Test Report

Product Name :Notebook

Model No. : CY25,BY25

Applicant : COMPAL ELECTRONICS, INC.

Address : 581, Juikuang Rd., Neihu, Taiwan, R.O.C.

Date of Receipt : Apr. 08, 2002

Date of Test : Apr. 29, 2002

Report No. : 024L035E

CE

Declaration of Conformity

The following products is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility Directive (89/336/EEC). The listed standard as below were applied:

The following Equipment:

Product	:	Notebook
Trade Name	:	COMPAL
Model Number	:	CY25,BY25

This product is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility Directive (89/336/EEC).For the evaluation regarding EMC, the following standards were applied:

RFI Emission:

EN 55022:1998 Class B : Product family standard

EN 61000-3-2:1995 Class D : Limits for harmonic current emission
Amendment 1:1998
Amendment 2:1998
Amendment 14:200

EN 61000-3-3:1995 : Limitation of voltage fluctuation and flicker in low-voltage supply system

Immunity :

EN 55024:1998 Product family standard

The following importer/manufacturer is responsible for this declaration:

Company Name : _____

Company Address : _____

Telephone : _____ Facsimile : _____

Person is responsible for marking this declaration:

_____ _____
Name (Full Name) Position/ Title

_____ _____
Date Legal Signature

QTK QuieTek Corporation

EMC/Safety Test Laboratory
Accredited by DNV, TUV, Nemko and NVLAP

Date: Apr. 08, 2002
QTK No.: 024L035E

CE
Statement of Conformity

The certifies that the following designated product

Product	:	Notebook
Trade Name	:	COMPAL
Model Number	:	CY25,BY25
Company Name	:	COMPAL ELECTRONICS, INC.

This product is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility Directive (89/336/EEC).For the evaluation regarding EMC, the following standards were applied:

RFI Emission:

EN 55022:1998 Class B : Product family standard

EN 61000-3-2:1995 Class D : Limits for harmonic current emission
Amendment 1:1998
Amendment 2:1998
Amendment 14:2000

EN 61000-3-3:1995 : Limitation of voltage fluctuation and flicker in low-voltage supply system

Immunity :

EN 55024:1998 Product family standard

TÜV NVLAP NEMKO

TEST LABORATORY

Gene Chang/ Manager

The verification is based on a single evaluation of one sample of above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab. Logo.

QuieTek Corporation / No.75-1, Wang-Yeh Valley, Ying-Hsing, Chiung-Lin, Hsin-Chu County, Taiwan, R.O.C.
Tel: 886-2-8601-3788, Fax: 886-2-8601-3789, E-mail: service@quietek.com

Test Report Certification

QuieTek Corporation

Accredited by TUV, DNV, Nemko and NIST (NVLAP

Test Date : Apr. 29, 2002
Report No. : 024L035E

Product Name	:	Notebook
Applicant	:	COMPAL ELECTRONICS, INC.
Address	:	581, Juikuang Rd., Neihu, Taiwan, R.O.C.
Manufacturer	:	COMPAL ELECTRONICS, INC.
Model No.	:	CY25,BY25
Rated Voltage	:	AC 230V/50Hz
Trade Name	:	COMPAL
Measurement Standard	:	EN 55022:1998 Class B EN 61000-3-2:1995, Amendment 1:1998, Amendment 2:1998, Amendment 14:200,EN 61000-3-3:1995 EN 55024:1998
Measurement Procedure	:	EN 55022:1998, EN 61000-3-2:1995, EN 61000-3-3:1995, IEC 61000-4-2:1995, IEC 61000-4-3:1995 IEC 61000-4-4:1995, IEC 61000-4-5:1995, IEC 61000-4-6:1996 IEC 61000-4-8:1993, IEC 61000-4-11:1994
Test Result	:	Complied

The Test Results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Documented By : (Melody Hsu)

Tested By : (Kay Liao)

Reviewed By : (Murphy Wang)

Approved By : (Gene Chang)

TÜV DNV NVLAP NVLAP Lab Code: 200330-0 NEMKO

TABLE OF CONTENTS

1. General Information

1.1. EUT Description

Product Name	:	Notebook
Trade Name	:	COMPAL
Model No.	:	CY25,BY25

Note:

1. The EUT is Notebook with Max. resolution 1024*768/60Hz.
2. The model numberCY25 is same BY25 as model number, which is, differ enclosure only.
3. 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:

EMI Mode: Mode 1: P4 1.8GHz,1024*768/60Hz

EMS Mode: Mode 1: P4 1.8GHz,1024*768/60Hz

- Eight modes of testing for CY25,BY25 Approved by lab. Testing for pre-scan, finally, mode 2 is worse.
- Two models of EUT which are eight modes of testing to make into a list:
- **CY25,BY25 TEST BUILD**

	Mode 1:	Mode 2:	Mode 3:
LCD Panel	CRT CLAA150PA01SXGA+	AU UB141X03XGA	IBMITSX95CSXGA+
CPU	P4 1.8GHz	P4 1.8GHz	P4 1.8GHz
HDD	IBM, IC25N030ATCS04-0	IBM, IC25N040ATCS04-0	TOSHIBA, MK2018GAP
FDD	Panasonic, JU-226A273FC	Mitsumi, D353G-2938	Panasonic, JU-226A273FC
CD-ROM	QSI SCR-242-S 24X CD-ROM	Toshiba (8X),DVD/CD-RW,SD-R2101(Sharp)	Toshiba (8X), DVD-ROM, SD-C2612
M/COMP	Modem	WLAN	Modem
AC Adapter	ASTEC, SA80-3115 Input: AC 100-240V 50/60Hz Output: DC 19V 3.68A Cable out: Non-shielded, 1.8m, a ferrite core bonded	LITEONI, PA-1750-01 Input: AC 100-240V~2.3A Output: DC 19V 3.95A Cable out: Non-shielded, 1.8m, a ferrite core bonded	DELTA, ADP-65DB Input: AC 100-240V 1500mA Output: DC 19V 3420mA Cable out: Non-shielded, 1.8m, a ferrite core bonded

	Mode 4:	Mode 5:	Mode 6:
LCD Panel	AUB150XN01XGA	LG LP150X04XGA	HITACHI, TX38D85VC1CABXGA
CPU	P4 1.8GHz	P4 1.8GHz	P4 1.8GHz
HDD	TOSHIBA, MK2018GAP	TOSHIBA, MK4018GAP	HITACHI, DK23DA-20F
FDD	Mitsumi, D353G-2938	Panasonic, JU-226A273FC	Mitsumi, D353G-2938
CD-ROM	KME CD-RW UJDA340	Samsung CD-ROM SN-124P	HLDS DVD-ROM GDR-8081N
M/COMP	WLAN	Modem	WLAN
AC Adapter	ASTEC, SA80-3105 Input: AC 100-240V 50/60Hz Output: DC 19V 3.68A Cable out: Non-shielded, 1.8m, a ferrite core bonded	ASTEC, SA80-3115 Input: AC 100-240V 50/60Hz Output: DC 19V 3.68A Cable out: Non-shielded, 1.8m, a ferrite core bonded	LITEONI, PA-1750-01 Input: AC 100-240V~2.3A Output: DC 19V 3.95A Cable out: Non-shielded, 1.8m, a ferrite core bonded

	Mode 7:	Mode 8:
LCD Panel	LG LP150E01-A2M2SXGA+	CPT CLAA141XF01XGA
CPU	P4 1.8GHz	P4 1.8GHz
HDD	HITACHI, DK23DA-30F	HITACHI, DK23DA-40F
FDD	Panasonic, JU-226A273FC	Mitsumi, D353G-2938
CD-ROM	Toshiba, CD-RW SR-C8102	KME DVD/CD-ROM UJDA720CP
M/COMP	Modem	WLAN
AC Adapter	DELTA, ADP-65DB Input: AC 100-240V 1500mA Output: DC 19V 3420mA Cable out: Non-shielded, 1.8m, a ferrite core bonded	ASTEC, SA80-3105 Input: AC 100-240V 50/60Hz Output: DC 19V 3.68A Cable out: Non-shielded, 1.8m, a ferrite core bonded

1.2. Tested System Details

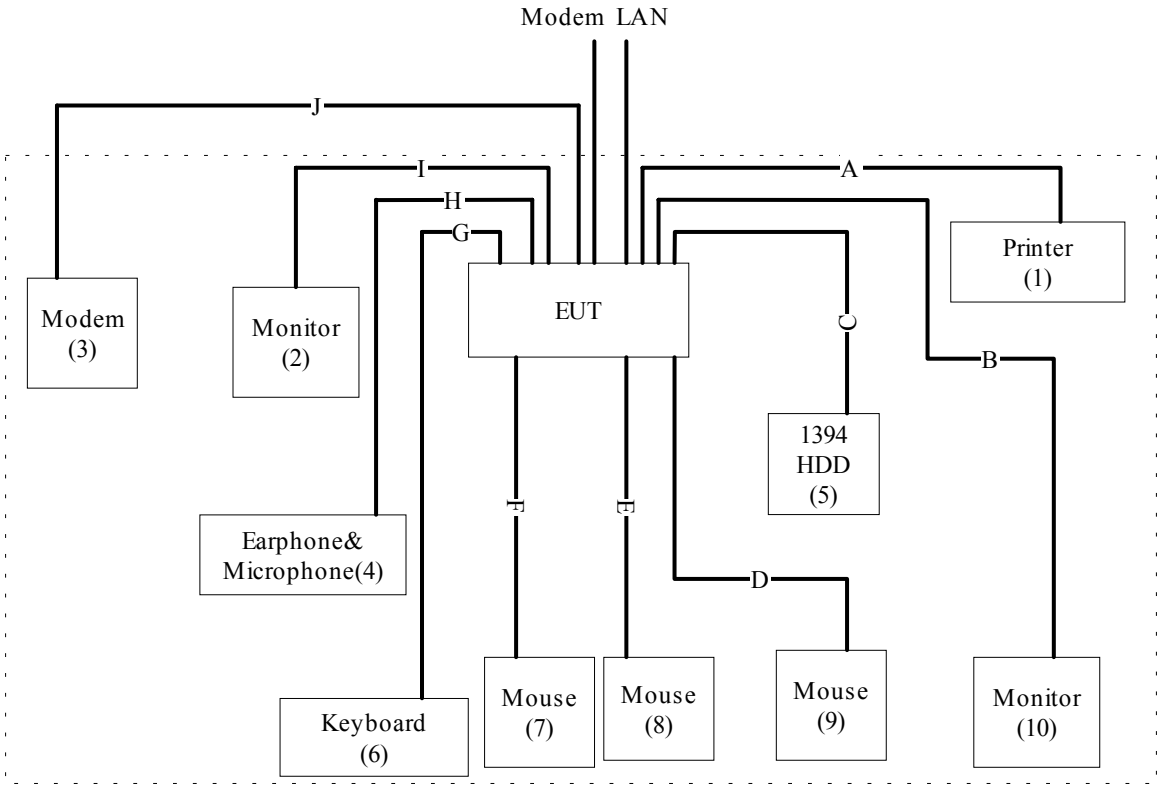
The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.
(1)	Printer	EPSON	Color 680	023913
(2)	Monitor	ADI	CM703	038054T10203881A
(3)	Modem	ACEEX	DM-1414	0102027537
(4)	Microphone & Earphone	TOKTO	SX-MI	N/A
(5)	External HDD	SKYMASTER	DEM-1351	N/A
(6)	Keyboard	HP	SK-2506	C00083358
(7)	Mouse	IBM	M-SAU-IBM6	23-029359
(8)	USB Mouse	Logitech	M-BE58	LZE10151096
(9)	USB Mouse	Logitech	M-BE58	LZE11405342
(10)	Monitor	SONY	PVM-14M2U	2105939

Note: 1. The power cord of the device 1,2,3 and 10 are non-shielded power cord.

