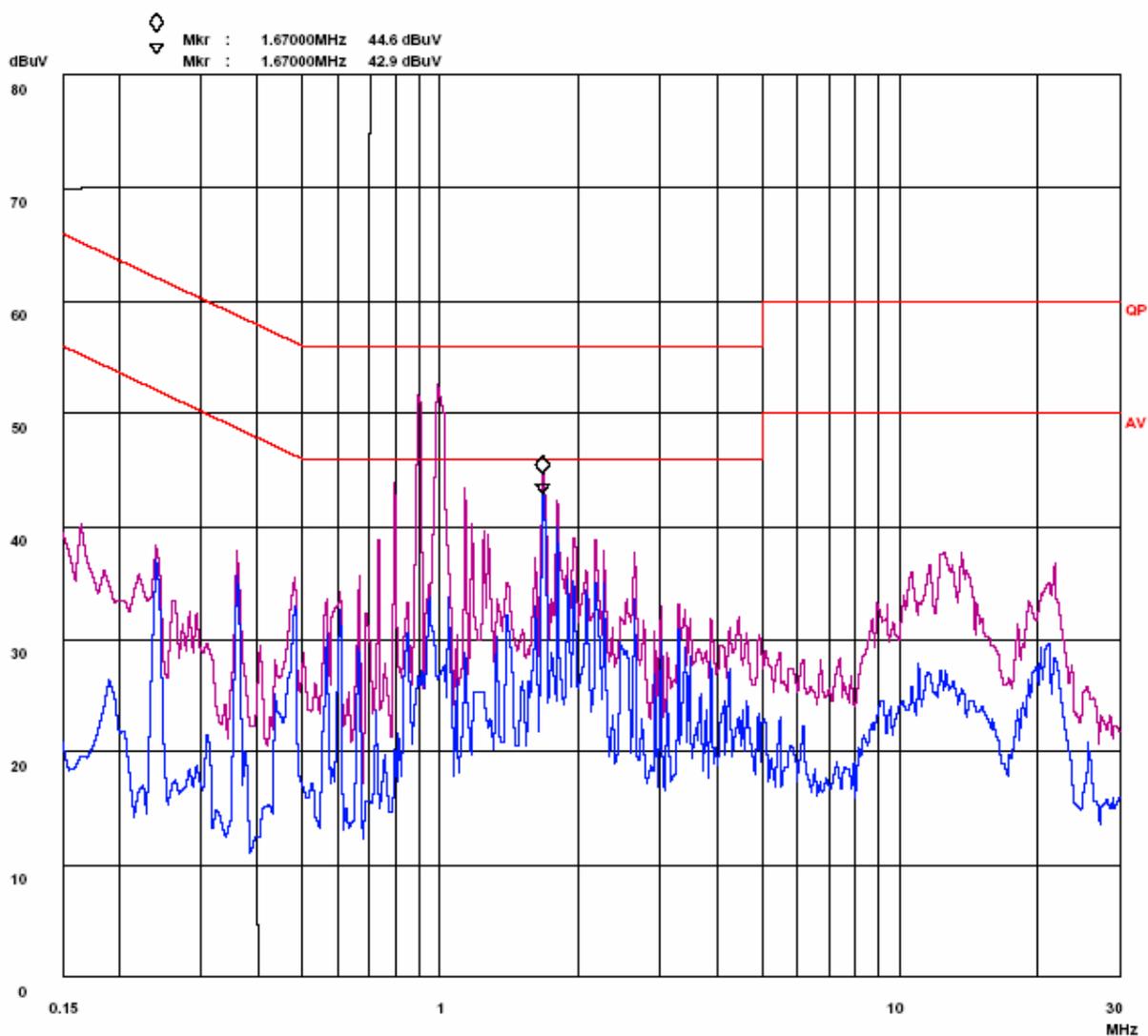
**EUT:** GLW-1000  
**Manuf:** DOBBS-STANFORD CORP  
**Op Cond:** Connect to PC  
**Operator:** PEI  
**Test Spec:** Va 120V/60Hz  
**Comment:** Tem22°C Humi50%  
 PC Silicone Flexible Keyboard With Back Light

