



Test Report

Product Name : Notebook

Model No. : G60V, G51V, G61V

Applicant : ASUSTEK COMPUTER INC.

Address : NO.150, Li-Te Dd., Peitou, Taipei, Taiwan, R.O.C

Date of Receipt : 2009/04/30

Issued Date : 2009/05/31

Report No. : 095S057-IT-CE-P11V04

Report Version. : V 1.0

This appendix report was based on Quietek report No.088176R

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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Test Report Certification

Issued Date : 2009/05/31

Report No. : 095S057-IT-CE-P11V04



Product Name : Notebook

Applicant : ASUSTEK COMPUTER INC.

Address : NO.150, Li-Te Dd., Peitou, Taipei, Taiwan, R.O.C

Manufacturer : 1. PEGATRON CORPORATION Taoyuan Mfg
2. Protek Limited

Model No. : G60V, G51V, G61V

Rated Voltage : AC 230 V / 50 Hz


EUT Voltage : AC 100-240 V / 50-60 Hz

Trade Name : ASUS


Applicable Standard : EN 55022: 2006 Class B
EN 61000-3-2: 2006
EN 61000-3-3: 1995+A1: 2001+A2: 2005
EN 55024: 1998+A1: 2001+A2: 2003
AS/NZS CISPR 22: 2006 Class B

Test Result : Complied

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We , **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>
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1. General Information

1.1. EUT Description

Product Name	Notebook
Trade Name	ASUS
Model No.	G60V, G51V, G61V

Note: The EUT includes three models. G51V LCD size is 15.6, G60V LCD size is 16, and G61V is for different marketing requirement.

Keypart List

Vendor	Model	Remark
Motherboard		
ASUS	G60VX	
CPU		
INTEL	T9550	2.66GHz
INTEL	P8800	2.66GHz
INTEL	P8700	2.53GHz
INTEL	P7550	2.26GHz
INTEL	P7450	2.13GHz
INTEL	P7350	2.0GHz
INTEL	T6600	2.20GHz
INTEL	T6500	2.10GHz
INTEL	T6400	2.0GHz
INTEL	Q9100	2.26GHz
INTEL	Q9000	2.0GHz
VGA Card		
nVidia	N10E-GT1	
HDD		
Hitachi	HTS543225L9A300	250GB
Hitachi	HTS543232L9A300	250GB
LCD		
CMO	N156B6-L04	
LGD	LP156WH2	
AUO	B156HW01 V5	
Samsung	LTN160AT01-A05	
ODD		

Panasonic	UJ880A2	
DDR		
Nanya	NT1GT64UH8D0FN-AD	1GB
Samsung	M470T5663EH3-CF7	2GB

1.2. Mode of Operation

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode	
Mode 1:	LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Mode 2:	LCD (1280*720@60Hz) + HDMI (1280*720@60Hz)
Mode 3:	LCD (800*600@60Hz) + HDMI (800*600@60Hz)
Mode 4:	LCD (800*600@60Hz) + HDMI (800*600@60Hz)
Mode 5:	LCD (1920*1080@60Hz) + HDMI (1920*1080@60Hz)
Mode 6:	LCD (1280*960@60Hz) + HDMI (1280*960@60Hz)
Mode 7:	LCD (1920*1080@60Hz) + VGA (1920*1080@60Hz)
Mode 8:	LCD (1280*720@60Hz) + VGA (1280*720@60Hz)
Mode 9:	LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Mode 10:	LCD (1366*768@60Hz) + HDMI (1366*768@60Hz)
Mode 11:	LCD (1280*720@60Hz) + HDMI (1280*720@60Hz)
Final Test Mode	
EMI	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
EMS	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

	Mode 1	Mode 2
Motherboard	G60Vx M/B Rev. 1.2(Dual)	G60Vx M/B Rev. 1.2(Dual)
CPU	Intel Core 2 Duo processor T9550 2.53GHz	Core 2 Duo processor P8700 2.53GHz
VGA	nVidia N10E-GT1	nVidia N10E-GT1
LCD	LGD 15.6" LP156WH2-TLA1	LGD 15.6" LP156WH2-TLA1
HDD	HGST/HTS543225L9A300 250G	HGST/HTS543225L9A300
	HGST/HTS543232L9A300 320G	HGST/HTS543232L9A300
WLAN & Antenna	Azurewave AW-NE771	Azurewave AW-NE771
Bluetooth	Azurewave AW-BT253	Azurewave AW-BT253
ODD	Panasonic SMD UJ880A	Panasonic SMD UJ880A
SO-DIMM	Nanya NT1GT64UH8D0FN-AD	Nanya NT1GT64UH8D0FN-AD
	Samsung M470T5663EH3-CF7	Samsung M470T5663EH3-CF7
TV tuner	YUAN MC570QA	YUAN MC570QA
CMOS	Chicony CN2015-S36B-OV03	Chicony CN2015-S36B-OV03

	Mode 3	Mode 4
Motherboard	G60Vx M/B Rev. 1.2 (Dual)	G60Vx M/B Rev. 1.2 (Dual)
CPU	Core 2 Duo processor P8800 2.53GHz	Core 2 Duo processor P7550 2.26GHz
VGA	nVidia N10E-GT1	nVidia N10E-GT1
LCD	LGD 15.6" LP156WH2-TLA1	LGD 15.6" LP156WH2-TLA1
HDD	HGST/HTS543225L9A300	HGST/HTS543225L9A300
	HGST/HTS543232L9A300	HGST/HTS543232L9A300
WLAN & Antenna	Azurewave AW-NE771	Azurewave AW-NE771
Bluetooth	Azurewave AW-BT253	Azurewave AW-BT253
ODD	Panasonic SMD UJ880A	Panasonic SMD UJ880A
SO-DIMM	Nanya NT1GT64UH8D0FN-AD	Nanya NT1GT64UH8D0FN-AD
	Samsung M470T5663EH3-CF7	Samsung M470T5663EH3-CF7
TV tuner	YUAN MC570QA	YUAN MC570QA
CMOS	Chicony CN2015-S36B-OV03	Chicony CN2015-S36B-OV03

	Mode 5	Mode 6
Motherboard	G60Vx M/B Rev. 1.2 (Dual)	G60Vx M/B Rev. 1.2 (Dual)
CPU	Core 2 Duo processor P7450 2.13GHz	Core 2 Duo processor P7350 2.0GHz
VGA	nVidia N10E-GT1	nVidia N10E-GT1
LCD	AUO B156HW01 V5	AUO B156HW01 V5
HDD	HGST/HTS543225L9A300	HGST/HTS543225L9A300
	HGST/HTS543232L9A300	HGST/HTS543232L9A300
WLAN & Antenna	Azurewave AW-NE771	Azurewave AW-NE771
Bluetooth	Azurewave AW-BT253	Azurewave AW-BT253
ODD	Panasonic SMD UJ880A	Panasonic SMD UJ880A
SO-DIMM	Nanya NT1GT64UH8D0FN-AD	Nanya NT1GT64UH8D0FN-AD
	Samsung M470T5663EH3-CF7	Samsung M470T5663EH3-CF7
TV tuner	YUAN MC570QA	YUAN MC570QA
CMOS	Chicony CN2015-S36B-OV03	Chicony CN2015-S36B-OV03

	Mode 7	Mode 8
Motherboard	G60Vx M/B Rev. 1.2 (Dual)	G60Vx M/B Rev. 1.2 (Dual)
CPU	Core 2 Duo Processor T6600 2.20GHz	Core 2 Duo Processor T6500 2.10GHz
VGA	nVidia N10E-GT1	nVidia N10E-GT1
LCD	AUO B156HW01 V5	CMO 15.6" HD N156B6-L04
HDD	HGST/HTS543225L9A300	HGST/HTS543225L9A300
	HGST/HTS543232L9A300	HGST/HTS543232L9A300
WLAN & Antenna	Azurewave AW-NE771	Azurewave AW-NE771
Bluetooth	Azurewave AW-BT253	Azurewave AW-BT253
ODD	Panasonic SMD UJ880A	Panasonic SMD UJ880A
SO-DIMM	Nanya NT1GT64UH8D0FN-AD	Nanya NT1GT64UH8D0FN-AD
	Samsung M470T5663EH3-CF7	Samsung M470T5663EH3-CF7
TV tuner	YUAN MC570QA	YUAN MC570QA
CMOS	Chicony CN2015-S36B-OV03	Chicony CN2015-S36B-OV03

	Mode 9	Mode 10
Motherboard	G60Vx M/B Rev. 1.2 (Dual)	G60Vx M/B Rev.1.2 (Quad)
CPU	Core 2 Duo Processor T6400 2.0GHz	Intel Core 2 Quad processor Q9100 2.26GHz
VGA	nVidia N10E-GT1	nVidia N10E-GT1
LCD	CMO 15.6" HD N156B6-L04	Samsung 16.0"LTN160AT01-A05
HDD	HGST/HTS543225L9A300	HGST/HTS543225L9A300
	HGST/HTS543232L9A300	HGST/HTS543232L9A300
WLAN & Antenna	Azurewave AW-NE771	Intel WiFi Link 5100
Bluetooth	Azurewave AW-BT253	Azurewave AW-BT253
ODD	Panasonic SMD UJ880A	Panasonic SMD UJ880A
SO-DIMM	Nanya NT1GT64UH8D0FN-AD	Nanya NT1GT64UH8D0FN-AD
	Samsung M470T5663EH3-CF7	Samsung M470T5663EH3-CF7
TV tuner	YUAN MC570QA	YUAN MC770A
CMOS	Chicony CN2015-S36B-OV03	Chicony CNF724621003870L

	Mode 11
Motherboard	G60Vx M/B Rev.1.2 (Quad)
CPU	Intel Core 2 Quad processor Q9000 2.26GHz
VGA	nVidia N10E-GT1
LCD	Samsung 16.0"LTN160AT01-A05
HDD	HGST/HTS543225L9A300
	HGST/HTS543232L9A300
WLAN & Antenna	Intel WiFi Link 5100
Bluetooth	Azurewave AW-BT253
ODD	Panasonic SMD UJ880A
SO-DIMM	Nanya NT1GT64UH8D0FN-AD
	Samsung M470T5663EH3-CF7
TV tuner	YUAN MC770A
CMOS	Chicony CNF724621003870L

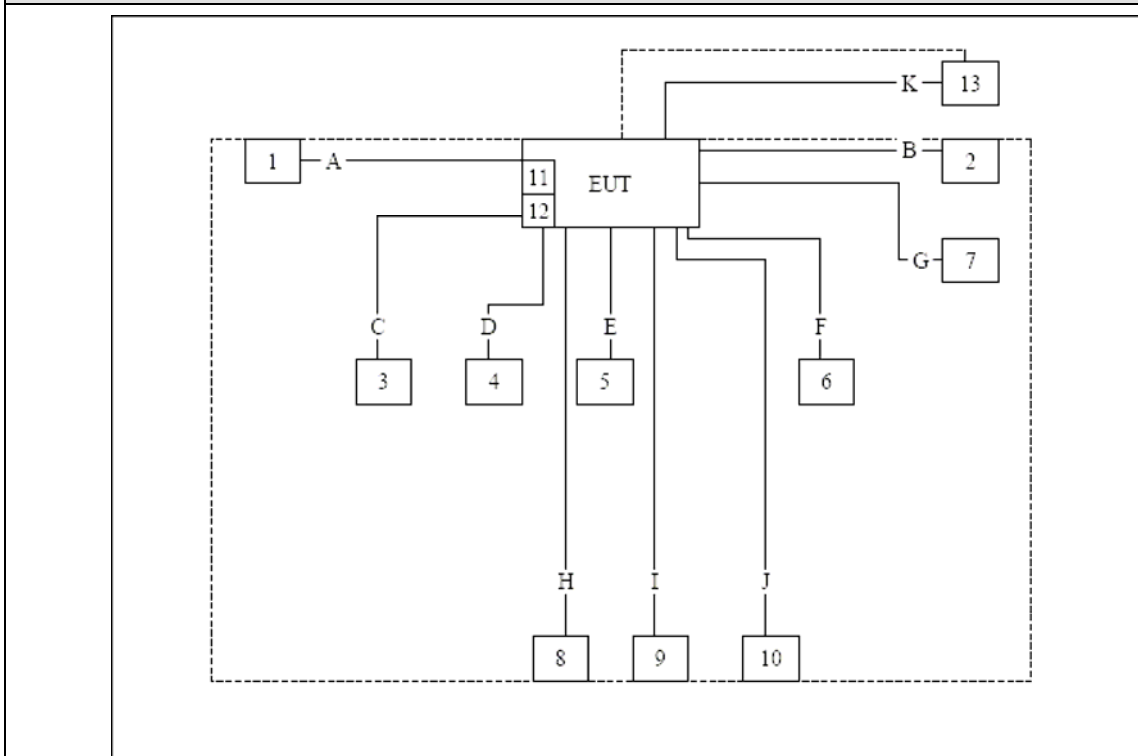
1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 LCD Monitor	DELL	3008WFP	7735432490P08B	Non-Shielded, 1.8m
2 CRT "21	IBM	6652-U3N	1	Non-Shielded, 1.8m
3 SATA HDD&1394 HDD	Seagate	9NL6M6-500	6QG05BN1	Power by adapter
4 SATA HDD&1394 HDD	Seagate	9NL6M6-500	5QG1M245	Power by adapter
5 iPod	Apple	A1199	6U715UPHVQ5	Power by PC
6 iPod	Apple	A1199	6U715YT3VQ5	Power by PC
7 Printer	EPSON	P950A	3KTE013597	Non-Shielded, 1.8m
8 USB Mouse	DELL	MO56UOA	F1B03EZZ	Power by PC
9 Microphone & Earphone	SOMIC	SM-360	N/A	N/A
10 Walkman	Meier	MD-082	N/A	Battery
11 SD Card	Kingston	1GB	N/A	N/A
12 Express Card	APIOTEK	24in1	2	N/A
13 MacBook	Apple	MB061CH	W8732B4TZ5V	Power by adapter

1.4. Configuration of Tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	HDMI Cable	Shielded, 1.8m
B	VGA Cable	Shielded, 1.8m, with two ferrite core bonded
C	1394 Cable	Shielded, 1.2m
D	SATA Cable	Shielded, 1.1m
E	USB Cable	Shielded, 1.0m
F	USB Cable	Shielded, 1.0m
G	USB Cable	Shielded, 1.8m
H	USB Mouse Cable	Shielded, 1.8m
I	Earphone & Microphone Cable	Non-Shielded, 1.8m
J	Audio Cable	Non-Shielded, 1.8m
K	LAN Cable	Non-Shielded, >10m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown above.
2	Turn on the power of all equipment.
3	Execute the HDD running Program using Burn In Test v5.0 software.
4	Run EMC test program using EMCTEST (Ver:1.0) software and send "H" pattern to the monitor.
5	EUT will send and receive data through LAN using "Ping" function.
6	Open the camera and play music using media player program.
7	Communicate with another notebook by WLAN and Bluetooth.

