

Certificate

Issue Date: February 26, 2013

Ref. Report No. ISL-13HE041FA

Product Name : Nuvo-2000+ Series
Models : Nuvo-2021DV+; Nuvo-2030DV+; Nuvo-2021+; Nuvo-2030+
Applicant : Neousys Technology Inc.
Address : 15F., No.868-3, Zhongzheng Rd., Zhonghe Dist., New Taipei City 23586,
Taiwan(R.O.C.)

We, **International Standards Laboratory**, hereby certify that:

The device bearing the trade name and model specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified. (refer to Test Report if any modifications were made for compliance).



Standards:

FCC CFR Title 47 Part 15 Subpart B: 2010- Section 15.107 and 15.109

ANSI C63.4-2009

Industry Canada Interference-Causing Equipment Standard ICES-003 Issue 5: 2012

Class A

I attest to the accuracy of data and all measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

International Standards Laboratory

Jim Chu / Director

☒ Hsi-Chih LAB:

No. 65, Gu Dai Keng St., Hsichih District,
New Taipei City 22179, Taiwan

Tel: 886-2-2646-2550; Fax: 886-2-2646-4641



FCC TEST REPORT

of

CFR 47 Part 15 Subpart B Class A

Product : **Nuvo-2000+ Series**

Models: **Nuvo-2021DV+; Nuvo-2030DV+;
Nuvo-2021+; Nuvo-2030+**

Applicant: **Neousys Technology Inc.**

Address: **15F., No.868-3, Zhongzheng Rd., Zhonghe
Dist., New Taipei City 23586, Taiwan(R.O.C.)**

Test Performed by:

International Standards Laboratory

<Hsi-Chih LAB>

*Site Registration No.

BSMI:SL2-IN-E-0037; SL2-R1/R2-E-0037; TAF: 1178

FCC: TW1067; IC: IC4067A-1; NEMKO: ELA 113A

VCCI: <Conduction01>C-354, T-1749, <OATS01>R-341,

<Chamber01>G-443

*Address:

No. 65, Gu Dai Keng St.

Hsichih District, New Taipei City 22179, Taiwan

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Report No.: **ISL-13HE041FA**

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This report totally contains 26 pages including this cover page and contents page.

Test results given in this report apply only to the specific sample(s) tested and are traceable to national or international standard through calibration of the equipment and evaluating measurement uncertainty herein.

This test report shall not be reproduced except in full, without the written approval of International Standards Laboratory.

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1. General

1.1 Certification of Accuracy of Test Data

Standards: FCC CFR Title 47 Part 15 Subpart B: 2010- Section 15.107 and 15.109
ANSI C63.4-2009
Industry Canada Interference-Causing Equipment Standard ICES-003 Issue 5: 2012

Equipment Tested: Nuvo-2000+ Series

Models: Nuvo-2021DV+; Nuvo-2030DV+; Nuvo-2021+; Nuvo-2030+

Applicant: Neousys Technology Inc.

Sample received Date: February 5, 2013

Final test Date: refer to the date of test data

Test Site: International Standards Laboratory
OATS 01; Chamber 01; Conduction 01

Test Distance: 10M; 3M (above 1GHz)

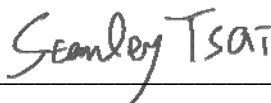
Temperature: refer to each site test data

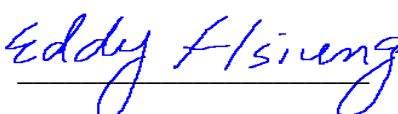
Humidity: refer to each site test data

Input power: Conduction input power: AC 120 V / 60 Hz
Radiation input power: AC 120 V / 60 Hz

Test Result: **PASS**

Report Engineer: Winnie Huang

Test Engineer: 
Stanley Tsai

Approved By: 
Eddy Hsiung

1.2 Description of EUT

EUT

Product Name	Nuvo-2000+ Series
Condition	Pre-Production
Model Numbers	Nuvo-2021DV+; Nuvo-2030DV+; Nuvo-2021+; Nuvo-2030+
Serial Number	N/A
Power Supply	STARMEN (Model: TFS060120) AC input: 100-240V~50/60Hz Max 1.6A DC output: 12V---5A Total output wattage: 60W MAX
CPU	Intel® Atom™ processor D525 (1M Cache, 1.8GHz)
Motherboard	Model: NVS-2000+
SATA Hard Disk	TOSHIBA (Model: MQ01ABD032) 320GB 5400RPM*2
Memory	DSL DDR3 1333 4GB
Compact Flash Card:	Apacer 8GB
VGA Port	two 15-pins
USB 2.0 Port	four 4-pins
RJ45 Port	two 8-pins (10/100/1000Mbps)
COM Port	three 9-pins
Microphone Port	one
Line-out Port	one
DC-In(12V)	one
DC-In(8~25V)	one
Power button	one
Maximum Resolution	1920*1080
Maximum Operating Frequency	1.8GHz

All types of configurations have been tested. We present the worst case test data (configuration1) in the report. The test configurations are listed below:

Configurations	Display	RJ45 Port	Power Supply
1	Dual VGA(Clone):1024*768+1024*768	two RJ45 Ports simultaneous transmission(1000M bps)	STARMEN (Model: TFS060120)
2	Dual VGA(Extended):1920*1080+1024*768	two RJ45 Ports simultaneous transmission(1000M bps)	STARMEN (Model: TFS060120)
3	Single VGA: 1920*1080	two RJ45 Ports simultaneous transmission(1000M bps)	STARMEN (Model: TFS060120)
4	Dual VGA(Clone):1024*768+1024*768	two RJ45 Ports simultaneous transmission(1000M bps)	DC Power Supply

Model Differences:

	PCIE(1x PCIE + 2x PCI slot)	No PCIE(3x PCI slot)
One VGA	Nuvo-2021+	Nuvo-2030+
Two VGA	Nuvo-2021DV+ Series	Nuvo-2030DV+

EMI Noise Source

Motherboard Crystal	27MHz (X1)
	25MHz (X2)
	25MHz (X3)
	32.768KHz(X4)
	14.318MHz (X5)

EMI Solution

Solution	Quantity	Location
Core	1	The same as Photo EUT-6
Gaskets	2	The same as Photo EUT-7 Mark1,2