Signal Cable Type		Signal cable Description
A.	Printer Cable	Shielded, 1.7m
B.	S-Video	Shielded, 1.8m
C.	1394 Cable	Shielded, 1.2m
D.	Mouse Cable	Shielded, 1.8m
E.	Mouse Cable	Shielded, 1.8m
F.	Mouse Cable	Shielded, 1.8m
G.	Keyboard Cable	Shielded, 1.8m
H.	Earphone & Microphone Cable	Non-shielded, 1.8m
I.	VGA Cable	Shielded, 1.8m, two ferrite cores bonded
J.	RS232	Shielded, 1.5m
K.	Telephone Cable	Non-shielded, 3.0m
L.	LAN Cable	Non-shielded, 3.0m

1.3. Configuration of tested System



1.4. EUT Exercise Software

(1). Setup the EUT and simulators as shown on 1.3.

(2). Turn on the power of all equipment.

(3). Adjust to appropriate video resolution and run Windows.

(4). Run “EMI-TEST、“Media Player” test program and play Audio.

(5). EUT will sends “H” pattern to monitor, the monitor will show “H” pattern on the screen.

(6). EUT sends “H” pattern to printer, the printer will print “H” pattern on paper.

(7). EUT Connect another simulation PC through LAN port and carry out Read/Write work each other.

(8). Repeat the above procedure (3) to (7).

1.5. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	IEC 61000-4-2	15-35	20-35
Humidity (%RH)		30-60	50-65
Barometric pressure (mbar)		860-1060	950-1000
Temperature (°C)	IEC 61000-4-5	15-35	20-35
Humidity (%RH)		10-75	50-65
Barometric pressure (mbar)		860-1060	950-1000
Temperature (°C)	IEC 61000-4-4 IEC 61000-4-8 IEC 61000-4-11	15-35	20-35
Humidity (%RH)		25-75	50-65
Barometric pressure (mbar)		860-1060	950-1000

Site Description:

June 29, 2001 Accreditation on NVLAP
NVLAP Lab Code: 200533-0

June 11, 2001 Accreditation on DNV
Statement No. : 413-99-LAB11

January 04, 1999 Accreditation on TUV Rheinland
Certificate No.: I9865712-9901

April 18, 2001 Accreditation on Nemko
Certificate No.: ELA 165
Certificate No.: ELA 162

Site Name: Quietek Corporation

Site Address: N0.5-22, Ruei-Shu Valley, Ruei-Ping Tsuen
Lin Kou Shiang, Taipei 244
Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

2. Conducted Emission

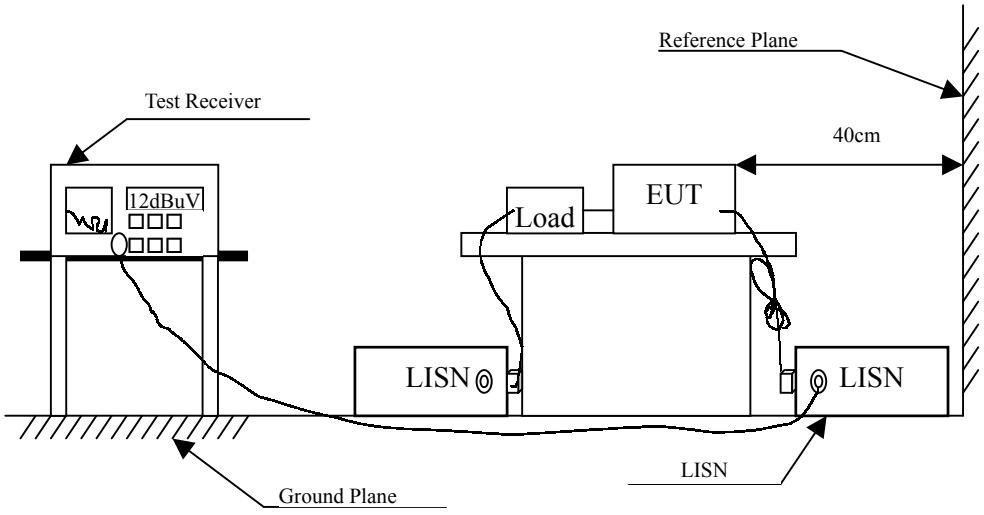
2.1. Test Equipment List

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal..	Remark
1	Test Receiver	R & S	ESCS 30/838251/0001	May, 2001	
2	L.I.S.N.	R & S	ESH3-Z5/836679/0023	May, 2001	EUT
3	L.I.S.N.	R & S	ENV 4200/833209/0023	May, 2001	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2001	
5	N0.4 Shielded Room			N/A	

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.2. Test Setup



2.3. Limits

EN 55022 Limits (dBuV)				
Frequency MHz	Class A		Class B	
	QP	AV	QP	AV
0.15 - 0.50	79	66	66-56	56-46
0.50-5.0	73	60	56	46
5.0 - 30	73	60	60	50

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

2.4. 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 according to EN 55022:1998 on conducted measurement.

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

2.5. Test Specification

According to EN 55022:1998

2.6. Test Result

The emission from the EUT was below the specified limits. The worst-case emissions are shown in section 13. The acceptance criterion was met and the EUT passed the test.

3. Radiated Emission

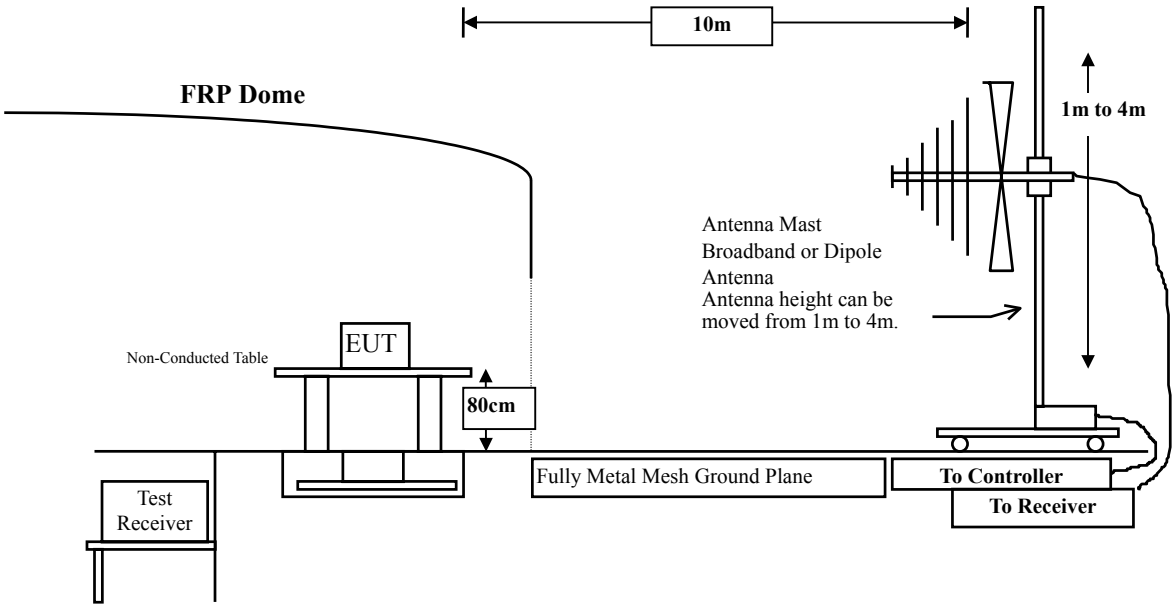
3.1. Test Equipment

The following test equipment are used during the radiated emission test:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☐ Site # 1	Test Receiver	R & S	ESVS 10 / 834468/003	July, 2001
	Spectrum Analyzer	Advantest	R3162/ 00803480	May, 2001
	Pre-Amplifier	Advantest	BB525C/ 3307A01812	May, 2001
	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	Nov., 2001
☒ Site # 2	Test Receiver	R & S	ESCS 30 / 836858/022	Nov., 2001
	Spectrum Analyzer	Advantest	3162 / 100803466	May, 2001
	Pre-Amplifier	Advantest	BB525C/3307A01814	May, 2001
	Bilog Antenna	SCHAFFNER	CBL6112B / 2705	Oct., 2001
	Horn Antenna	ETS	3115 / 0005-6160	July, 2001
	Pre-Amplifier	QTK	QTK-AMP-01/ 0001	July, 2001
☐ Site # 3	Test Receiver	R & S	ESIS 26 / 838786 / 004	Nov., 2001
	Spectrum Analyzer	Advantest	3162 / 100803480	May, 2001
	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2001
	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2001
	Horn Antenna	ETS	3115 / 0005-6160	July, 2001
	Pre-Amplifier	QTK	QTK-AMP-01/ 0001	July, 2001

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.
2. Mark "X" test instruments are used to measure the final test results.

3.2. Test Setup



3.3. Limits

EN 55022 Limits (dBuV/m)				
Frequency MHz	Class A		Class B	
	Distance (m)	dBuV/m	Distance (m)	dBuV/m
30 – 230	10	40	10	30
230 – 1000	10	47	10	37

3.4. 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 according to EN 55022:1998 on radiated measurement.

Radiated emissions were invested over the frequency range from 30MHz to1GHz using a receiver bandwidth of 120kHz. Radiated was performed at an antenna to EUT distance of 10 meters.

3.5. Test Specification

According to EN 55022:1998

3.6. Test Result

The emission from the EUT was below the specified limits. The worst-case emissions are shown in section 13. The acceptance criterion was met and the EUT passed the test.

