FCC 47 CFR PART 15 SUBPART C

TEST REPORT

FOR

Product Name:ScrollToo 600

Model : GM-080011/T

Trade Name: Genius

Issued to
KYE SYSTEMS CORP.
No.492,Sec.5, Chung Hsin Rd., San Chung, Taipei Hsien, 24160, Taiwan, R.O.C.

Issued by

Global Certification Corp.

EMI Test Site	Sansia Lab	NO.34-3,Zihhe Rd.,Sansia Township,Taipei County 237, Taiwan ,R.O.C.
EMC Test Site	Sijhih office and Lab	No. 112-3. Sec.2. Siangjhang Rd. Sijhih City. Taipei County 221, Taiwan(R.O.C.)

Testing Laboratory
1640

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PHOTOS OF TEST CONFIGURATION

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TEST DATA

PHOTOS OF EUT

1. GENERAL INFORMATION

Applicant	:	**KYE SYSTEMS CORP.**
Address	:	**No.492,Sec.5, Chung Hsin Rd., San Chung, Taipei Hsien, 24160, Taiwan, R.O.C.**
Manufacturer	:	**KYE SYSTEMS CORP.**
Address	:	**No.492,Sec.5, Chung Hsin Rd., San Chung, Taipei Hsien, 24160, Taiwan, R.O.C.**
EUT	:	ScrollToo 600
Model Name	:	**GM-080011/T**
Model Differences	:	**N/A**

Is here with confirmed to comply with the requirements set out in the FCC Rules and Regulations Part 15 Subpart C and the measurement procedures were according to ANSI C63.4-2003. The said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

FCC part 15 subpart C

Receipt Date : 09/17/2008 Final Test Date : 11/05/2008

Albert Tsai

Taipei, Taiwan	NOV.05, 2008	***Albert Tsai / Manager***
(Place)	(Date)	(Signature) Designation Number: TW1030

1.1 DESCRIPTION OF THE TESTED SAMPLES

EUT Name	:	ScrollToo 600
Model Number	:	GM-080011/T
FCC ID	:	FSUGMZIK
Input Voltage	:	3Vdc
Power From		☑Inside ☐Outside
		☐Adaptor ☑BATTERY ☐Power Supply ☐DC Power Source ☐Support Unit PC
Operate Frequency	:	27.045MHz
Modulation Technique	:	FSK
Number of Channels	:	1
Channel spacing	:	☑N/A ☐_____KHz
Operating Mode	:	☑Simplex ☐Duplex
Antenna Type	:	☑integral antenna ☐a dedicated antenna

2. TEST METHODOLOGY

All testing as described bellowed were performed in accordance with ANSI C63.4 and FCC CFR 47 Part 15 Subpart C.

2.1 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on a wood table, which is at 0.8 m above ground plane acceding to clause 15.207 and requirements of ANSI C63.4. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz are using CISPR Quasi-Peak / Average detectors.

Radiated Emissions

The EUT is a placed on a turn table, which is 0.8 m above ground plane. The turntable was rotated through 360 degrees to determine the position of maximum emission level. The EUT is placed at 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

2.2 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
10.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

1 Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

2 Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

2.3 DESCRIPTION OF TEST MODES

The EUT was tested under following modes:

Modes:

1. **Continuous transmitting**

Channels:

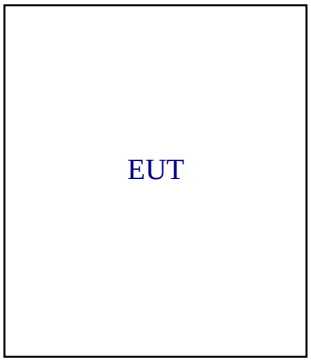
1. **27.045MHz**

Note: The EUT is designed to operating under channels as mentioned above.

2.4 DESCRIPTION OF THE SUPPORT EQUIPMENTS

Setup Diagram

See test photographs attached in appendix I for the actual connections between EUT and support equipment.



Support Equipment

Peripherals Devices:

OUTSIDE SUPPORT EQUIPMENT							
No.	Equipment	Model	Serial No.	FCC ID/ BSMI ID	Trade name	Data Cable	Power Cord
	N/A						
INSIDE SUPPORT EQUIPMENT							
No.	Equipment	Model	Serial No.	FCC ID/ BSMI ID	Trade name	Data Cable	Power Cord
	N/A						

Note: All the above equipment /cable were placed in worse case position to maximize emission signals during emission test

Grounding: Grounding was in accordance with the manufacturer's requirement and conditions for the intended use.