1.3 Description of Support Equipment

Unit	Model Serial No.	Brand	Power Cord	FCC ID
Notebook Personal Computer	STUDIO 17 S/N: N/A	DELL	Non-shielded, Detachable	FCC DOC
Rack mountable Switch	DGS-1008D	D-Link	D-Link (Model:AF-1205 -B)	FCC DOC
24" LED Monitor	ST2420L S/N: S/N:CN-0X0K27-74261- 27E-131U	DELL	Non-shielded, Detachable	FCC DOC
USB2.0 External HDD Enclosure *2	Ipod nano S/N: N/A	Apple	N/A	FCC DOC
Keyboard	SK-8115, S/N: MY-05N456-38843-2BK- 3315	DELL	N/A	FCC DOC
Mouse	MO71KC S/N: 511092011	DELL	N/A	FCC DOC
Headphone & Microphone	CD-85	JS	N/A	FCC DOC
Modem	DM1414 S/N: 0301000557	Aceex	Non-shielded, Without Grounding Pin	IFAXDM1414

1.4 Software for Controlling Support Unit

Test programs exercising various part of EUT were used. The programs were executed as follows:

- A. Send H pattern to the video port device (Monitor).
- B. Read and write to the disk drives.
- C. Send H pattern to the serial port device (Modem).
- D. Send package to the Router RJ45 port (Router)
- E. Receive and transmit package of EUT to the Rack mountable Switch HUB through RJ45 port.
- F. Used Tfggen.exe to send signal to EUT RJ45 port through Notebook Personal Computer RJ45 Port.
- G. Read and write data in the USB2.0 Hard Disk through EUT USB2.0 port.
- H. Send audio signal to the Microphone and HeadSet through Headphone port
- I. Receive audio signal from Microphone and HeadSet through Microphone port
- J. Repeat the above steps.

	Filename	Issued Date
Monitor	Intel EMC TEST.exe	9/04/2000
RJ45	ping.exe	05/05/1999
RJ45	Tfggen.exe	06/23/1999
Modem	Intel EMC TEST.exe	9/04/2000
USB2.0 External HDD Enclosure	Intel EMC TEST.exe	9/04/2000
EUT Hard Disk	Intel EMC TEST.exe	9/04/2000
Headphone & Microphone	Windows Media player.exe	2006/2/18

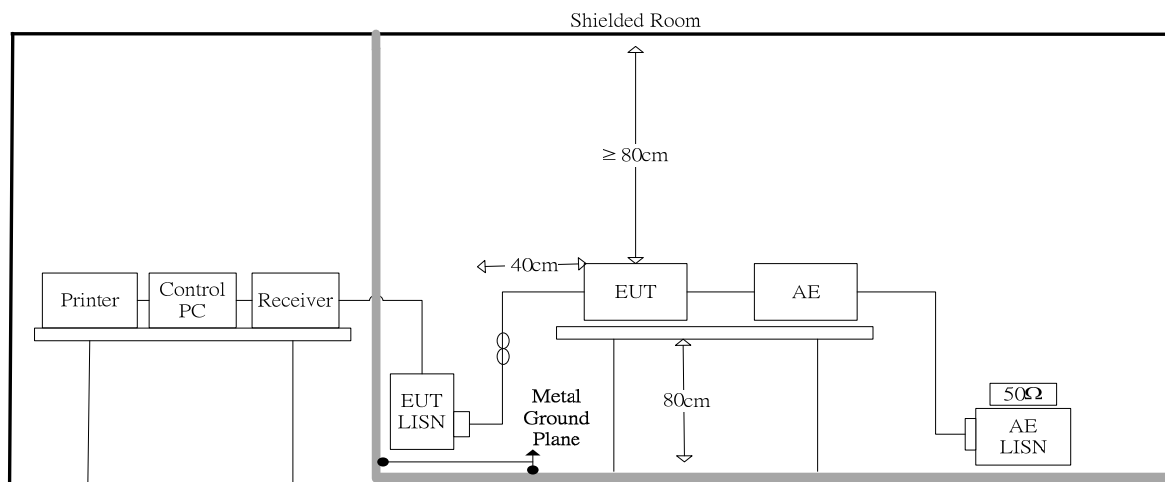
1.5 I/O Cable Condition of EUT and Support Units

Description	Path	Cable Length	Cable Type	Connector Type
DC-In(DC 12V)	Power Supply (ADAPTER) to EUT DC-In(DC 12V)Port	1.2M	Non-shielded, Detachable	Metal Head
DC-In(DC 8~25V)	with dummy	0.3M	Non-shielded, Detachable	Plastic Head
RJ45 Data Cable	Notebook Personal Computer RJ45 Port to Switch Hub RJ45 Port	2.0M	Non-shielded, Detachable	Plastic Head
RJ45 Data Cable*2	Switch Hub RJ45 Port to EUT RJ45 Port	10M	Non-shielded, Detachable	Plastic Head
Display Data Cable*2	EUT VGA Port to LCD Monitor VGA Port	1.8M	Shielded, Detachable	Metal Head
Modem Data Cable	Modem to EUT COM Port	1.5M	Non-shielded, Detachable	Metal Head
Headphone & Microphone Data Cable*	Headphone & Microphone to EUT line out port and line in port	1.9M	Non-shielded, Un-detachable	Plastic Head
Keyboard Data Cable	Keyboard to EUT USB2.0 Port	2.0M	Non-shielded, Un-detachable	Metal Head
Mouse Data Cable	Mouse to EUT USB2.0 Port	1.8M	Non-shielded, Un-detachable	Metal Head

2. Powerline Conducted Emissions

2.1 Test Setup and Procedure

2.1.1 Test Setup



2.1.2 Test Procedure

The measurements are performed in a 3.5m x 3.4m x 2.5m shielded room, which referred as Conduction 01 test site, or a 3m x 3m x 2.3m test site, which referred as Conduction 02 test site. The EUT was placed on non-conduction 1.0m x 1.5m table, which is 0.8 meters above an earth-grounded.

Power to the EUT was provided through the LISN which has the Impedance (50ohm/50uH) vs. Frequency Characteristic in accordance with the standard. Power to the LISNs were filtered to eliminate ambient signal interference and these filters were bonded to the ground plane. Peripheral equipment required to provide a functional system (support equipment) for EUT testing was powered from the second LISN through a ganged, metal power outlet box which is bonded to the ground plane at the LISN.