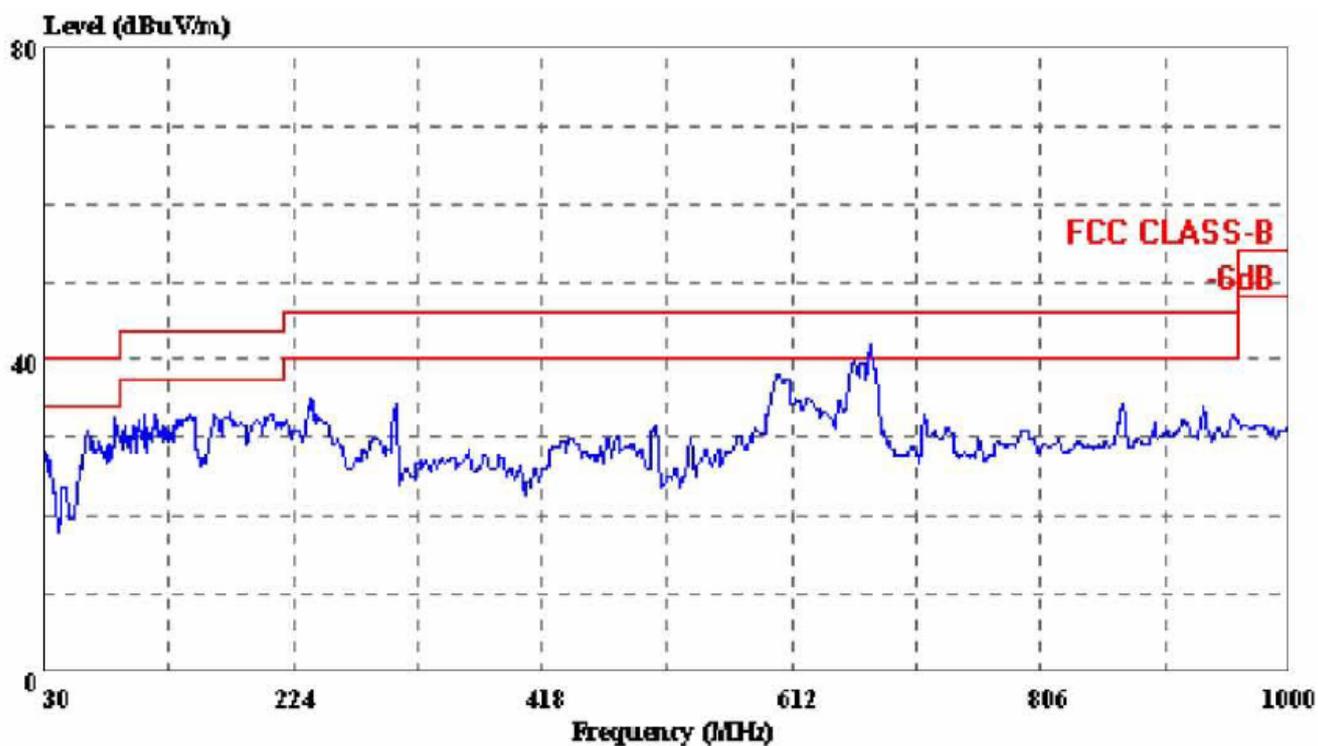


PAGE 1

## CONDUCTION EMISSION STANDARD FCC PART15B

**EUT:** GLW-1000  
**Manuf:** DOBBS-STANFORD CORP  
**Op Cond:** Connect to PC  
**Operator:** PEI  
**Test Spec:** Vb 120V/60Hz  
**Comment:** Tem22°C Hum150%  
 PC Silicone Flexible Keyboard With Back Light

