

Issue Date: 10/4/2011

Ref. Report No. ISL-11LE220FB-MA

Product Name: : Server

Model(s) : NVRmini2-2Bay

Brand : **NUUO**Applicant : **NUUO Inc.** 

Address : C Block, 18 Sihyuan St. Jhongjheng District, Taipei, Taiwan

#### 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: 2009- Section 15.107 and 15.109 ANSI C63.4-2003

Industry Canada Interference-Causing Equipment Standard ICES-003 Issue 4: 2004 Class B

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 22117, Taiwan Tel: 886-2-2646-2550; Fax: 886-2-2646-4641







#### **Lung-Tan LAB:**

No. 120, Lane 180, San Ho Tsuen, Hsin Ho Rd. Lung-Tan Hsiang, Tao Yuan County 325, Taiwan Tel: 886-3-407-1718; Fax: 886-3407-1738







## **Declaration of Conformity**

This device complies with Part 15 of the FCC Rules. The test result has been shown in the ISL test report with number ISL-11LE220FB-MA. 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.

Product Name: Server

Model(s): NVRmini2-2Bay

Brand: NUUO

Name of Responsible Party: NUUO Inc.

Address of Responsible Party: C Block, 18 Sihyuan St. Jhongjheng District,

Taipei, Taiwan

Contact Person: Derek Hu

Phone No.: 886-2-2362-2260

Fax No.: 886-2-2362-2296

We, NUUO Inc. , hereby declare that the equipment bearing the trade name and model number specified above was tested conforming to the applicable FCC Rules under the most accurate measurement standards possible, and that all the necessary steps have been taken and are in force to assure that production units of the same equipment will continue to comply with the Commissions requirements.

-----

Derek Hu NUUO Inc.

Issue Date: 10/4/2011

# FCC TEST REPORT

CFR 47 Part 15 Subpart B Class B

Application Type: Declaration of Conformity

Product: Server

Model(s): NVRmini2-2Bay

Brand: **NUUO** 

Applicant: NUUO Inc.

Address: C Block, 18 Sihyuan St. Jhongjheng District,

Taipei, Taiwan

Test Performed by:

# **International Standards Laboratory**

<Lung-Tan LAB>

\*Site Registration No.

BSMI: SL2-IN-E-0013; TAF: 0997; IC: IC4067B-1;

VCCI: R-1435, C-1440, T-1676, G-17, R-2598, C-2845, T-1464, G-16,

G-211

NEMKO: ELA 113B

\*Address:

No. 120, Lane 180, San Ho Tsuen, Hsin Ho Rd. Lung-Tan Hsiang, Tao Yuan County 325, Taiwan \*Tel: 886-3-407-1718; Fax: 886-3-407-1738

Report No.: ISL-11LE220FB-MA

Issue Date: 10/4/2011

This report totally contains 25 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 report MUST not be used to claim product endorsement by TAF, NVLAP or any agency of the Government.

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

# -i- Declaration of Conformity

**Report Number: ISL-11LE220FB-MA** 



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## -1- Declaration of Conformity



# 1. General

#### 1.1 Certification of Accuracy of Test Data

Standards: FCC CFR Title 47 Part 15 Subpart B: 2009- Section

15.107 and 15.109 ANSI C63.4-2003

Industry Canada Interference-Causing Equipment

Standard ICES-003 Issue 4: 2004

**Equipment Tested:** Server

Model: NVRmini2-2Bay

**Brand:** NUUO

**Applicant:** NUUO Inc.

**Sample received Date:** 5/9/2011

**Final test Date:** refer to the date of test data

**Test Site:** International Standards Laboratory

Chamber 02; Chamber 14; Conduction 02

**Test Distance:** 10M; 3M (above1GHz)

**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:** Kate Shi

Test Engineer:

Hasan Yu
Hasan Yu
Lim Chu

**Approved By:** 

Jim Chu / Director

## -2- Declaration of Conformity



## 1.2 Description of EUT

# **EUT**

Description: Server

Condition: Pre-Production Model: NVRmini2-2Bay

Serial Number: N/A
Brand: NUUO
Power cord: Non-shielded

#### The devices can be installed inside the EUT are listed below:

Device	Manufacturer	Model Number				
Mother board	GigaByte	GC-SCM25T				
HDD	Seagate	250G ST3250620AS				
ПОО	WD	500G WD5002ABYS-18B1B0				
Power Supply	APD	DA-40A19 Input:100~240V,50~60Hz/1.0A Output:19V/2.1A				

The I/O ports of EUT are listed below:

I/O Port Type	Quantity
USB 2.0 Port	Two
LAN Port(10Mbps/100Mbps/1Gbps)	One

For test configuration:

Configuration	1
Mother board	GigaByte GC-SCM25T
HDD	Seagate 250G ST3250620AS*1 WD 500G WD5002ABYS-18B1B0*1
Power Supply	APD DA-40A19

#### **EMI Noise Source:**

#### Crystal:

25MHz (X1), 32.768KHz (X2), 25MHz(X3), 25MHz(X4), 12MHz(X6), 12MHz(X7)

#### **EMI solution:**

- 1. Adding aluminum tape(vendor: Tex chu 110(L)\*50(W) \*0.1 (H)mm) on the case contact (Please refer to the photo report red arrow point 1 in EUT-15)
- 2. Adding core(vendor: King core RC 16\*28\*9 -M2) on Adapter Type cable(Please refer to the photo report red arrow point 1 in EUT-16)

# -3- Declaration of Conformity



# 1.3 Description of Support Equipment

No	Unit	Model / Serial No.	Brand	Power Cord	FCC ID	
1	Notebook Personal Computer	Latitude D620 S/N: N/A	DELL	Non-shielded	FCC DOC	
2	External Hard Disk Case	RD1000 S/N: NA	DELL	Non-shielded	FCC DOC	
3	External Hard Disk Case	RD1000 S/N: NA	DELL	Non-shielded	FCC DOC	

## 4. Declaration of Conformity



## 1.4 Software for Controlling Support Unit

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

## For test configuration:

- 1. Copy data to EUT hard disk through EUT LAN port.
- 2. Copy data to External Hard Disk Case through EUT LAN port.
- 3. Repeat the above steps.

	File	Issue Date
LAN	Ping.exe	
HDD	Cute FTP 8 Professional	2009/7/2
External Hard Disk Case	Cute FTP 8 Professional	2009/7/2

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# 1.5 I/O Cable Condition of EUT and Support Units

For test Configuration:

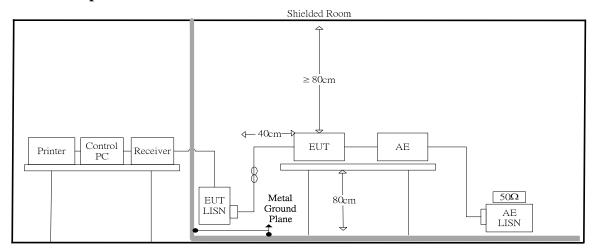
Description	Path	Cable Length	Cable Type	<b>Connector Type</b>	
AC Power Cable	110V/(240V) to EUT SPS	1.8M	Non-shielded	Plastic Head	
USB Data Cable *2	External Hard Disk Case to EUT USB Port	1.8M	Shielded	Metal Head	
LAN Data Cable	NB LAN(RJ-45) Port to EUT LAN port	33 feet	Non-shielded	RJ-45, Plastic 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  $3.5 \text{m} \times 3.4 \text{m} \times 2.5 \text{m}$  shielded room, which referred as Conduction 01 test site, or a  $3 \text{m} \times 3 \text{m} \times 2.3 \text{m}$  test site, which referred as Conduction 02 test site. The EUT was placed on non-conduction  $1.0 \text{m} \times 1.5 \text{m}$  table, which is 0.8 m test 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