The interconnecting cables were arranged and moved to get the maximum measurement. Both the line of power cord, hot and neutral, were measured.

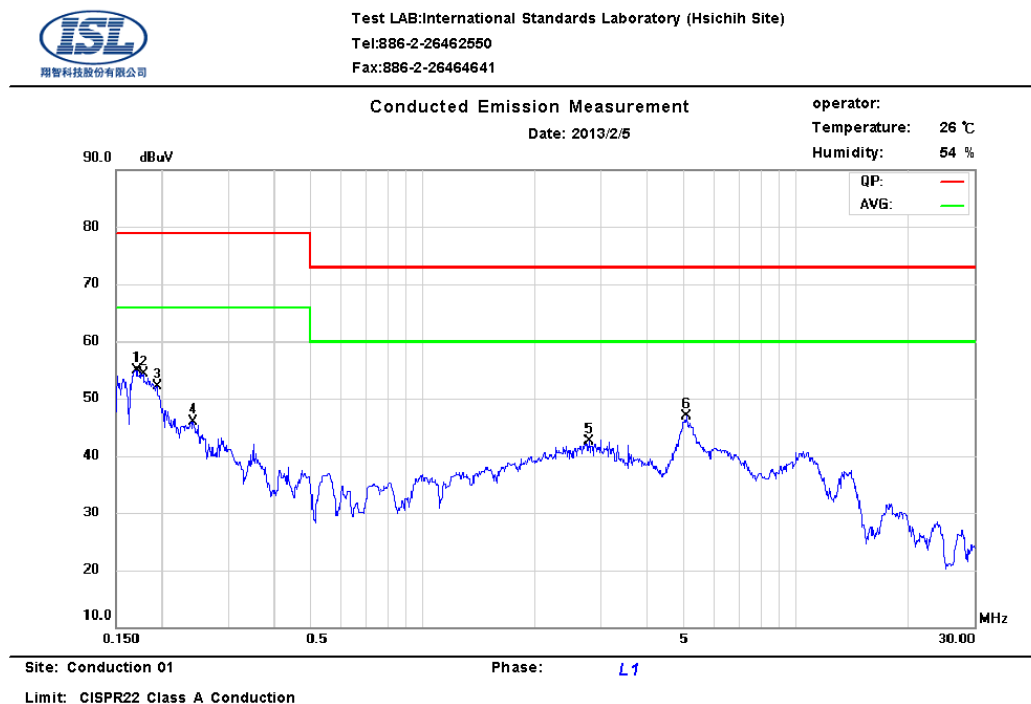
The highest emissions were analyzed in details by operating the spectrum analyzer in fixed tuned mode to determine the nature of the emissions and to provide information which could be useful in reducing their amplitude.

2.1.3 EMI Receiver/Spectrum Analyzer Configuration (for the frequencies tested)

Frequency Range:	150KHz~30MHz
Detector Function:	Quasi-Peak / Average Mode
Resolution Bandwidth:	9KHz

2.2 Conduction Test Data: Configuration 1

Table 2.2.1 Power Line Conducted Emissions (Hot)



No.	Frequency MHz	LISN Loss dB	Cable Loss dB	QP Correct. dBuV	QP Limit dBuV	QP Margin dB	AVG Correct. dBuV	AVG Limit dBuV	AVG Margin dB	Note
1	0.1692	9.45	0.02	47.05	79.00	-31.95	24.18	66.00	-41.82	
2	0.1776	9.53	0.02	51.14	79.00	-27.86	35.51	66.00	-30.49	
3	0.1923	9.67	0.02	46.35	79.00	-32.65	26.15	66.00	-39.85	
4	0.2406	9.73	0.03	40.83	79.00	-38.17	27.05	66.00	-38.95	
5	2.7770	9.65	0.16	33.22	73.00	-39.78	25.59	60.00	-34.41	
6	5.0750	9.66	0.20	39.87	73.00	-33.13	33.82	60.00	-26.18	

Note:

Margin = Corrected Amplitude - Limit

Corrected Amplitude = Receiver Reading + LISN Loss + Cable Loss

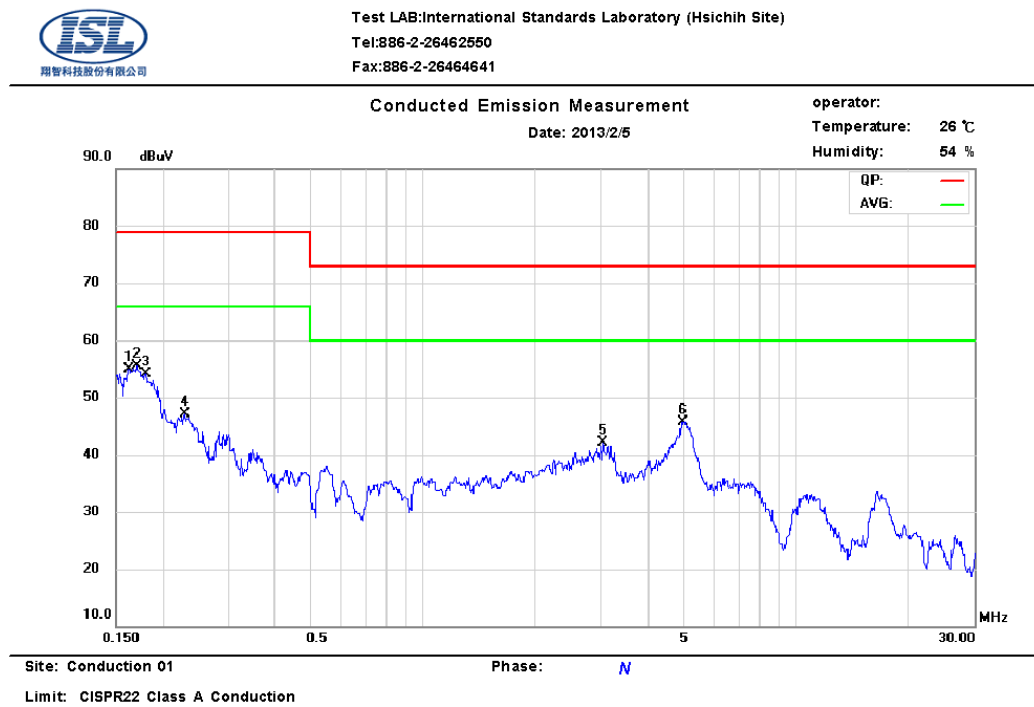
A margin of -8dB means that the emission is 8dB below the limit

The frequency spectrum graph is for final peak graph, and the attached table is for QP/AVG test result.

