

CE MARK TECHNICAL FILE

of

802.11a/b/g Wireless Access Point

Model

WLA-5000AP

Contains:

1. Declaration of Conformity
2. ETSI EN300 328 & ETSI EN301 893 test report
3. ETSI EN301 489-1 and ETSI EN301 489-17
4. EN61000-3-2/AS/NZS 61000.3.2 test report
5. EN61000-3-3/AS/NZS 61000.3.3 test report
6. Certificate of EN60950
7. Block Diagram and Schematics
7. Users' manual

Declaration of Conformity

Name of Responsible Party: Ovislink Corporation
Address of Responsible Party: 2F, No.8, Lane 130, Min Chuan Road, Hsin-Tien City,
Taipei,
Taiwan, R. O. C.
Declares that product: 802.11a/b/g Wireless Access Point
Model: WLA-5000AP
Assembled by: Same as above
Address: Same as above

Conformed to the R&TTE Directive 99/5/EC as attested by conformity with the following harmonized standards:

ETSI EN300 328 V1.6.1: ERM; wideband transmission systems; data transmission equipment operating in the 2.4Ghz ISM band and using spread spectrum modulation techniques.

ETSI EN301 893 V1.2.3: BRAN; 5Ghz high performance RLAN.

ETSI EN301 489-1 V1.4.1 and ETSI EN301 489-17 V1.2.1: ERM; EMC standard for radio equipment and service; specific conditions for wideband data and HIPERLAN equipment.

Standard	Description	Results	Criteria
EN61000-4-2: 1995/A1: 1998/A2: 2001 AS/NZS 61000.4.2: 2002	Electrostatic Discharge	Pass	B
EN61000-4-3: 2002/A1: 2002 AS/NZS 61000.4.3: 1999	Radio-Frequency, Electromagnetic Field	Pass	A
EN61000-4-4: 1995/A1: 2001/A2: 2001 AS/NZS 61000.4.4: 1999	Electrical Fast Transient/Burst	Pass	B
EN61000-4-5: 1995/A1: 2001 AS/NZS 61000.4.5: 1999	Surge	Pass	B
EN61000-4-6: 1996/A1: 2001 AS/NZS 61000.4.6: 1999	Conductive Disturbance	Pass	A
EN61000-4-11: 1994/A1: 2001 AS/NZS 61000.4.11: 1999	Voltage Dips / Short Interruption and Voltage Variation		
	30% in 10ms	Pass	B
	60% in 100ms	Pass	C
	>95% in 5000ms	Pass	C

<to be continued>

EN55022:1998/A1:2000; AS/NZS CISPR 22: 2002: Limits and methods of measurement of Radio Interference characteristics of Information Technology Equipment.

Standard	Description	Results	Criteria
EN55022:1998/A1:2000; AS/NZS CISPR 22: 2002	Conductive Test	Pass	B
EN55022:1998/A1:2000; AS/NZS CISPR 22: 2002	Radiated Test	NA	Not Applicable

Standard	Description	Results
EN61000-3-2: 2000 AS/NZS 61000.3.2: 2003	Limits for harmonics current emissions	Pass
EN61000-3-3: 1995 A1: 2001/ AS/NZS 61000.3.3: 1998	Limits for voltage fluctuations and flicker in low-voltage supply systems.	Pass

Conforms to the Low Voltage Directive 73/23/EEC as attested by conformity with the following harmonized standard:

EN60950-1: 2001 1st ED.: Safety of Information Technology Equipment Including electrical business equipment

We, Ovislink Corporation, hereby declare that the equipment bearing the trade name and model number specified above was tested conforming to the applicable 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 requirements.

 Albert Yeh / Manager
 Ovislink Corporation

Date: 2005/11/15



No. 65, Ku Dai Keng St., Hsichih, Taipei 221, R.O. C.
No. 120, Lane 180, San Ho Tsuen, Hsin Ho Rd. Lung-Tan Hsiang,
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Certificate

Test Report No.: 05LR031E328; 05LR031E489

Date: 2005/11/15

Product Name: 802.11a/b/g Wireless Access Point
Model Number(s): **WLA-5000AP**
Responsible Party: **Ovislink Corporation**
Address: 2F, No.8, Lane 130, Min Chuan Road, Hsin-Tien City,
Taipei,, Taiwan, R. O. C.
Contact Person: Albert Yeh / Manager

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 in R&TTE Directive 99/5/EC. The device was passed the test performed according to :

ETSI EN300 328 V1.6.1: ERM; wideband transmission systems; data transmission equipment operating in the 2.4Ghz ISM band and using spread spectrum modulation techniques.

ETSI EN301 893 V1.2.3: BRAN; 5Ghz high performance RLAN.

ETSI EN301 489-1 V1.4.1 and ETSI EN301 489-17 V1.2.1: ERM; EMC standard for radio equipment and service; specific conditions for wideband data and HIPERLAN equipment.

EN61000-4-2: 1995/A1: 1998/A2: 2001 AS/NZS 61000.4.2: 2002	EN61000-4-6: 1996/A1: 2001 AS/NZS 61000.4.6: 1999
EN61000-4-3: 2002/A1: 2002 AS/NZS 61000.4.3: 1999	EN61000-4-4: 1995/A1: 2001/A2: 2001 AS/NZS 61000.4.4: 1999
EN61000-4-5: 1995/A1: 2001 AS/NZS 61000.4.5: 1999	EN61000-4-11: 1994/A1: 2001 AS/NZS 61000.4.11: 1999

EN55022:1998/A1:2000; AS/NZS CISPR 22: 2002: Limits and methods of measurement of Radio Interference characteristics of Information Technology Equipment -- Conductive Test

EN61000-3-2: 2000/AS/NZS 61000.3.2: 2003: Limits for harmonics current emissions.

EN61000-3-3: 1995/A1: 2001/ AS/NZS 61000.3.3: 1998: Limits for voltage fluctuations and flicker in low-voltage supply systems.

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.



Eddy Hsiung/Director
International Standards Laboratory



ETSI EN 301 489-1 & ETSI EN 301 489-17
EN61000-3-2 / HARMONICS
EN61000-3-3 / VOLTAGE FLUCTUATIONS

TEST REPORT

of

Product Name

802.11a/b/g Wireless Access Point

Model

WLA-5000AP

Applied by:

Ovislink Corporation
2F, No.8, Lane 130, Min Chuan Road, Hsin-Tien City,
Taipei,
Taiwan, R. O. C.