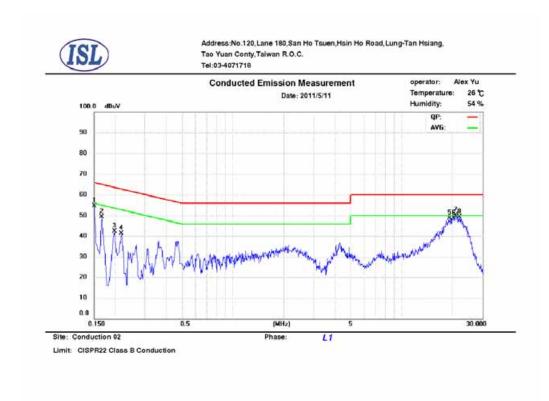
Resolution Bandwidth: 9KHz





## 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	0.1501	0.11	0.01	51.61	65.9	-14.3	36.53	55.9	-19.4	
2	0.1660	0.11	0.01	40.64	65.1	-24.5	26.59	55.1	-28.5	
3	0.1980	0.11	0.01	38.08	63.6	-25.6	25.68	53.6	-28.0	
4	0.2180	0.11	0.01	34.14	62.8	-28.7	21.77	52.8	-31.1	
5	19.1300	0.97	0.2	41.32	60.0	-18.6	32.76	50.0	-17.2	
6	20.3220	1.01	0.2	42.63	60.0	-17.3	34.37	50.0	-15.6	
7	20.8620	1.03	0.2	42.82	60.0	-17.1	34.48	50.0	-15.5	
8	21.9820	1.07	0.21	42.44	60.0	-17.5	34.36	50.0	-15.6	

Note:

 $Margin = Corrected\ Amplitude\ -\ Limit$ 

Corrected Amplitude = Receiver Reading + LISN Loss + Cable Loss

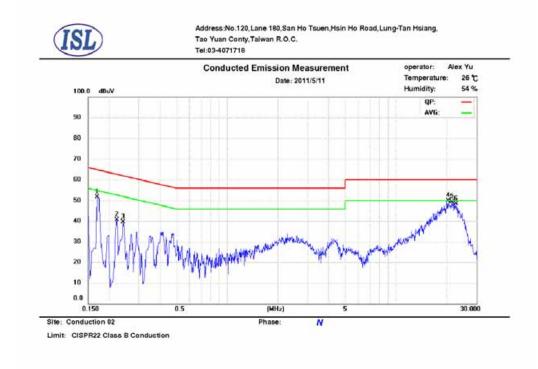
A margin of -8dB means that the emission is 8dB below the limit

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	0.1700	0.13	0.01	49.09	64.9	-15.8	33.15	54.9	-21.8	
2	0.2220	0.13	0.01	37.96	62.7	-24.7	20.86	52.7	-31.8	
3	0.2420	0.13	0.02	33.98	62.0	-28.0	22.58	52.0	-29.4	
4	20.3980	0.67	0.2	43.03	60.0	-16.9	34.79	50.0	-15.2	
5	21.4380	0.69	0.21	42.95	60.0	-17.0	34.56	50.0	-15.4	
6	22.6700	0.72	0.21	41.75	60.0	-18.2	33.66	50.0	-16.3	

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.

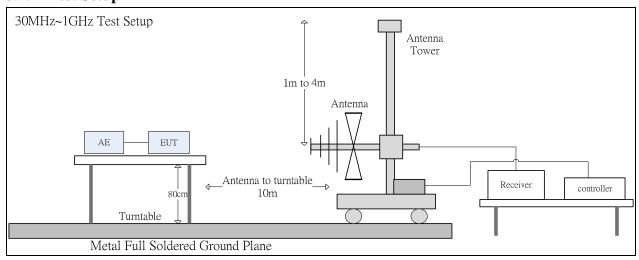
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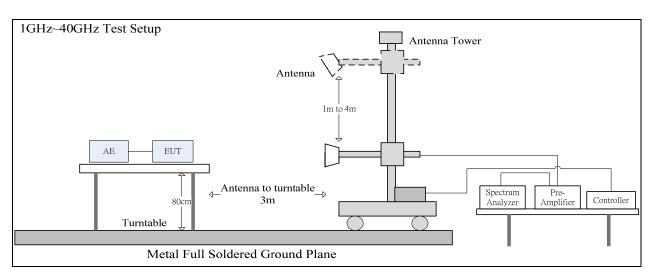


# 3. Radiated Emissions

# 3.1 Test Setup and Procedure

## 3.1.1 Test Setup





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#### 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 6 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 an 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 6 times the highest frequency or 40 GHz, whichever is less.