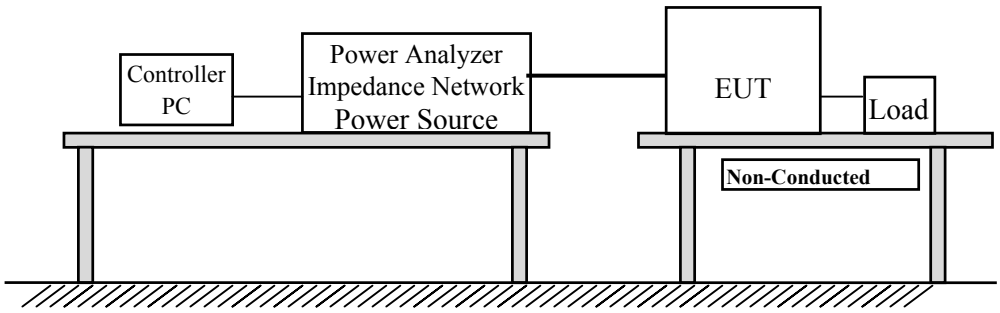
4. Power Harmonics and Voltage Fluctuation

4.1. Power Harmonics and Voltage Fluctuation Test Equipment List

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Power Harmonics Tester	SCHAFFNER	Profline 2105-400 S/N: HK54148	Jun., 2001
2	Analyzer	SCHAFFNER	CCN 1000-1/X71887	Jun., 2001
3	No.3 Shielded Room			N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

4.2. Test Setup



4.3. Limits

➢Limits of Harmonics Currents

Harmonics Order	Maximum Permissible harmonic current (in amperes)	Harmonics Order	Maximum Permissible harmonic current (in amperes)
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	$8 \le n \le 40$	0.23 * 8/n
11	0.33		
13	0.21		
$15 \le n \le 39$	0.15 * 15/n		

4.4. 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.

4.5. Test Specification

According to EN 61000-3-2:1995, , Amendment 1:1998, Amendment 2:1998
and EN 61000-3-3:1995

4.6. Test Result

The measurement of the power harmonics, which test at the extremes of EUT's supply range, was investigated and test result was shown in section 13. The acceptance criterion was met and the EUT passed the test.

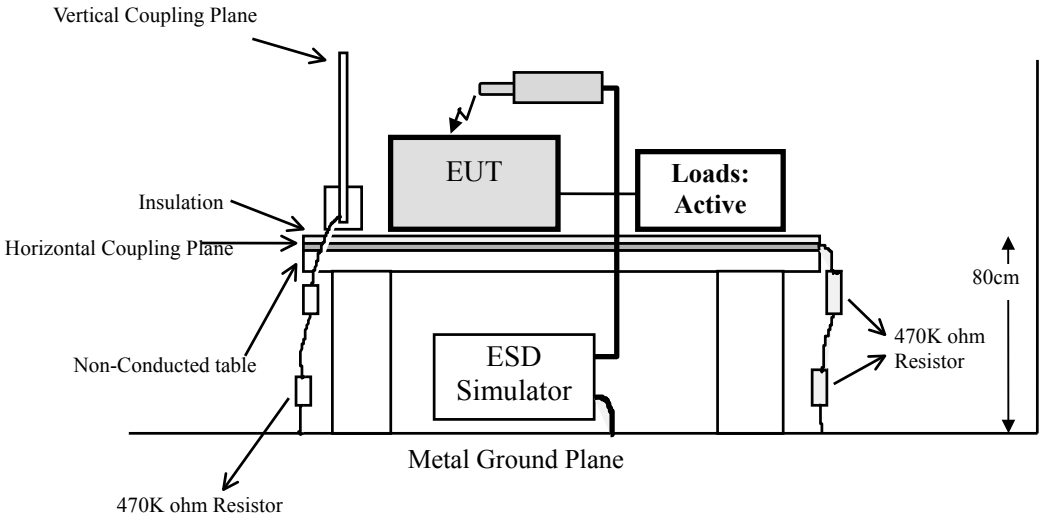
5. Electrostatic Discharge (ESD)

5.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	ESD Simulator System	Key Tek	ME-15/EC 0112372	Jun., 2001
2	Horizontal Coupling Plane(HCP)	QuieTek	HCP AL50	N/A
3	Vertical Coupling Plane(VCP)	QuieTek	VCP AL50	N/A
4	No.3 Shielded Room			N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

5.2. Test Setup



5.3. Test Level

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

Remark:

The Contact discharges were applied – at least total 200 discharges at a minimum of four test points.

5.4. 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.

5.5. Test Specification

According to IEC 61000-4-2:1995

5.6. Test Result

The measurement of the electrostatic discharge was investigated and test result was shown in section 13. The acceptance criterion was met and the EUT passed the test.

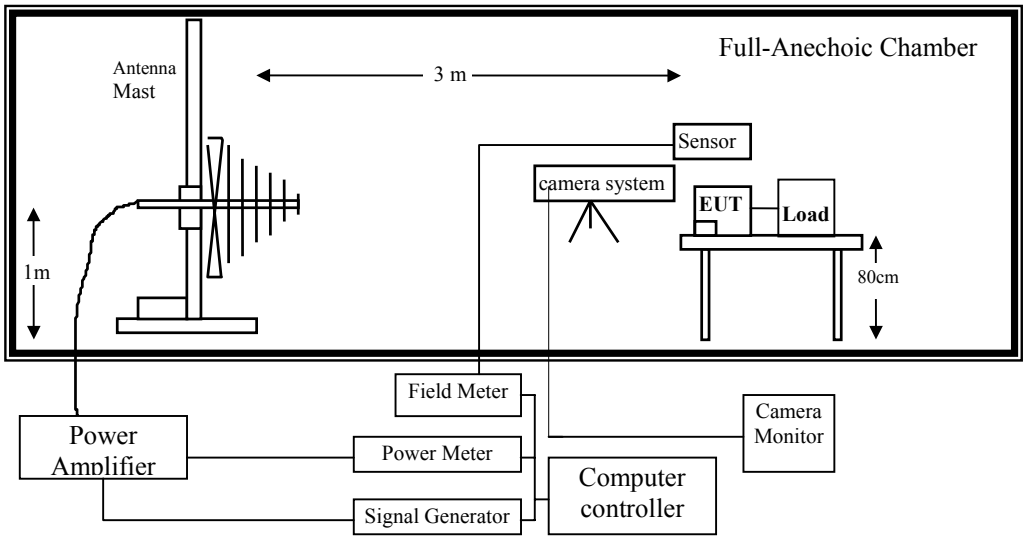
6. Radiated Susceptibility (RS)

6.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Signal Generator	IFR	2023B / 202302/581	May, 2001
2	Power Amplifier	A & R	500A100AM3 /29369	Aug., 2001
3	Power Amplifier	SCHAFFNER	CBA9413B / 0006	June, 2001
4	Field Strength Sensor	SCHAFFNER	EMC 20 / Y-0028/ Z-0003	June, 2001
5	Power Antenna	SCHWARZBECK	VULB 9166 / 1073	Sep., 2001
6	Power Meter	BOONTON	4232A / 42201	May, 2001
7	No.2 EMC Fully Chamber			July, 2001

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

6.2. Test Setup



6.3. Test Level

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

6.4. 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
EN 55024:1998	
1. Field Strength	3 V/M Level 2
2. Radiated Signal	AM 80% Modulated with 1kHz
3. Scanning Frequency	80MHz – 1000MHz
4 Dwell Time	3 Seconds
5. Frequency step size Δf :	1%
6. The rate of Swept of Frequency	1.5 x 10^{-3} decades/s

6.5. Test Specification

According to IEC 61000-4-3:1995

6.6. Test Result

The measurement of the radiated susceptibility was investigated and test result was shown in section 13. The acceptance criterion was met and the EUT passed the test.

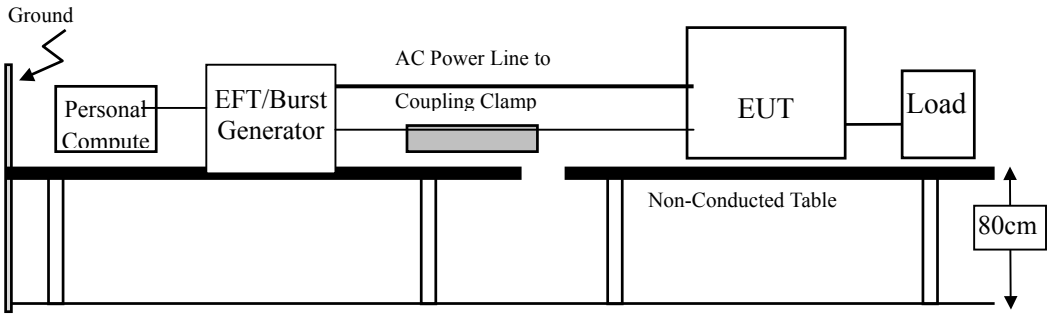
7. Electrical Fast Transient/Burst (EFT/B)

7.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Fast Transient/Burst Generator	SCHAFFNER	BEST S/N: 300035-008SC	Jun., 2001
2	No.3 Shielded Room			N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

7.2. Test Setup



7.3. Test Level

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Signal Ports and Telecommunication Ports				
	Fast Transients Common Mode	kV (Peak) Tr/Ts ns Rep. Frequency kHz	± 0.5 5/50 5	B
Input DC Power Ports				
	Fast Transients Common Mode	kV (Peak) Tr/Ts ns Rep. Frequency kHz	± 0.5 5/50 5	B
Input AC Power Ports				
	Fast Transients Common Mode	kV (Peak) Tr/Ts ns Rep. Frequency kHz	± 1 5/50 5	B

7.4. Test Procedure

The EUT and 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.

For Signal Ports 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 1min.

For Input DC and AC Power Ports:

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

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

The length of power cord between the coupling device and the EUT shall be 1m.

7.5. Test Specification

According to IEC 61000-4-4:1995

7.6. Test Result

The measurement of the Electrical Fast Transient/Burst was investigated and test result was shown in section 13. The acceptance criterion was met and the EUT passed the test.

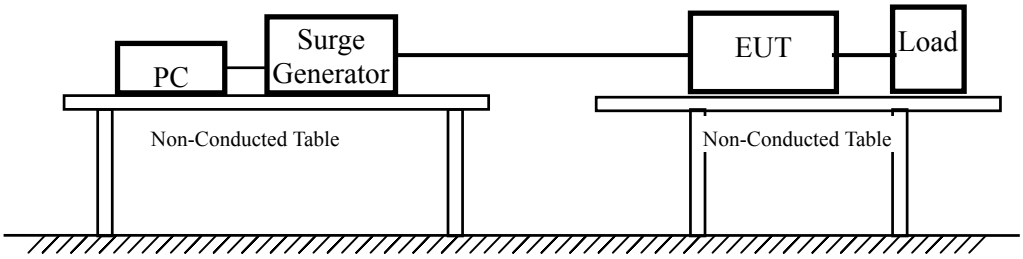
8. Surge

8.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Surge Generator	SCHAFFNER	BEST S/N: 300035-008SC	Jun., 2001
2	No.3 Shielded Room			N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

8.2. Test Setup



8.3. Test Level

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Signal Ports and Telecommunication Ports				
	Surges	Tr/Ts uS	1.2/50 (8/20)	
	Line to Ground	KV	± 1	B
Input DC Power Ports				
	Surges	Tr/Ts uS	1.2/50 (8/20)	
	Line to Ground	kV	± 0.5	B
AC Input and AC Output Power Ports				
	Surges	Tr/Ts uS	1.2/50 (8/20)	
	Line to Line	kV	± 1	B
	Line to Ground	kV	± 2	

Notes:

1) Applicable only to ports which according to the manufacturer's may directly to outdoor cables.
2) Where normal functioning cannot be achieved because of the impact of the CDN on the EUT,no test shall be required.