2. Technical Test

2.1. Summary of Test Result

- ☒ No deviations from the test standards
- ☐ Deviations from the test standards as below description:

Emission			
Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission (Mains Ports)	EN 55022: 2006 Class B AS/NZS CISPR 22: 2006 Class B	Yes	No
Conducted Emission (Telecommunication Ports)	EN 55022: 2006 Class B AS/NZS CISPR 22: 2006 Class B	Yes	No
Radiated Emission	EN 55022: 2006 Class B AS/NZS CISPR 22: 2006 Class B	Yes	No
Harmonic Current Emission	EN 61000-3-2: 2006	Yes	No
Voltage Fluctuation and Flicker	EN 61000-3-3: 1995+A1: 2001+A2: 2005	Yes	No

Immunity			
Performed Test Item	Normative References	Test Performed	Deviation
Electrostatic Discharge	IEC 61000-4-2: 2001	Yes	No
Radiated Susceptibility	IEC 61000-4-3: 2006	Yes	No
Electrical Fast Transient/Burst	IEC 61000-4-4: 2004	Yes	No
Surge	IEC 61000-4-5: 2005	Yes	No
Conducted Susceptibility	IEC 61000-4-6: 2006	Yes	No
Power Frequency Magnetic Field	IEC 61000-4-8: 2001	Yes	No
Voltage Dips and Interruption	IEC 61000-4-11: 2004	Yes	No

2.2. List of Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMI Test Receiver	R&S	ESCI	100726	2008/06/28
Two-Line V-Network	R&S	ENV216	100013	2008/06/28
Two-Line V-Network	R&S	ENV216	100014	2008/06/28
Balanced Telecom ISN	Fischer	FCC-TLISN-T2-02	20352	2009/02/03
Balanced Telecom ISN	Fischer	FCC-TLISN-T4-02	20353	2009/02/03
Balanced Telecom ISN	Fischer	FCC-TLISN-T8-02	20354	2009/02/03
Current Probe	R&S	EZ-17	100255	2009/04/18
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2008/11/24
50ohm Termination	SHX	TF2	07081401	2008/09/28
50ohm Termination	SHX	TF2	07081402	2008/09/28
50ohm Termination	SHX	TF2	07081403	2008/09/28
Coaxial Cable	Luthi	RG214	519358	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2009/03/31

Radiated Emission / AC-1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4403B	MY45102715	N/A
Spectrum Analyzer	Agilent	E4403B	MY45102798	N/A
EMI Test Receiver	R&S	ESCI	100175	2008/11/15
Preamplifier	Quietek	AP-025C	QT-AP001	2008/11/24
Preamplifier	Quietek	AP-025C	QT-AP002	2008/11/24
Bilog Type Antenna	Schaffner	CBL6112B	2933	2008/11/21
Bilog Type Antenna	Schaffner	CBL6112B	2931	2008/11/21
50ohm Coaxial Switch	Anritsu	MP59B	6200447303	2008/11/24
50ohm Coaxial Switch	Anritsu	MP59B	6200464461	2008/11/24
50ohm Coaxial Switch	Anritsu	MP59B	6200447305	2008/11/24
Coaxial Cable	Huber+Suhner	AC1-L	01	2008/11/24
Coaxial Cable	Huber+Suhner	AC1-R	02	2008/11/24
Coaxial Cable	Huber+Suhner	AC1-C	03	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH001	2009/03/31

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2008/06/28
EMI Test Receiver	R&S	ESCI	100573	2009/04/23
Preamplifier	Quietek	AP-025C	QT-AP003	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/24
Bilog Type Antenna	Schaffner	CBL6112B	2932	2008/11/21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2008/11/24
Coaxial Cable	Huber+Suhner	AC2-C	04	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2009/03/31

Radiated Emission / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2009/04/24
EMI Test Receiver	R&S	ESCI	100176	2008/11/15
Preamplifier	Quietek	AP-025C	QT-AP004	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/24
Bilog Type Antenna	Schaffner	CBL6112D	22254	2008/11/21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
50ohm Coaxial Switch	Anritsu	MP59B	6200464463	2008/11/24
Coaxial Cable	Huber+Suhner	AC3-C	05	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2009/03/31

Harmonic Current Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
AC Power Source	California	5001iX-208	56741	2008/11/18
Power Analyzer	California	PACS-1	72419	2008/11/18
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2009/03/31

Voltage Fluctuation and Flicker / SR-1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
AC Power Source	California	5001iX-208	56741	2008/11/18
Power Analyzer	California	PACS-1	72419	2008/11/18
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2009/03/31

Electrostatic Discharge / SR-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
ESD Simulator	EMC PARTNER AG Switzerland	ESD3000DN1	140	2008/06/08
ESD Simulator	EM TEST	dito	V0616101367	2008/08/08
Barometer	Fengyun	DYM3	0506048	2008/11/28
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH006	2009/03/31

Radiated Susceptibility / AC-4

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Signal Generator	R&S	SML03	102324	2008/10/21
Power Meter	Boonton	4231A	144502	2008/10/21
Power Sensor	Boonton	51011-EMC	33859	2008/10/21
RF Switch Network	Schaffner	RFS N100	21799	N/A
Power Amplifier	Schaffner	CBA9428	43516	N/A
Power Amplifier	Schaffner	CBA9413B	43526	N/A
Directional Coupler	A&R	DC7144A	312249	N/A
Directional Coupler	Schaffner	CHA 9652B	0121	N/A
Electric Field Probe Type 8.3	narda	2244/90.21	AZ-0030	2008/07/30
Electromagnetic Radiation Meter	narda	2244/70	AW-0074	2008/07/30
Bilog Type Antenna	Schaffner	CBL6141A	4278	2008/11/24
Horn Antenna	A&R	AT4002A	312312	N/A
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/09

Electrical Fast Transient/Burst / SR-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Immunity Test System	KeyTek	EMCpro	508273	2009/04/23
CCL	KeyTek	CCL	0510181	2009/04/23
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH005	2009/03/31

Surge / SR-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Immunity Test System	KeyTek	EMCpro	508273	2009/04/23
Coupler/Decoupler Telecom line	KeyTek	CM-TELCD	0506277	N/A
Coupler/Decoupler Signal line	KeyTek	CM-I/OCD	0508206	N/A
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH005	2009/03/31

Conducted Susceptibility / SR-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
RF-Generator	Schaffner	NSG2070	1120	2008/11/12
Attenuator	Schaffner	INA2070-1	2120	2008/11/12
CDN	Schaffner	CDN M016	21249	2008/11/12
CDN	Teseq GmbH	CDN M016	24484	2008/09/03
CDN	Schaffner	CDN T400	19083	2008/11/12
CDN	Teseq GmbH	CDN T400	22461	2008/09/03
EM Clamp	Schaffner	KEMZ 801	21041	2008/11/12
50ohm Termination	SHX	TF2	07081404	2008/09/28
50ohm Termination	SHX	TF2	07081405	2008/09/28
50ohm Termination	SHX	TF2	07081406	2008/09/28
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH005	2009/03/31

Power Frequency Magnetic Field / SR-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Immunity Test System	KeyTek	EMCpro	508273	2009/04/23
CM-HCOIL H-Field Loop	KeyTek	F-1000-4-8/9/10-L-1M	05016	2009/04/23
Clamp Meter	Fluke	312	89390047	2008/03/09
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH005	2009/03/31

Voltage Dips and Interruption / SR-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Immunity Test System	KeyTek	EMCpro	508273	2009/04/23
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH005	2009/03/31

2.3. Measurement Uncertainty

Conducted Emission (Mains Ports)

The measurement uncertainty is evaluated as ± 2.26 dB.

Conducted Emission (Telecommunication Ports)

The measurement uncertainty is evaluated as ± 2.26 dB.

Radiated Emission

The measurement uncertainty is evaluated as ± 3.19 dB.

Harmonic Current Emission

The measurement uncertainty is evaluated as ± 1.2 %.

Voltage Fluctuations and Flicker

The measurement uncertainty is evaluated as ± 1.5 %.

Electrostatic Discharge

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 2005[E], the requirements for measurement uncertainty in ESD testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant ESD standards. The immunity test signal from the ESD system meet the required specifications in IEC 61000-4-2 through the calibration report with the calibrated uncertainty for the waveform of voltage and timing as being 1.63 % and 2.76%.

Radiated Susceptibility

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 2005[E], the requirements for measurement uncertainty in RS testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant RS standards. The immunity test signal from the RS system meet the required specifications in IEC 61000-4-3 through the calibration for the uniform field strength and monitoring for the test level with the uncertainty evaluation report for the electrical field strength as being 2.72 dB.

Electrical Fast Transient/Burst

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 1999[2], the requirements for measurement uncertainty in EFT/Burst testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant FT/Burst standards. The immunity test signal from the FT/Burst system meet the required specifications in IEC 61000-4-4 through the calibration report with the calibrated uncertainty for the waveform of voltage. Frequency and timing as being 1.63%, 2.8 10-10 and 2.76%.

Surge

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 2005[E], the requirements for measurement uncertainty in Surge testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant Surge standards. The immunity test signal from the Surge system meet the required specifications in IEC 61000-4-5 through the calibration report with the calibrated uncertainty for the waveform of

voltage and timing as being 1.63 % and 2.76%.

Conducted Susceptibility

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 2005[E], the requirements for measurement uncertainty in CS testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant CS standards. The immunity test signal from the CS system meet the required specifications in IEC 61000-4-6 through the calibration for unmodulated signal and monitoring for the test level with the uncertainty evaluation report for the injected modulated signal level through CDN and EM Clamp/Direct Injection as being 3.72 dB and 2.78 dB.

Power Frequency Magnetic Field

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 2005[E], the requirements for measurement uncertainty in PFM testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant PFM standards. The immunity test signal from the PFM system meet the required specifications in IEC 61000-4-8 through the calibration report with the calibrated uncertainty for the Gauss Meter to verify the output level of magnetic field strength as being 2 %.

Voltage Dips and Interruption

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 2005[E], the requirements for measurement uncertainty in DIP testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant DIP standards. The immunity test signal from the DIP system meet the required specifications in IEC 61000-4-11 through the calibration report with the calibrated uncertainty for the waveform of voltage and timing as being 1.63 % and 2.76%.

2.4. Test Environment

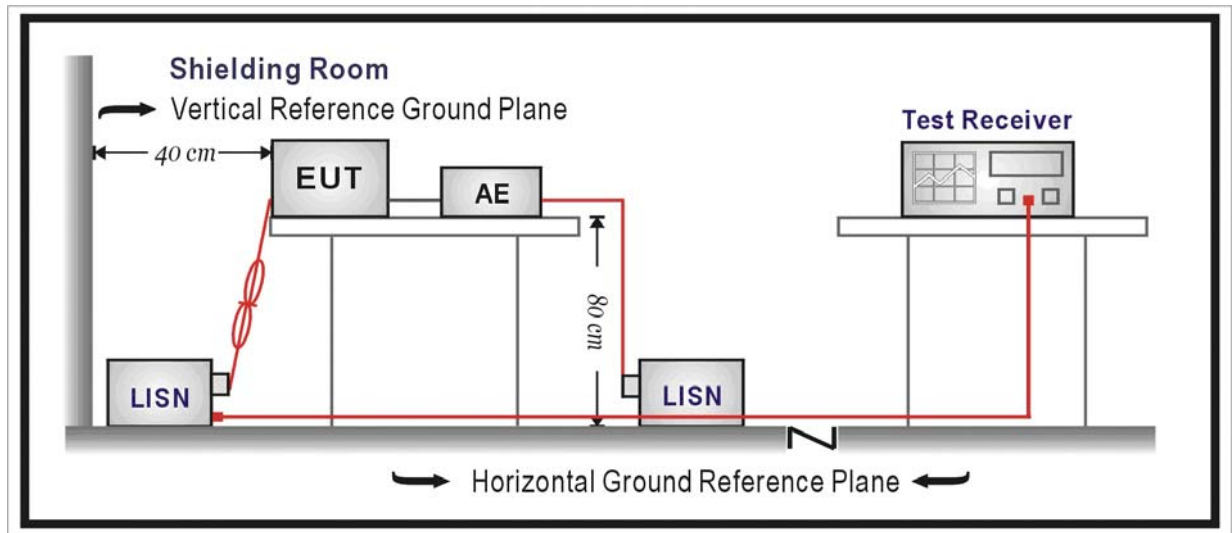
Performed Item	Items	Required	Actual
Conducted Emission (Mains Ports)	Temperature (°C)	15-35	23
	Humidity (%RH)	25-75	42
	Barometric pressure (kpa)	86-106	95-105
Conducted Emission (Telecommunication Ports)	Temperature (°C)	15-35	23
	Humidity (%RH)	25-75	42
	Barometric pressure (kpa)	86-106	95-105
Radiated Emission	Temperature (°C)	15-35	23
	Humidity (%RH)	25-75	42
	Barometric pressure (kpa)	86-106	95-105
Harmonic Current Emission	Temperature (°C)	15-35	23
	Humidity (%RH)	25-75	42
	Barometric pressure (kpa)	86-106	95-105
Voltage Fluctuation and Flicker	Temperature (°C)	15-35	23
	Humidity (%RH)	25-75	42
	Barometric pressure (kpa)	86-106	95-105
Electrostatic Discharge	Temperature (°C)	15-35	21
	Humidity (%RH)	30-60	40
	Barometric pressure (kpa)	86-106	95-105
Radiated Susceptibility	Temperature (°C)	15-35	21
	Humidity (%RH)	25-75	40
	Barometric pressure (kpa)	86-106	95-105
Electrical Fast Transient/Burst	Temperature (°C)	15-35	21
	Humidity (%RH)	25-75	40
	Barometric pressure (kpa)	86-106	95-105
Surge	Temperature (°C)	15-35	21
	Humidity (%RH)	10-75	40
	Barometric pressure (kpa)	86-106	95-105
Conducted Susceptibility	Temperature (°C)	15-35	21
	Humidity (%RH)	25-75	40
	Barometric pressure (kpa)	86-106	95-105
Power Frequency Magnetic Field	Temperature (°C)	15-35	21
	Humidity (%RH)	25-75	40
	Barometric pressure (kpa)	86-106	95-105
Voltage Dips and Interruption	Temperature (°C)	15-35	21
	Humidity (%RH)	25-75	40
	Barometric pressure (kpa)	86-106	95-105

3. Conducted Emission (Main Ports)

3.1. Test Specification

According to EMC Standard: EN 55022 Class B and AS/NZS CISPR 22: 2006 Class B

3.2. Test Setup



3.3. Limit

Limits for Class A Equipment		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	79	66
0.50 - 30	73	60

Note: The lower limit shall apply at the transition frequencies.

Limits for Class B Equipment		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.

(Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.

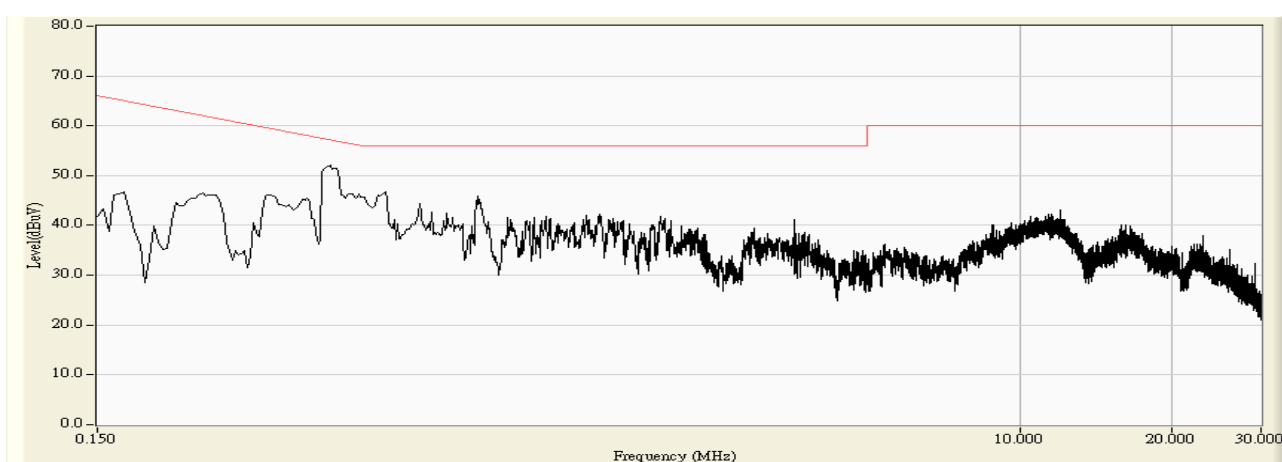
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Deviation from Test Standard

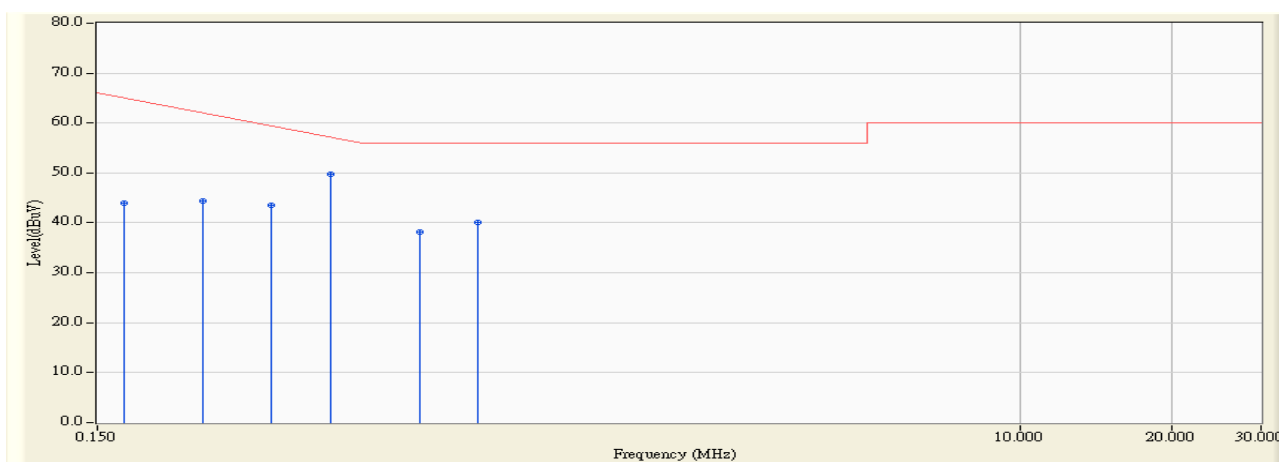
No deviation.