If peak data can pass, it will be shown in "QP/AVG Correct" column, if not, QP/AVG data will instead.

The CISPR 22 limits would be applied to all FCC Part 15 devices.

Table 2.2.2 Power Line Conducted Emissions (Neutral)



No.	Frequency MHz	LISN Loss dB	Cable Loss dB	QP Correct. dBuV	QP Limit dBuV	QP Margin dB	AVG Correct. dBuV	AVG Limit dBuV	AVG Margin dB	Note
1	0.1621	9.92	0.02	44.14	79.00	-34.86	25.16	66.00	-40.84	
2	0.1700	9.88	0.02	51.96	79.00	-27.04	34.72	66.00	-31.28	
3	0.1801	9.83	0.02	50.81	79.00	-28.19	37.67	66.00	-28.33	
4	0.2294	9.72	0.03	41.66	79.00	-37.34	25.18	66.00	-40.82	
5	3.0200	9.59	0.16	32.26	73.00	-40.74	23.49	60.00	-36.51	
6	4.9280	9.60	0.19	39.26	73.00	-33.74	33.83	60.00	-26.17	

Note:

Margin = Corrected Amplitude - Limit

Corrected Amplitude = Receiver Reading + LISN Loss + Cable Loss

A margin of -8dB means that the emission is 8dB below the limit

The frequency spectrum graph is for final peak graph, and the attached table is for QP/AVG test result.

If peak data can pass, it will be shown in "QP/AVG Correct" column, if not, QP/AVG data will instead.

The CISPR 22 limits would be applied to all FCC Part 15 devices.

2.3 Test Setup Photo

Front View



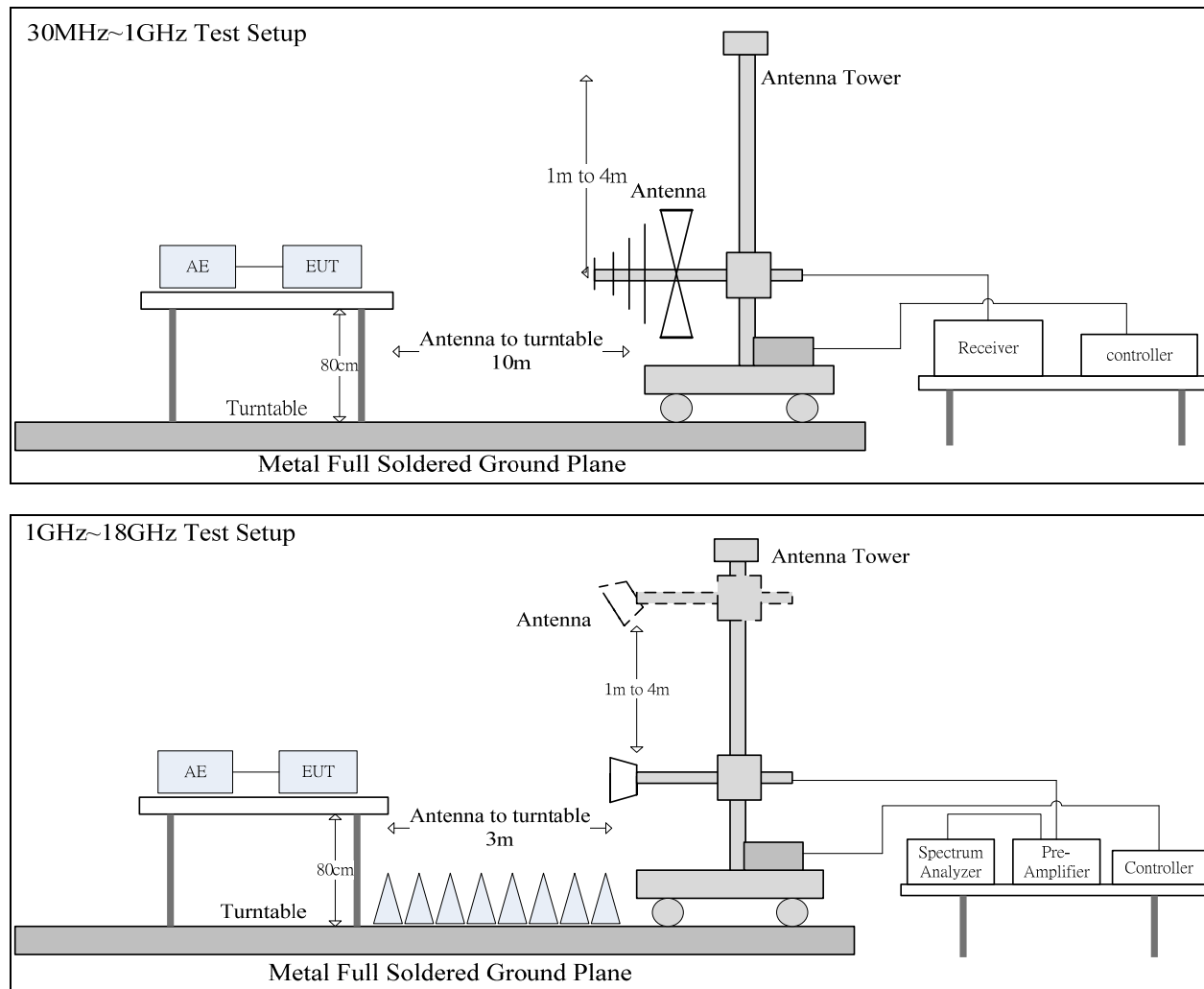
Back View



3. Radiated Emissions

3.1 Test Setup and Procedure

3.1.1 Test Setup



3.1.2 Test Procedure

The radiated emissions test will then be repeated on the open site or chamber to measure the amplitudes accurately and without the multiple reflections existing in the shielded room. The EUT and support equipment are set up on the turntable of one of 10 meter open field sites or 10 meter chamber. Desktop EUT are set up on a wooden stand 0.8 meter above the ground or floor-standing arrangement shall be placed on the horizontal ground reference plane. The test volume for a height of up to 30 cm may be obstructed by absorber placed on the ground plane.