#### **3.1.3** Spectrum Analyzer Configuration (for the frequencies tested)

Frequency Range: 30MHz--1000MHz Detector Function: Quasi-Peak Mode

Resolution Bandwidth: 120KHz

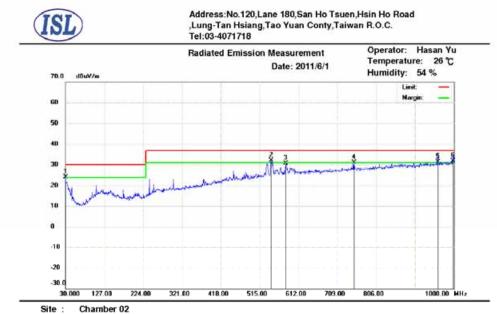
Frequency Range: Above 1000MHz
Detector Function: Peak/Average Mode

Resolution Bandwidth: 1MHz





# 3.2 Radiation Test Data: Configuration 1 Table 3.2.1 Radiated Emissions (Horizontal)



Condition : CISPR22 ClassB 10M Radiation

Polarization: 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	30.0000	4.19	19	0.99	0.00	24.18	30.00	-5.82	100	102	peak
2	544.1000	9.00	18.72	4.39	0.00	32.11	37.00	-4.89	290	51	peak
3	579.9900	7.27	18.72	4.56	0.00	30.55	37.00	-6.45	100	47	peak
4	750.7100	5.99	19.7	5.48	0.00	31.17	37.00	-5.83	251	10	peak
5	959.9900	3.67	20.98	6.64	0.00	31.29	37.00	-5.71	122	311	QP
6	997.6200	3.72	21.28	6.83	0.00	31.83	37.00	-5.17	218	108	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

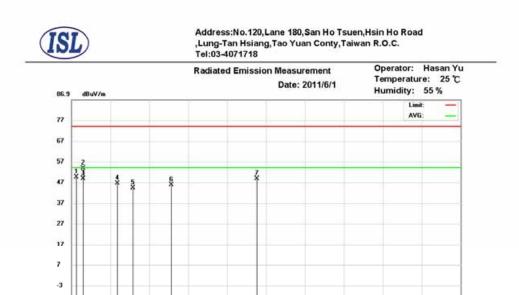
The CISPR 22 limits would be applied to all FCC Part 15 devices.

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

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Site: Chamber 14

Condition: FCC Class B Radiation(Peak)

6100.00

7800.00

Polarization: Horizontal

11200.00 12900.00 14600.00

18000.00 MHz

**Report Number: ISL-11LE220FB-MA** 

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	1189.000	65.58	28.6	1.58	46.3	49.46	74.00	-24.54	100	105	peak
2	1500.000	69.66	28.6	1.79	46.3	53.75	74.00	-20.25	226	10	peak
3	1500.160	64.61	28.6	1.79	46.3	48.70	54.00	-5.30	181	123	AVG
4	3004.000	56.86	33.6	2.63	46.6	46.49	74.00	-27.51	267	345	peak
5	3671.000	54.29	33.94	2.9	46.83	44.30	74.00	-29.70	100	297	peak
6	5366.000	54.21	35.11	3.59	47.25	45.66	74.00	-28.34	378	179	peak
7	9102.000	51.46	36.6	4.9	44.16	48.80	74.00	-25.20	247	217	peak

#### \* Note:

 $Margin = Corrected\ Amplitude - Limit$ 

 $\label{eq:corrected-model} \begin{tabular}{ll} Corrected Amplitude = $\widehat{R}$ adiated 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.