Test Performed by:

(NVLAP Lab. Code: 200234-0)
International Standards Laboratory

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Report Number: ISL-05LR031E489

Issue Date: 2005/11/15

HC LAB:NVLAP:200234-0;VCCI: R-341,C-354;NEMKO:ELA 113a,113c;BSMI:SL2-IN-E-0037;SL2-R1-E-0037;CNLA:1178

LT LAB:NVLAP:200234-0;VCCI: R-1435,C-1440;NEMKO:ELA 113b,113d;BSMI:SL2-IN-E-0013;CNLA:0997

T10-R9-6



Contents of Report

1.	General.....	1
1.1	Certification of Accuracy of Test Data	1
2.	Summary	2
2.1	Operation Environment	2
2.2	Test Standards	2
2.3	Description of Support Equipment	3
2.3.1	Software for Controlling Support Unit.....	5
2.3.2	I/O Cable Condition of EUT and Support Units.....	5
2.4	Description of Equipment Under Test.....	6
3.	Emission Test.....	8
3.1	Power Main Port Conducted Emissions	8
3.1.1	Configuration and Procedure.....	8
3.1.2	EUT Configuration	8
3.1.3	Test Procedure	8
3.1.4	EMI Receiver/Spectrum Analyzer Configuration (for the frequencies tested).....	8
3.1.5	General Power Main Port Conducted Test Configuration.....	9
3.1.6	Test Data:.....	10
3.2	Harmonics test	12
3.3	Voltage Fluctuations test	13
4.	Immunity Test.....	15
4.1	Electrostatic discharge (ESD) immunity test	15
4.2	Radio-Frequency, Electromagnetic Field immunity test.....	17
4.3	Electrical Fast transient/burst immunity test	18
4.4	Surge immunity test.....	20
4.5	Immunity to Conductive Disturbance	21
4.6	Power Frequency Magnetic field immunity test	22
4.7	Voltage Dips, Short Interruption and Voltage Variation immunity test	23
5.	Test Equipment List.....	24
5.1	Software for Controlling Spectrum/Receiver and Calculating Test Data	25
6.	Photographs	26
6.1	Photo of ESD measurement.....	26
6.2	Photo of RF Field Strength Susceptibility Measurement.....	26
6.3	Photo of Electrical Fast Transient/Burst measurement	27
6.4	Photo of Surge measurement.....	27
6.5	Photo of Conductive Measurement	28
6.6	Photo of Voltage Dips measurement.....	28
6.7	Photo of Harmonics and Voltage Fluctuations.....	29
6.8	Photo of Conduction Emission.....	29
6.9	Appendix: Photographs of EUT Please refer to the File of ISL-05LR031P	30



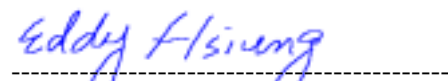
1. General

1.1 Certification of Accuracy of Test Data

Standards: Please refer to 2.2
Equipment Tested: 802.11a/b/g Wireless Access Point
Model: WLA-5000AP
Applied by Ovislink Corporation
Sample received Date: 2005/10/25
Final test Date : 2005/11/14
Test Site: LT Site
Test Result PASS
Report Engineer: 2005/11/18
Test Engineer:


Jerry Chiou

Approve & Signature



Eddy Hsiung/Director

Test results given in this report apply only to the specific sample(s) tested under stated test conditions. This report shall not be reproduced other than in full without the explicit written consent of ISL. This report totally contains 32 pages, including 1 cover page, 1 contents page, and 30 pages for the test description. This report must not be use to claim product endorsement by NVLA, NIST, any agency of the federal government.

This test report accurately contains the test results of the above standards at the time of the test. The results in this report apply only to the sample(s) tested. This test report shall not be reproduced except in full, without the written approval of International Standards Laboratory.

2. Summary

2.1 Operation Environment

Power supply: AC 230 V / 50 Hz

2.2 Test Standards

The immunity tests which this report describes were conducted by an independent electromagnetic compatibility consultant, International Standards Laboratory in accordance with the

ETSI EN301 489-1 V1.4.1 and ETSI EN301 489-17 V1.2.1: ERM; EMC standard for radio equipment and service; specific conditions for wideband data and HIPERLAN equipment.

Standard	Description	Results	Criteria
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EN61000-4-4: 1995/A1: 2001/A2: 2001 AS/NZS 61000.4.4: 1999	Electrical Fast Transient/Burst	Pass	B
EN61000-4-5: 1995/A1: 2001 AS/NZS 61000.4.5: 1999	Surge	Pass	B
EN61000-4-6: 1996/A1: 2001 AS/NZS 61000.4.6: 1999	Conductive Disturbance	Pass	A
EN61000-4-11: 1994/A1: 2001 AS/NZS 61000.4.11: 1999	Voltage Dips / Short Interruption and Voltage Variation		
	30% in 10ms	Pass	B
	60% in 100ms	Pass	C
	>95% in 5000ms	Pass	C

EN55022:1998/A1:2000; AS/NZS CISPR 22: 2002: Limits and methods of measurement of Radio Interference characteristics of Information Technology Equipment.

Standard	Description	Results	Criteria
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Standard	Description	Results
EN61000-3-2: 2000 AS/NZS 61000.3.2: 2003	Limits for harmonics current emissions	Pass
EN61000-3-3: 1995 A1: 2001/ AS/NZS 61000.3.3: 1998	Limits for voltage fluctuations and flicker in low-voltage supply systems.	Pass

2.3 Description of Support Equipment

Support Unit 1.

Description:	DELL Notebook Personal Computer
Model:	Latitude D400
Serial Number:	N/A
CPU:	Pentium M- 1.5GHz(FSB 400 MHz)
A/C Adapter Type:	LITEON 65W (Model PA-1650-05D) 3 Pins
Hard Disk Driver:	Toshiba (Model: MK4019GAX) 40 GB
MDC Modem:	Conexant (Model: RD01-D480)
VGA Connector:	One 15 Pins
Serial Connector:	One 9 Pins
RJ11 Connector:	One 2 Pins
RJ45 Connector:	One 8 Pins
USB Connector:	Two 4 Pins
1394 Connector:	One 4 Pins
Smart Card Slot:	One
PCMCIA Slot:	One
Earphone Port:	One
Microphone Port:	One
Power In Port:	One
Battery:	Sanyo 6-cell (Model: 6T087)
RAM:	Nanya DDR 256MB x 1
LCD Panel and Inverter:	Toshiba 12.1"XGA (Model: LTM12C505D) ; RICOH KEIKI Inverter (Model: K3E19T5 0090)
Power Cord:	Non-shielded, Detachable



Support Unit 2.

Description:	DELL Notebook Personal Computer
Model:	Latitude D400
Serial Number:	N/A
CPU:	Pentium M- 1.5GHz(FSB 400 MHz)
A/C Adapter Type:	LITEON 65W (Model PA-1650-05D) 3 Pins
Hard Disk Driver:	Toshiba (Model: MK4019GAX) 40 GB
MDC Modem:	Conexant (Model: RD01-D480)
WLAN Card:	WNC (Model:CM9)
VGA Connector:	One 15 Pins
Serial Connector:	One 9 Pins
RJ11 Connector:	One 2 Pins
RJ45 Connector:	One 8 Pins
USB Connector:	Two 4 Pins
1394 Connector:	One 4 Pins
Smart Card Slot:	One
PCMCIA Slot:	One
Earphone Port:	One
Microphone Port:	One
Power In Port:	One
Battery:	Sanyo 6-cell (Model: 6T087)
RAM:	Nanya DDR 256MB x 1
LCD Panel and Inverter:	Toshiba 12.1"XGA (Model: LTM12C505D) ; RICOH KEIKI Inverter (Model: K3E19T5 0090)
Power Cord:	Non-shielded, Detachable



2.3.1 Software for Controlling Support Unit

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

- A. Read and write to the disk drives.
- B. PC1 Send package through EUT to the PC2
- C. Repeat the above steps.