8.4. 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 and Output AC Power or DC Input and DC Output 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.

8.5. Test Specification

According to IEC 61000-4-5:1995

8.6. Test Result

The measurement of the Surge was investigated and test result was shown in section 13. The acceptance criterion was met and the EUT passed the test.

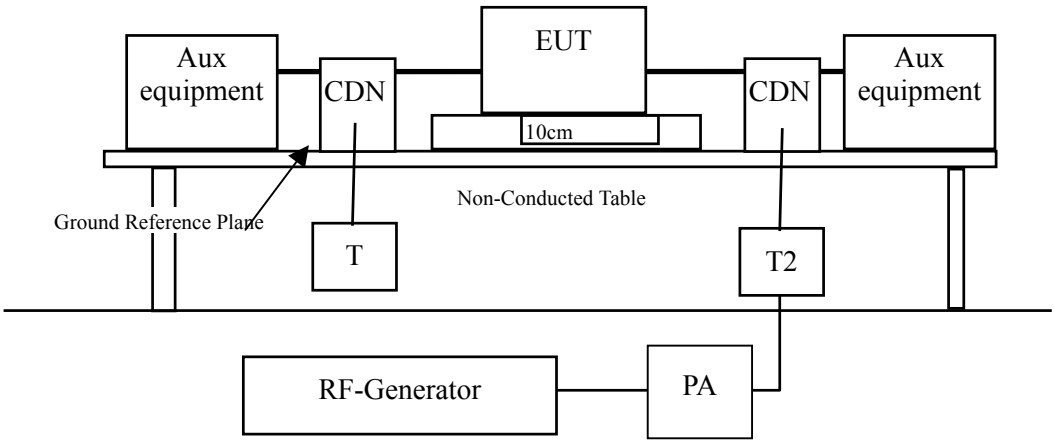
9. Conducted Susceptibility (CS)

9.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Signal Generator	IFR	2023B / 202302/581	May, 2001
2	Power Amplifier	A & R	500A100AM3 /29369	Aug., 2001
3	Power Amplifier	SCHAFFNER	CBA9413B / 0006	Jun, 2001
4	CDN 1	Schwarzbeck	L801 M2/3 / 1549	Jun, 2001
5	CDN 2	Schwarzbeck	L801 S1 / 1574	Jun, 2001
6	CDN 3	Schwarzbeck	L801 AF4 / 1064	Jun, 2001
7	CDN 4	Schwarzbeck	L801 AF8 / 1070	Jun, 2001
8	CDN 5	FCC	FCC-801-S9 / 9837	Jun, 2001
9	CDN 6	FCC	FCC-801-S15 / 9838	Jun, 2001
10	CDN 7	FCC	FCC-801-S25 / 9839	Jun, 2001
11	50 ohm Terminator	RES-NET	RCX6BM	Jun, 2001
12	6dB Attenuator	BIRD	RFA250NFF10	Jun, 2001
13	EM Clamp	Schwarzbeck	KEMZ 801 / 15928	Jun, 2001
14	No.2 EMC Fully Chamber			N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

9.2. Test Setup



9.3. Test Level

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

9.4. 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 10cm 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 DC and AC 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	130dBuV(3V) Level 2
2. Radiated Signal	AM 80% Modulated with 1kHz
3. Scanning Frequency	0.15MHz – 80MHz
4 Dwell Time	3 Seconds
5. Frequency step size Δf :	1%
6. The rate of Swept of Frequency	1.5 x 10^{-3} decades/s

9.5. Test Specification

According to IEC 61000-4-6:1996

9.6. Test Result

The measurement of the Conducted Susceptibility was investigated and test result was shown in section 13. The acceptance criterion was met and the EUT passed the test.

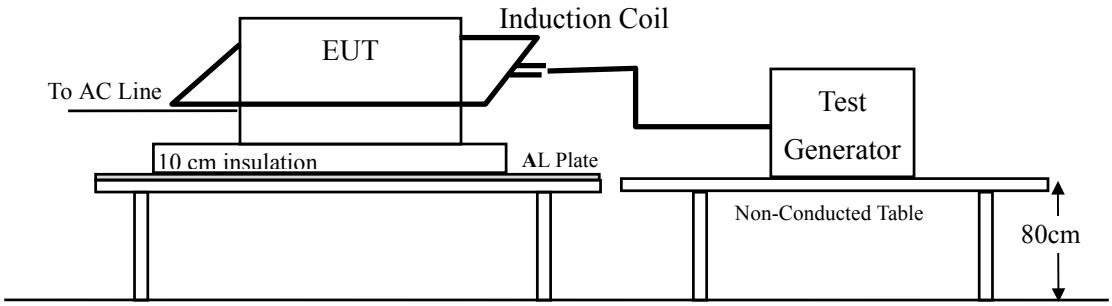
10. Power Frequency Magnetic Field

10.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Voltage Dips Generator	Schaffner	Best S/N: 300035-008SC	Jun., 2001
2	Gauss Meter	F.W.BELL	4090	Jun., 2001
3	No.3 Shielded Room			N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

10.2. Test Setup



10.3. Test Level

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

10.4. 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 10minutes 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).

10.5. Test Specification

According to IEC 61000-4-8:1993

10.6. Test Result

The measurement of the Power Frequency Magnetic Field was investigated and test result was shown in section 13. The acceptance criterion was met and the EUT passed the test.

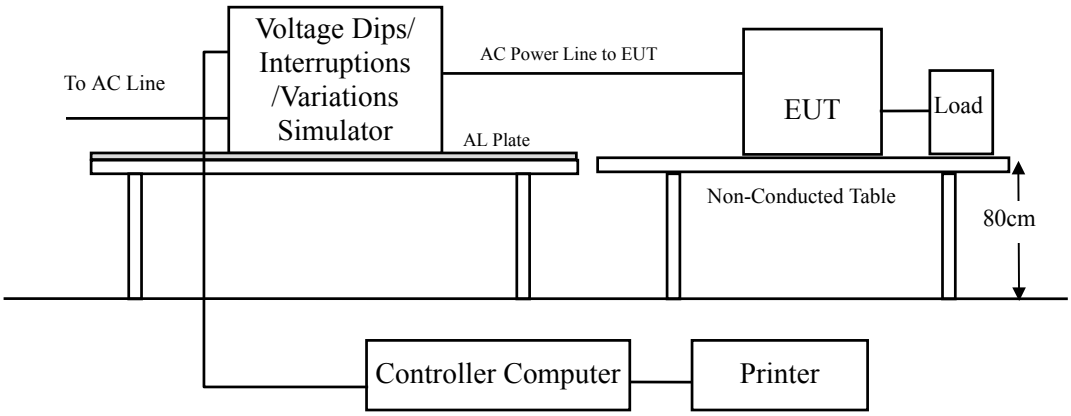
11. Voltage Dips and Interruption Measurement

11.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Voltage Dips Generator	Schaffner	Best S/N: 300035-008SC	Jun., 2001
2	No.3 Shielded Room			N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

11.2. Test Setup



11.3. Test Level

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Input AC Power Ports				
	Voltage Dips	>95 0.5	% Reduction Period	B
		30 25	% Reduction Periods	C
	Voltage Interruptions	> 95 250	% Reduction Periods	C

11.4. 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 10ms,
for 60% voltage dip of supplied voltage and duration 100ms with a sequence of three voltage dips with intervals of 10 seconds, and for 95% voltage interruption of supplied voltage and duration 5000ms 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.

11.5. Test Specification

According to IEC 61000-4-11:1994

11.6. Test Result

The measurement of the Voltage Dips and Interruption was investigated and test result was shown in section 13. The acceptance criterion was met and the EUT passed the test.

12. EMC Reduction Method During Compliance Testing

No modification was made during testing.

13. Test Result

The test results in the emission and the immunity were performed according to the requirements of measurement standard and process. Quietek Corporation is assumed full responsibility for the accuracy and completeness of these measurements. The test data of the emission is listed as below.

All the tests were carried out with the EUT in normal operation, which was defined as:

EMI Mode: Mode 1: P4 1.8GHz,1024*768/60Hz

EMS Mode: Mode 1: P4 1.8GHz,1024*768/60Hz

Note :

☒ No Deviation from standard procedure

☐ Deviations from standard procedure

13.1. Test Data of Conducted Emission

Product : Notebook
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

	Frequency MHz	Cable Loss dB	LISN Factor dB	Reading Level dBuV	Measurement Level dBuV	Limits dBuV
Quasi-Peak						
*	0.207	0.21	0.10	46.66	46.97	63.31
	0.280	0.21	0.10	39.64	39.95	60.83
	0.488	0.21	0.10	26.83	27.14	56.21
	1.252	0.16	0.11	29.84	30.11	56.00
	5.151	0.29	0.17	28.62	29.08	60.00
	22.570	0.26	0.50	35.98	36.73	60.00
Average						
	0.207	0.21	0.10	34.80	35.11	53.32
	0.280	0.21	0.10	30.20	30.51	50.82
	0.488	0.21	0.10	21.80	22.11	46.20
	1.252	0.16	0.11	27.40	27.67	46.00
	5.151	0.29	0.17	21.70	22.16	50.00
*	22.570	0.26	0.50	35.90	36.65	50.00

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 + LISN Factor + Cable loss.
4. "--", means the average measurement was not performed when the Quasi-Peak measured data under the limit of average detection.

Product : Notebook
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

	Frequency MHz	Cable Loss dB	LISN Factor dB	Reading Level dBuV	Measurement Level dBuV	Limits dBuV
Quasi-Peak						
*	0.205	0.21	0.10	39.10	39.41	63.42
	0.271	0.21	0.10	33.41	33.72	61.08
	0.341	0.21	0.10	29.41	29.72	59.17
	2.058	0.09	0.13	23.82	24.04	56.00
	3.638	0.23	0.16	28.09	28.47	56.00
	5.560	0.29	0.17	21.35	21.81	60.00
Average						
	0.207	0.21	0.10	35.20	35.51	53.32
	0.279	0.21	0.10	31.20	31.51	50.85
	0.418	0.21	0.10	27.10	27.41	47.49
	1.530	0.16	0.12	28.70	28.98	46.00
	5.219	0.29	0.17	21.00	21.46	50.00
*	22.569	0.26	0.50	35.40	36.15	50.00

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 + LISN Factor + Cable loss.
4. "--", means the average measurement was not performed when the Quasi-Peak measured data under the limit of average detection.