3.6. Test Result

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 07:58
Limit : EN55022_B_00M_QP	Margin : 0
EUT : Notebook	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)



Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:00
Limit : EN55022_B_00M_QP	Margin : 0
EUT : Notebook	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

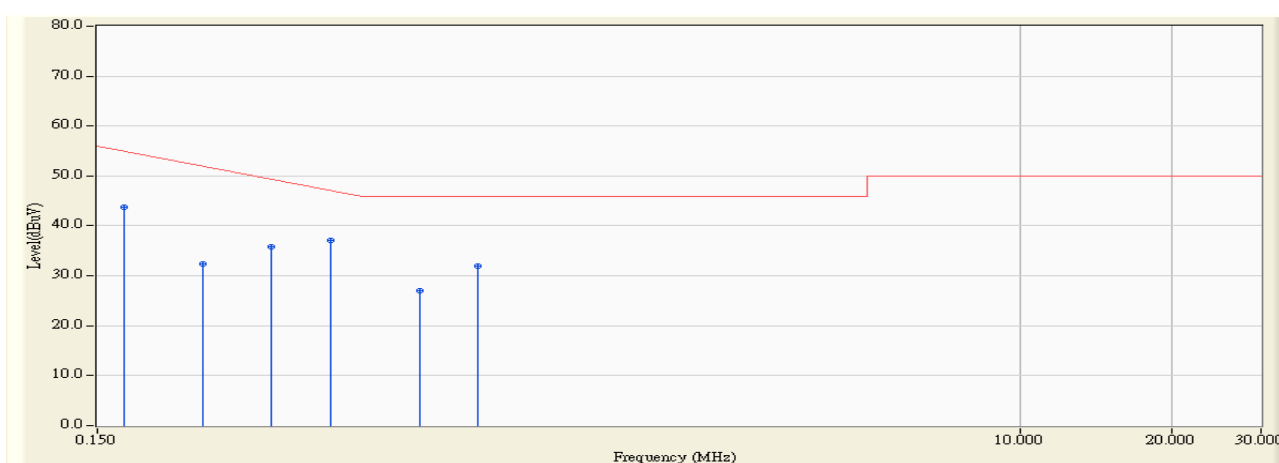


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.170	10.006	33.900	43.906	-21.523	65.429	QUASIPeAK
2		0.242	9.455	34.900	44.355	-19.016	63.371	QUASIPeAK
3		0.330	9.514	34.000	43.514	-17.343	60.857	QUASIPeAK
4	*	0.434	9.583	40.200	49.783	-8.103	57.886	QUASIPeAK
5		0.650	9.660	28.500	38.160	-17.840	56.000	QUASIPeAK
6		0.846	9.690	30.400	40.090	-15.910	56.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:00
Limit : EN55022_B_00M_AV	Margin : 0
EUT : Notebook	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

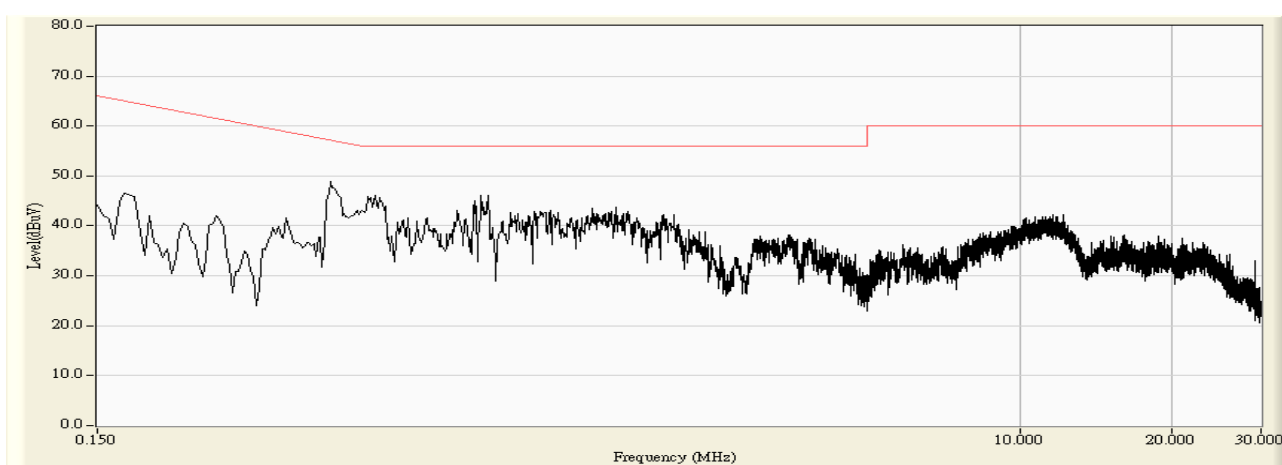


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.170	10.006	33.700	43.706	-11.723	55.429	AVERAGE
2		0.242	9.455	23.000	32.455	-20.916	53.371	AVERAGE
3		0.330	9.514	26.400	35.914	-14.943	50.857	AVERAGE
4	*	0.434	9.583	27.500	37.083	-10.803	47.886	AVERAGE
5		0.650	9.660	17.300	26.960	-19.040	46.000	AVERAGE
6		0.846	9.690	22.300	31.990	-14.010	46.000	AVERAGE

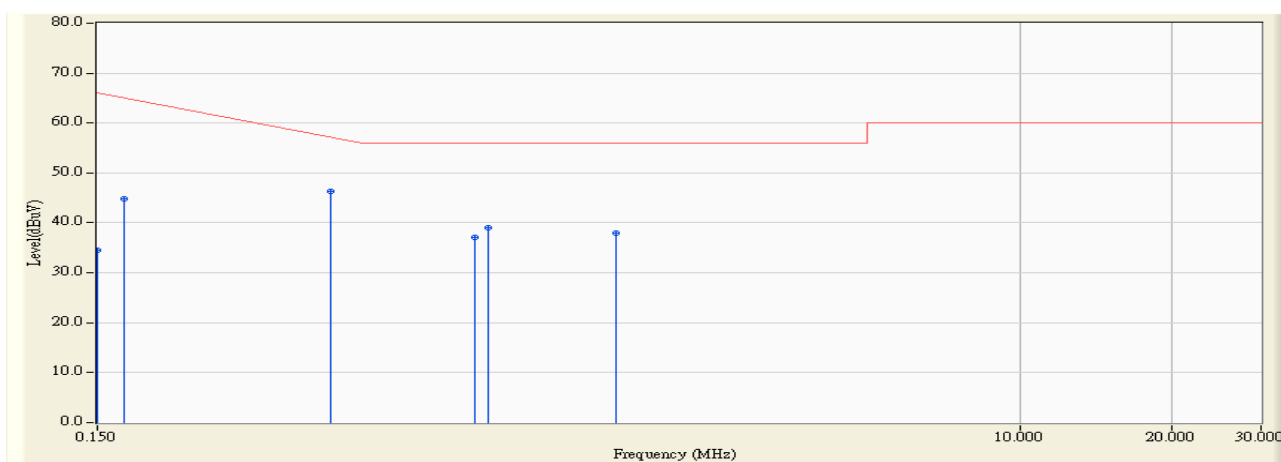
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:03
Limit : EN55022_B_00M_QP	Margin : 0
EUT : Notebook	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)



Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:06
Limit : EN55022_B_00M_QP	Margin : 0
EUT : Notebook	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

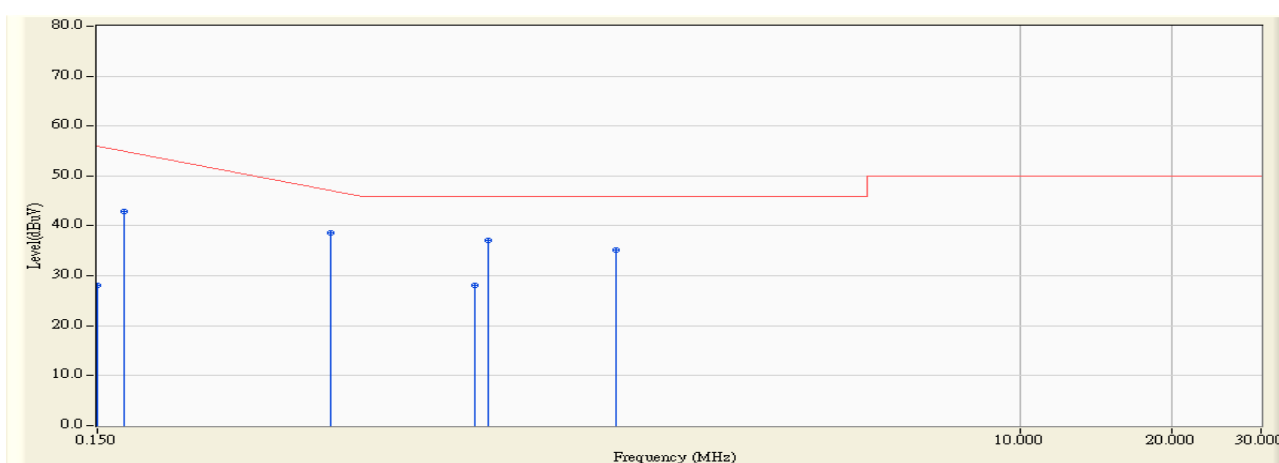


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.150	10.006	24.600	34.606	-31.394	66.000	QUASIPeAK
2		0.170	9.908	35.000	44.908	-20.521	65.429	QUASIPeAK
3	*	0.434	9.612	36.700	46.312	-11.574	57.886	QUASIPeAK
4		0.834	9.760	27.300	37.060	-18.940	56.000	QUASIPeAK
5		0.890	9.768	29.200	38.968	-17.032	56.000	QUASIPeAK
6		1.590	9.703	28.300	38.003	-17.997	56.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:06
Limit : EN55022_B_00M_AV	Margin : 0
EUT : Notebook	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.150	10.006	18.000	28.006	-27.994	56.000	AVERAGE
2		0.170	9.908	33.000	42.908	-12.521	55.429	AVERAGE
3		0.434	9.612	28.900	38.512	-9.374	47.886	AVERAGE
4		0.834	9.760	18.400	28.160	-17.840	46.000	AVERAGE
5	*	0.890	9.768	27.300	37.068	-8.932	46.000	AVERAGE
6		1.590	9.703	25.500	35.203	-10.797	46.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3.7. Test Photograph

Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Front View of Conducted Emission Test Setup for Main



Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Back View of Conducted Emission Test Setup for Main

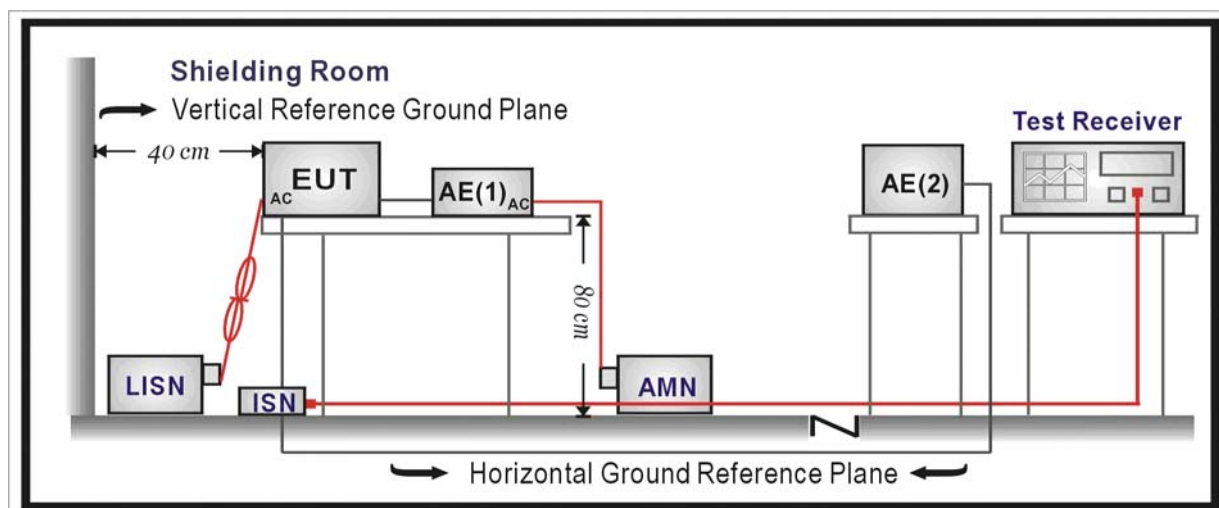


4. Conducted Emissions (Telecommunication Ports)

4.1. Test Specification

According to EMC Standard: EN 55022 Class B and AS/NZS CISPR 22: 2006 Class B

4.2. Test Setup



4.3. Limit

Limits for Class A Equipment				
Frequency (MHz)	Voltage		Current	
	QP (dBuV)	AV (dBuV)	QP (dBuA)	AV (dBuA)
0.15 - 0.50	97 - 87	84 - 74	53 - 43	40 - 30
0.50 - 30	87	74	43	30

Note: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

Limits for Class B Equipment				
Frequency (MHz)	Voltage		Current	
	QP (dBuV)	AV (dBuV)	QP (dBuA)	AV (dBuA)
0.15 - 0.50	84 - 74	74 - 64	40 - 30	30 - 20
0.50 - 30	74	64	30	20

Note: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

4.4. Test Procedure

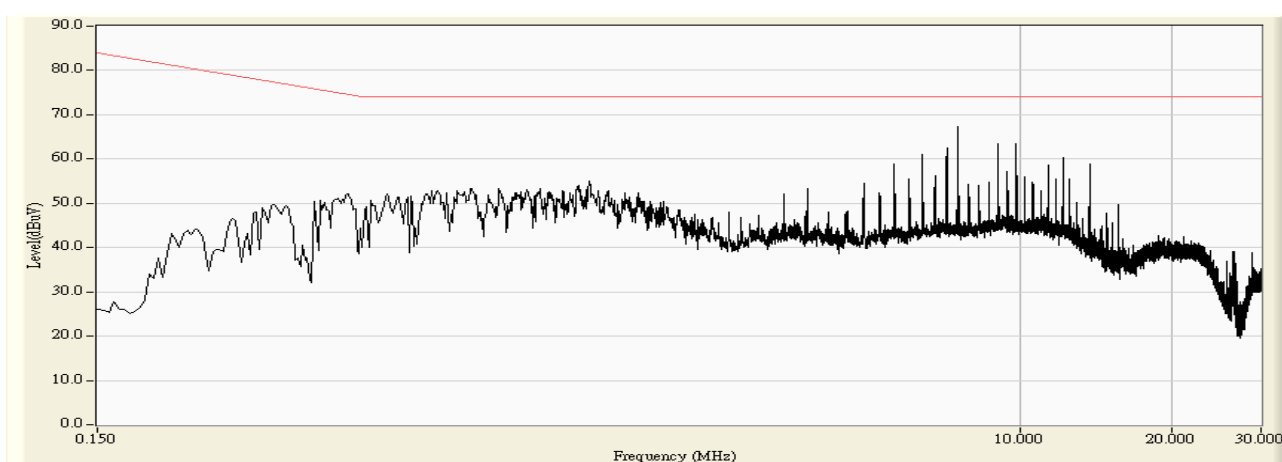
The mains voltage shall be supplied to the EUT via the LISN when the measurement of telecommunication port is performed. The common mode disturbances at the telecommunication port shall be connected to the ISN, which is 150 ohm impedance. Both alternative cables are tested related to the LCL requested. The measurement range is from 150kHz to 30MHz. The bandwidth of measurement is set to 9kHz.