3. TEST AND MEASUREMENT EQUIPMENT

3.1 CALIBRATION

The measuring equipment utilized to perform the tests documented in the report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

3.2 EQUIPMENT

The following list contains measurement equipment used for testing. The equipment conforms to the requirement of CISPR 16-1, ANSI C63.2 and. Other required standards.

Calibration of all test and measurement, including any accessories that may effect such calibration, is checked frequently to ensure the accuracy. Adjustments are made and correction factors are applied in accordance with the instructions contained in the respective.

TABLE 1 LIST OF TEST AND MEASUREMENT EQUIPMENT

Instrument	Manufacturer	Model No.	Serial No.	Calibration Due Date	Note
Test Receiver	AFJ	ER55R	55300508277	May.20.2009	
Bilog Antenna	SUNOL	JB1	A052104	SEP.30.2009	
Turn table	EMCO	2080	9508-1805	N/A	
Controller	EMCO	2090	9804-1328	N/A	
Amplifier	G.W	GAP-801	EF150001	Jul.18.2009	
EMC Analyzer	AGILENT	E7401A	MY42000145	May.23.2009	
RF Cable	BELDEN	RG-8/U	E037	Jun.07.2009	
Thermo-Hygro meter	WISEWIND	4-IN-1	0412	Apr.10.2009	
Loop Antenna	Teseq GmbH	HLA 6120	26439	Sep. 11.2009	

※ Calibration interval of instruments listed above is one year

4. SECTION 15.227 REQUIREMENTS

4.1 TEST SETUP

Refer to paragraph 6.1.

4.2 LIMIT

The field strength of any emission within this band shall not exceed 10,000 microvolts/meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

4.3 RESULT: PASSED

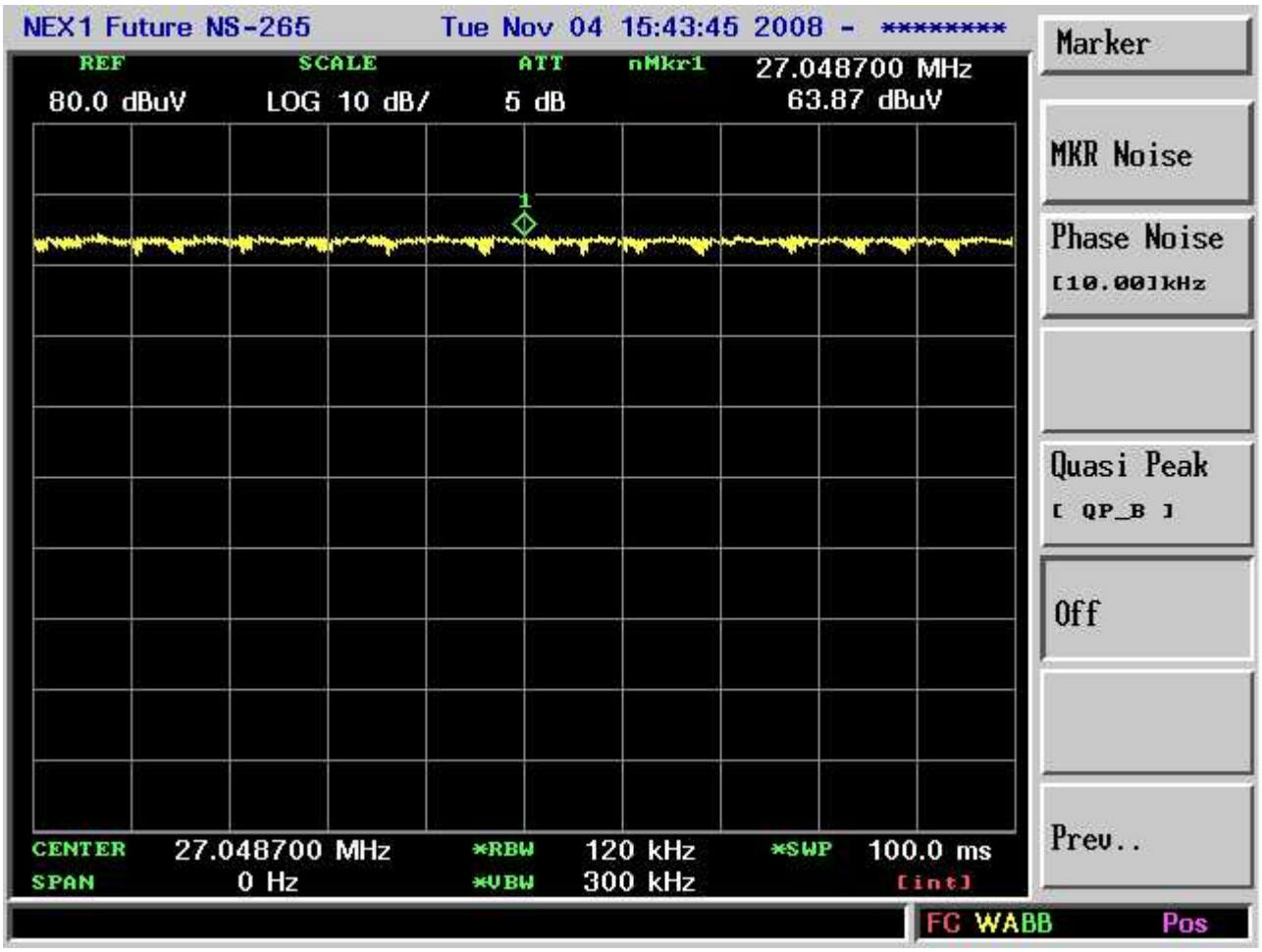
4.4 TEST DATA:

Axes	Frequency (MHz)	Ant. Polarization	Reading (dBμV)	Correction factor(dB)	Emission (dBμV/m)	Limit (dBμV/m)	Detector
X	27.04	H	35.99	5.14	30.85	80	Peak
Y	27.04	H	37.01	5.14	31.87	80	Peak
Z	27.04	H	63.49	5.14	58.35	80	Peak
X	27.04	V	32.88	5.14	27.74	80	Peak
Y	27.04	V	31.63	5.14	26.49	80	Peak
Z	27.04	V	47.38	5.14	42.24	80	Peak

Note:

1. Average Emission level = Peak Emission level - 20Log(Duty Cycle).
2. Duty cycle = 1, Peak-to-Average Factor = 20*log (1) = 0dB
3. Emission level = Reading level – Correction factor
4. Duty cycle measurement, please refer to next page

Duty cycle measurement



5. SECTION 15.215 REQUIREMENTS

5.1 TEST SETUP

Refer to paragraph 6.1.

5.2 LIMIT

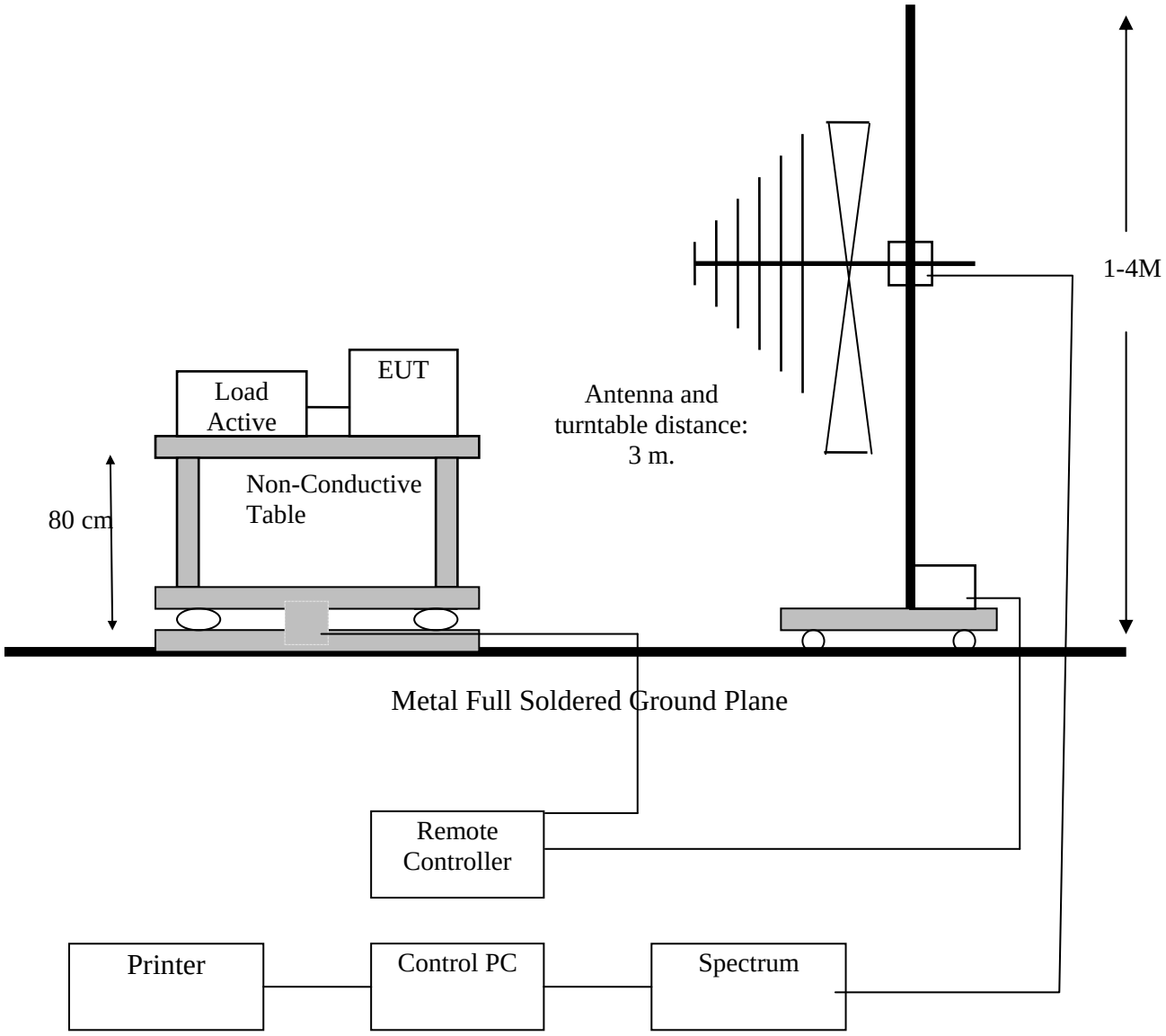
The 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

5.3 RESULT: PASSED

5.4 TEST DATA:

6. SECTION 15.209 REQUIREMENTS

6.1 TEST SETUP



6.2 LIMIT

The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in section 15.209 as below.

Frequency (MHz)	Field Strength (mV/m)	Measurement Distance (m)
1.705-30	30	30
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500*	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.*

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

Frequency (Hz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
1.705-30	30 (at 30-meter)	29.5#
30-88	100	40
88-216	150	43
216-960	200	46
Above 960	500	54

: The Measurement Distance is at 30 meters.

6.3 TEST PROCEDURE

1. The EUT was placed on a turntable, which was 0.8m above ground plane.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT was set at 3m away from the receiving antenna, which was varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was maximized by changing the polarization of receiving antenna, both horizontal and vertical.
6. Repeated above procedures until the measurements for all frequencies are completed.

6.4 RESULT: PASSED

6.5 TEST DATA:

Please refer to appendix 2

7. POWERLINE CONDUCTED EMISSIONS

The EUT is powered by the battery; therefore this test item is not applicable.