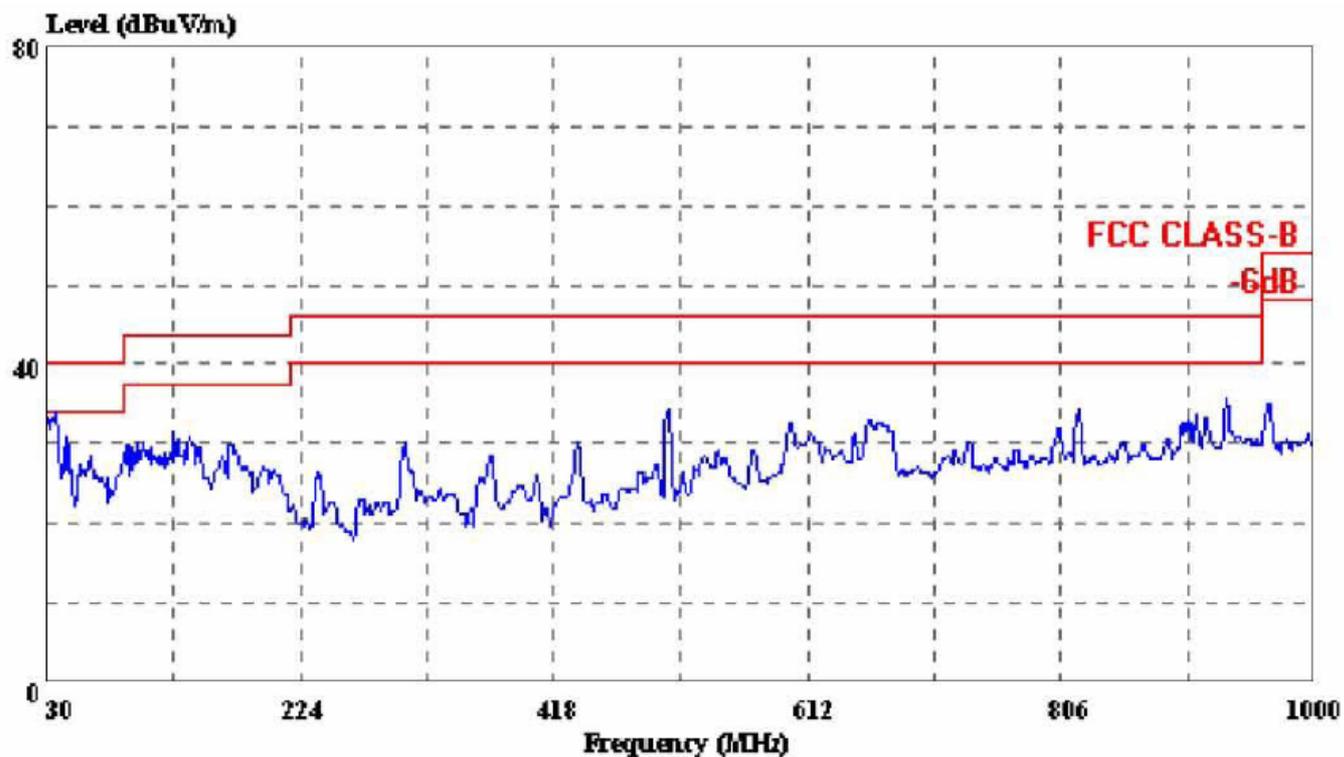




Trace:

Ref Trace:

Condition: FCC CLASS-B 3m ATC VULB9163(NEW) HORIZONTAL  
 out : PC Silicone Flexible Keyboard with  
 : back light  
 power: AC 120V/60Hz  
 memo : Connect to pc  
 manuf: DOBBS-STANFORD CORP  
 : GLW-1000



Trace:

Ref Trace:

Condition: FCC CLASS-B 3m ATC VULB9163 (NEW) VERTICAL

eut : PC Silicone Flexible Keyboard with

: back light

power: AC 120V/60Hz

memo : Connect to pc

manuf: DOBBS-STANFORD CORP

: GLW-1000