For the initial measurements, the receiving antenna is varied from 1-4 meter height and is changed in the vertical plane from vertical to horizontal polarization at each frequency. The highest emissions between 30 MHz to 1000 MHz were analyzed in details by operating the spectrum analyzer and/or EMI receiver in quasi-peak mode to determine the precise amplitude of the emissions. The highest emissions between 1 GHz to 40 GHz were analyzed in details by

operating the spectrum analyzer in peak and average mode to determine the precise amplitude of the emissions.

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the antenna in the cone of radiation from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response. At the highest amplitudes observed, the EUT is rotated in the horizontal plane while changing the antenna polarization in the vertical plane to maximize the reading. The interconnecting cables were arranged and moved to get the maximum measurement. Once the maximum reading is obtained, the antenna elevation and polarization will be varied between specified limits to maximize the readings.

The highest internal source of the EUT is defined as the highest frequency generated or used within the EUT or on which the EUT operates or tunes. If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is less. Spectrum Analyzer Configuration (for the frequencies tested).

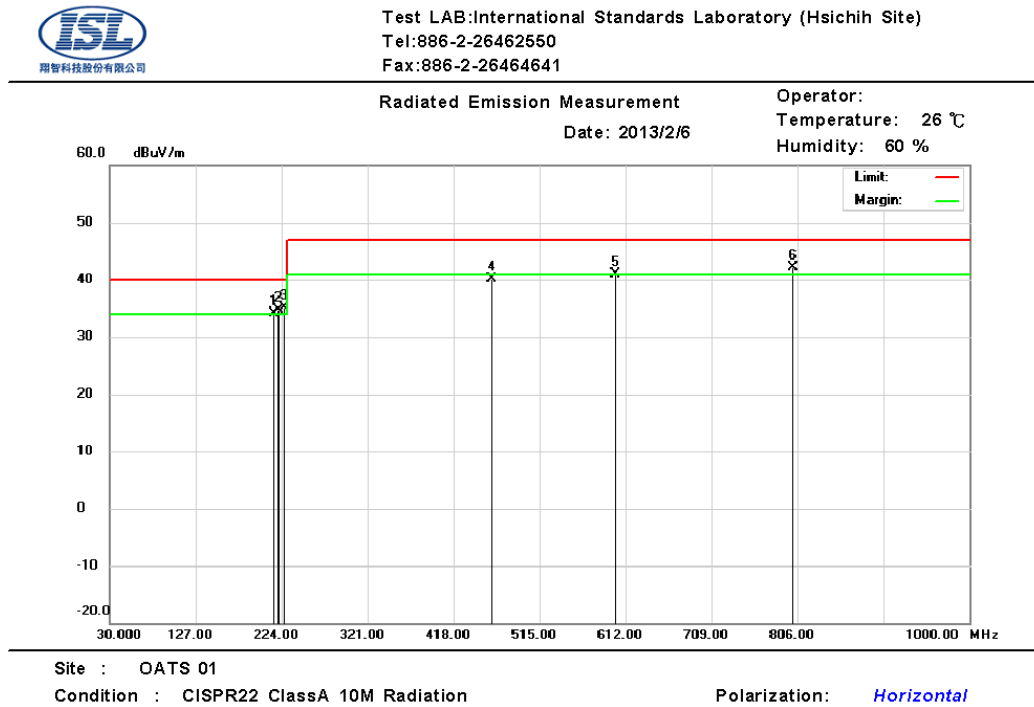
3.1.3 Spectrum Analyzer Configuration (for the frequencies tested)

Frequency Range:	30MHz--1000MHz
Detector Function:	Quasi-Peak Mode
Resolution Bandwidth:	120KHz

Frequency Range:	Above 1000MHz
Detector Function:	Peak/Average Mode
Resolution Bandwidth:	1MHz

3.2 Radiation Test Data: Configuration 1

Table 3.2.1 Radiated Emissions (Horizontal)



Mk.	Frequency (MHz)	RX_R (dBuV/m)	Ant_F (dB)	Cab_L (dB)	PreAmp (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
1	215.2700	22.08	10.61	1.47	0.00	34.16	40.00	-5.84	381	249	QP
2	221.0900	22.32	10.84	1.48	0.00	34.64	40.00	-5.36	333	172	QP
3	226.9100	22.59	11.08	1.51	0.00	35.18	40.00	-4.82	321	78	QP
4	461.6500	20.53	17.31	2.22	0.00	40.06	47.00	-6.94	215	209	QP
5	601.3300	19.86	18.53	2.54	0.00	40.93	47.00	-6.07	100	19	QP
6	801.1500	17.67	21.42	2.98	0.00	42.07	47.00	-4.93	306	344	QP

* Note:

Margin = Corrected Amplitude – Limit

Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss – Pre-Amplifier Gain

A margin of -8dB means that the emission is 8dB below the limit

BILOG Antenna Distance: 10 meters

The CISPR 22 limits would be applied to all FCC Part 15 devices.

Below 1GHz test, if the peak measured value meets the QP limit, it is unnecessary to perform the QP measurement.

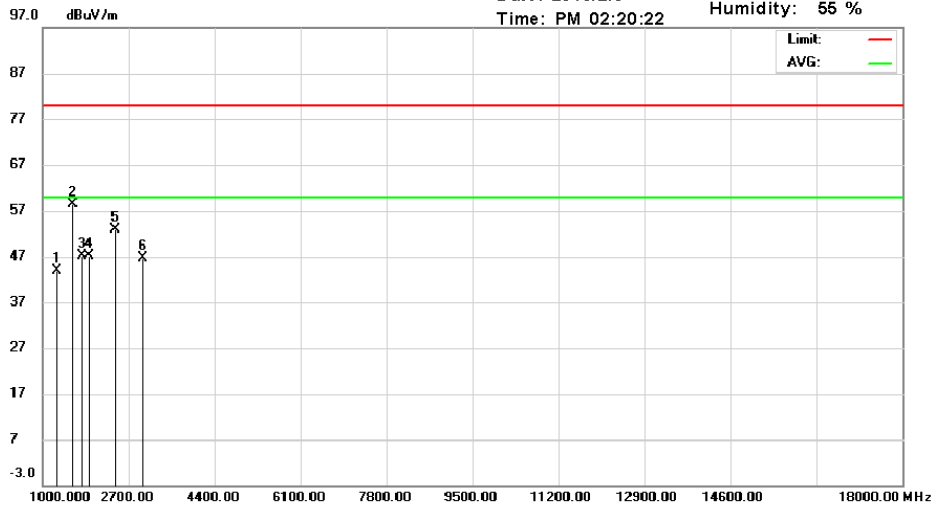


Test LAB:International Standards Laboratory (Hsichih Site)
Tel:886-2-26462550
Fax:886-2-26464641