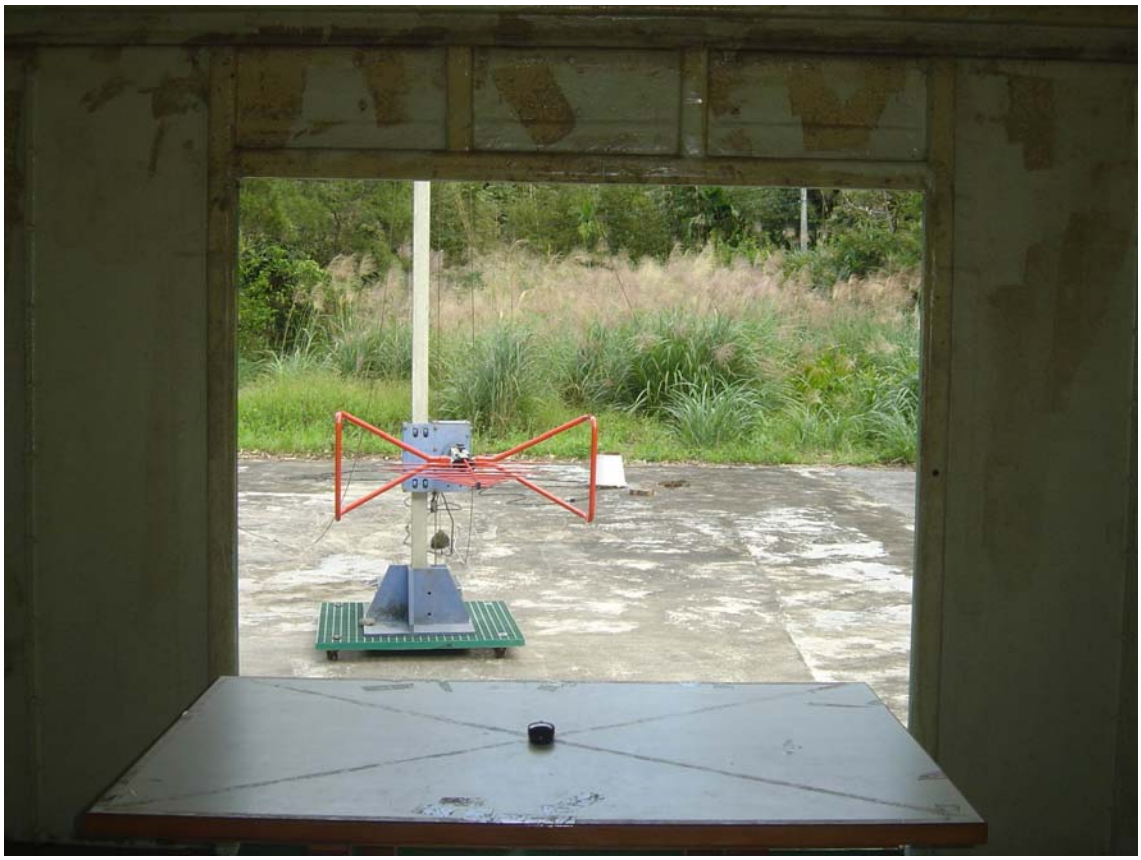
Appendix 1

PHOTOS OF TEST CONFIGURATION

Section 15.209 REQUIREMENTS

Front View

Front View



Front View

Front View

Appendix 2

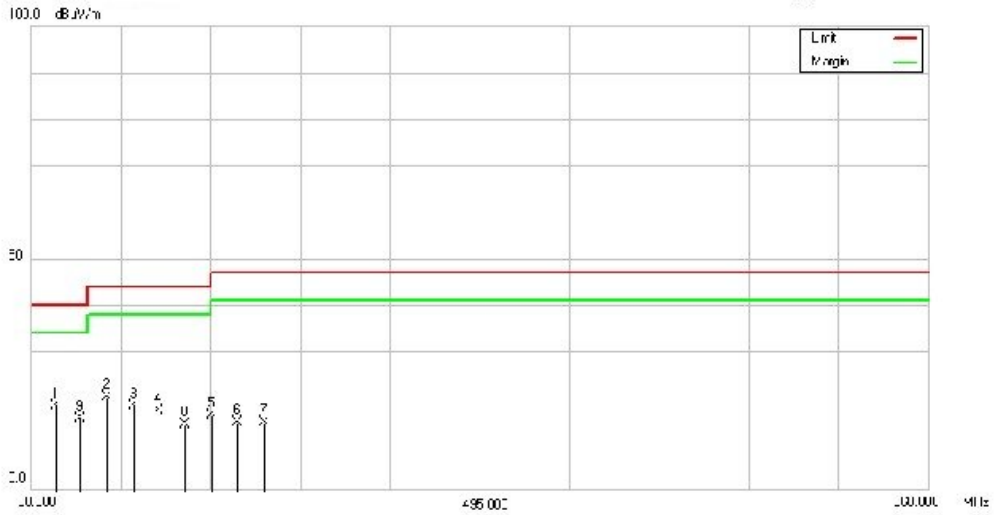
TEST DATA

Test Data Of Section 15.209 REQUIREMENTS **(Horizontal)**

環球認證有限公司
Global Certification Corp.
Address:No.112-3.Shiang Charng Rd.,Sec.2,
Hsi Chin,Taipei Hsien 221,Taiwan,R.O.C.
Tel:02-26426992 Fax:02-26487450