4.5. Deviation from Test Standard

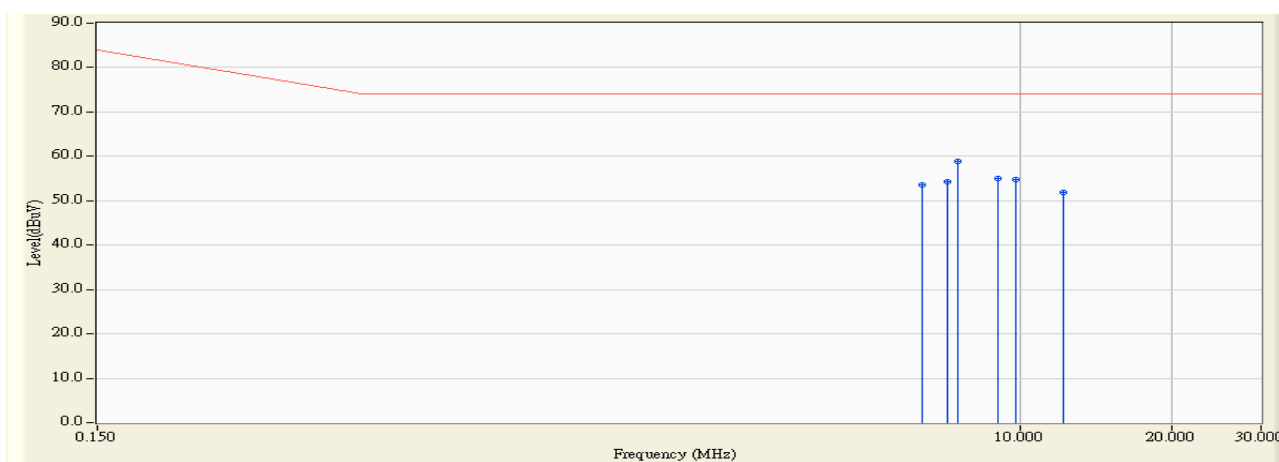
No deviation.

4.6. Test Result

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:44
Limit : ISN_Voltage_B_00M_QP	Margin : 0
EUT : Notebook	Probe : FCC-TLISN-T4_20353(0.15-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz) -LAN 10Mbps



Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:45
Limit : ISN_Voltage_B_00M_QP	Margin : 0
EUT : Notebook	Probe : FCC-TLISN-T4_20353(0.15-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz) -LAN 10Mbps

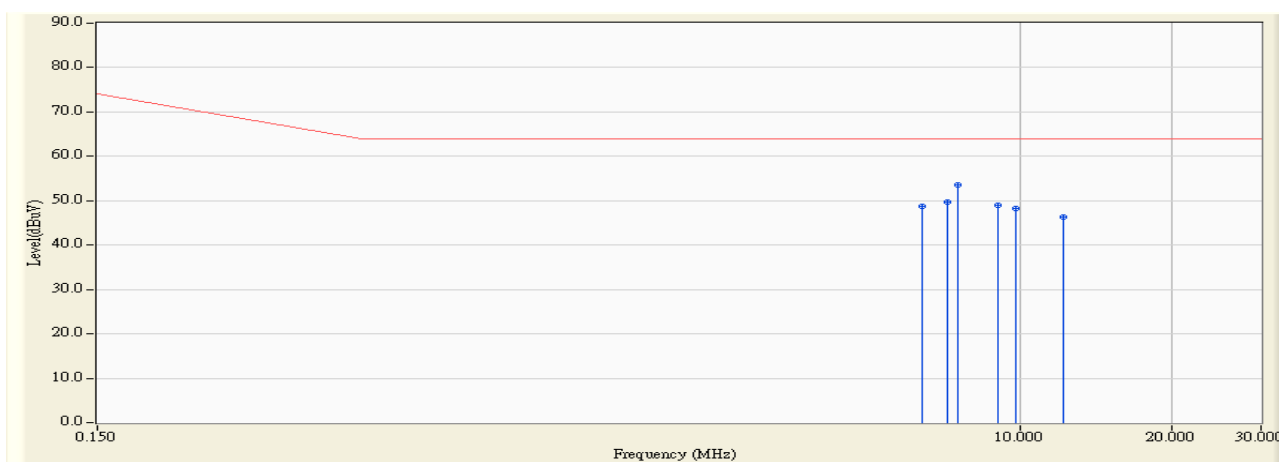


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		6.414	9.880	43.700	53.580	-20.420	74.000	QUASIPeAK
2		7.174	9.910	44.500	54.410	-19.590	74.000	QUASIPeAK
3	*	7.554	9.920	48.900	58.820	-15.180	74.000	QUASIPeAK
4		9.078	9.950	45.000	54.950	-19.050	74.000	QUASIPeAK
5		9.838	9.970	44.700	54.670	-19.330	74.000	QUASIPeAK
6		12.174	10.020	41.900	51.920	-22.080	74.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:45
Limit : ISN_Voltage_B_00M_AV	Margin : 0
EUT : Notebook	Probe : FCC-TLISN-T4_20353(0.15-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz) -LAN 10Mbps

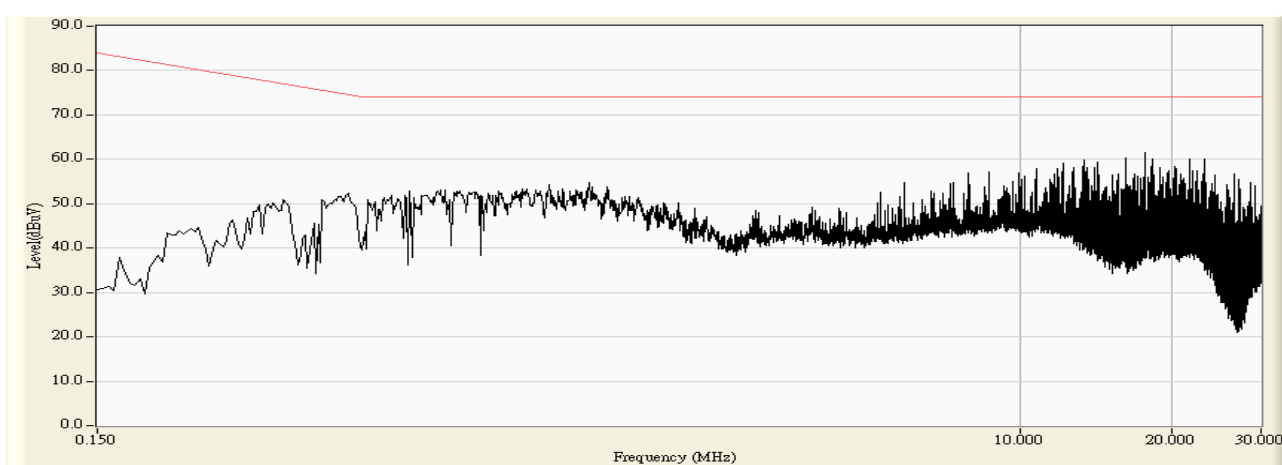


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		6.414	9.880	38.800	48.680	-15.320	64.000	AVERAGE
2		7.174	9.910	39.800	49.710	-14.290	64.000	AVERAGE
3	*	7.554	9.920	43.700	53.620	-10.380	64.000	AVERAGE
4		9.078	9.950	39.000	48.950	-15.050	64.000	AVERAGE
5		9.838	9.970	38.300	48.270	-15.730	64.000	AVERAGE
6		12.174	10.020	36.300	46.320	-17.680	64.000	AVERAGE

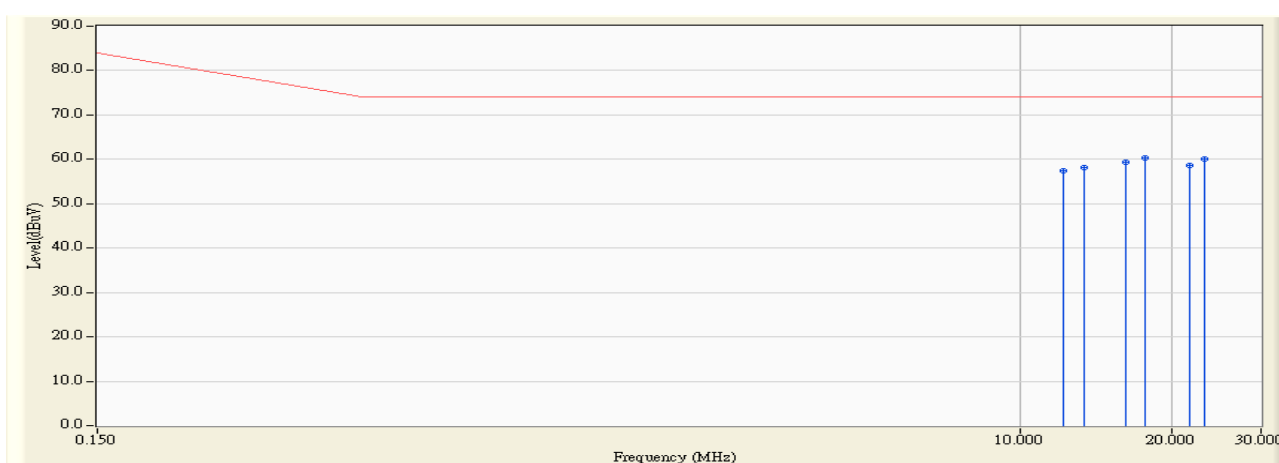
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:48
Limit : ISN_Voltage_B_00M_QP	Margin : 0
EUT : Notebook	Probe : FCC-TLISN-T4_20353(0.15-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz) -LAN 100Mbps



Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:50
Limit : ISN_Voltage_B_00M_QP	Margin : 0
EUT : Notebook	Probe : FCC-TLISN-T4_20353(0.15-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz) -LAN 100Mbps

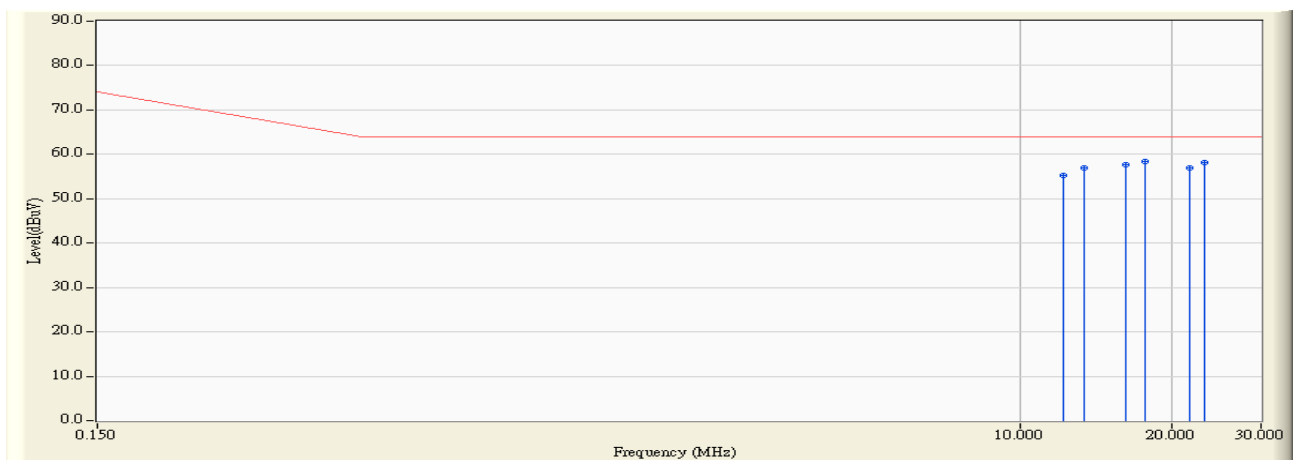


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		12.198	10.020	47.300	57.320	-16.680	74.000	QUASIPeAK
2		13.418	10.050	48.200	58.250	-15.750	74.000	QUASIPeAK
3		16.226	10.110	49.300	59.410	-14.590	74.000	QUASIPeAK
4	*	17.694	10.140	50.200	60.340	-13.660	74.000	QUASIPeAK
5		21.662	10.240	48.400	58.640	-15.360	74.000	QUASIPeAK
6		23.130	10.280	49.800	60.080	-13.920	74.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:50
Limit : ISN_Voltage_B_00M_AV	Margin : 0
EUT : Notebook	Probe : FCC-TLISN-T4_20353(0.15-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz) -LAN 100Mbps

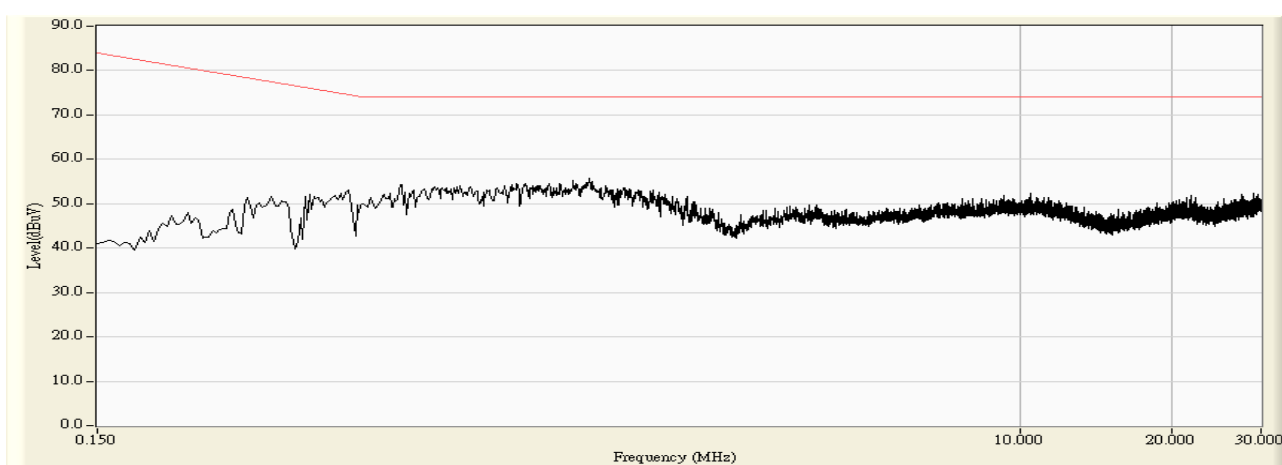


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		12.198	10.020	45.300	55.320	-8.680	64.000	AVERAGE
2		13.418	10.050	47.000	57.050	-6.950	64.000	AVERAGE
3		16.226	10.110	47.500	57.610	-6.390	64.000	AVERAGE
4	*	17.694	10.140	48.300	58.440	-5.560	64.000	AVERAGE
5		21.662	10.240	46.600	56.840	-7.160	64.000	AVERAGE
6		23.130	10.280	47.800	58.080	-5.920	64.000	AVERAGE

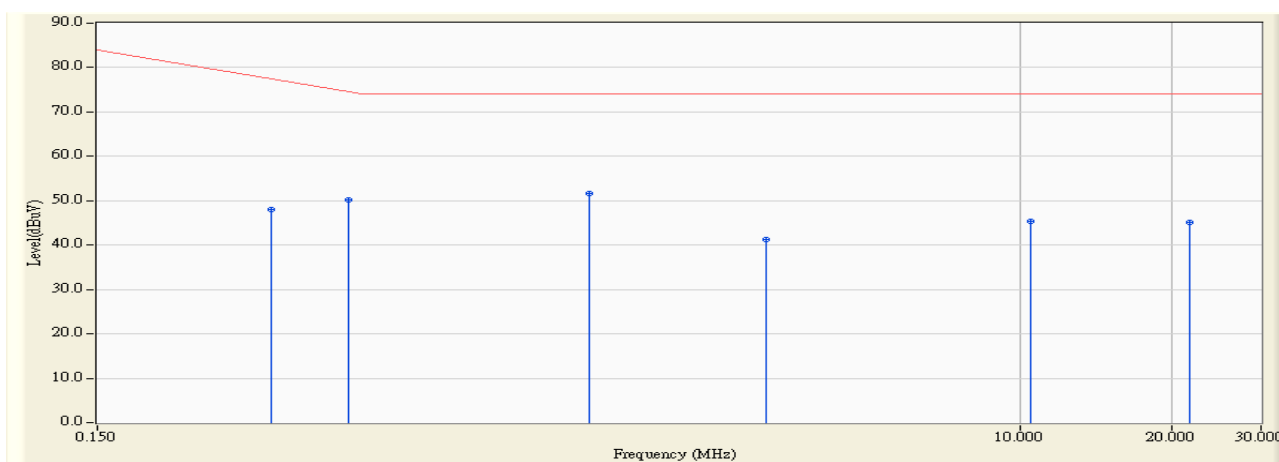
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 08:55
Limit : ISN_Voltage_B_00M_QP	Margin : 0
EUT : Notebook	Probe : FCC-TLISN-T8_20354(0.15-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz) -LAN 1000Mbps



Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 09:01
Limit : ISN_Voltage_B_00M_QP	Margin : 0
EUT : Notebook	Probe : FCC-TLISN-T8_20354(0.15-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz) -LAN 1000Mbps

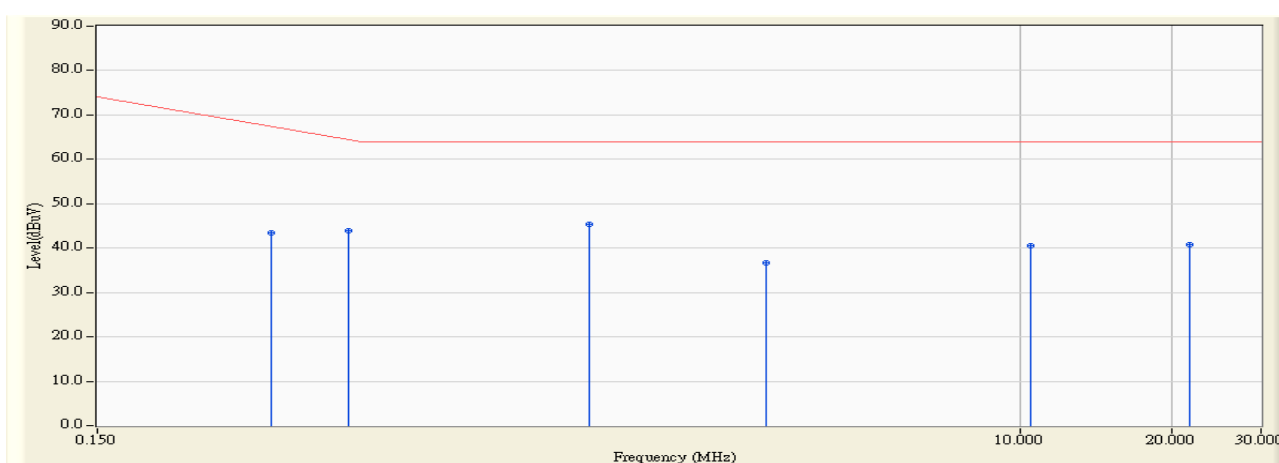


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.330	9.850	38.100	47.950	-30.907	78.857	QUASIPeAK
2		0.470	9.843	40.400	50.243	-24.614	74.857	QUASIPeAK
3	*	1.410	9.750	41.800	51.550	-22.450	74.000	QUASIPeAK
4		3.150	9.770	31.600	41.370	-32.630	74.000	QUASIPeAK
5		10.478	9.950	35.300	45.250	-28.750	74.000	QUASIPeAK
6		21.642	10.240	34.900	45.140	-28.860	74.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Peter	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/05/14 - 09:01
Limit : ISN_Voltage_B_00M_AV	Margin : 0
EUT : Notebook	Probe : FCC-TLISN-T8_20354(0.15-30MHz) - Line1
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz) -LAN 1000Mbps



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.330	9.850	33.600	43.450	-25.407	68.857	AVERAGE
2		0.470	9.843	34.000	43.843	-21.014	64.857	AVERAGE
3	*	1.410	9.750	35.600	45.350	-18.650	64.000	AVERAGE
4		3.150	9.770	26.800	36.570	-27.430	64.000	AVERAGE
5		10.478	9.950	30.600	40.550	-23.450	64.000	AVERAGE
6		21.642	10.240	30.600	40.840	-23.160	64.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

4.7. Test Photograph

Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Front View of Conducted Emission Test Setup for LAN



Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Back View of Conducted Emission Test Setup for LAN

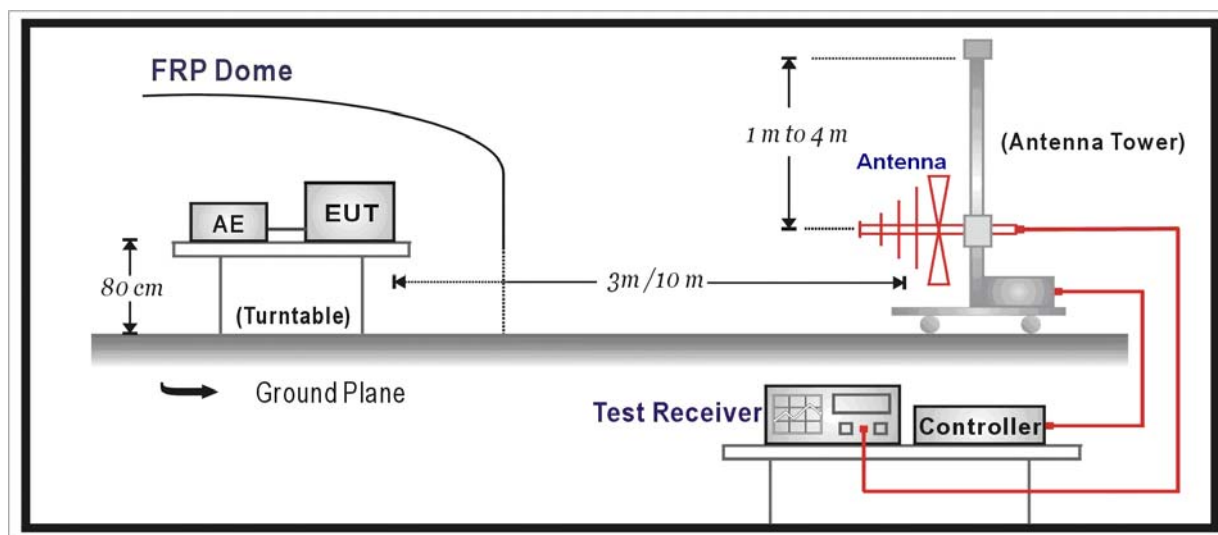


5. Radiated Emission

5.1. Test Specification

According to EMC Standard: EN 55022 Class B and AS/NZS CISPR 22: 2006 Class B

5.2. Test Setup



5.3. Limit

Limits for Class A Equipment		
Frequency (MHz)	Distance (m)	QP (dBuV/m)
30 - 230	10	40
230 - 1000	10	47

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Limits for Class B Equipment		
Frequency (MHz)	Distance (m)	QP (dBuV/m)
30 - 230	10	30
230 - 1000	10	37

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

5.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

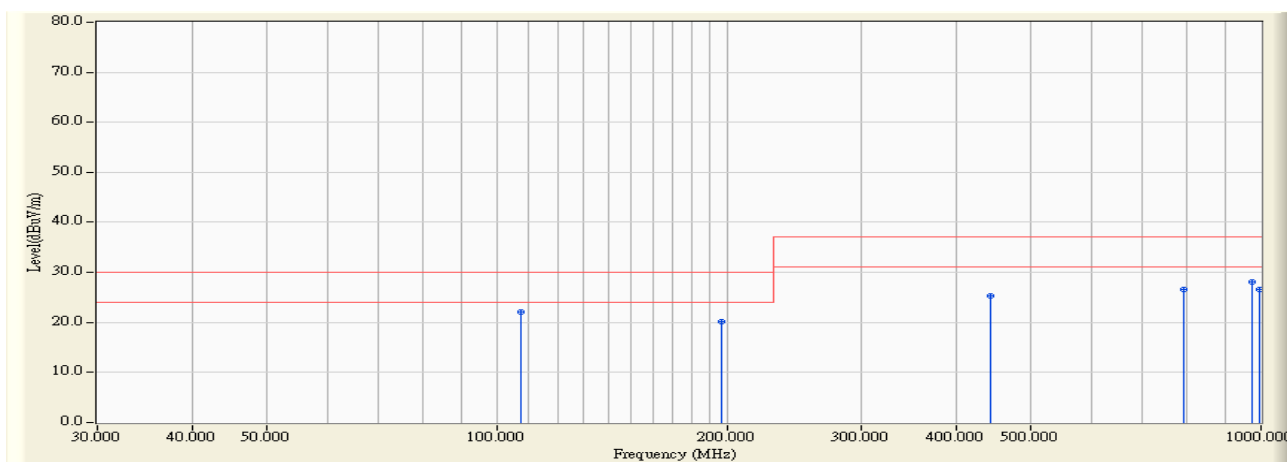
Radiated emissions were investigated over the frequency range from 30MHz to 1GHz using a receiver bandwidth of 120kHz.

5.5. Deviation from Test Standard

No deviation.

5.6. Test Result

Engineer : Peter	
Site : AC-1 (10m Semi-Anechoic Chamber)	Time : 2009/05/15 - 03:44
Limit : EN55022_B_10M_QP	Margin : 6
EUT : Notebook	Probe : CBL6112B_2931(30-1000MHz) - HORIZONTAL
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

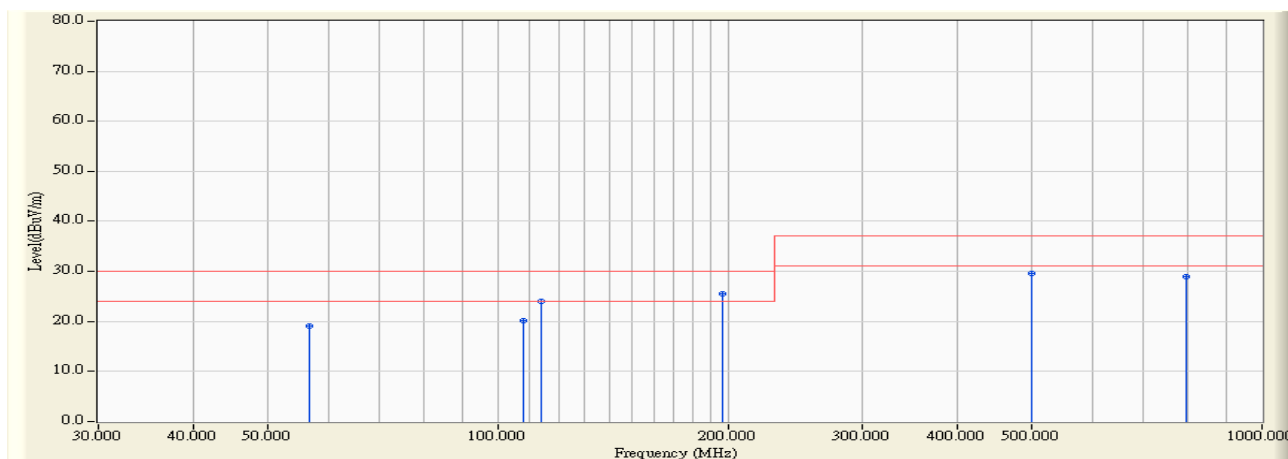


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	107.725	-20.705	42.900	22.194	-7.806	30.000	QUASIPeAK	389.500	231.000
2		196.637	-22.706	42.800	20.094	-9.906	30.000	QUASIPeAK	400.000	39.400
3		442.425	-13.381	38.600	25.219	-11.781	37.000	QUASIPeAK	186.200	0.000
4		793.050	-7.162	33.800	26.639	-10.361	37.000	QUASIPeAK	131.600	45.200
5		975.000	-4.418	32.500	28.082	-8.918	37.000	QUASIPeAK	121.200	216.000
6		997.375	-4.383	30.900	26.517	-10.483	37.000	QUASIPeAK	136.500	46.200

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Peter	
Site : AC-1 (10m Semi-Anechoic Chamber)	Time : 2009/05/15 - 03:44
Limit : EN55022_B_10M_QP	Margin : 6
EUT : Notebook	Probe : CBL6112B_2933(30-1000MHz) - VERTICAL
Power : AC 230V/50Hz	Note : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		56.675	-26.195	45.200	19.005	-10.995	30.000	QUASIPeAK	104.600	210.000
2		108.200	-20.440	40.700	20.261	-9.739	30.000	QUASIPeAK	102.600	182.500
3		114.075	-20.119	44.200	24.080	-5.920	30.000	QUASIPeAK	132.200	216.300
4	*	196.650	-22.258	47.800	25.542	-4.458	30.000	QUASIPeAK	100.000	185.000
5		499.975	-11.560	41.100	29.540	-7.460	37.000	QUASIPeAK	126.300	46.700
6		796.500	-6.792	35.800	29.008	-7.992	37.000	QUASIPeAK	219.300	352.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

5.7. Test Photograph

Test Mode : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description : Front View of Radiated Emission Test Setup



Test Mode : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description : Back View of Radiated Emission Test Setup

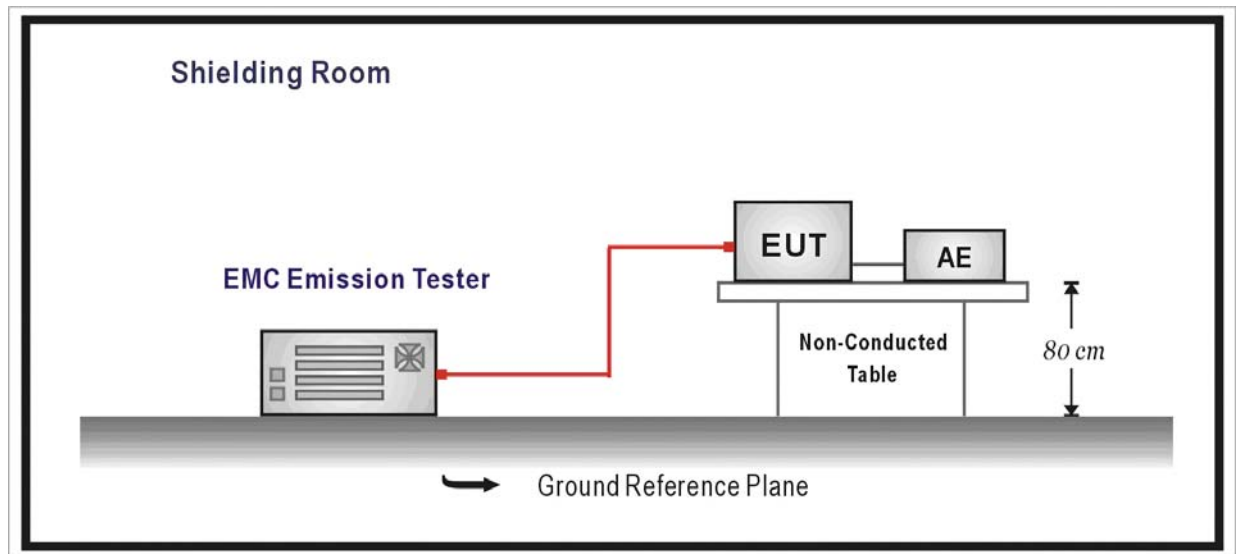


6. Harmonic Current Emission

6.1. Test Specification

According to EMC Standard: EN 61000-3-2

6.2. Test Setup



6.3. Limit

(a) Limits of Class A Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current A	Harmonics Order n	Maximum Permissible harmonic current A
Odd harmonics		Even harmonics	
3	2.30	2	1.08
5	1.14	4	0.43
7	0.77	6	0.30
9	0.40	$8 \leq n \leq 40$	$0.23 * 8/n$
11	0.33		
13	0.21		
$15 \leq n \leq 39$	$0.15 * 15/n$		

(b) Limits of Class B Harmonics Currents

For Class B equipment, the harmonic of the input current shall not exceed the maximum permissible values given in table that is the limit of Class A multiplied by a factor of 1.5.

(c) Limits of Class C Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current Expressed as a percentage of the input current at the fundamental frequency %
2	2
3	$30 \cdot \lambda^*$
5	10
7	7
9	5
$11 \leq n \leq 39$ (odd harmonics only)	3
* λ is the circuit power factor	

(d) Limits of Class D Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current per watt mA/W	Maximum Permissible harmonic current A
3	3.4	2.30
5	1.9	1.14
7	1.0	0.77
9	0.5	0.40
11	0.35	0.33
$11 \leq n \leq 39$ (odd harmonics only)	$3.85/n$	See limit of Class A

6.4. Test Procedure

The EUT is supplied in series with power analyzer from a power source having the same normal voltage and frequency as the rated supply voltage and the equipment under test. And the rated voltage at the supply voltage of EUT of 0.94 times and 1.06 times shall be performed.