13.2. Test Data of Radiated Emission

Product : Notebook
Test Item : Radiated Emission
Test Site : No.2 OATS
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

	Freq. MHz	Cable Loss dB	Probe Factor dB/m	PreAMP dB	Reading Level dBuV	Emission Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal								
	48.274	0.96	8.36	0.00	11.55	20.87	9.13	30.00
	72.410	1.08	6.64	0.00	17.62	25.35	4.65	30.00
	85.903	1.16	8.78	0.00	12.64	22.59	7.41	30.00
	110.602	1.28	12.01	0.00	10.89	24.18	5.82	30.00
	135.176	1.41	11.59	0.00	13.54	26.54	3.46	30.00
	159.756	1.53	9.62	0.00	15.07	26.22	3.78	30.00
	184.332	1.67	8.02	0.00	17.64	27.33	2.67	30.00
	208.916	1.78	8.46	0.00	17.17	27.41	2.59	30.00
	272.030	2.12	11.73	0.00	19.77	33.62	3.38	37.00
*	372.250	2.63	14.14	0.00	17.91	34.68	2.32	37.00
	400.884	2.78	14.85	0.00	15.12	32.75	4.25	37.00
	450.997	3.04	16.31	0.00	12.57	31.92	5.08	37.00
	901.996	5.38	19.31	0.00	3.64	28.33	8.67	37.00
Vertical								
	47.987	0.96	7.00	0.00	17.66	25.63	4.37	30.00
	66.060	1.06	5.86	0.00	16.56	23.47	6.53	30.00
	109.260	1.28	10.75	0.00	15.12	27.15	2.85	30.00
	114.533	1.31	10.85	0.00	14.04	26.20	3.80	30.00
*	123.711	1.35	10.23	0.00	15.99	27.56	2.44	30.00
	135.188	1.41	10.59	0.00	11.08	23.09	6.91	30.00
	159.776	1.53	8.68	0.00	16.05	26.26	3.74	30.00
	193.189	1.70	8.08	0.00	15.86	25.65	4.35	30.00
	200.443	1.74	8.30	0.00	15.12	25.16	4.84	30.00
	214.760	1.82	9.30	0.00	15.64	26.77	3.23	30.00
	257.709	2.04	12.64	0.00	16.07	30.75	6.25	37.00
	372.249	2.63	14.87	0.00	14.05	31.55	5.45	37.00
	386.568	2.71	15.31	0.00	16.25	34.27	2.73	37.00
	450.996	3.04	16.91	0.00	12.84	32.79	4.21	37.00
	773.136	4.71	20.04	0.00	7.12	31.88	5.12	37.00
	837.567	5.03	18.85	0.00	6.55	30.43	6.57	37.00
	901.992	5.38	21.01	0.00	5.96	32.35	4.65	37.00

Note:

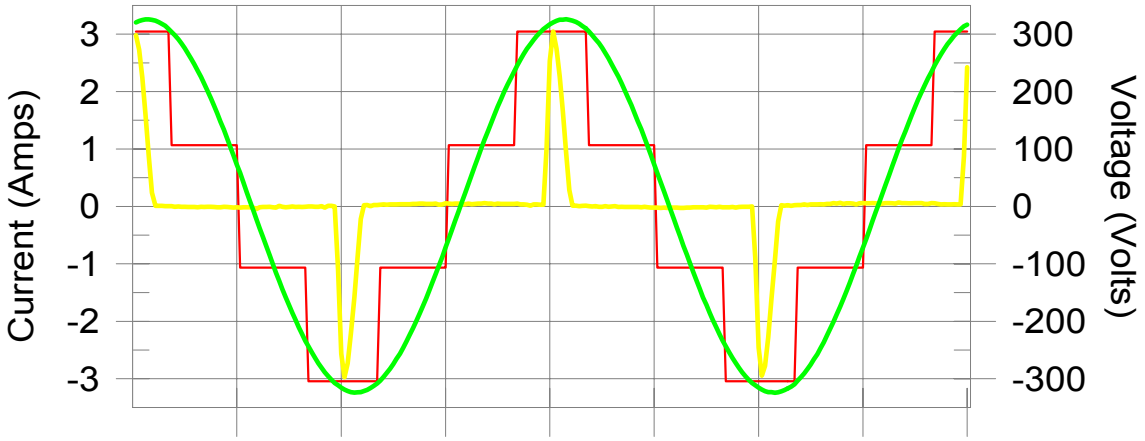
1. All Reading Levels below 1GHz are Quasi-Peak, above are Peak and average value.
2. " * ", means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable loss – Preamp.

13.3. Test Data of Power Harmonics

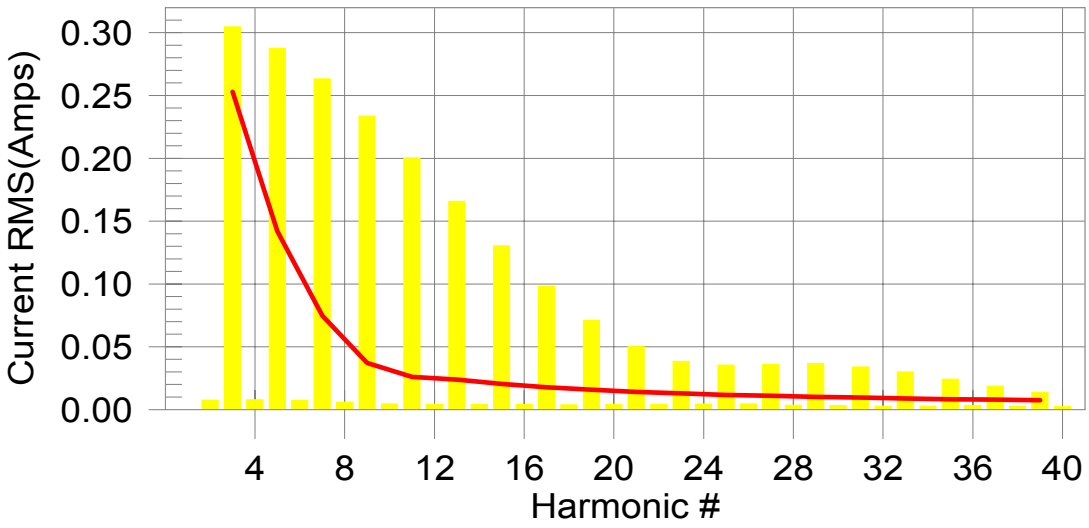
Product : Notebook
Test Item : Power Harmonics
Classification : Class D
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

Test Result: Pass Source qualification: Normal

Current & voltage waveforms It is 0.0% outside Class-D envelope



Harmonics and Class D limit line European Limits



Test result: Pass Worst harmonic was #0 with 0.00 % of the limit.

Current Test Result Summary (Run time)

Test Result: Pass Source qualification: Normal

Highest parameter values during test:

V_RMS (Volts):	229.80		
I_Peak (Amps):	3.044	I_RMS (Amps):	0.715
I_Fund (Amps):	0.324	Crest Factor:	4.276
Power (Watts):	75	Power Factor:	0.456

Harm#	Harmonics	Limit	% of Limit	Status
2	0.008			
3	0.305	0.253	--	Pass
4	0.008			
5	0.288	0.142	--	Pass
6	0.007			
7	0.263	0.075	--	Pass
8	0.006			
9	0.234	0.037	--	Pass
10	0.005			
11	0.200	0.026	--	Pass
12	0.004			
13	0.166	0.024	--	Pass
14	0.004			
15	0.130	0.021	--	Pass
16	0.004			
17	0.098	0.018	--	Pass
18	0.004			
19	0.071	0.016	--	Pass
20	0.004			
21	0.050	0.014	--	Pass
22	0.004			
23	0.038	0.013	--	Pass
24	0.004			
25	0.035	0.012	--	Pass
26	0.005			
27	0.036	0.011	--	Pass
28	0.004			
29	0.037	0.010	--	Pass
30	0.003			
31	0.034	0.010	--	Pass
32	0.003			
33	0.030	0.009	--	Pass
34	0.003			
35	0.024	0.008	--	Pass
36	0.003			
37	0.019	0.008	--	Pass
38	0.003			
39	0.014	0.008	--	Pass
40	0.002			

Note :

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.

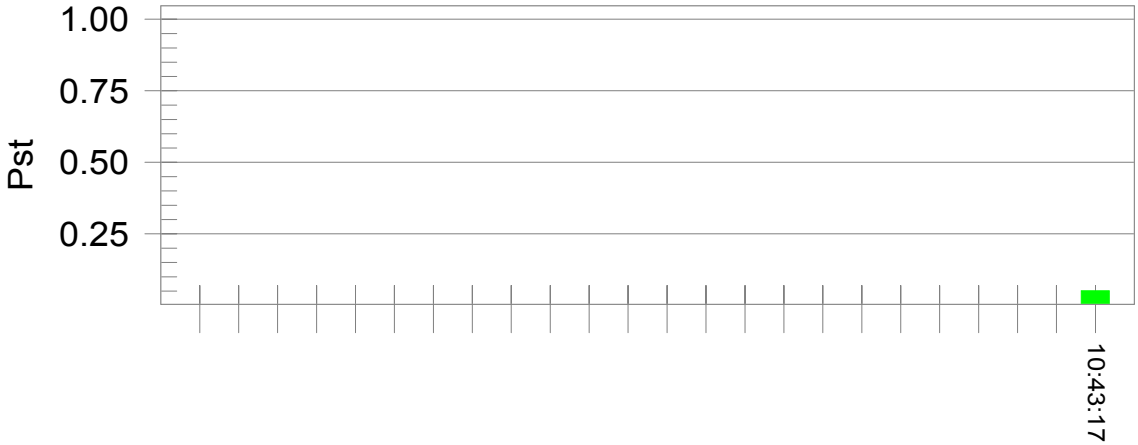
2:According to EN61000-3-2 pavagraph 7.4 the limits given in table 3 are valid for all applications having an active input power >75W.

3." -- " mean the limit is not applicable

Flicker Test Summary (Run time)

Test Result: Pass Status: Test Completed

Pst and limit line European Limits



Time is too short for Plt plot

Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.68		
Highest dt (%):	0.14	Test limit (%):	4.00
Highest dc (%):	0.00	Test limit (%):	3.30
Highest dmax (%):	-0.14	Test limit (%):	4.00
Highest Pst (10 min. period):	0.051	Test limit:	1.000
Highest Plt (2 hr. period):	0.022	Test limit:	0.650

13.4. Test Data of Electrostatic Discharge

Product : Notebook
Test Item : Electrostatic Discharge
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

Item	Amount of Discharge	Voltage	Required Criteria	Complied To Criteria (A,B,C)	Results
Air Discharge	10	+8kV	B	A	Pass
	10	-8kV	B	A	Pass
Contact Discharge	10	+4kV	B	A	Pass
	10	-4kV	B	A	Pass
Indirect Discharge (HCP)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass
Indirect Discharge (VCP Front)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass
Indirect Discharge (VCP Left)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass
Indirect Discharge (VCP Back)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass
Indirect Discharge (VCP Right)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass

NR: No Requirement

☒ 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.