Radiated Emission Measurement

File :891703 Data :#3 Date: 2008/10/14 Time: 下午 02:27:31



Site Open site #1
Limit: FCC Part 15C 15.209
Company:
EUT:
Model :
Note:

Polarization: *Horizontal*
Power:
Distance: 3m RBW: 100 KHz

Temperature: 30 ℃
Humidity: 60 %
Sweep Time: 300 ms

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	54.1000	26.28	-8.16	18.12	40.00	-21.88	QP		0	
2		108.1900	27.95	-7.73	20.22	44.00	-23.78	QP		0	
3		135.3500	25.57	-7.52	18.05	44.00	-25.95	QP		0	
4		162.4000	24.52	-7.30	17.22	44.00	-26.78	QP		0	
5		216.4900	22.93	-6.90	16.03	47.00	-30.97	QP		0	
6		243.5400	21.37	-6.84	14.53	47.00	-32.47	QP		0	
7		270.5900	21.33	-6.68	14.65	47.00	-32.35	QP		0	
8		189.5399	21.21	-7.08	14.13	44.00	-29.87	QP		0	
9		81.1500	23.26	-7.99	15.27	40.00	-24.73	QP		0	

*:Maximum data x:Over limit !:over margin ●Reference Only

Receiver:
Antenna: A052104-071001-10M
Amplifier: AMP-EF150001 070719

Spectrum Analyzer: E7401A
Engineer Signature:

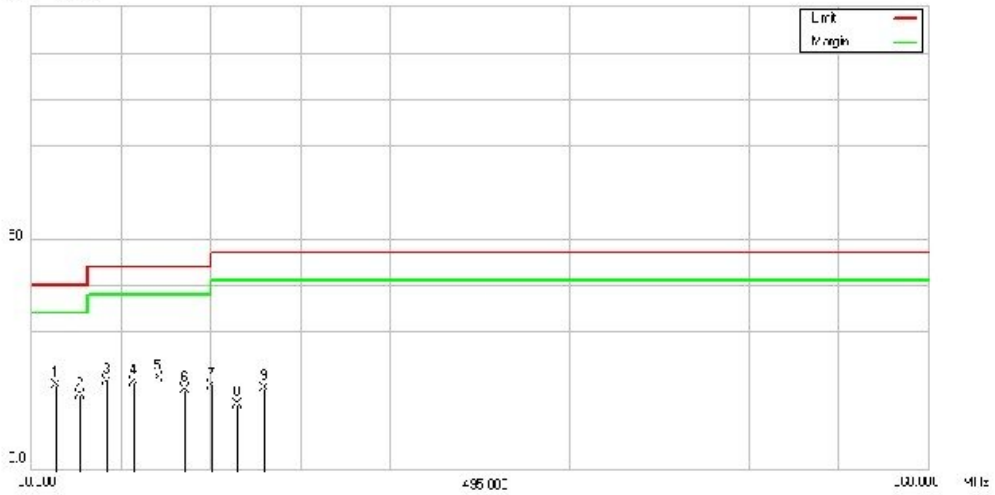
File :891703 *\Data :#3* *Page: 1*

Test Data Of Section 15.209 REQUIREMENTS **(Vertical)**

環球認證有限公司 Global Certification Corp.
Address:No.112-3.Shiang Charng Rd.,Sec.2,
Hsi Chin,Taipei Hsien 221,Taiwan,R.O.C.
Tel:02-26426992 Fax:02-26487450

Radiated Emission Measurement

File :891703 Data :#4 Date: 2008/10/14 Time: 下午 02:33:23



Site Open site #1
Limit: FCC Part 15C 15.209
Company:
EUT:
Model :
Note:

Polarization: *Vertical*
Power:
Distance: 3m RBW: 100 KHz

Temperature: 30 ℃
Humidity: 60 %
Sweep Time: 300 ms

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	54.1000	26.56	-8.16	18.40	40.00	-21.60	QP		0	
2		81.1500	24.11	-7.99	16.12	40.00	-23.88	QP		0	
3		108.1900	26.98	-7.73	19.25	44.00	-24.75	QP		0	
4		135.2400	26.38	-7.52	18.86	44.00	-25.14	QP		0	
5		162.2899	27.28	-7.30	19.98	44.00	-24.02	QP		0	
6		189.5399	24.46	-7.08	17.38	44.00	-26.62	QP		0	
7		216.4900	25.02	-6.90	18.12	47.00	-28.88	QP		0	
8		243.4300	20.91	-6.84	14.07	47.00	-32.93	QP		0	
9		270.5900	24.33	-6.68	17.65	47.00	-29.35	QP		0	