Radiated Emission Measurement

Date: 2013/2/6
Time: PM 02:20:22

Operator:
Temperature: 25 °C
Humidity: 55 %



Site : Chamber 01

Condition : FCC Class A 3M Radiation

Polarization: *Horizontal*

Mk.	Frequency (MHz)	RX R (dBuV/m)	Ant F (dB)	Cab L (dB)	PreAmp (dB)	Correct. (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
1	1272.436	64.29	28.3	3.27	51.9	0	43.96	80.00	-36.04	100	62	peak
2	1599.359	77.75	28.86	3.7	51.97	0	58.34	80.00	-21.66	100	271	peak
3	1790.064	66.31	29.97	3.92	52	0	47.20	80.00	-32.80	126	83	peak
4	1926.282	64.22	30.9	4.08	52.03	0	47.17	80.00	-32.83	124	353	peak
5	2443.910	68.31	31.91	4.66	52	0	52.88	80.00	-27.12	130	280	peak
6	2988.782	60.98	32.59	5.2	52.07	0	46.70	80.00	-33.30	114	198	peak

^:Maximum data x:Over limit !:over margin

* Note:

Margin = Corrected Amplitude – Limit

Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss – Pre-Amplifier Gain

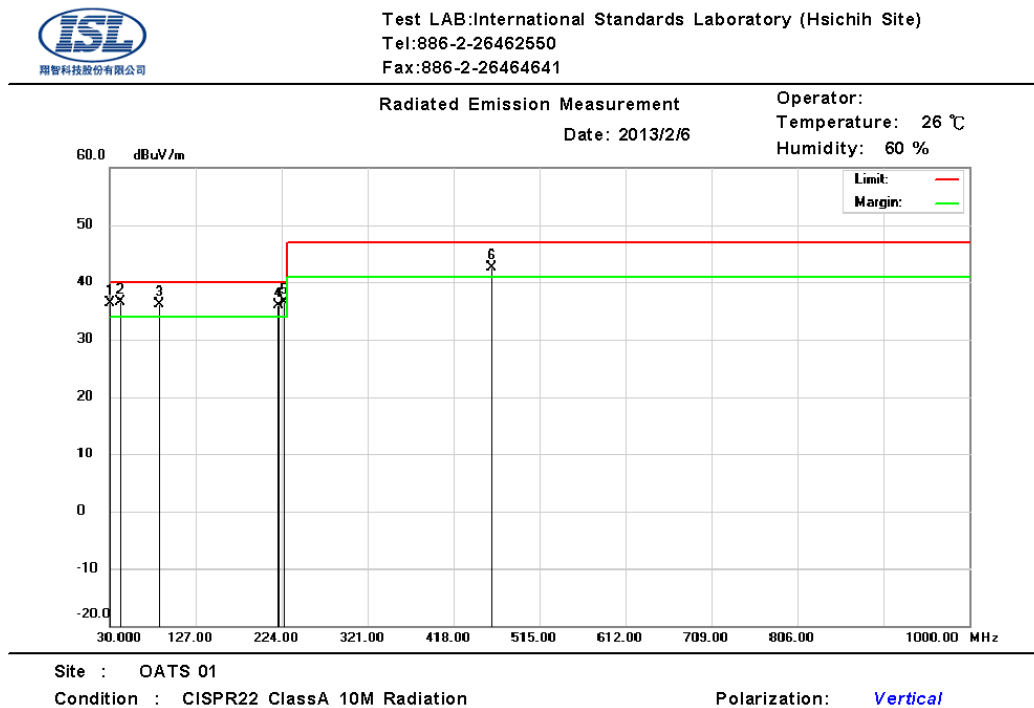
A margin of -8dB means that the emission is 8dB below the limit

Horn Antenna Distance: 3 meters

The CISPR 22 limits would be applied to all FCC Part 15 devices.

Above 1GHz test, if the peak measured value meets the average limit, it is unnecessary to perform the average measurement.

Table 3.2.2 Radiated Emissions (Vertical)



Mk.	Frequency (MHz)	RX_R (dBuV/m)	Ant_F (dB)	Cab_L (dB)	PreAmp (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
1	30.0000	14.35	21.3	0.58	0.00	36.23	40.00	-3.77	139	141	QP
2	42.6100	23.51	12.22	0.68	0.00	36.41	40.00	-3.59	131	215	QP
3	86.2600	27.40	7.8	0.93	0.00	36.13	40.00	-3.87	284	231	QP
4	221.0900	23.67	10.84	1.48	0.00	35.99	40.00	-4.01	100	283	QP
5	226.9100	23.84	11.08	1.51	0.00	36.43	40.00	-3.57	306	35	QP
6	461.6500	22.95	17.31	2.22	0.00	42.48	47.00	-4.52	394	136	QP

* Note:

Margin = Corrected Amplitude – Limit

Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss – Pre-Amplifier Gain

A margin of -8dB means that the emission is 8dB below the limit

BILOG Antenna Distance: 10 meters

The CISPR 22 limits would be applied to all FCC Part 15 devices.

Below 1GHz test, if the peak measured value meets the QP limit, it is unnecessary to perform the QP measurement.