	Filename	Issued Date
Wireless LAN	Ping.exe	5/5/1999

2.3.2 I/O Cable Condition of EUT and Support Units

Description	Path	Cable Length	Cable Type	Connector Type
AC Power Cord	110V (~240V) to EUT SPS	1.8M	Nonshielded, Detachable	Plastic Head

2.4 Description of Equipment Under Test

EUT

Description:	802.11a/b/g Wireless Access Point
Condition:	Pre-Production
Model:	WLA-5000AP
Brand:	Air Live
Frequency Range 802.11a:	5150~5350 MHz, 5470~5725 MHz
Frequency Range 802.11b/g:	2400~2483.5 MHz
Support channel:	
802.11a	19 Channels
802.11b/g	13 Channels
Modulation Skill:	
802.11a	OFDM (6 Mbps – 54 Mbps)
802.11b	DBPSK(1Mbps), DQPSK(2Mbps), CCK(5.5/11Mbps)
802.11g	OFDM (6M - 54Mbps)
Antennas Type:	SMA Dual Band Antenna, P/N: F1B-294405-52 made by LONG CHU ELECTRONICS CO., LTD.
Antenna Connected:	The antenna is connected to the RF connector of the PCB.
Antenna peak Gain:	1.82 dBi (11b/g) ,4.28 dBi(11a)
AC-DC Adapter:	Bothhand (Model:SA07057)
Power Input Port:	one
RJ-45 Port:	1-Port 8-pin (10Mbps/100Mbps)
WLAN Power Type :	3.3V DC from the EUT



The channel and the operation frequency of 802.11b and 802.11g is listed below:

Channel	Frequency(MHz)	Channel	Frequency(MHz)
01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	11	2462
06	2437	12	2467
		13	2472

The channel and the operation frequency of 802.11a Normal Mode is listed below:

Channel	Frequency(MHz)	Channel	Frequency(MHz)
01	5180	11	5540
02	5200	12	5560
03	5220	13	5580
04	5240	14	5600
05	5260	15	5620
06	5280	16	5640
07	5300	17	5660
08	5320	18	5680
09	5500	19	5700
10	5520		

All Tx Data rate have been tested, we present the worst case test data in the report.

3. Emission Test

3.1 Power Main Port Conducted Emissions

3.1.1 Configuration and Procedure

3.1.2 EUT Configuration

The EUT was set up on the non-conductive table that is 1.0 by 1.5 meter, 80cm above ground. The wall was 40cm to the rear of the EUT.

Power to the EUT was provided through the LISN. The impedance vs. frequency characteristic of the LISN is complied with the limit of standards used.

Both lines (neutral and hot) were connected to the LISN in series at testing. A coaxial-type connector which provides one 50 ohms impedance termination was connected to the test instrument. The excess length of the power cord was folded back and forth at the center of the lead to form a bundle 30cm to 40cm in length.

Any changes made to the configuration or modifications made to EUT during testing, are noted in the following test record.

If EUT has an extra auxiliary AC outlet which can provide power to an external monitor, all measurements will be made with the monitor power from EUT-mounted AC outlet and then from floor-mounted AC outlet.

3.1.3 Test Procedure

The system was set up as described above, with the EMI diagnostic software running. The main power line conducted EMI tests were run on both hot and neutral conductors of the power cord and the results were recorded. The effect of varying the position of the interface cables has been investigated to find the configuration that produces maximum emission.

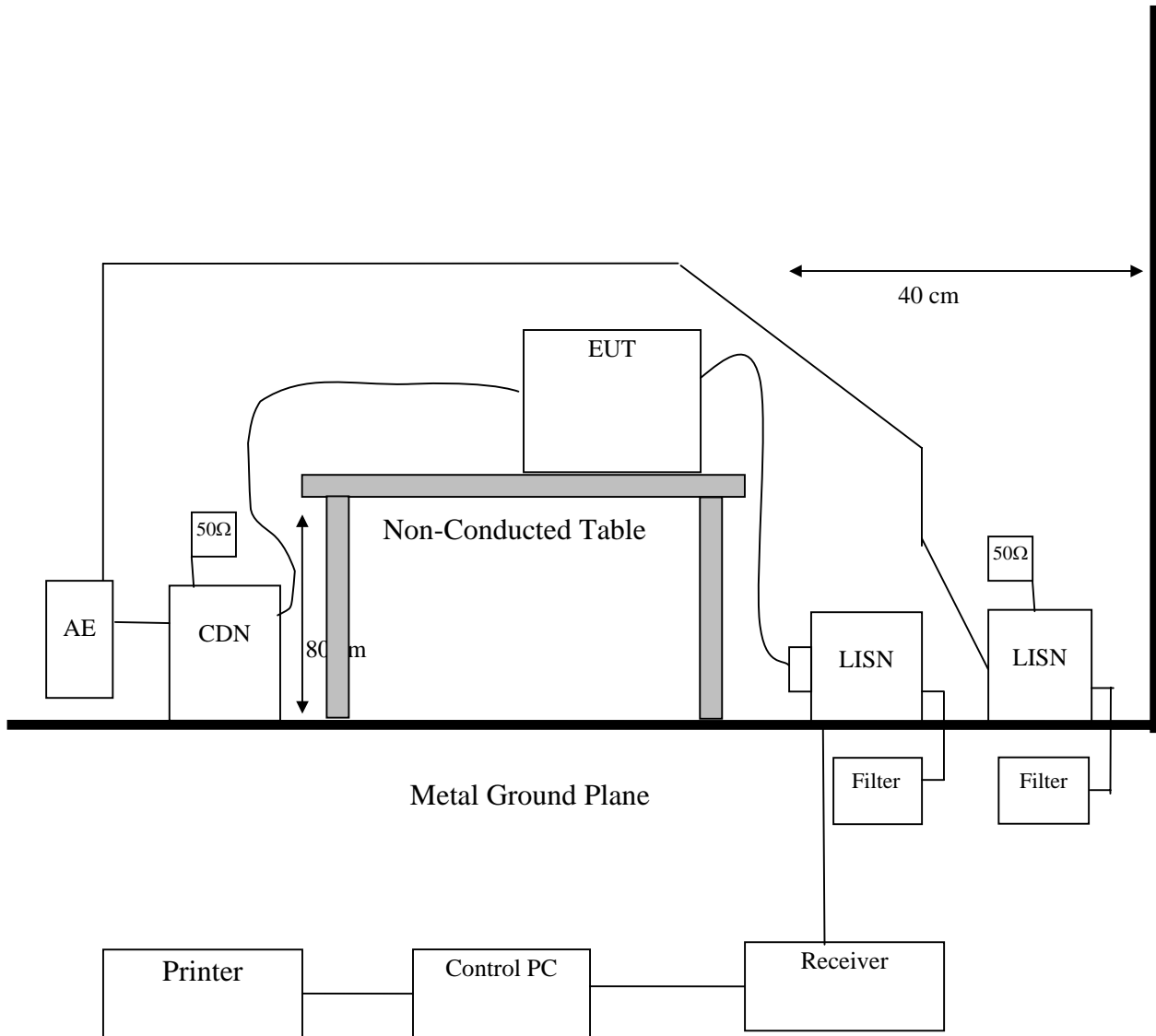
At the frequencies where the peak values of the emissions were higher than 6dB below the applicable limits, the emissions were also measured with the quasi-peak detectors. At the frequencies where the quasi-peak values of the emissions were higher than 6dB below the applicable average limits, the emissions were also measured with the average detectors.