13.5. Test Data of Radiated Susceptibility

Product : Notebook
Test Item : Radiated Susceptibility
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

Frequency (MHz)	Position (Angle)	Polarity (H or V)	Field Strength (V/m)	Required Criteria	Complied To Criteria (A,B,C)	Results
80-1000	0	H	3	A	A	Pass
80-1000	0	V	3	A	A	Pass
80-1000	90	H	3	A	A	Pass
80-1000	90	V	3	A	A	Pass
80-1000	180	H	3	A	A	Pass
80-1000	180	V	3	A	A	Pass
80-1000	270	H	3	A	A	Pass
80-1000	270	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
  ☐ There was no observable degradation in performance.
  ☐ 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.

13.6. Test Data of Electrical Fast Transient

Product : Notebook
Test Item : Electrical Fast Transient
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

Inject Line	Polarity	Voltage kV	Inject Time (Second)	Inject Method	Required Criteria	Complied to Criteria	Result
L	±	1kV	60	CDN	B	B	Pass
N	±	1kV	60	CDN	B	B	Pass
PE	±	1kV	60	CDN	B	B	Pass
L+N	±	1kV	60	CDN	B	B	Pass
L+PE	±	1kV	60	CDN	B	B	Pass
N+PE	±	1kV	60	CDN	B	B	Pass
L+N+PE	±	1kV	60	CDN	B	B	Pass
LAN	±	0.5kV	60	Clamp	B	B	Pass
Modem	±	0.5kV	60	Clamp	B	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 _____ kV of Line _____.
☒ No false alarms or other malfunctions were observed during or after the test.

13.7. Test Data of Surge

Product : Notebook
Test Item : SURGE
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

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

13.8. Test Data of Conducted Susceptibility

Product : Notebook
Test Item : Conducted Susceptibility
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

Frequency Range (MHz)	Voltage Applied dBuV(V)	Inject Method	Tested Port of EUT	Required Criteria	Performance Criteria Complied To	Result
0.15~80	130(3V)	CDN 1	AC IN	A	A	PASS
0.15~80	130(3V)	CDN 1	Signal Line	A	A	PASS
0.15~80	130(3V)	CDN 1	Signal Line	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 _____ kV of Line _____.
☒ No false alarms or other malfunctions were observed during or after the test. The acceptance criteria were met, and the EUT passed the test.

13.9. Test Data of Power Frequency Magnetic Field

Product : Notebook
Test Item : Power Frequency Magnetic Field
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

Polarization	Frequency (Hz)	Magnetic Strength (A/m)	Required Performance Criteria	Performance Criteria Complied To	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 _____ kV of Line _____.
☒ No false alarms or other malfunctions were observed during or after the test. The acceptance criteria were met, and the EUT passed the test.

13.10. Test Data of Voltage Dips and Interruption

Product : Notebook
Test Item : Voltage Dips and Interruption
Test Mode : Mode 1: P4 1.8GHz,1024*768/60Hz

Voltage Dips and Interruption Reduction(%)	Angle	Test Duration (Periods)	Required Performance Criteria	Performance Criteria Complied To	Test Result
>95(0V)	0	0.5	B	A	PASS
>95(0V)	45	0.5	B	A	PASS
>95(0V)	90	0.5	B	A	PASS
>95(0V)	135	0.5	B	A	PASS
>95(0V)	180	0.5	B	A	PASS
>95(0V)	225	0.5	B	A	PASS
>95(0V)	270	0.5	B	A	PASS
>95(0V)	315	0.5	B	A	PASS
30(161V)	0	25	C	A	PASS
30(161V)	45	25	C	A	PASS
30(161V)	90	25	C	A	PASS
30(161V)	135	25	C	A	PASS
30(161V)	180	25	C	A	PASS
30(161V)	225	25	C	A	PASS
30(161V)	270	25	C	A	PASS
30(161V)	315	25	C	A	PASS
>95(0V)	0	250	C	A	PASS
>95(0V)	45	250	C	A	PASS
>95(0V)	90	250	C	A	PASS
>95(0V)	135	250	C	A	PASS
>95(0V)	180	250	C	A	PASS
>95(0V)	225	250	C	A	PASS
>95(0V)	270	250	C	A	PASS
>95(0V)	315	250	C	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

- ☐ The nominal voltage of EUT is 230V.
- ☐ 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. The acceptance criteria were met, and the EUT passed the test.

Attachment 1 : EUT Test Photographs

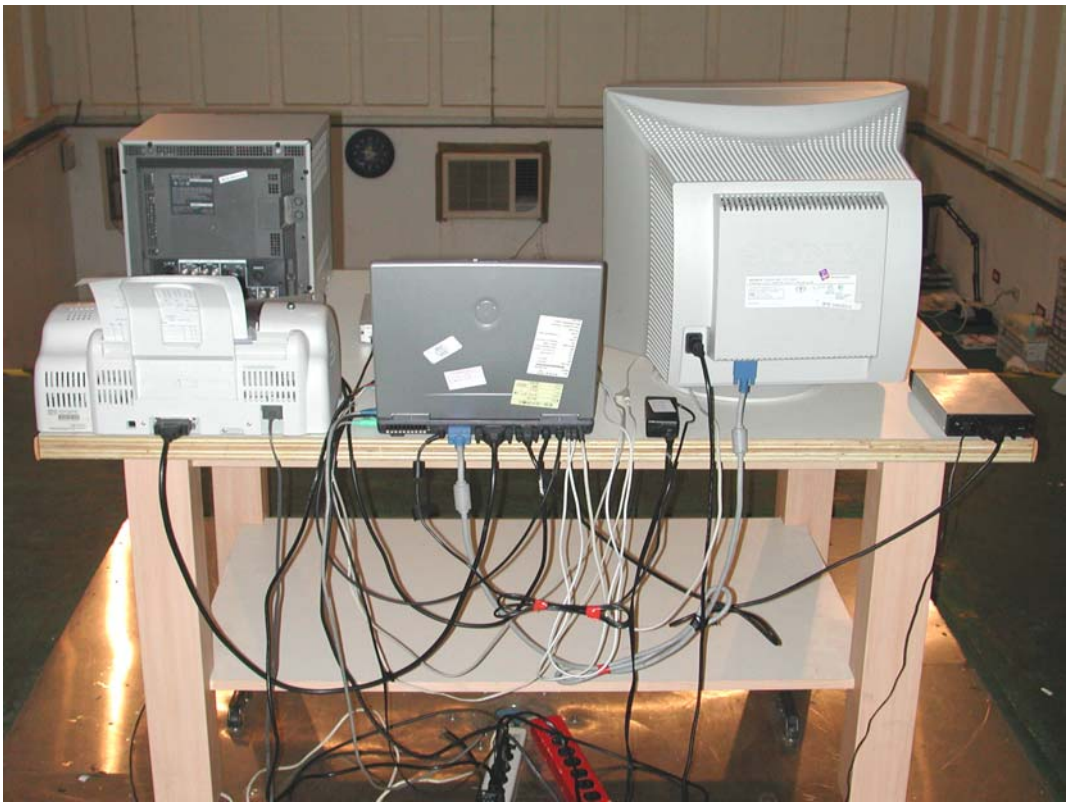
Attachment 1 : EUT Test Photographs

Front View of Conducted Test

Back View of Conducted Test

Front View of Radiated Test

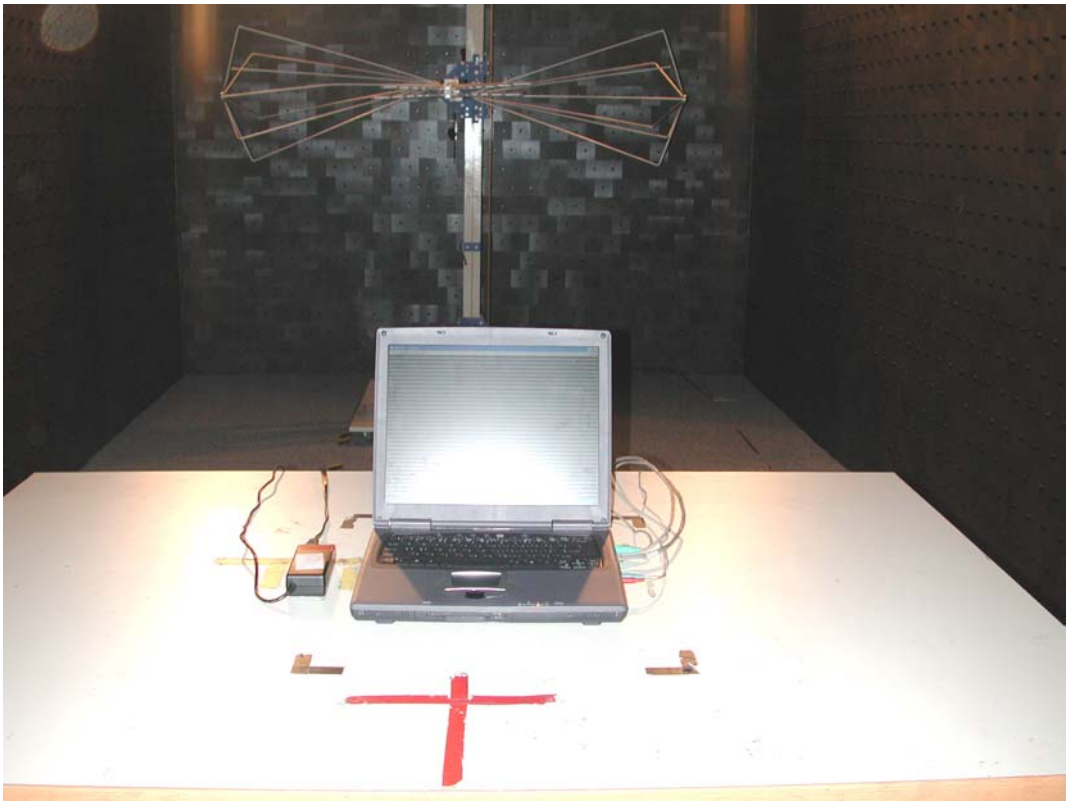
Back View of Radiated Test



Harmonics Test Setup

ESD Test Setup

RS Test Setup



EFT/B Test Setup

EFT/B Test Setup (LAN)

EFT/B Test Setup (Modem)

Surge Test Setup

CS Test Setup

CS Test Setup (LAN)

CS Test Setup (Modem)

Power Frequency Magnetic Field Test Setup

Dips Test Setup

Attachment 2 : EUT Detailed Photographs

Attachment 2 : EUT Detailed Photographs

(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

(11) EUT Photo

(12) EUT Photo

(13) EUT Photo


DELTA ELECTRONICS, INC.
AC ADAPTER
MODEL(型号):ADP-65DB REV.B
INPUT(输入):100-240V~1500mA 50-60Hz
OUTPUT(输出):19V ⎓ 3420mA
CAUTION(注意):
For use with Information Technology Equipment.
ATTENTION:
Pour matériel informatique technologie.
Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk.
Endast för kontorsmaskin.
适用于资讯类产品
91-55997
INPUT: AC 100-240V 50-60Hz 130-170VA
OUTPUT: 19V ⎓ 3.42A
DELTA ELECTRONICS (DONGGUAN) CO., LTD.
992289-00
V 85
acer
2002.03
檢驗 3882B596
S/N(序号):
VHD021002656
MADE IN CHINA
制造地:中国
CM-1
N193
BE
DT501 C.C.:
E175686
LISTED
I.T.E.
POWER SUPPLY
G20157
GB4943-95
CHD031016-2003

Reference : Laboratory of License

TÜV

TÜV Rheinland Taiwan Ltd.