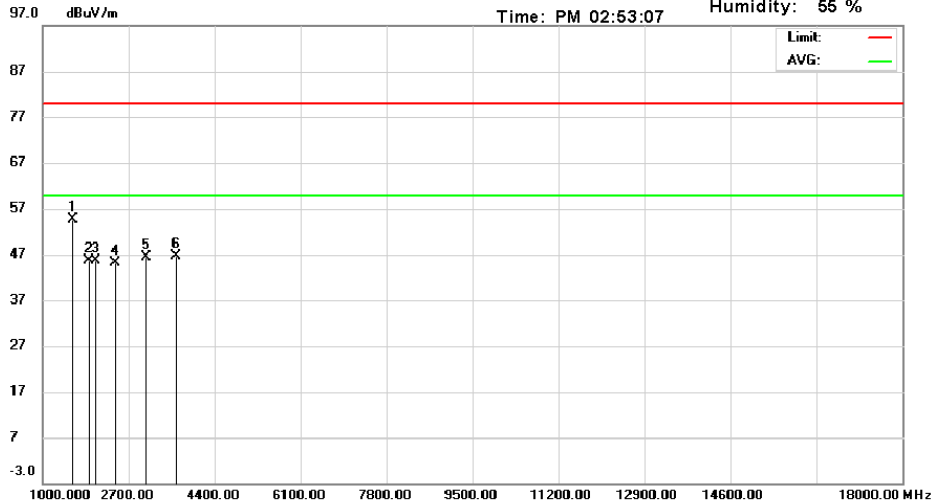


Test LAB: International Standards Laboratory (Hsichih Site)
Tel: 886-2-26462550
Fax: 886-2-26464641

Radiated Emission Measurement

Date: 2013/2/6
Time: PM 02:53:07

Operator:
Temperature: 25 °C
Humidity: 55 %



Site : Chamber 01

Condition : FCC Class A 3M Radiation

Polarization: *Vertical*

Mk.	Frequency (MHz)	RX_R (dBuV/m)	Ant_F (dB)	Cab_L (dB)	PreAmp (dB)	Correct. (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
1	1599.359	73.94	28.86	3.7	51.97	0	54.53	80.00	-25.47	100	218	peak
2	1926.282	62.66	30.9	4.08	52.03	0	45.61	80.00	-34.39	165	130	peak
3	2062.500	61.89	31.45	4.24	52.03	0	45.55	80.00	-34.45	100	254	peak
4	2416.667	60.57	31.87	4.63	52	0	45.07	80.00	-34.93	161	180	peak
5	3043.269	60.58	32.63	5.25	52.08	0	46.38	80.00	-33.62	140	316	peak
6	3642.628	59.99	33.06	5.78	52.21	0	46.62	80.00	-33.38	124	231	peak

*:Maximum data x:Over limit !:over margin

* Note:

Margin = Corrected Amplitude – Limit

Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss – Pre-Amplifier Gain

A margin of -8dB means that the emission is 8dB below the limit

Horn Antenna Distance: 3 meters

The CISPR 22 limits would be applied to all FCC Part 15 devices.

Above 1GHz test, if the peak measured value meets the average limit, it is unnecessary to perform the average measurement.