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.

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

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

3.1.5 General Power Main Port Conducted Test Configuration



3.1.6 Test Data:

Table 2.2.1 Power Line Conducted Emissions (Hot)

Operator: Jerry Chiou
 Temperature (C): 28
 Humidity (%): 50

Frequency	LISN Loss	Cable Loss	QP Corrct.	QP Limit	QP Margin	AVE Corrct.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.24648	0.12	0.07	46.54	63.24	-16.70	26.44	53.24	-26.80
0.25351	0.13	0.08	51.19	63.04	-11.85	36.67	53.04	-16.37
0.51548	0.20	0.07	42.42	56.00	-13.58	30.60	46.00	-15.40
0.52988	0.20	0.07	43.46	56.00	-12.54	28.51	46.00	-17.49
0.66408	0.20	0.07	39.39	56.00	-16.61	20.95	46.00	-25.05
1.04931	0.20	0.07	39.97	56.00	-16.03	23.22	46.00	-22.78
1.46112	0.25	0.08	39.76	56.00	-16.24	19.94	46.00	-26.06
1.8466	0.28	0.09	39.06	56.00	-16.94	19.97	46.00	-26.03
2.84777	0.34	0.11	33.07	56.00	-22.93	16.33	46.00	-29.67
3.74233	0.39	0.13	36.69	56.00	-19.31	21.41	46.00	-24.59

* 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

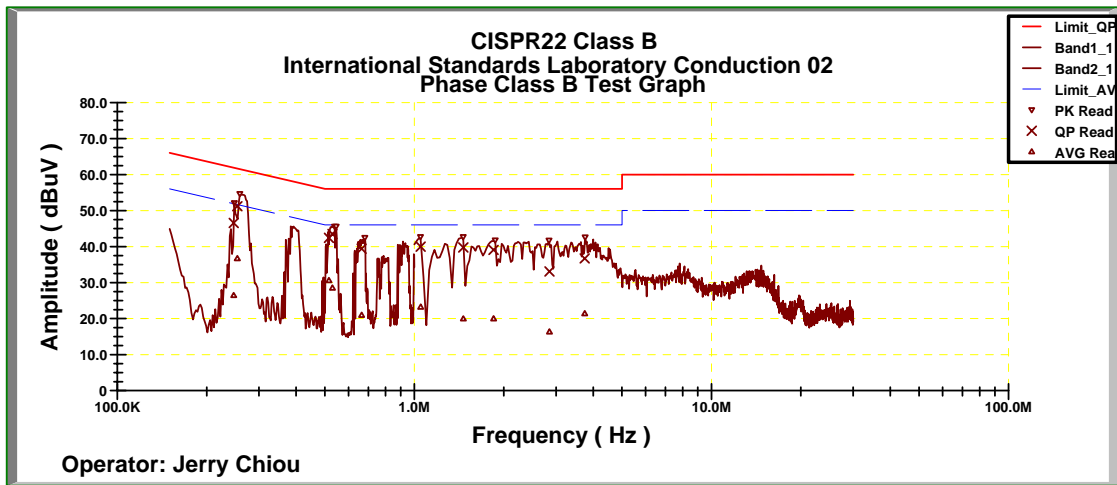


Table 2.2.2 Power Line Conducted Emissions (Neutral)

Operator: Jerry Chiou
 Temperature (C): 28
 Humidity (%): 50

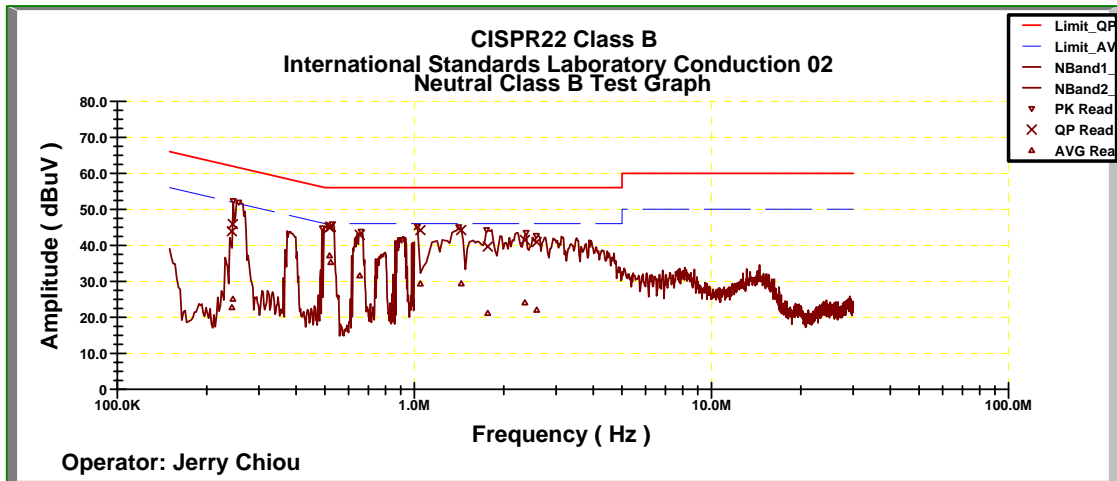
Frequency	LISN Loss	Cable Loss	QP Corrcrt.	QP Limit	QP Margin	AVE Corrcrt.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.24305	0.40	0.07	43.90	63.34	-19.44	22.72	53.34	-30.62
0.24496	0.40	0.07	45.91	63.29	-17.38	25.08	53.29	-28.21
0.51806	0.40	0.07	44.92	56.00	-11.08	37.11	46.00	-8.89
0.52293	0.40	0.07	45.19	56.00	-10.81	35.28	46.00	-10.72
0.65441	0.40	0.07	42.90	56.00	-13.10	31.55	46.00	-14.45
1.04764	0.50	0.07	44.20	56.00	-11.80	29.31	46.00	-16.69
1.43754	0.50	0.08	44.23	56.00	-11.77	29.36	46.00	-16.64
1.76589	0.50	0.09	39.66	56.00	-16.34	21.14	46.00	-24.86
2.3535	0.50	0.10	41.48	56.00	-14.52	24.05	46.00	-21.95
2.57968	0.50	0.10	40.90	56.00	-15.10	22.01	46.00	-23.99

* 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



3.2 Harmonics test

Port:	AC mains
Active Input Power:	<75W
Basic Standard:	EN61000-3-2/AS/NZS 61000.3.2 (details referred to Sec 2.2)
Test Procedure	refer to ISL QA T04-S43
Test Duration:	2.5min
Class:	D

Test Procedure

The EUT is supplied in series with shunts or current transformers from a source having the same nominal voltage and frequency as the rated supply voltage and frequency of the EUT. The EUT is configured to its rated current with additional resistive load when the testing is performed.

Equipment having more than one rated voltage shall be tested at the rated voltage producing the highest harmonics as compared with the limits.