6.5. Deviation from Test Standard

No deviation.

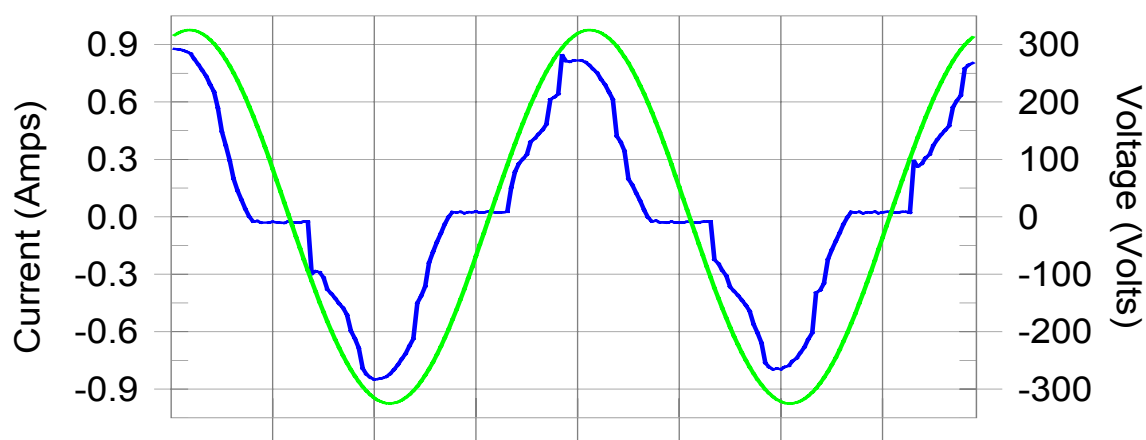
6.6. Test Result

Product	Notebook
Test Item	Harmonic Current Emission
Test Mode	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Date of Test	2009/05/15
Test Site	SR-1

Test Result: Pass

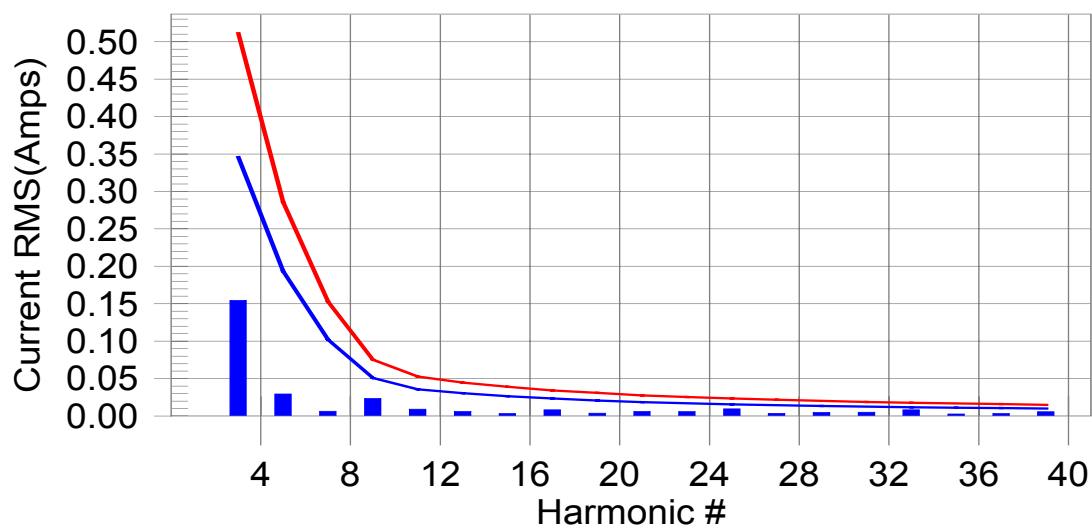
Source qualification: Normal

Current & voltage waveforms



Harmonics and Class D limit line

European Limits



Test result: Pass

Test Result: Pass

Source qualification: Normal

THC(A): 0.16

I-THD(%): 36.55

POHC(A): 0.017

POHC Limit(A): 0.044

Highest parameter values during test:

V_RMS (Volts): 229.96

Frequency(Hz): 50.00

I_Peak (Amps): 0.880

I_RMS (Amps): 0.481

I_Fund (Amps): 0.443

Crest Factor: 1.902

Power (Watts): 101.8

Power Factor: 0.921

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.000						
3	0.152	0.346	44.0	0.155	0.511	30.24	Pass
4	0.000						
5	0.029	0.193	15.0	0.029	0.286	10.30	Pass
6	0.000						
7	0.006	0.102	5.6	0.006	0.153	4.19	Pass
8	0.000						
9	0.023	0.051	45.5	0.023	0.075	31.24	Pass
10	0.000						
11	0.009	0.036	25.2	0.009	0.053	17.33	Pass
12	0.000						
13	0.006	0.031	19.6	0.006	0.045	13.72	Pass
14	0.000						
15	0.003	0.026	12.5	0.003	0.039	8.72	Pass
16	0.000						
17	0.008	0.023	35.2	0.008	0.034	24.50	Pass
18	0.000						
19	0.004	0.021	17.5	0.004	0.031	12.19	Pass
20	0.000						
21	0.006	0.019	32.9	0.006	0.028	22.86	Pass
22	0.000						
23	0.005	0.017	31.4	0.006	0.026	22.97	Pass
24	0.000						
25	0.009	0.016	56.8	0.009	0.024	40.31	Pass
26	0.000						
27	0.003	0.015	21.4	0.004	0.022	16.42	Pass
28	0.000						
29	0.004	0.014	32.6	0.005	0.020	23.93	Pass
30	0.000						
31	0.005	0.013	36.6	0.005	0.019	27.54	Pass
32	0.000						
33	0.008	0.012	68.0	0.008	0.018	46.94	Pass
34	0.000						
35	0.002	0.011	20.1	0.003	0.017	15.81	Pass
36	0.000						
37	0.003	0.011	28.1	0.003	0.016	20.53	Pass
38	0.000						
39	0.006	0.010	55.0	0.006	0.015	38.61	Pass
40	0.000						

1. Dynamic limits were applied for this test. The highest harmonics values in the above table may not occur at the same window as the maximum harmonics/limit ratio.

2. According to EN61000-3-2 paragraph 7 the note 1 and 2 are valid for all applications having an active input power >75W. Others the result should be pass.

6.7. Test Photograph

Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Harmonic Current Emission Test Setup

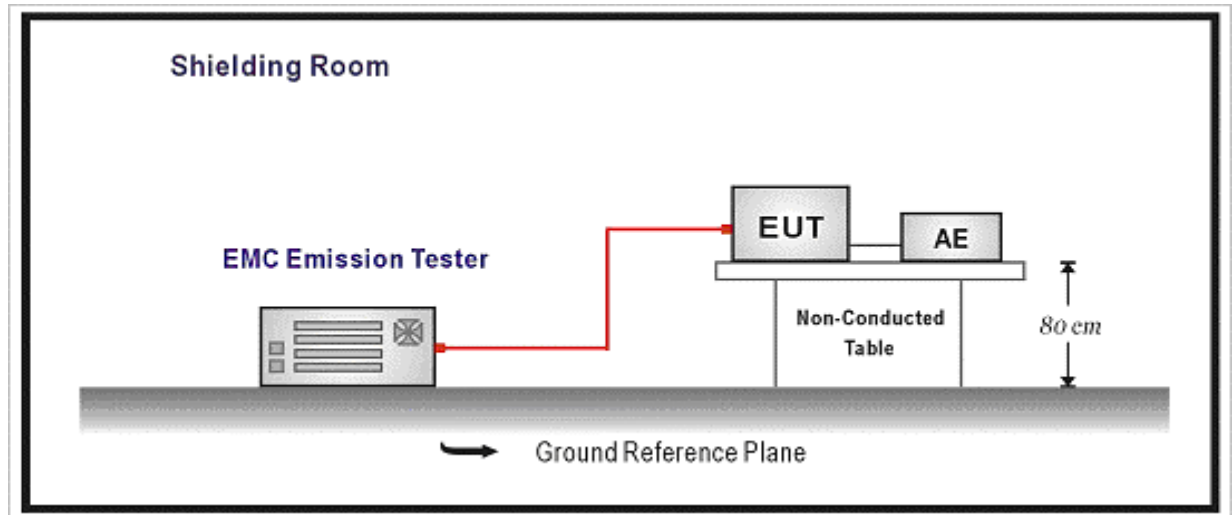


7. Voltage Fluctuation and Flicker

7.1. Test Specification

According to EMC Standard: EN 61000-3-3

7.2. Test Setup



7.3. Limit

The following limits apply:

- the value of P_{st} shall not be greater than 1.0;
 - the value of P_{1t} shall not be greater than 0.65;
 - the value of $d(t)$ during a voltage change shall not exceed 3.3 % for more than 500 ms;
 - the relative steady-state voltage change, d_c , shall not exceed 3.3 %;
 - the maximum relative voltage change, d_{max} , shall not exceed;
- a) 4 % without additional conditions;
 - b) 6 % for equipment which is:
 - switched manually, or
 - switched automatically more frequently than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds), or manual restart, after a power supply interruption.

Note: The cycling frequency will be further limited by the P_{st} and P_{1t} limit.

For example: a d_{max} of 6% producing a rectangular voltage change characteristic twice per hour will give a P_{1t} of about 0.65.

- c) 7 % for equipment which is:
 - attended whilst in use (for example: hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as lawn mowers, portable tools such as electric drills), or
 - switched on automatically, or is intended to be switched on manually, no more than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds) or manual restart, after a power supply interruption.

P_{st} and P_{1t} requirements shall not be applied to voltage changes caused by manual switching.

7.4. Test Procedure

The EUT is supplied in series with power analyzer from a power source having the same normal voltage and frequency as the rated supply voltage and the equipment under test. And the rated voltage at the supply voltage of EUT of 0.94 times and 1.06 times shall be performed.

7.5. Deviation from Test Standard

No deviation.

7.6. Test Result

Product	Notebook
Test Item	Voltage Fluctuation and Flicker
Test Mode	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Date of Test	2009/05/15
Test Site	SR-1

Test Result: Pass

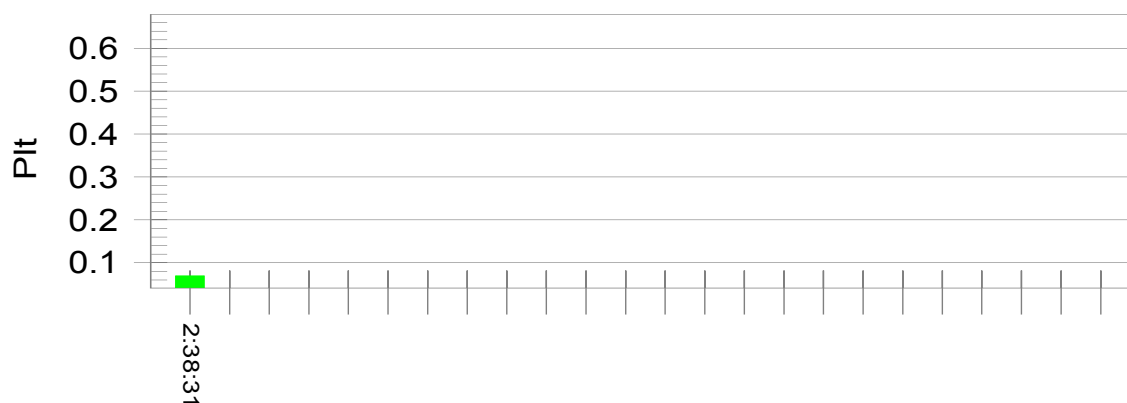
Status: Test Completed

Pst and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.74			
Highest dt (%):	0.00	Test limit (%):	3.30	Pass
Time(mS) > dt:	0.0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.160	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.070	Test limit:	0.650	Pass

7.7. Test Photograph

Test Mode : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description : Voltage Fluctuation and Flicker Test Setup

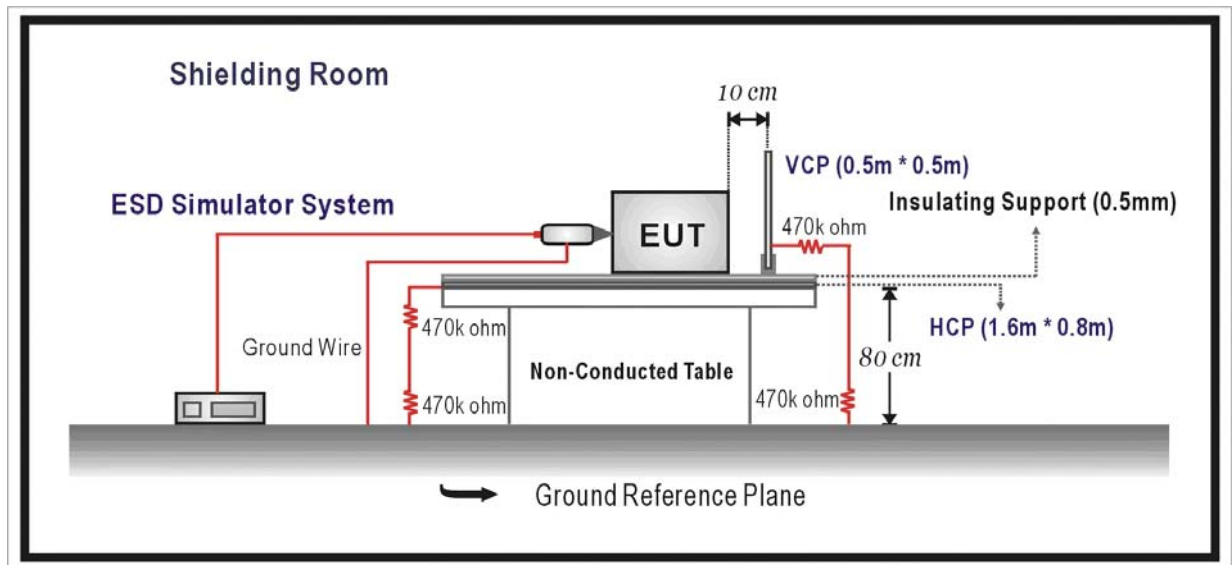


8. Electrostatic Discharge

8.1. Test Specification

According to Standard: IEC 61000-4-2

8.2. Test Setup



8.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Enclosure Port				
	Electrostatic Discharge	kV(Charge Voltage)	±8 Air Discharge ±4 Contact Discharge	B

8.4. Test Procedure

Direct application of discharges to the EUT:

Contact discharge was applied only to conductive surfaces of the EUT.

Air discharges were applied only to non-conductive surfaces of the EUT.

During the test, it was performed with single discharges. For the single discharge time between successive single discharges will be keep longer 1 second. It was at least ten single discharges with positive and negative at the same selected point.

The selected point, which was performed with electrostatic discharge, was marked on the red label of the EUT.

Indirect application of discharges to the EUT:

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from, the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge. It was at least ten single discharges with positive and negative at the same selected point.

Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge. It was at least ten single discharges with positive and negative at the same selected point.

8.5. Deviation from Test Standard

No deviation.

8.6. Test Result

Product	Notebook
Test Item	Electrostatic Discharge
Test Mode	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Date of Test	2009/05/16
Test Site	SR-3

Item	Amount of Discharge	Voltage (kV)	Required Criteria	Complied to Criteria	Results
Air Discharge	240	±8	B	A	Pass
Contact Discharge	250	±4	B	A	Pass
Indirect Discharge (HCP)	200	±4	B	A	Pass
Indirect Discharge (VCP Front)	50	±4	B	A	Pass
Indirect Discharge (VCP Left)	50	±4	B	A	Pass
Indirect Discharge (VCP Back)	50	±4	B	A	Pass
Indirect Discharge (VCP Right)	50	±4	B	A	Pass

Note: The testing performed is from lowest level up to the highest level as required by standard, but only highest level is shown on the report.

- ☒ Meet criteria A: Operate as intended during and after the test
- ☐ Meet criteria B: Operate as intended after the test
- ☐ Meet criteria C: Loss/Error of function
- ☒ Additional Information
 - ☐ EUT stopped operation and could / could not be reset by operator at _____ kV.
 - ☒ No false alarms or other malfunctions were observed during or after the test.

Remark: The contact discharges were applied at least total 200 discharges at a minimum of four test points.