Certificate

of

Appointment

for

QuieTek Corporation
No. 75-1, Wang-Yeh Valley, Yung-Hsing, Chiung-Lin
Hsin-Chu County, Taiwan, R.O.C.

has been authorized to carry out EMC tests by order and under supervision of TÜV Rheinland. It has successfully demonstrated capability to conduct measurement and to process test data according to:

European and International EMC Standards as listed in the Scope of Authorization on the attachment to this certificate

An assessment of the facility was conducted according to EN 45001 and ISO 17025 by a TÜV Rheinland auditor

The certificate is valid until the next scheduled inspection or up to 15 month, at the discretion of TÜV Rheinland

TÜV Rheinland Taiwan Ltd.
Taipei, 3 May 2001

Dipl.-Ing. A. Klinker

Saul Lu

TÜV

Attachment to

Certificate

of Appointment

SCOPE OF AUTHORIZATION

for

QuieTek Corporation
No. 75-1, Wang-Yeh Valley, Yung-Hsing, Chiung-Lin
Hsin-Chu County, Taiwan, R.O.C.

European Standards

EN 50081-1:1992	EN 300328:1996+A1
EN 50081-2:1993	EN 300328-2:2000
EN 50082-1:1992	EN 300330-2:2001
EN 50082-1:1997	EN 301489-1:2000
EN 50082-2:1995	EN 301489-3:2000
EN 50091-2:1995	EN 301892-9:2000
EN 50130-4:1995+A1	EN 301489-17:2000
EN 55011:1991+A1+A2	EN/IEC 61000-6-2:1999
EN 55011:1998	EN 61326-1:1997+A1
EN 55013:1990+A12+A13+A14	IEC 61326:1997+A1
EN 55014-1:1993+A1+A2	I-ETS 300440:1995
EN 55014-2:1997	ETS 300683:1997
EN 55015:1993	ETS 300826:1997
EN 55015:1996+A1	CISPR 11:1990+A1+A2
EN 55022:1994+A1+A2	CISPR 11:1997
EN 55020:1994+A11+A12+A13+A14	CISPR 13:1975+A1
EN 55024:1998	CISPR 14-1:1993+A1+A2
EN 55103-1:1996	CISPR 14-2:1997
EN 55103-2:1996	CISPR 15:1996+A1
EN 55104:1995	CISPR 24:1997
EN 300220-3:2000	

Basic Standards

IEC 801-2:1991	EN 6100-3-3:1995
IEC 801-2:1984	IEC 61000-3-3:1994
IEC 801-3:1984	EN/IEC 61000-3-11:2000
IEC 801-4:1990	EN/IEC 61000-4-2:1995+A1
ENV 50140:1993	IEC 61000-4-3:1995+A1
ENV 50141:1993	EN 61000-4-3:1996+A1
ENV 50142:1994	EN/IEC 61000-4-4:1995
ENV 50204:1995	EN/IEC 61000-4-5:1995
IEC 61000-3-2:1995+A1+A2	EN/IEC 61000-4-6:1996
EN 61000-3-2:1995+A1+A2+A14	EN/IEC 61000-4-8:1993
IEC 61000-3-2:2000	EN/IEC 61000-4-11:1994

Taipei, 3 May 2001 Saul Lu, Auditor

DET NORSKE VERITAS

STATEMENT OF RECOGNITION

STATEMENT NO. 413 - 99 - LAB11 (FIRST ISSUED: 1999-02-23)
The statement consists of 3 pages

This is to confirm that the
EMC AND SAFETY LABORATORIES

within
QuieTek

with legal identity
QuieTek Corporation
1. Head office (EMC site): No. 5, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.
2. (EMC site): No.75-2 Wang-Yeh Valley, Yung-Hsing Chiang-Lin, Hsin-Chu County, Taiwan, R.O.C.
3. (Safety site): 6F, No. 5, Alley 16, Lane 235, Pao Chaio Road, Hsin-Tien City, Taipei, Taiwan, R.O.C.

has been found to comply with the requirements of DNV towards subcontractors of EMC testing services in conjunction with the EMC Directive and in the voluntary field.

The acceptance is based on a formal Quality Audit and follow-ups according to relevant parts of ISO/IEC Guide 17025 (1998), EN 45001 and ISO/IEC Guide 25, in accordance with the requirements of the DNV Laboratory Quality Manual towards subcontractors.

Place and date
Høvik, 11 June, 2001
for Det Norske Veritas AS
(Competent and Notified Body no. 575)

This Statement is valid until
11 June, 2004

DNV *local office:*
DNV Taipei

Per Ove Øyberg
Head of Section

Per Gulbrandsen
Principal Engineer

Audit information

Initial audit:

- Date of Audit: 1998-11-17
- Initial Audit Report: 1998-11-22
- Closing of Non-conformities: 99-01-25

Re-Certification Audit:

- Date of Quality Audit: 2001-04-4, -5
- Re-Certification Audit Report: 2001-05-09
- Audit Report Identifiction: IAR 2001-0014
- Closing of non-conformities: 2001-05-08

Scope of recognition

EMC testing according to the following standards:

- EN 50081-1 / -2
- EN 50082-1 / -2
- EN 55011 / CISPR 11
- EN 55013 / CISPR 13
- EN 55014-1/-2 / CISPR 14-1/-2
- EN 55015 / CISPR 15
- EN 55022 / CISPR 22
- EN 55024 / CISPR 24
- EN 61000-3-2 / IEC 1000-3-2 / EN 60555-2 / IEC 555-2
- EN 61000-3-3 / IEC 1000-3-3 / EN 60555-3 / IEC 555-3
- EN 61000-4-2 / IEC 1000-4-2 / IEC 801-2
- EN 61000-4-3 / IEC 1000-4-3 / ENV 50140 / IEC 801-3
- EN 61000-4-4 / IEC 1000-4-4 / IEC 801-4
- EN 61000-4-5 / IEC 1000-4-5 / ENV 50142
- EN 61000-4-6 / IEC 1000-4-6 / ENV 50141
- EN 61000-4-8 / IEC 1000-4-8
- EN 61000-4-11 / IEC 1000-4-11
- EN 60601-1-2
- ETS 300 Series

Safety testing according to the following standards:

- EN 60950
- EN 60065
- EN 61010
- EN 60335
- EN 60598
- EN 60601-1
- EN 50091-1
- EN 60204

Application/Limitations

Testing of three phase systems

Documentation

QuieTek Laboratory Quality Manual, version A, Revision 3

END OF STATEMENT

Nemko World-wide Testing and Certification

ELA 4

EMC Laboratory Authorisation

Aut. No. : ELA 162

EMC Laboratory:	**QuieTek Corporation** **No. 75-2, Wang-Yeh Valley,** **Yung-Hsing, Chiung-Lin, Hsin-Chu,** **Hsin-Chu County, Taiwan R.O.C.**
Scope of Authorization:	**EN 60601-1-2 and IEC 60601-1-2, the Collateral Standards for electromedical products, with particular application to EMC requirements only.**

This Authorisation Document confirms that the above mentioned EMC Laboratory has been validated against EN 45001 and found to be compliant. The laboratory also fulfils the conditions described in Nemko Document ELA 10. During Nemko's visit to the laboratory, an assessment was made of the relevant parts of your organisation - i.e. facilities, personnel qualifications, test equipment, and testing practices. It was found that the EMC Laboratory is capable of performing tests within the Scope of Authorisation listed above. Accordingly, Nemko will accept your test reports as a basis for attesting conformity to these EMC Standards for the products in question under either the European Union Medical Device Directive [MDD], 93/42/EEC, or the European Union Active Implantable Medical Device Directive [AIMD], 90/385/EEC, (as applicable).

In case of applications for Product Certification(s) to be issued by Nemko, your EMC Laboratory's test report(s) will be accepted by Nemko if they are enclosed with the Application Form submitted by the manufacturer.

In order to maintain the Authorisation, the information given in the enclosed ELA-INFOs (if any) must be carefully followed. Nemko is to be promptly notified about any changes in the situation at your EMC Laboratory which may affect the basis for this Authorisation. The Authorisation may at any time be withdrawn if the conditions are no longer considered to be fulfilled.

The Authorisation is valid through **31. December 2003.**

Oslo, 24. April 2001

For Nemko AS:

Kjell Bergh

Kjell Bergh, Nemko Group EMC Co-ordinator

Postal address:
P.O.Box 73 Blindern
N-0314 OSLO, NORWAY

Telephone: +47 22 96 03 30
Fax: +47 22 96 03 30

Nemko World-wide Testing and Certification

ELA 4

EMC Laboratory Authorisation

Aut. No. : ELA 165

EMC Laboratory: **QuieTek Corporation**
No. 75-2, Wang-Yeh Valley,
Yung-Hsing, Chiung-Lin, Hsin-Chu,
Hsin-Chu County, Taiwan R.O.C.

Scope of Authorization: **All CENELEC standards [ENs] for EMC that are listed on the accompanying page, and, all of the corresponding CISPR, IEC, and ISO EMC standards that are listed on the accompanying page.**

This Authorisation Document confirms that the above mentioned EMC Laboratory has been validated against EN 45001 and found to be compliant. The laboratory also fulfils the conditions described in Nemko Document ELA 10. During Nemko's visit to the laboratory, an assessment was made of the relevant parts of your organisation - i.e. facilities, personnel qualifications, test equipment, and testing practices. It was found that the EMC Laboratory is capable of performing tests within the Scope of Authorisation given on the accompanying page. Accordingly, Nemko will accept your test reports as a basis for attesting conformity to these EMC Standards for the products in question under the European Union EMC Directive [89/336/EEC as amended by 92/31/EEC and 98/13/EC].

In case of applications for Product Certification(s) to be issued by Nemko, your EMC Laboratory's test report(s) will be accepted by Nemko if they are enclosed with the Application Form submitted by the manufacturer.