Result

Active input power under 75W, no limit apply, declare compliance

3.3 Voltage Fluctuations test

Port:	AC mains
Basic Standard:	EN61000-3-3/AS/ AS/NZS 61000.3.3 (details referred to Sec 2.2)
Test Procedure	refer to ISL QA T04-S44
Observation period:	For Pst 10min For Plt 2 hours

Test Procedure

The EUT is supplied in series with reference impedance from a power source with the voltage and frequency as the nominal supply voltage and frequency of the EUT.

Result

Performance of EUT complies with the given specification.



Test Data

Observation period: short time (10 min)

Final Test Summary:

Dmax: 0.0	Pst: 0.07	P_0.1: 0.01
Dc: 0.0	Plt: 0.07	P_1s: 0.01
Dt: 0.00	Plt Threshold: 0.65	P_3s: 0.01
		P_10s: 0.01
		P_50s: 0.01

Observation period: long time (2 hours)

Final Test Summary:

Dmax: 0.0	Pst: 0.07	P_0.1: 0.01
Dc: 0.0	Plt: 0.07	P_1s: 0.01
Dt: 0.00	Plt Threshold: 0.65	P_3s: 0.01
		P_10s: 0.01
		P_50s: 0.01

4. Immunity Test

4.1 Electrostatic discharge (ESD) immunity test

Port:	Enclosure
Basic Standard:	EN61000-4-2/ AS/NZS 61000.4.2 (details referred to Sec 2.2)
Test Level:	Air +/- 2 kV, +/- 4 kV, +/- 8 kV Contact +/- 2 kV, +/- 4 kV
Criteria:	B
Temperature:	23 degree C
Humidity:	45 %

Selected Test Point

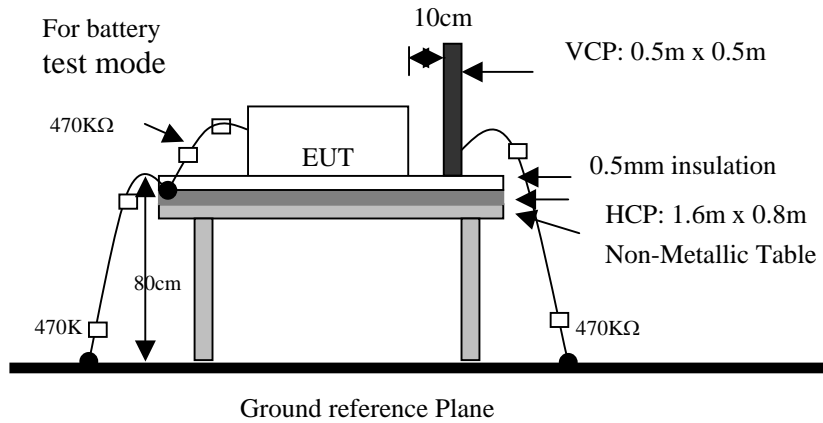
Air: discharges were applied to slots, aperture or insulating surfaces. 10 single air discharges were applied to each selected points.

Contact: Total 200 point minimum were to the selected contact points.

Indirect Contact Points: 25 discharges were applied to center of one edge of VCP and each EUT side of HCP with 10 cm away from EUT.

Test Setup

EUT is 1m from the wall and other metallic structure. When Battery test mode is needed, a cable with one 470K Ω resistor at two rare ends is connected from metallic part of EUT and screwed to HCP.



Test Result

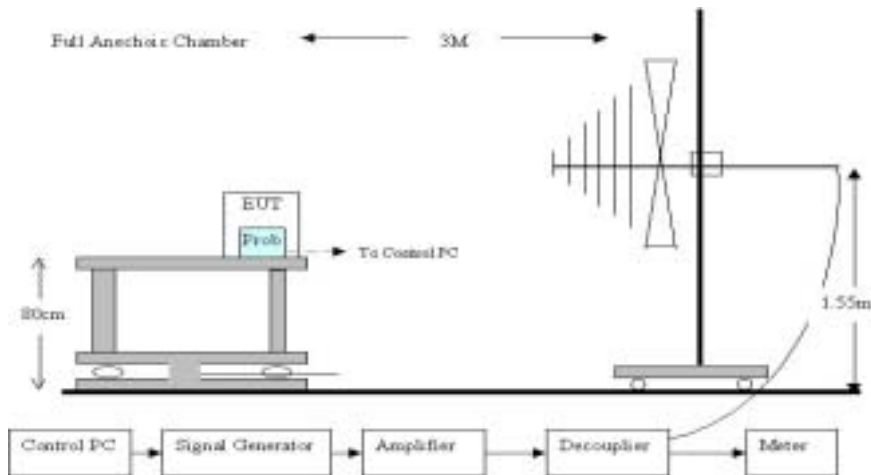
Performance of EUT complies with the given specification.

4.2 Radio-Frequency, Electromagnetic Field immunity test

Port:	Enclosure
Basic Standard:	EN61000-4-3/ AS/NZS 61000.4.3 (details referred to Sec 2.2)
Test Level::	3 V/m
Modulation:	AM 1KHz 80%
Frequency range:	80 MHz~1 GHz 1400MHz~ 2000MHz
Frequency Step:	1% of last step frequency
Step time:	800 ms
Polarization:	Vertical and Horizontal
EUT Azimuth Angle	<input checked="" type="checkbox"/> 0° <input checked="" type="checkbox"/> 90° <input checked="" type="checkbox"/> 180° <input checked="" type="checkbox"/> 270°
Criteria:	A
Temperature:	24 degree C
Humidity:	55 %

Test Setup

The field sensor is placed at one calibration grid point to check the intensity of the established fields on both polarizations. EUT is adjusted to have each side of EUT face coincident with the calibration plane. A CCD camera and speakers are used to monitor the condition of EUT for the performance judgment.



Test Result

Performance of EUT complies with the given specification.

4.3 Electrical Fast transient/burst immunity test

Port:	AC mains
Basic Standard:	EN61000-4-4/ AS/NZS 61000.4.4 (details referred to Sec 2.2)
Test Level:	AC Power Port: +/- 1 kV
Rise Time:	5ns
Hold Time:	50ns
Repetition Frequency:	5KHz
Criteria:	B
Temperature:	23 degree C
Humidity:	45 %

Test Procedure

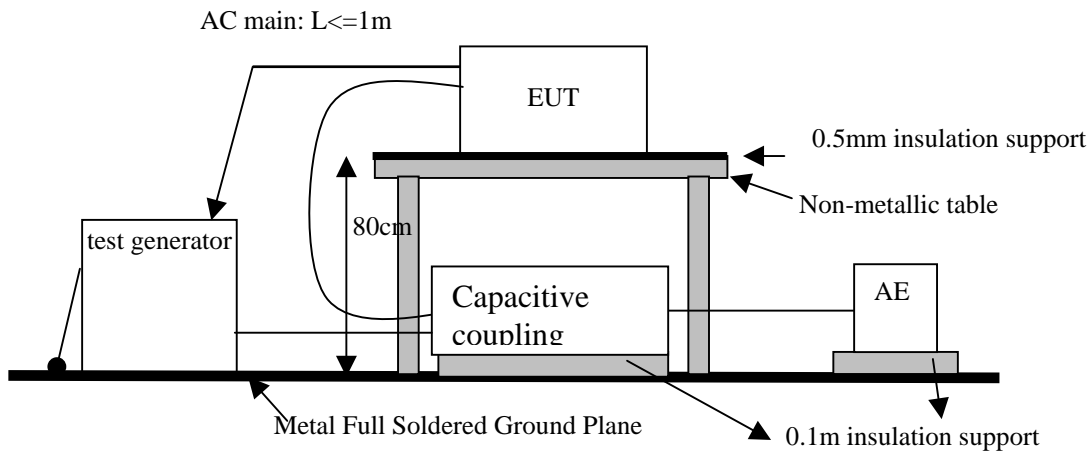
The EUT was setup on a nonconductive table 0.8 m above a reference ground plane.