3.3 Test Setup Photo

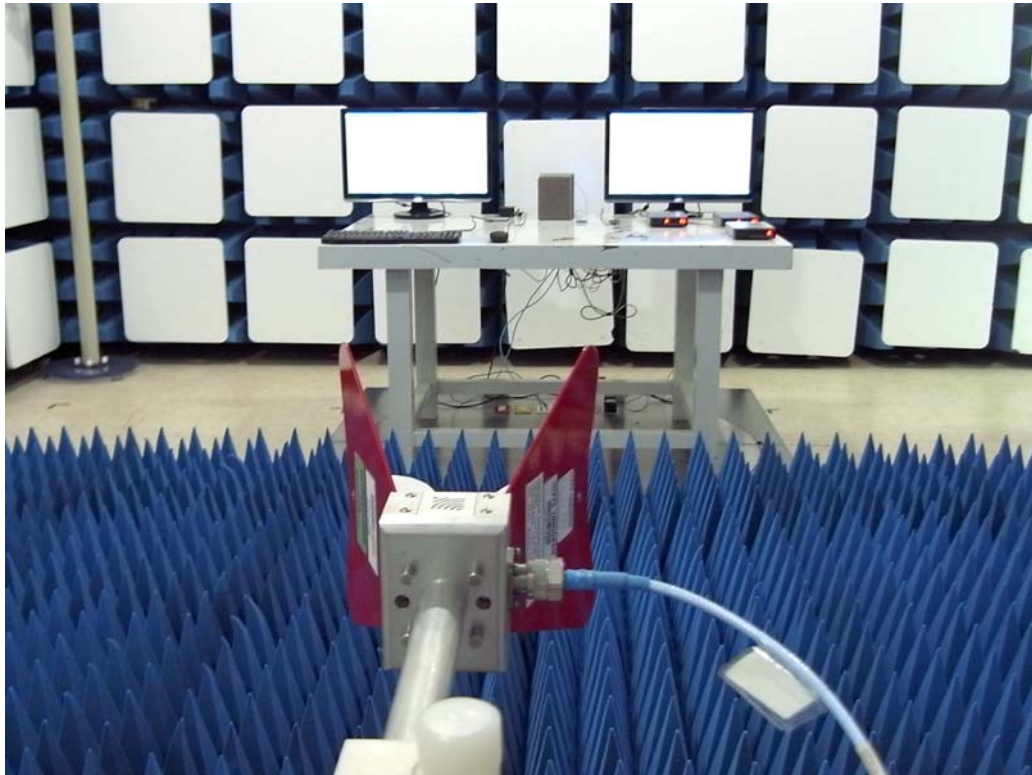
Front View



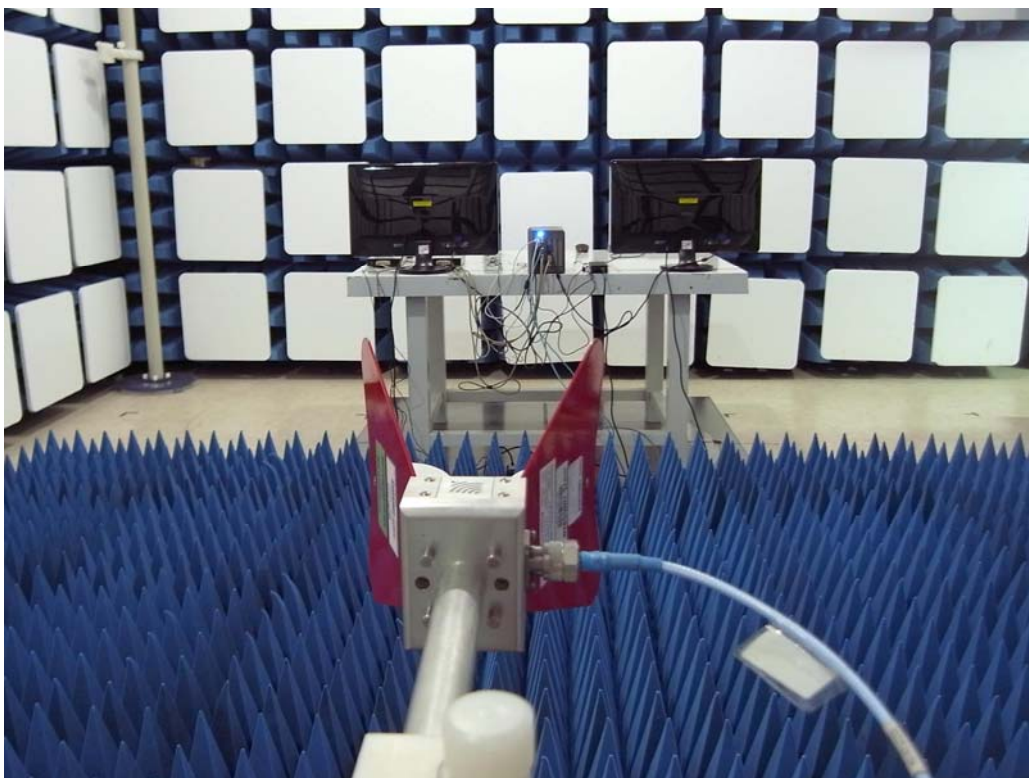
Back View



Front View (above 1GHz)



Back View (above 1GHz)



4. Appendix

4.1 Appendix A: Warning Labels

Label Requirements

A Class A digital device subject to certification by the FCC shall carry a warning label which includes the following statement:

*** * * W A R N I N G * * ***

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 device must accept any interference received, including interference that may cause undesired operation.

4.2 Appendix B: Warning Statement

Statement Requirements

The operators' manual for a Class A digital device shall contain the following statements or their equivalent:

*** * * W A R N I N G * * ***

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.

Notice: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

* * * * *

If the EUT was tested with special shielded cables the operators manual for such product shall also contain the following statements or their equivalent:

Shielded interface cables and/or AC power cord, if any, must be used in order to comply with the emission limits.

4.3 Appendix C: Test Equipment

4.3.1 Test Equipment List

Location CON01	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conduction	Coaxial Cable 1F-C1	EMEC	5D Cable	1F-C1	10/26/2012	10/26/2013
Conduction	LISN 21	ROHDE & SCHWARZ	ENV216	101476	05/10/2012	05/10/2013
Conduction	LISN 22	ROHDE & SCHWARZ	ENV216	101478	05/10/2012	05/10/2013
Conduction	ISN T2 03	FCC	FCC-TLISN-T 2-02	20618	08/03/2012	08/03/2013
Conduction	ISN T4 05	FCC	FCC-TLISN-T 4-02	20619	08/03/2012	08/03/2013
Conduction	ISN T8 03	FCC	FCC-TLINS-T 8-02	20620	08/03/2012	08/03/2013
Conduction	ISN T8 06 (Shielding)	Teseq GmbH	ISN ST08	33999	08/09/2012	08/09/2013
Conduction	EMI Receiver 15	ROHDE & SCHWARZ	ESCI	101166	04/24/2012	04/24/2013

Location OATS01	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Radiation	BILOG Antenna 10	Sumol Sciences	JB1	A013004-1	07/18/2012	07/18/2013
Radiation	Coaxial Cable 3F-10M	EMCI	CFD400-NL	ISL-R001	03/16/2012	03/16/2013
Radiation	EMI Receiver 13	ROHDE & SCHWARZ	ESCI	101015	02/22/2012	02/22/2013

Location Chamber 01	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Rad. above 1Ghz	Horn Antenna 11	ETS-LINDGR EN	3117	00114397	03/07/2012	03/07/2013
Rad. above 1Ghz	Horn Antenna 03	COM-Power	AH-826	100A	03/15/2011	03/15/2013
Rad. above 1Ghz	Horn Antenna 05	Com-Power	AH-640	100A	01/11/2013	01/11/2015
Rad. above 1Ghz	Microwave Cable-16	HUBER SUHNER	SUCFLEX 104	345761/4	12/24/2012	12/24/2013
Rad. above 1Ghz	Preamplifier 20	EMCI	EMC051845	980084	10/30/2012	10/30/2013
Rad. above 1Ghz	Microwave Cable-19	HUBER SUHNER	SUCFLEX 102	MY 2151/2	05/03/2012	05/03/2013
Rad. above 1Ghz	Preamplifier 22	EMCI	EMC184045	980124	04/02/2012	04/02/2013
Rad. above 1Ghz	Spectrum Analyzer 23	ROHDE & SCHWARZ	FSU43	101255	11/01/2012	11/01/2013

4.3.2 Software for Controlling Spectrum/Receiver and Calculating Test Data

Radiation/Conduction	Filename	Version	Issued Date
Hsichih Conduction	EZ EMC	1.1.4.2	2/10/2007
Hsichih Radiation	EZ EMC	1.1.4.2	1/24/2007

4.4 Appendix D: Uncertainty of Measurement

The measurement uncertainty refers to CISPR 16-4-2:2003. The coverage factor $k = 2$ yields approximately a 95 % level of confidence.

<Conduction 01>

AMN: $\pm 3.29\text{dB}$

ISN: $\pm 4.43\text{dB}$

<OATS 01 (10M)>

Horizontal

30MHz~200MHz: $\pm 3.06\text{dB}$

200MHz~1000MHz: $\pm 3.22\text{dB}$

Vertical

30MHz~200MHz: $\pm 3.41\text{dB}$

200MHz~1000MHz: $\pm 3.20\text{dB}$

<Chamber 01 (3M)>

1GHz~6GHz: $\pm 4.69\text{dB}$

6GHz~18GHz: $\pm 4.72\text{dB}$

18GHz~26.5GHz: $\pm 3.44\text{dB}$

18GHz~26.5GHz: $\pm 3.49\text{dB}$