8.7. Test Photograph

Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Electrostatic Discharge Test Setup

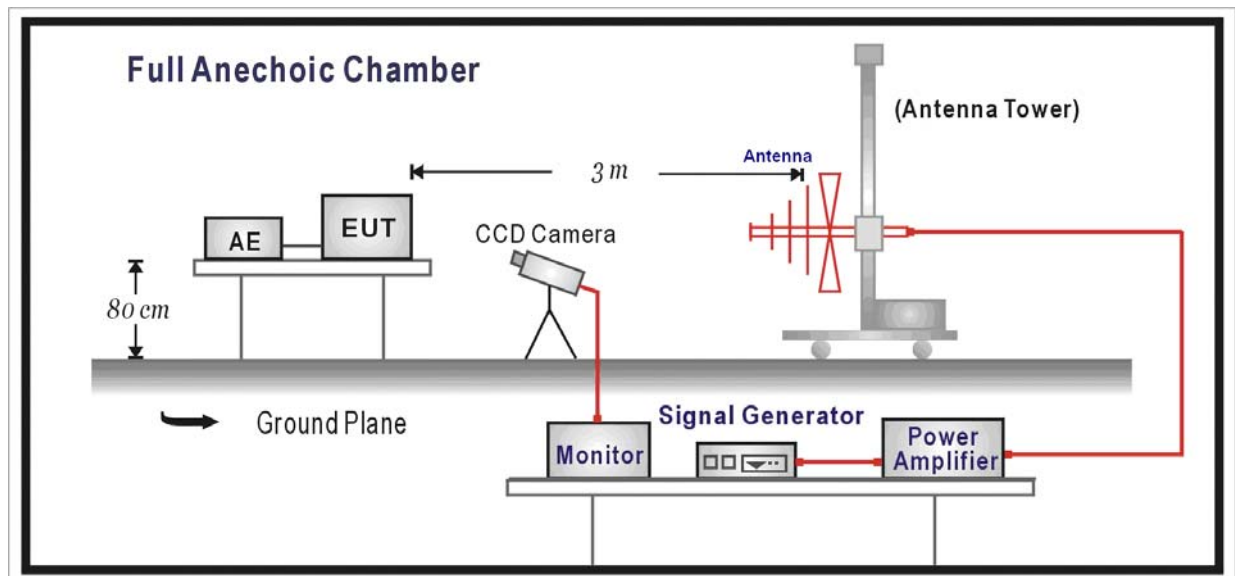


9. Radiated Susceptibility

9.1. Test Specification

According to Standard: IEC 61000-4-3

9.2. Test Setup



9.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Enclosure Port (See Note)				
Radio-Frequency	MHz	80-1000	A	
Electromagnetic Field	V/m(Un-modulated, rms)	3		
Amplitude Modulated	% AM (1kHz)	80		

Note: The frequency range is scanned as specified. However, when EUT is the telecommunications terminal equipment, an additional comprehensive functional test shall be carried out at a limited number of frequencies. The selected frequencies are: 80, 120, 160, 230, 434, 460, 600, 863 and 900 MHz ($\pm 1\%$).

9.4. Test Procedure

The EUT and load, which are placed on a table that is 0.8 meter above ground, are placed with one coincident with the calibration plane such that the distance from antenna to the EUT was 3 meters.

Both horizontal and vertical polarization of the antenna and four sides of the EUT are set on measurement.

In order to judge the EUT performance, a CCD camera is used to monitor EUT screen.

All the scanning conditions are as follows:

Condition of Test	Remarks
1. Field Strength	3 V/m Level 2
2. Radiated Signal	AM 80% Modulated with 1kHz
3. Scanning Frequency	80 - 1000MHz
4. Dwell Time	3 Seconds
5. Frequency step size Δf	1%
6. The rate of Swept of Frequency	1.5×10^{-3} decades/s

9.5. Deviation from Test Standard

No deviation.

9.6. Test Result

Product	Notebook
Test Item	Radiated Susceptibility
Test Mode	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Date of Test	2009/05/16
Test Site	AC-4

Frequency (MHz)	Position (Angle)	Polarity (H or V)	Field Strength (V/m)	Required Criteria	Complied to Criteria	Results
80-1000	Front	H	3	A	A	Pass
80-1000	Front	V	3	A	A	Pass
80-1000	Back	H	3	A	A	Pass
80-1000	Back	V	3	A	A	Pass
80-1000	Right	H	3	A	A	Pass
80-1000	Right	V	3	A	A	Pass
80-1000	Left	H	3	A	A	Pass
80-1000	Left	V	3	A	A	Pass

- ☒ Meet criteria A: Operate as intended during and after the test
☐ Meet criteria B: Operate as intended after the test
☐ Meet criteria C: Loss/Error of function
☒ Additional Information
 ☐ EUT stopped operation and could / could not be reset by operator at _____V/m, at frequency _____MHz.
☒ No false alarms or other malfunctions were observed during or after the test.

9.7. Test Photograph

Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Radiated Susceptibility Test Setup

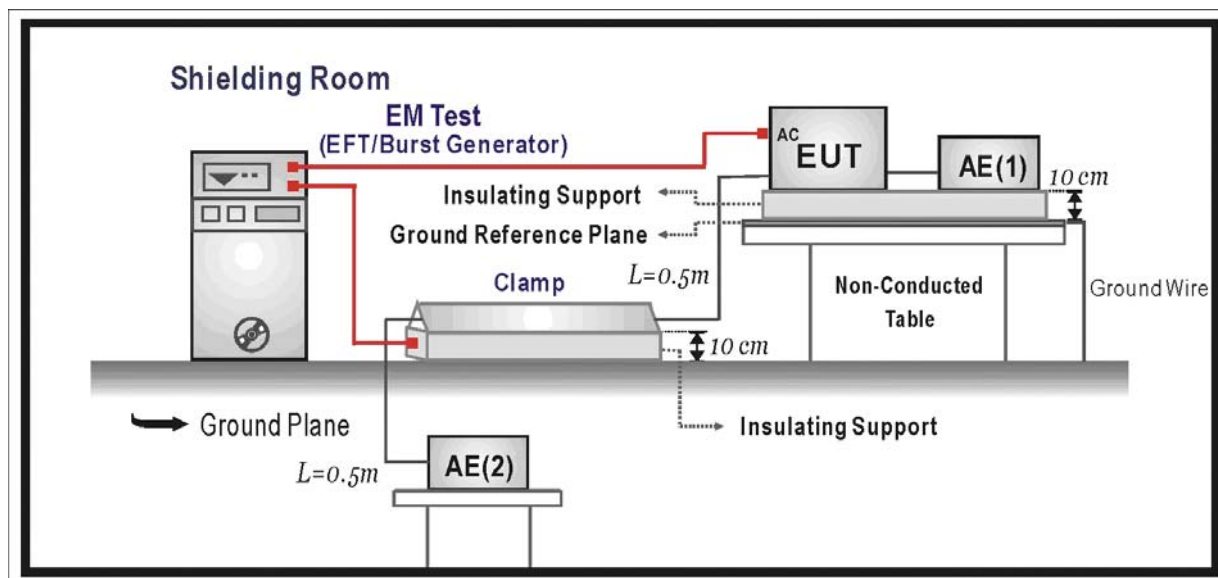


10. Electrical Fast Transient/Burst

10.1. Test Specification

According to Standard: IEC 61000-4-4

10.2. Test Setup



10.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Signal Ports and Telecommunication Ports (See Note)				
	Fast Transients Common Mode	kV (Peak) Tr/Th ns Rep. Frequency kHz	± 0.5 5/50 5	B
Input D.C. Power Ports				
	Fast Transients Common Mode	kV (Peak) Tr/Th ns Rep. Frequency kHz	± 0.5 5/50 5	B
Input A.C. Power Ports				
	Fast Transients Common Mode	kV (Peak) Tr/Th ns Rep. Frequency kHz	± 1 5/50 5	B

Note: Applicable only to cables which according to the manufacturer's specification supports communication on cable lengths greater than 3m.

10.4. Test Procedure

The EUT is placed on a table that is 0.8 meter height. A ground reference plane is placed on the table, and uses a 0.1m insulation between the EUT and ground reference plane.

The minimum area of the ground reference plane is 1m*1m, and 0.65mm thick min, and projected beyond the EUT by at least 0.1m on all sides.

For signal and telecommunication ports:

The EFT interference signal is through a coupling clamp device couples to the signal and control lines of the EUT with burst noise for 1minute.

For input A.C. and D.C. power ports:

The EUT is connected to the power mains through a coupling device that directly couples the EFT/B interference signal.

Each of the Line and Neutral conductors is impressed with burst noise for 1 minute.

The length of the signal and power lines between the coupling device and the EUT is 0.5m.

10.5. Deviation from Test Standard

No deviation.

10.6. Test Result

Product	Notebook
Test Item	Electrical Fast Transient/Burst
Test Mode	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Date of Test	2009/05/16
Test Site	SR-2

Inject Line	Polarity	Voltage (kV)	Inject Time (Second)	Inject Method	Required Criteria	Complied to Criteria	Result
L+N+PE	±	1	120	Direct	B	A	Pass
LAN	±	0.5	120	Clamp	B	A	Pass

- ☒ Meet criteria A: Operate as intended during and after the test
☐ Meet criteria B: Operate as intended after the test
☐ Meet criteria C: Loss/Error of function
☒ Additional Information
- ☐ EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.
☒ No false alarms or other malfunctions were observed during or after the test.

10.7. Test Photograph

Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Electrical Fast Transient/Burst Test Setup for Main



Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Electrical Fast Transient/Burst Test Setup for LAN

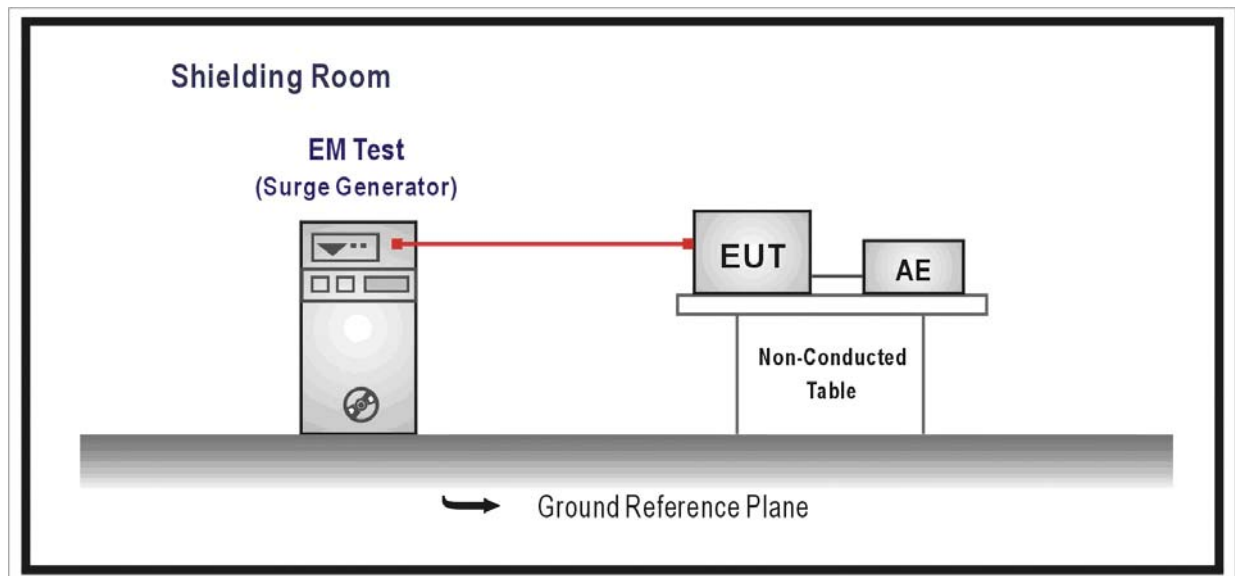


11. Surge

11.1. Test Specification

According to Standard: IEC 61000-4-5

11.2. Test Setup



11.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Signal Ports and Telecommunication Ports (See Note(1) and (2))				
	Surges Line to Ground	Tr/Th us kV	1.2/50 (8/20) ± 1	B
Input D.C. Power Ports (See Note(1))				
	Surges Line to Ground	Tr/Th us kV	1.2/50 (8/20) ± 0.5	B
Input A.C. Power Ports (See Note(3))				
	Surges Line to Line Line to Ground	Tr/Th us kV kV	1.2/50 (8/20) ± 1 ± 2	B

Note 1: Applicable only to ports which according to the manufacturer's specification may connect directly to outdoor cables.

Note 2: Where normal functioning cannot be achieved because of the impact of the CDN on the EUT, no test shall be required.

Note 3: When the manufacturer specifies protection measures and it is impractical to simulate these measures during the tests, then the applied test levels shall be reduced to 0.5 kV and 1 kV.

11.4. Test Procedure

The EUT and its load are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min. And projected beyond the EUT by at least 0.1m on all sides. The length of power cord between the coupling device and the EUT shall be 2m or less.

For input A.C. and D.C. power ports:

The EUT is connected to the power mains through a coupling device that directly couples the Surge interference signal.

The surge noise shall be applied synchronized to the voltage phase at 0° , 90° , 180° , 270° and the peak value of the a.c. voltage wave. (Positive and negative)

Each of Line-Earth and Line-Line is impressed with a sequence of five surge voltages with interval of 1 min.

11.5. Deviation from Test Standard

No deviation.

11.6. Test Result

Product	Notebook
Test Item	Surge
Test Mode	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Date of Test	2009/05/16
Test Site	SR-2

Inject Line	Polarity	Angle	Voltage (kV)	Time Interval (Second)	Inject Method	Required Criteria	Complied to Criteria	Result
L-N	±	0	1	60	Direct	B	A	Pass
L-N	±	90	1	60	Direct	B	A	Pass
L-N	±	180	1	60	Direct	B	A	Pass
L-N	±	270	1	60	Direct	B	A	Pass
L+PE	±	0	2	60	Direct	B	A	Pass
L+PE	±	90	2	60	Direct	B	A	Pass
L+PE	±	180	2	60	Direct	B	A	Pass
L+PE	±	270	2	60	Direct	B	A	Pass
N+PE	±	0	2	60	Direct	B	A	Pass
N+PE	±	90	2	60	Direct	B	A	Pass
N+PE	±	180	2	60	Direct	B	A	Pass
N+PE	±	270	2	60	Direct	B	A	Pass

Note: The testing performed is from lowest level up to the highest level as required by standard, but only highest level is shown on the report.

- ☒ Meet criteria A: Operate as intended during and after the test
- ☐ Meet criteria B: Operate as intended after the test
- ☐ Meet criteria C: Loss/Error of function
- ☒ Additional Information
 - ☐ EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.
 - ☒ No false alarms or other malfunctions were observed during or after the test.