Test Points	Polarity	Result	Comment
Line	+	N	60 sec
	-	N	60 sec
Neutral	+	N	60 sec
	-	N	60 sec
Ground	+	N	60 sec
	-	N	60 sec
Line to Neutral	+	N	60 sec
	-	N	60 sec
Line to Ground	+	N	60 sec
	-	N	60 sec
Neutral to Ground	+	N	60 sec
	-	N	60 sec
Line to Neutral to Ground	+	N	60 sec
	-	N	60 sec

Note: 'N' means normal, the EUT function is correct during the test.

Test Setup

EUT is at least 50cm from the conductive structure .



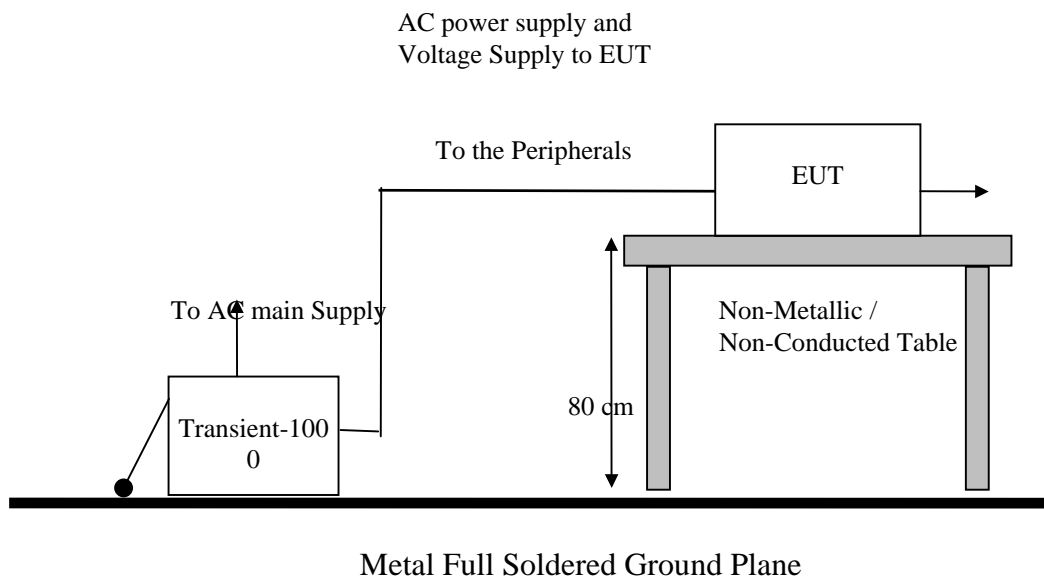
Test Result

Performance of EUT complies with the given specification.

4.4 Surge immunity test

Port:	AC mains
Basic Standard:	EN61000-4-5/ AS/NZS 61000.4.5 (details referred to Sec 2.2)
Test Level:	AC Power Port Line to Line: +/- 0.5 kV Line to Earth: +/- 0.5 kV, +/- 1 kV
Rise Time:	1.2us
Hold Time:	50us
Repetition Rate:	30 second
Angle:	<input checked="" type="checkbox"/> 0° <input checked="" type="checkbox"/> 90° <input checked="" type="checkbox"/> 270°
Criteria:	B
Temperature:	23 degree C
Humidity:	45 %

Test Setup



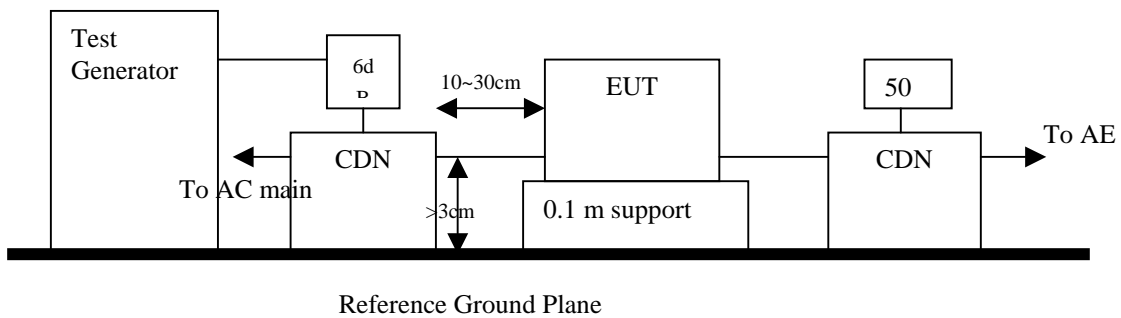
Test Result

Performance of EUT complies with the given specification.

4.5 Immunity to Conductive Disturbance

Port:	AC mains
Basic Standard:	EN61000-4-6/ AS/NZS 61000.4.6 (details referred to Sec 2.2)
Test Level::	3 V
Modulation:	AM 1KHz 80%
Frequency range:	0.15 MHz - 80MHz
Frequency Step:	1% of last Frequency
Step time:	1000 ms
Criteria:	A
Temperature:	23 degree C
Humidity:	45 %

Test Setup



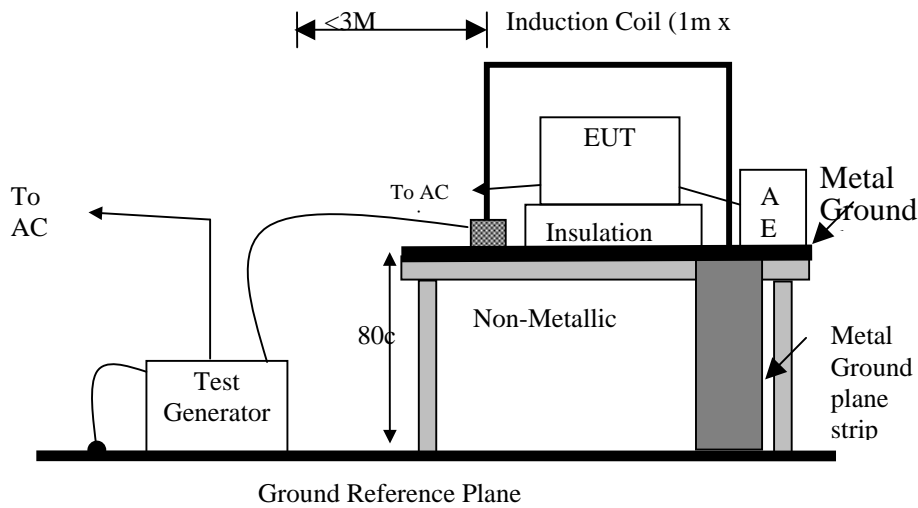
Test Result

Performance of EUT complies with the given specification.