*:Maximum data x:Over limit !:over margin ●Reference Only

Receiver:
Antenna: A052104-071001-10M
Amplifier: AMP-EF150001 070719

Spectrum Analyzer: E7401A
Engineer Signature:

File :891703 *\Data :#4* *Page: 1*

PHOTO OF EUT

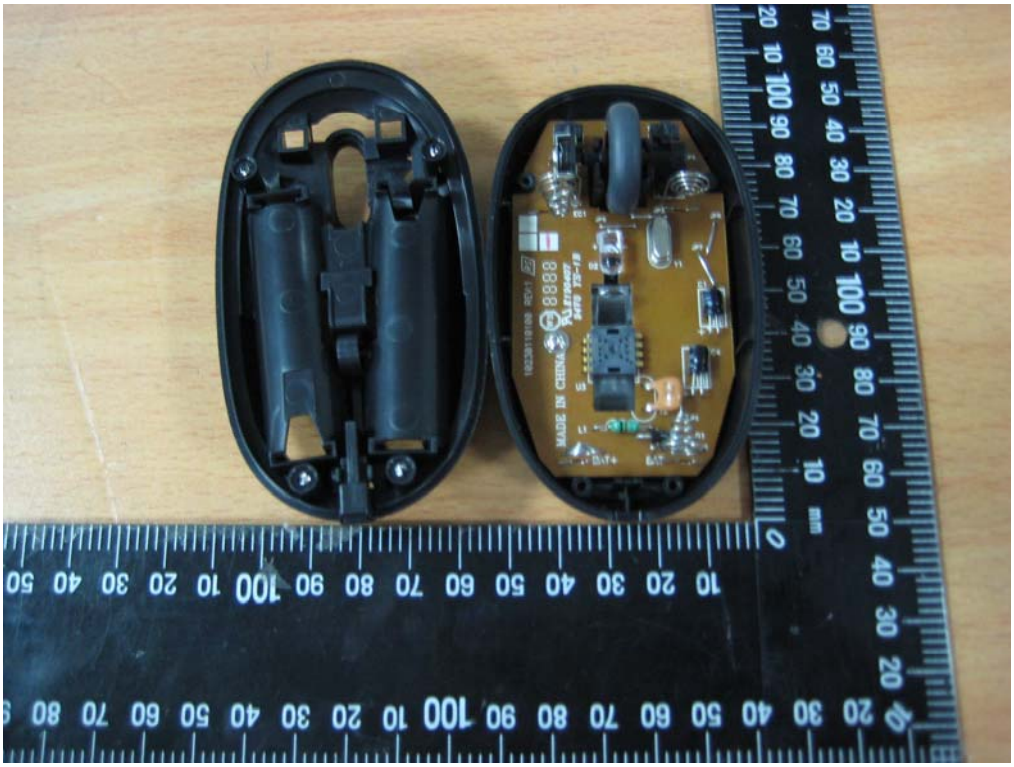