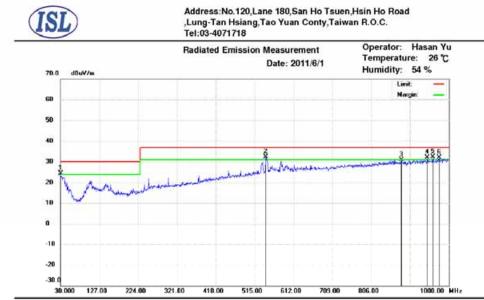


Vertical

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## **Table 3.2.2 Radiated Emissions (Vertical)**



Site: Chamber 02

Condition: CISPR22 ClassB 10M Radiation Polarization:

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	4.44	19	0.99	0.00	24.43	30.00	-5.57	100	275	peak
2	542.1600	9.42	18.66	4.38	0.00	32.46	37.00	-4.54	356	13	peak
3	881.6600	4.12	20.43	6.27	0.00	30.82	37.00	-6.18	239	113	peak
4	946.6500	4.64	20.87	6.58	0.00	32.09	37.00	-4.91	205	340	peak
5	960.2300	4.88	20.98	6.64	0.00	32.50	37.00	-4.50	223	75	peak
6	975.7500	4.26	21.11	6.72	0.00	32.09	37.00	-4.91	231	64	peak

#### \* 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

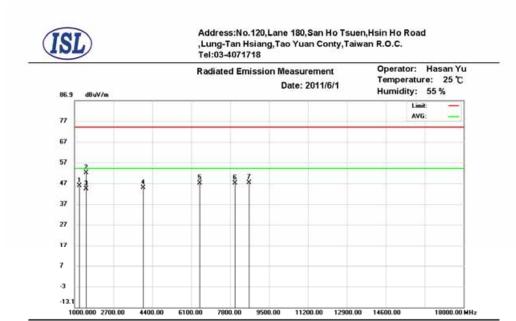
BILOG Antenna Distance: 10 meters

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. measurement.

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Site: Chamber 14

Condition: FCC Class B Radiation(Peak)

Polarization:

Vertical

**Report Number: ISL-11LE220FB-MA** 

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	1189.000	61.97	28.6	1.58	46.3	45.85	74.00	-28.15	217	359	peak
2	1500.000	67.88	28.6	1.79	46.3	51.97	74.00	-22.03	172	75	peak
3	1500.080	60.22	28.6	1.79	46.3	44.31	54.00	-9.69	337	242	AVG
4	4007.000	54.08	34.6	3.05	46.9	44.83	74.00	-29.17	226	297	peak
5	6470.000	53.73	36.09	4.01	46.72	47.11	74.00	-26.89	192	359	peak
6	7990.000	51.82	36.1	4.56	45.51	46.97	74.00	-27.03	100	96	peak
7	8619.000	51.16	36.12	4.73	44.83	47.18	74.00	-26.82	264	328	peak

#### \* 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

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.

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# 4. Appendix

#### 4.1 Appendix A: Warning Labels

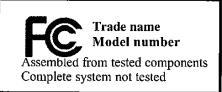
## **Label Requirements**

A Class B digital device subject to Declaration of Conformity of FCC shall carry a 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.

The sample label shown shall be permanently affixed at a conspicuous location on the device and be readily visible to the user at the time of purchase.





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#### 4.2 Appendix B: Warning Statement

#### **Statement Requirements**

The operators' manual for a Class B 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 B 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 residential installation. 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

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

\* \* \* \* \* \* \* \* \*

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.

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# **4.3** Appendix C: Test Equipment

# 4.3.1 Test Equipment List

Location	<b>Equipment Name</b>	Brand	Model	S/N	Last Cal.	Next Cal.
Con02					Date	Date
Conduction 02	LISN 06	R&S	ESH3-Z5	828874/009	01/12/2011	01/12/2012
Conduction 02	LISN 04	EMCO	3810/2	9604-1429	05/14/2011	05/14/2012
Conduction 02	Conduction 02-1	WOKEN	CFD 300-NL	Conduction	06/21/2010	06/21/2011
	Cable			02 -1		
Conduction 02	EMI Receiver 14	ROHDE&	ESCI	101034	02/17/2011	02/17/2012
		SCHWARZ				