4.6 Power Frequency Magnetic field immunity test

Port:	Enclosure
Basic Standard:	EN61000-4-8/ AS/NZS 61000.4.8 (details referred to Sec 2.2)
Test Level:	N/A
Polarization:	X, Y, Z
Criteria:	A
Temperature:	23 degree C
Humidity:	45 %

Test Setup



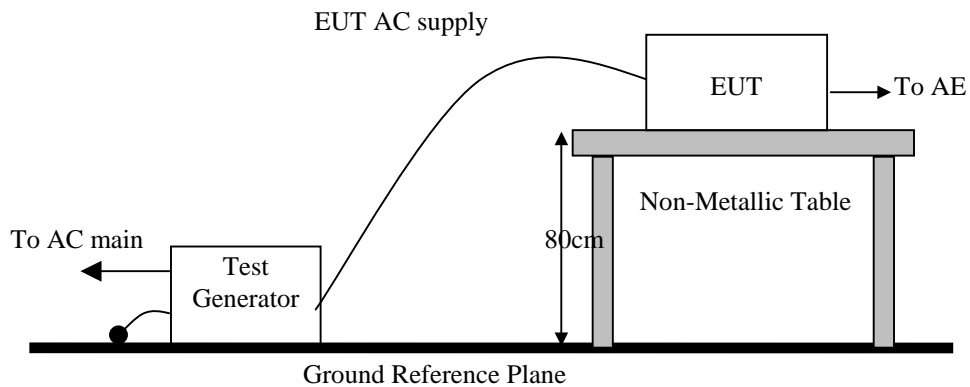
Test Result

NA

4.7 Voltage Dips, Short Interruption and Voltage Variation immunity test

Port:	AC mains
Basic Standard:	EN61000-4-11/ AS/NZS 61000.4.11 (details referred to Sec 2.2)
Test Level: Criteria:	30% for 10ms B
Test Level: Criteria:	60% for 100ms C
Test Level: Criteria:	>95% for 5000ms C
Phase:	0°; 180°
Test intervals:	3 times with 10s each
Temperature:	23 degree C
Humidity:	45 %

Test Setup



Test Result

Performance of EUT complies with the given specification.

5. Test Equipment List

Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
EN61K-3-2/3	DC Burn-In Load -3	D-RAM	DBS-2100	2100-9002	N/A	N/A
EN61K-3-2/3	Harmonic/Flicker Test System	HP	6842A	3531A00133	12/09/2004	12/09/2005
EN61K-4-11	Voltage Dip Simulator	NoiseKen	VDS-220B	5079D00005	10/14/2005	10/14/2006
EN61K-4-2	Digital Hygro-Thermometer 4-2 02	MicroLife	HT-2126G	4-2 02	11/30/2004	11/30/2005
EN61K-4-2	ESD Gun	Schaffner	NSG 435	5193	04/08/2005	04/08/2006
EN61K-4-3	BILOG Antenna 06	Schaffner	CBL6112B	2754	N/A	N/A
EN61K-4-3	Amplifier 800Mhz~2Ghz	SCD	ALP589	P000164-001	N/A	N/A
EN61K-4-3	Amplifier 80M~1Ghz	AR	100W1000M1	15387	N/A	N/A
EN61K-4-3	Broadband coupler 10K~220Mhz	Amplifier Research	DC2500	19810	N/A	N/A
EN61K-4-3	Broadband Coupler 80M~1GHZ	Amplifier Research	DC6180	20364	N/A	N/A
EN61K-4-3	Broadband Couplier 1~4GHZ	Werlatone	C5291	6516	N/A	N/A
EN61K-4-3	Coaxial Cable Chmb 04-3M-2	Belden	RG-8/U	Chmb 04-3M-2	N/A	N/A
EN61K-4-3	Signal Generator 02	HP	8648B	3642U01040	04/21/2005	04/21/2006
EN61K-4-4	EFT Simulator	NoiseKen	FNS-103L	5079H00006	11/24/2004	11/24/2005
EN61K-4-5	CDN Surge Kit 02	EMC-PARTNER	CDNKIT1000 T; DN-T1; DN-T2; CN-T1; CN-T2	CDNKIT1000-18	10/14/2005	10/14/2006
EN61K-4-5	Transient-1000 02	EMC Partner	Transient-1000	TRA1000-179	10/14/2005	10/14/2006
EN61K-4-6	150-50-CDN ADAPTER KIT 01	FCC Inc.	FCC-801-150-50-CDN	02109&02110	N/A	N/A
EN61K-4-6	150-50-CDN ADAPTER KIT 02	FCC Inc.	FCC-801-150-50-CDN	02111&02112	N/A	N/A
EN61K-4-6	CDN M2+M3 02	Frankonia	M2+M3	A2011024	08/12/2005	08/126/2006
EN61K-4-6	CDN T2 04	FCC Inc.	FCC-801-T2	02067	06/22/2005	06/22/2006
EN61K-4-6	CDN T4 03	FCC Inc.	FCC-801-T4	02068	06/22/2005	06/22/2006
EN61K-4-6	Coaxial Cable 4-6 02-1			4-6 02-1	N/A	N/A
EN61K-4-6	Coaxial Cable 4-6 02-2			4-6 02-2	N/A	N/A
EN61K-4-6	Conducted Immunity Test System	Frankonia	CIT-10/75	102C3119	12/06/20034	12/06/2005
EN61K-4-6	EM-Clamp	Schaffner	KEMZ-801	19215	N/A	N/A
EN61K-4-6	Universal CDN KAL Kit 02	Frankonia	KAL	n/a	N/A	N/A
EN61K-4-8	Clamp Meter 4-8 02	Prova	11	01340731	03/15/2005	03/15/2006
EN61K-4-8	Magnetic Field Immunity Loop	FCC	F-1000-4-8-L-1M	01037	N/A	N/A
EN61K-4-8	Magnetic Field Test Generator	FCC	F-1000-4-8-G-125A	01038	N/A	N/A