PHOTOS OF EUT

PHOTO OF EUT

Front View of EUT

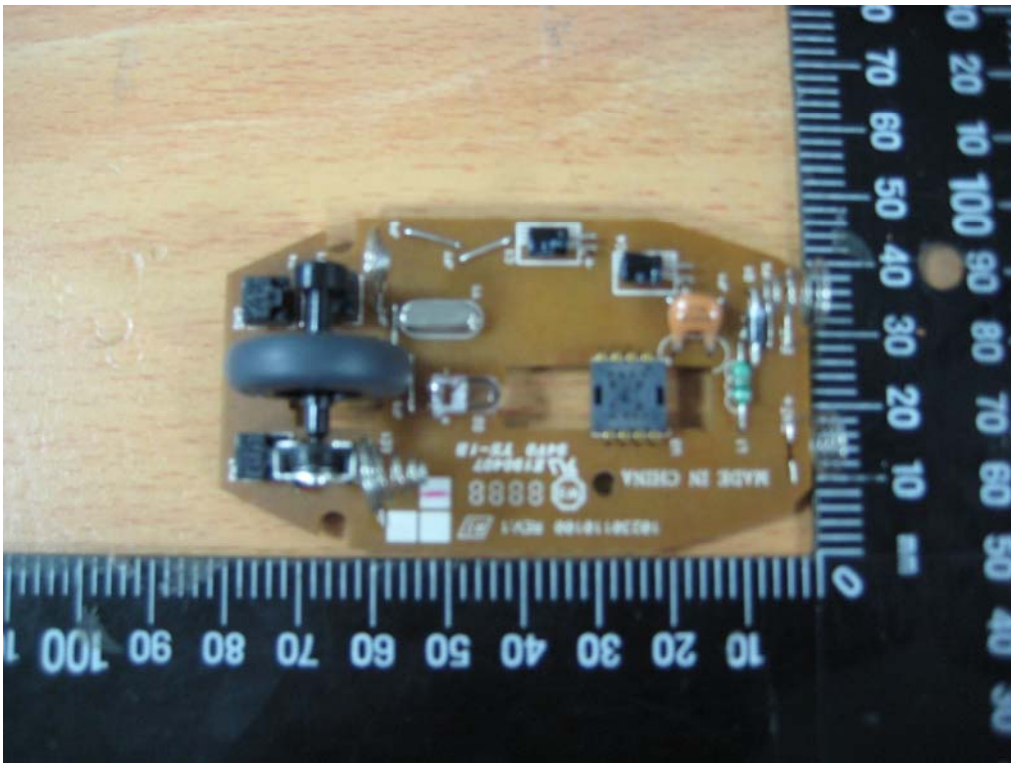
Rear View of EUT

PHOTO OF EUT

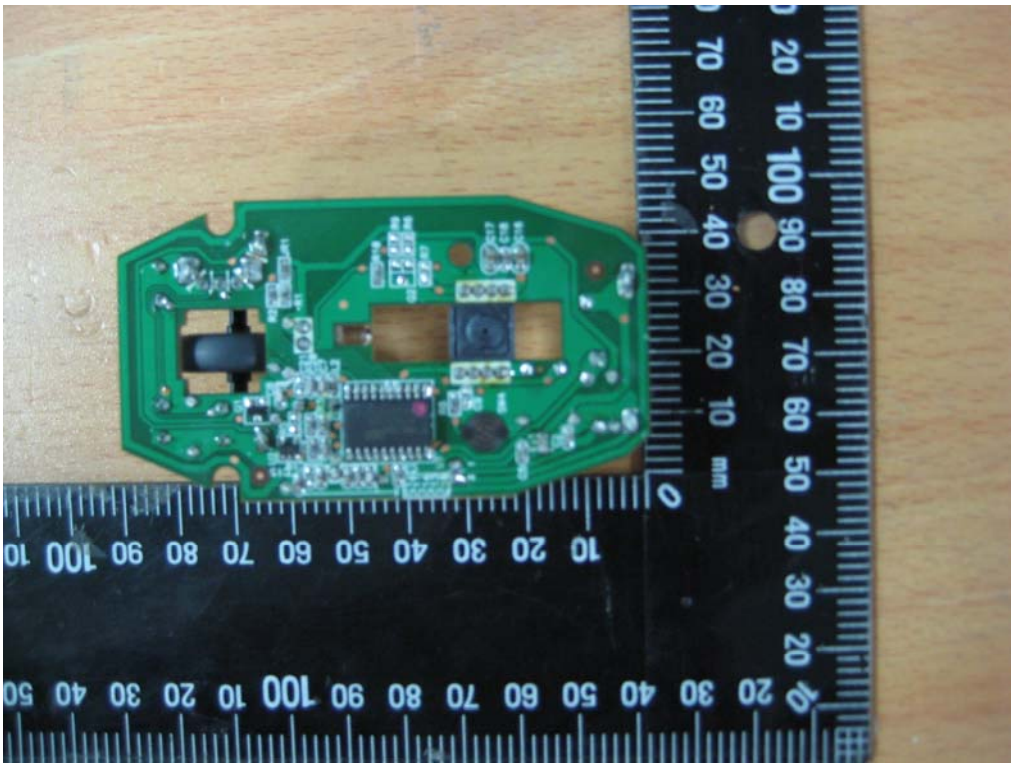


Inside View of EUT

PHOTO OF EUT



Component Side of Main Board



Solder Side of Main Board