Location	<b>Equipment Name</b>	Brand	Model	S/N	Last Cal.	Next Cal.
Chamber02					Date	Date
Radiation	BILOG Antenna 15	Teseq GmbH	CBL6112D	27622	01/18/2011	01/18/2012
(Chamber02)						
Radiation	Coaxial Cable Chmb	MIYAZAKI	8D-FB	Chmb	10/18/2010	10/18/2011
(Chamber02)	02-10M-02			02-10M-02		
Radiation	EMI Receiver 11	ROHDE &	ESCI	100568	06/18/2010	06/18/2011
(Chamber02)		SCHWARZ				

Location	<b>Equipment Name</b>	Brand	Model	S/N	Last Cal.	Next Cal.
Chamber 14					Date	Date
Radiation	Spectrum Analyzer	Agilent	N9010A	MY49060537	07/13/2010	07/13/2011
(Chamber14)	21					
Rad. Above	Horn Antenna 06	ETS	3117	00066665	09/28/2010	09/28/2011
1GHz						
(Chamber14)						
Rad. Above	SUCOFLEX	HUBER	Sucoflex 106	67618/6 and	02/09/2011	02/09/2012
1GHz	1GHz~18GHz cable	SUHNER		67619/6		
(Chamber14)						
Rad. Above	Preamplifier 13	MITEQ	JS44-0010180	1329256	06/10/2010	06/10/2011
1GHz			0-25-10P-44			
(Chamber14)						

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# 4.3.2 Software for Controlling Spectrum/Receiver and Calculating Test Data

Radiation/Conduction	Filename	Version	<b>Issued Date</b>	
Lung_Tan Conduction	EZ EMC	1.1.4.2	2/10/2007	
Lung_Tan Radiation	EZ EMC	1.1.4.2	1/24/2007	

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## 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 02>: ±3.263dB

<Chamber 02 (10M)>

Horizontal

30MHz~200MHz: ±4.251 dB 200MHz~1GHz: ±4.380 dB

Vertical

30MHz~200MHz: ±4.382 dB 200MHz~1GHz: ±4.384 dB

<Chamber 14 (3M)>

 $1GHz\sim18GHz$   $\pm3.722 dB$ 

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# 4.5 Appendix E: Photographs of EUT Configuration Test Set Up

## **4.5.1** Photo of Main Power Port Conducted Emission Measurement

Front View



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Back View



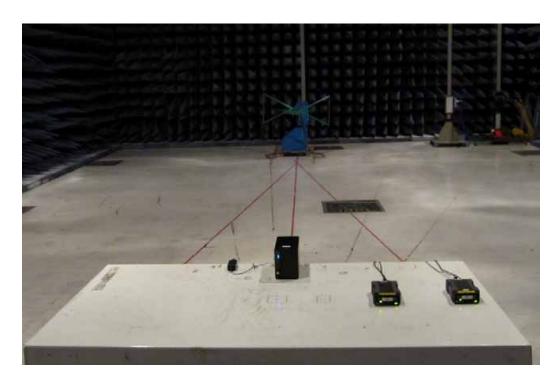


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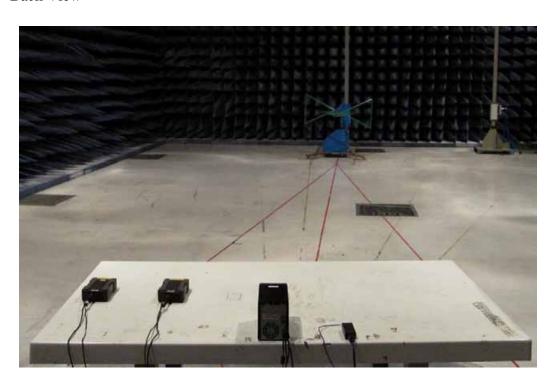


# 4.5.2 Photo of Radiated Emission Measurement

Front View



Back View



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4.6 Appendix F: Photographs of EUT

Please refer to the File of ISL-11LE220P-MA