5.1 Software for Controlling Spectrum/Receiver and Calculating Test Data

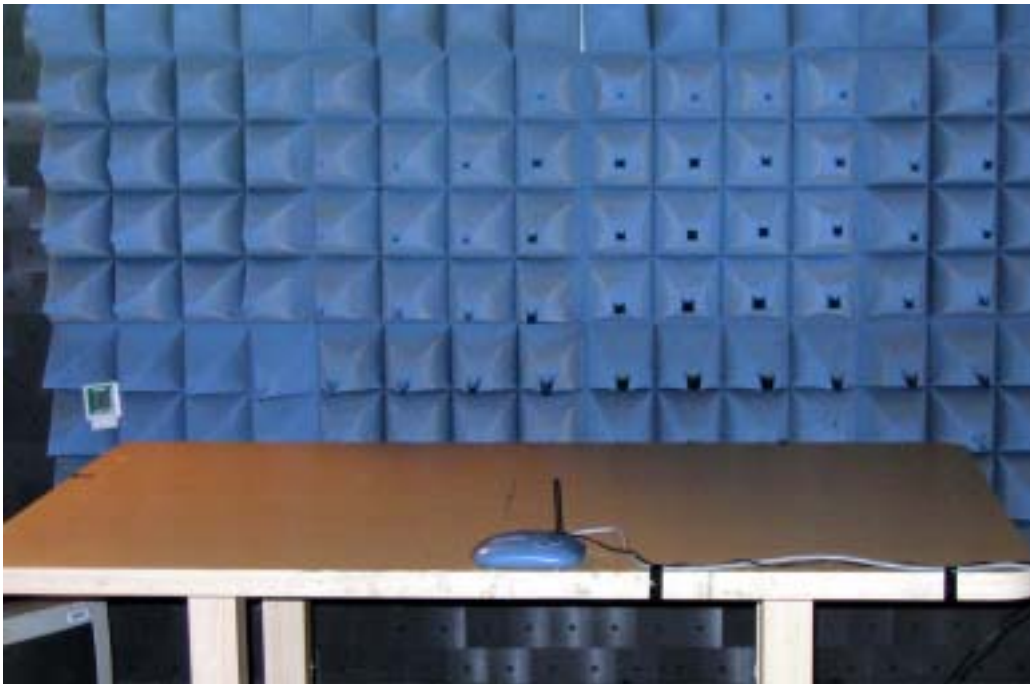
Test Item	Filename	Version
Lung_Tan Conduction	Tile.exe	2.3.B
EN61000-3-2	IEC1000.EXE	1.0F
EN61000-3-3	IEC1000.EXE	1.0F
EN61000-4-3	Tile.Exe	2.0.P
EN61000-4-6	EN61000-4-6 Application Software	1.13.e
EN61000-4-2	N/A	2.0
EN61000-4-4	N/A	2.0
EN61000-4-5	Tracs.Exe	2.0
EN61000-4-8	N/A	
EN61000-4-11	N/A	

6. Photographs

6.1 Photo of ESD measurement



6.2 Photo of RF Field Strength Susceptibility Measurement



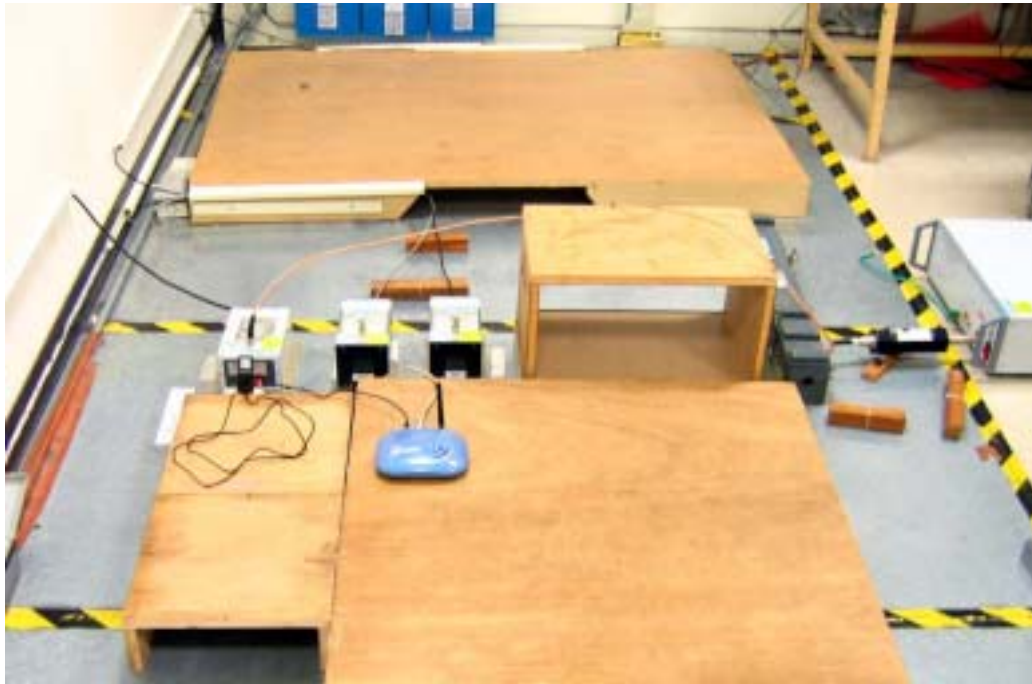
6.3 Photo of Electrical Fast Transient/Burst measurement



6.4 Photo of Surge measurement



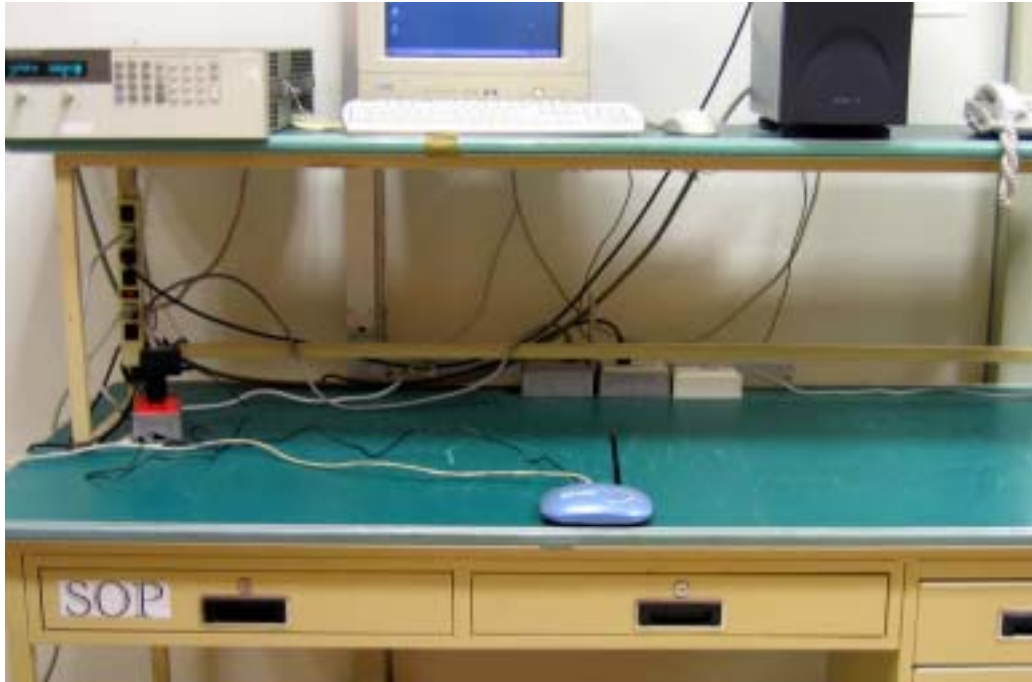
6.5 Photo of Conductive Measurement



6.6 Photo of Voltage Dips measurement



6.7 Photo of Harmonics and Voltage Fluctuations



6.8 Photo of Conduction Emission





6.9 Appendix: Photographs of EUT

Please refer to the File of **ISL-05LR031P**