11.7. Test Photograph

Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Surge Test Setup for Main



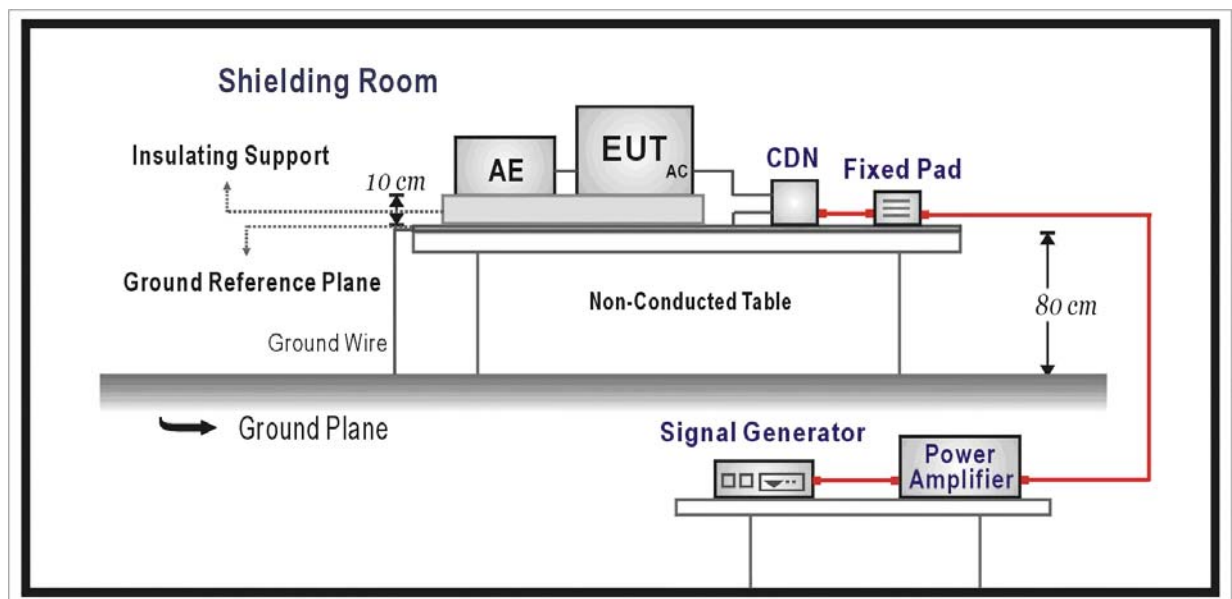
12. Conducted Susceptibility

12.1. Test Specification

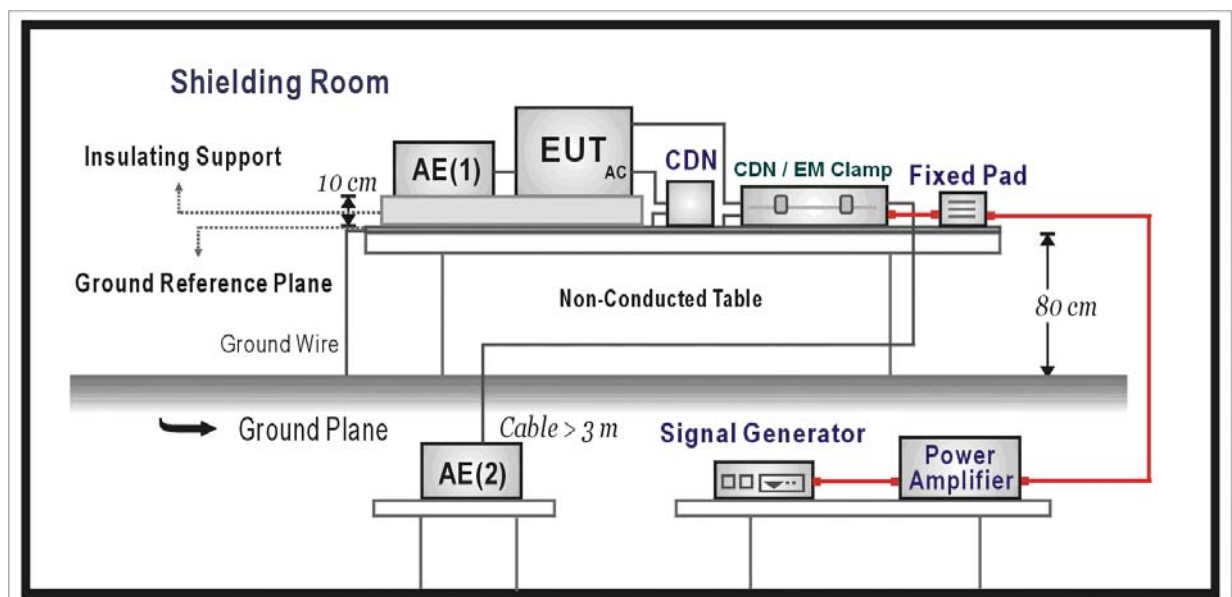
According to Standard: IEC 61000-4-6

12.2. Test Setup

CDN Test Setup



EM Clamp Test Setup



12.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Signal Ports and Telecommunication Ports (See Note(1) and (2))				
	Radio-Frequency Continuous Conducted	MHz V (rms, Un-modulated) % AM (1kHz)	0.15-80 3 80	A
Input D.C. Power Ports (See Note(1))				
	Radio-Frequency Continuous Conducted	MHz V (rms, Un-modulated) % AM (1kHz)	0.15-80 3 80	A
Input A.C. Power Ports (See Note(1))				
	Radio-Frequency Continuous Conducted	MHz V (rms, Un-modulated) % AM (1kHz)	0.15-80 3 80	A

Note 1: The frequency range is scanned as specified. However, when EUT is the telecommunications terminal equipment, an additional comprehensive functional test shall be carried out at a limited number of frequencies. The selected frequencies for conducted tests are: 0.2, 1, 7.1, 13.56, 21, 27, 12 and 40.68 MHz ($\pm 1\%$).

Note 2: Applicable only to cables which according to the manufacturer's specification supports communication on cable lengths greater than 3m.

12.4. Test Procedure

The EUT are placed on a table that is 0.8 meter height, and a Ground reference plane on the table, EUT are placed upon table and use a 0.1m insulation between the EUT and Ground reference plane.

For signal ports and telecommunication ports:

The disturbance signal is through a coupling and decoupling networks (CDN) or EM-clamp device couples to the signal and Telecommunication lines of the EUT.

For input D.C. and A.C. power ports:

The EUT is connected to the power mains through a coupling and decoupling networks for power supply lines. And directly couples the disturbances signal into EUT.

Used CDN-M2 for two wires or CDN-M3 for three wires.

All the scanning conditions are as follows:

Condition of Test	Remarks
1. Field Strength	3V Level 2
2. Radiated Signal	AM 80% Modulated with 1kHz
3. Scanning Frequency	0.15 - 80MHz
4. Dwell Time	3 Seconds
5. Frequency step size Δf	1%
6. The rate of Swept of Frequency	1.5×10^{-3} decades/s

12.5. Deviation from Test Standard

No deviation.

12.6. Test Result

Product	Notebook
Test Item	Conducted Susceptibility
Test Mode	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Date of Test	2009/05/16
Test Site	SR-2

Frequency (MHz)	Voltage (V)	Inject Method	Inject Ports	Required Criteria	Complied to Criteria	Result
0.15-80	3	CDN	AC IN	A	A	Pass
0.15-80	3	CDN	LAN	A	A	Pass

- ☒ Meet criteria A: Operate as intended during and after the test
- ☐ Meet criteria B: Operate as intended after the test
- ☐ Meet criteria C: Loss/Error of function
- ☒ Additional Information
 - ☐ EUT stopped operation and could / could not be reset by operator at _____V, at frequency _____MHz.
 - ☒ No false alarms or other malfunctions were observed during or after the test.

12.7. Test Photograph

Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Conducted Susceptibility Test Setup for Main



Test Mode: Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description: Conducted Susceptibility Test Setup for LAN

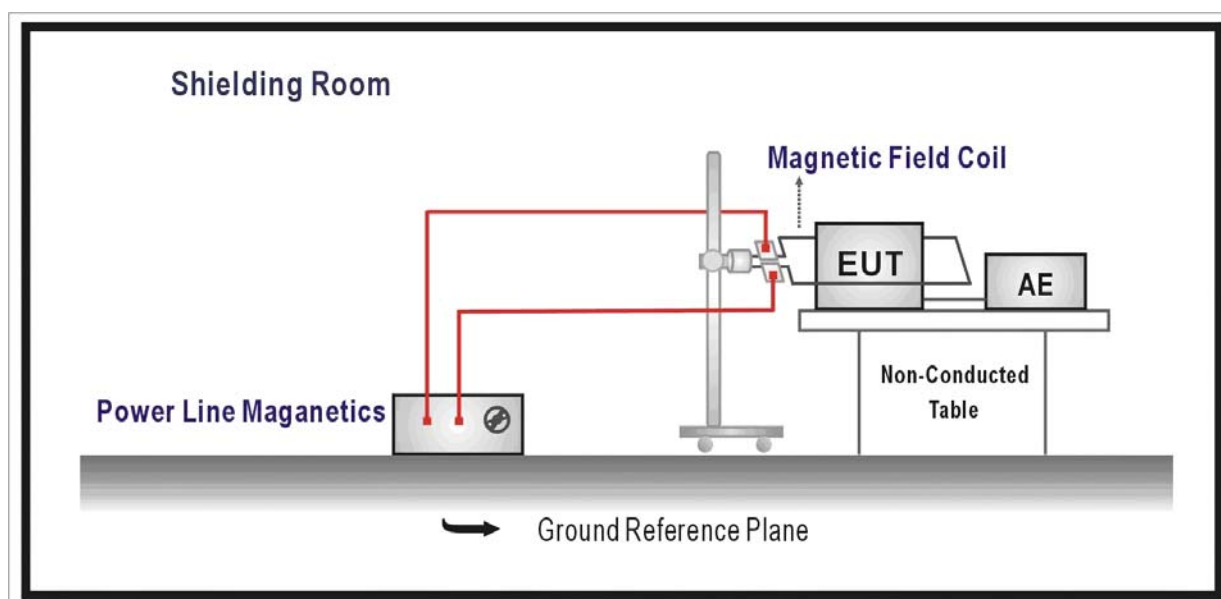


13. Power Frequency Magnetic Field

13.1. Test Specification

According to Standard: IEC 61000-4-8

13.2. Test Setup



13.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Enclosure Port (See Note)				
	Power-Frequency Magnetic Field	Hz A/m (r.m.s.)	50 1	A

Note: Applicable only to equipment containing devices susceptible to magnetic fields, such as CRT monitors, Hall elements, electrodynamic microphones, magnetic field sensors, etc.

13.4. Test Procedure

The EUT and its load are placed on a table which is 0.8 meter above a metal ground plane measured at least 1m*1m min. The test magnetic field shall be placed at central of the induction coil.

The test magnetic Field shall be applied 10 minutes by the immersion method to the EUT, and the induction coil shall be rotated by 90° in order to expose the EUT to the test field with different orientation (X, Y, Z Orientations).

13.5. Deviation from Test Standard

No deviation.

13.6. Test Result

Product	Notebook
Test Item	Power Frequency Magnetic Field
Test Mode	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Date of Test	2009/05/16
Test Site	SR-2

Polarization	Frequency (Hz)	Magnetic Strength (A/m)	Required Criteria	Complied to Criteria	Test Result
X Orientation	50	1	A	A	Pass
Y Orientation	50	1	A	A	Pass
Z Orientation	50	1	A	A	Pass

- ☒ Meet criteria A: Operate as intended during and after the test
- ☐ Meet criteria B: Operate as intended after the test
- ☐ Meet criteria C: Loss/Error of function
- ☒ Additional Information
 - ☐ EUT stopped operation and could / could not be reset by operator at_____A/m, at_____polarization.
 - ☒ No false alarms or other malfunctions were observed during or after the test.

13.7. Test Photograph

Test Mode : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description : Power Frequency Magnetic Field Test Setup

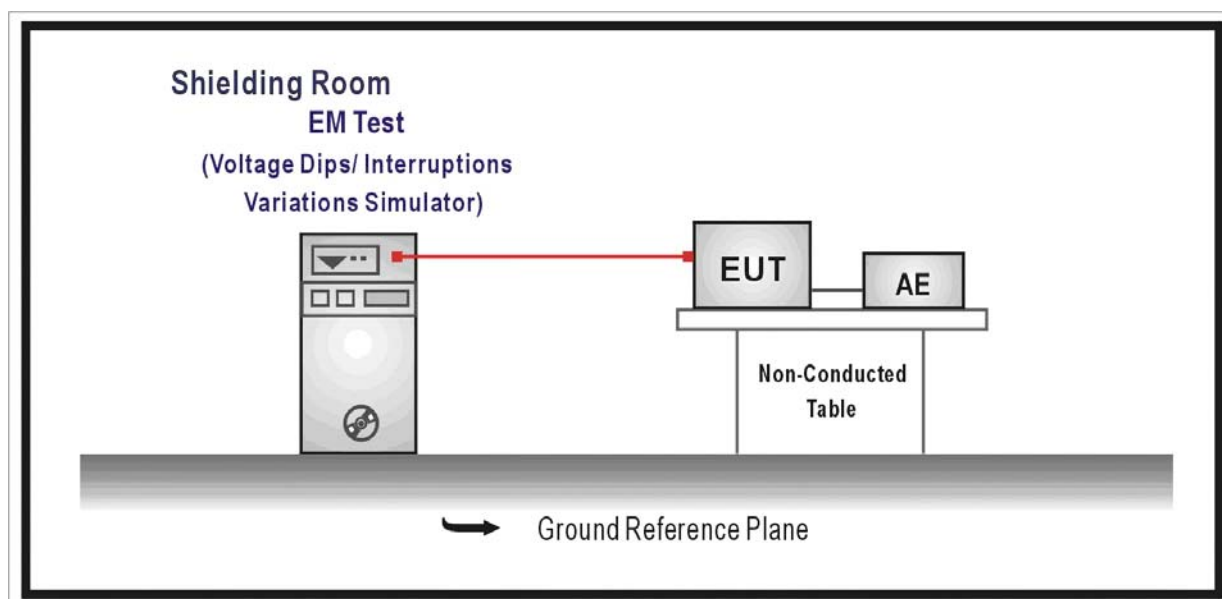


14. Voltage Dips and Interruption

14.1. Test Specification

According to Standard: IEC 61000-4-11

14.2. Test Setup



14.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Input A.C. Power Ports (See Note)				
Voltage Dips		% Reduction	30	C
		ms	500	
		% Reduction	>95	B
		ms	10	
Voltage Interruptions		% Reduction	>95	C
		ms	5000	

Note: Changes to occur at 0 degree crossover point of the voltage waveform.

14.4. Test Procedure

The EUT and its load are placed on a table which is 0.8 meter above a metal ground plane measured 1m*1m min. And 0.65mm thick min. And projected beyond the EUT by at least 0.1m on all sides. The power cord shall be used the shortest power cord as specified by the manufacturer.

For Voltage Dips/ Interruptions test:

The selection of test voltage is based on the rated power range. If the operation range is large than 20% of lower power range, both end of specified voltage shall be tested. Otherwise, the typical voltage specification is selected as test voltage.

The EUT is connected to the power mains through a coupling device that directly couples to the Voltage Dips and Interruption Generator.

The EUT shall be tested for 30% voltage dip of supplied voltage and duration 25 Periods, for 95% voltage dip of supplied voltage and duration 0.5 Periods with a sequence of three voltage dips with intervals of 10 seconds, and for 95% voltage interruption of supplied voltage and duration 250 Periods with a sequence of three voltage interruptions with intervals of 10 seconds.

Voltage phase shifting are shall occur at 0° , 45° , 90° , 135° , 180° , 225° , 270° , 315° of the voltage.

14.5. Deviation from Test Standard

No deviation.

14.6. Test Result

Product	Notebook
Test Item	Voltage Dips and Interruption
Test Mode	Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)
Date of Test	2009/05/16
Test Site	SR-2

Voltage Dips and Interruption Reduction (%)	Angle	Test Duration (ms)	Required Criteria	Complied to Criteria	Test Result
>95(0V)	0	10	B	A	Pass
>95(0V)	45	10	B	A	Pass
>95(0V)	90	10	B	A	Pass
>95(0V)	135	10	B	A	Pass
>95(0V)	180	10	B	A	Pass
>95(0V)	225	10	B	A	Pass
>95(0V)	270	10	B	A	Pass
>95(0V)	315	10	B	A	Pass
30(161V)	0	500	C	A	Pass
30(161V)	45	500	C	A	Pass
30(161V)	90	500	C	A	Pass
30(161V)	135	500	C	A	Pass
30(161V)	180	500	C	A	Pass
30(161V)	225	500	C	A	Pass
30(161V)	270	500	C	A	Pass
30(161V)	315	500	C	A	Pass
>95(0V)	0	5000	C	B	Pass
>95(0V)	45	5000	C	B	Pass
>95(0V)	90	5000	C	B	Pass
>95(0V)	135	5000	C	B	Pass
>95(0V)	180	5000	C	B	Pass
>95(0V)	225	5000	C	B	Pass
>95(0V)	270	5000	C	B	Pass
>95(0V)	315	5000	C	B	Pass

- ☒ Meet criteria A: Operate as intended during and after the test
- ☒ Meet criteria B: Operate as intended after the test
- ☐ Meet criteria C: Loss/Error of function
- ☒ Additional Information
 - ☐ EUT stopped operation and could / could not be reset by operator at _____ V,
at _____ angle.
 - ☒ No false alarms or other malfunctions were observed during or after the test.

14.7. Test Photograph

Test Mode : Mode 9: LCD (1366*768@60Hz) + VGA (1366*768@60Hz)

Description : Voltage Dips and Interruption Test Setup



15. Attachment

➤ EUT Photograph

(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo



(5) EUT Photo



(6) EUT Photo



(7) EUT Photo



(8) EUT Photo



(9) EUT Photo



(10) EUT Photo