In order to maintain this Authorization, the information given in the enclosed ELA-INFOs (if any) must be carefully followed. Nemko is to be promptly notified about any changes in the situation at your EMC Laboratory which may affect the basis for this Authorization. The Authorization may at any time be withdrawn if the conditions are no longer considered to be fulfilled.

The Authorisation is valid through **31. December 2003**.

Oslo, 18. April 2001

For Nemko AS:

Kjell Bergh

Kjell Bergh, Nemko Group EMC Co-ordinator

Postal address: P.O.Box 73 Blindern N-0314 OSLO, NORWAY
Telephone: +47 22 96 03 30
Fax: +47 22 96 05 05

Nemko World-wide Testing and Certification

EMC Laboratory Authorisation

Aut. No. : ELA 165

(Page 2 of 2)

SCOPE OF AUTHORIZATION

GENERIC & PRODUCT-FAMILY STANDARDS

EN 50081-1:1992 IEC 61000-6-3 EN 50081-2:1993 IEC 61000-6-4:1997	EN 50082-1:1992 EN 50082-1 :1997 IEC 61000-6-1:1997 EN 50082-2:1995 EN 61000-6-2:1999 IEC 61000-6-2:1999	EN 50091-2:1995
EN 50130-4:1995 + A1:98	EN 55011:1991 + A1:97 + A2:96 CISPR 11:1990 + A1:96 + A2:96 EN 55011:1998 + CISPR 11:97	EN 55013:90 + A12:94 + A13:96 + A14 :99 CISPR 13:75 + A1:83
EN 55014-1:1993 + A1:97 + A2 :99 CISPR 14:1993 + A1:96 + A2 :	EN 55014-2:1997 CISPR 14-2:1997 EN 55104:1995	EN 55015:1993, CISPR 15:1992 EN 55015:1996 + A1:97 CISPR 15:96 + A1:97
EN 55022:1994 + A1:95 + A2:97 CISPR 22:1993 + A1:95 + A2:96 EN 55022:1998, CISPR 22:1997	EN 55024:1998 CISPR 24:1997	EN 55103-1:1996
EN 55103-2:1996		
EN 61000-3-2:1995 + A1:98 + A2:98 + A14 :00 IEC 61000-3-2:1995 + A1:97 + A2:98 IEC 61000-3-2 :2000	EN 61000-3-3:1995, IEC 61000-3-3:1994 EN 61000-3-11 :2000 IEC 61000-3-11 :2000	EN 61326-1:1997 + A1:98 IEC 61326:1997 + A1:98

BASIC STANDARDS

EN 61000-4-2:1995 + A1:98 IEC 61000-4-2:1995 + A1:98 (EN 60801-1:1993 IEC 801.2:1991 IEC 801.2:1984)	EN 61000-4-3:1996 + A1:98 IEC 61000-4-3:1995 + A1:98 (IEC 801.3:1984 ENV 50140:1993 + ENV 50204:1995)	EN 61000-4-4:1995 IEC 61000-4-4:1995 (IEC 801.4:1990)
EN 61000-4-5:1995 IEC 61000-4-5:1995 (ENV 50142:1994)	EN 61000-4-6:1996 IEC 61000-4-6:1996 (ENV 50141:1993)	EN 61000-4-8:1993 IEC 61000-4-8:1993
EN 61000-4-11:1994 IEC 61000-4-11:1994		

Oslo, 24 April 2001 — Kjell Bergh, Nemko Group EMC Co-ordinator

Postal address: P.O.Box 73 Blindern N-0314 OSLO, NORWAY
Telephone: +47 22 96 03 30
Fax: +47 22 96 05 50

EMC Laboratory Authorisation

Aut. No. : ELA 191

(Page 2 of 2)

SCOPE OF AUTHORISATION

Generic and product-family standards – R&TTE Directive

EN 300 220-3 :2000	ETS 300 328:1996 + A1:97 EN 300 328-2:2000	I-ETS 300 330:1994 + A1:97 (Not harmonised for R&TTE-D)
EN 300 422-2 :2000	I-ETS 300 440:1995 (Not harmonised for R&TTE-D)	ETS 300 445 :1996 + A1 :97 EN 301 489-09 :2000
ETS 300 683 :1997 EN 301 489-03 :2000	ETS 300 826 :1997 EN 301 489-17 :2000	EN 301 489-01:2000

Basic standards

EN 61000-4-2:1995 + A1:98 IEC 61000-4-2:1995 + A1:98 (EN 60801-1:1993 IEC 801.2:1991 IEC 801.2:1984)	EN 61000-4-3:1996 + A1:98 IEC 61000-4-3:1995 + A1:98 (IEC 801.3:1984 ENV 50140:1993 + ENV 50204:1995)	EN 61000-4-4:1995 IEC 61000-4-4:1995 (IEC 801.4:1990)
EN 61000-4-5:1995 IEC 61000-4-5:1995 (ENV 50142:1994)	EN 61000-4-6:1996 IEC 61000-4-6:1996 (ENV 50141:1993)	EN 61000-4-8:1993 IEC 61000-4-8:1993
EN 61000-4-11:1994 IEC 61000-4-11:1994		

Oslo, 24 April 2001 — Kjell Bergh, Nemko Group EMC Co-ordinator

Postal address:
P.O.Box 73 Blindern
N-0314 OSLO, NORWAY

Telephone: +47 22 96 03 30
Fax: +47 22 96 05 30

FEDERAL COMMUNICATIONS COMMISSION
Laboratory Division
7435 Oakland Mills Road
Columbia, MD. 21046

June 22, 2001

Registration Number: 92195

Quie Tek Corporation
No. 5-22, Ruei-Shu Valley
Ruei-Ping Tsuen, Lin Kou Shiang
Taipei
Taiwan, R.O.C.
Attention: Gene Chang

Re: Measurement facility located at Lin Kou
3 & 10 meter sites
Date of Listing: May 15, 2001

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that this filing must be updated for any changes made to the facility, and at least every three years from the date of listing the data on file must be certified as current.

If requested, the above mentioned facility has been added to our list of those who perform these measurement services for the public on a fee basis. An up-to-date list of such public test facilities is available on the Internet on the FCC Website at WWW.FCC.GOV, E-Filing, OET Equipment Authorization Electronic Filing.

Sincerely,

Thomas W. Phillips

Thomas W Phillips
Electronics Engineer

National Institute of Standards and Technology **NVLAP®** National Voluntary Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

NVLAP LAB CODE 200533-0

QUITEK CORPORATION
No. 5, Ruei-shu Valley, Ruei-ping, Tsuen
Lin Kou Shiang, Taipei 244
TAIWAN
Mr. Gene Chang
Phone: 886-2-8601-3788 Fax: 886-2-8601-3789
E-Mail: gene@quietek.com

NVLAP Code	***Designation / Description***
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

June 30, 2002
Effective through

David F. Alderman
For the National Institute of Standards and Technology

National Institute of Standards and Technology

NVLAP®

National Voluntary Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

NVLAP LAB CODE 200533-0

QUITEK CORPORATION

NVLAP Code	*Designation / Description*
12/T51	AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

June 30, 2002

Effective through

David F. Alderman

For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Certificate of Accreditation

QUITEK CORPORATION
LIN KOU SHIANG, TAIPEI 244
TAIWAN

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

June 30, 2002
Effective through

David F. Alderman
For the National Institute of Standards and Technology

NVLAP Lab Code: 200533-0

NVLAP-01C (11-95)

CERTIFICATE

Company: QuieTek Corporation

<Member No. 1153 >

Facility: HsinChu No.1 Site

(Radiation 3 and 10 meter site)

Location of Facility:

No. 75-1, Wang-Yeh Valley, Yung-Hsing, Chiung-Lin, Hsin-Chu County, Taiwan

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures

Registration No.: R-823

Date of Registration: January 01 , 2002

This Certificate is valid until March 31 , 2005

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Company: QuieTek Corporation

<Member No. 1153 >

Facility: HsinChu No.2 Shielded Room

(Main Ports Conducted Interference Measurement)

Location of Facility:

No. 75-1, Wang-Yeh Valley, Yung-Hsing,
Chiung-Lin, Hsin-Chu County, Taiwan

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures

Registration No.: C-858

Date of Registration: January 01 , 2002

This Certificate is valid until March 31 , 2005

Voluntary Control Council for Interference by
Information Technology Equipment

中華民國經濟部標準檢驗局
臺北市濟南路一段四號
The Bureau of Standards, Metrology and Inspection
Ministry of Economic Affairs
4 Chinan Road, Section 1, Taipei, 100, Taiwan, Republic of China
Tel: (886-2) 2343-1700 Fax: (886-2) 2393-2324

To: QuieTek Corporation

IN REPLY REFER TO
90-3-3000948

No.75-1 Wang-Yeh Valley, Yung-Hsing,
Chiung-Lin, Hsin Chu County, Taiwan, R.O.C.

This Designation Document confirms that your subject measurement facility has been validated according to the ISO 17025-1999 and found to be in compliance with the requirements of " BSMI's Operation Guidelines of the Approval and Management of Designated Laboratories."

The description of your facility has, therefore, been placed on file and the name of your organization added to the Bureau's list of facilities whose measurement data and test reports will be accepted as a basis for attesting conformity to CNS13803, CNS13438, CNS13783-1, CNS13439, CNS14115 for Industrial, Scientific and Medical Instrument、 Information Technology Equipment、household appliances/tools、broadcast receivers and related equipments and fluorescent lights/luminaries.

It is located at: http://www.bsmi.gov.tw

Please reference the file numbers below in the body of all test [illegible] containing measurements made on the corresponding facility.

For your **EMI Testing Lab**, use reference "**SL2-IS-[illegible], SL2-IN-E-0020, SL2-R1-E-0020, SL2-R2-E-0020, [illegible]-E-0020, SL2-L1-E-0020**"

Note that this filing must be updated for any changes made to the documentation and / or facility and whenever major modifications to your documentation or major construction or repairs to your facility are completed, re-submission of the related information or the site attenuation characteristics will be required within 2 weeks.

The Designation is valid through October 31, 2004.

Taipei, December 31, 2001
For BSMI, MOEA

Neng-Jung Lin

中華民國經濟部標準檢驗局
臺北市濟南路一段四號
The Bureau of Standards, Metrology and Inspection
Ministry of Economic Affairs
4 Chinan Road, Section 1, Taipei, 100, Taiwan, Republic of China
Tel: (886-2) 2343-1700 Fax: (886-2) 2393-2214

致: 快特電波股份有限公司

IN REPLY REFER TO
90-3-3000948

新竹縣芎林鄉永興村王爺坑3鄰75之1號

本證書係確認貴公司之電磁相容檢測設備業已符合ISO 17025-1999及「經濟部標準檢驗局指定試驗室認可管理作業要點」

貴公司試驗室之資訊已納入本局的指定試驗室名單中，本局將接受由貴公司試驗室為工業、科學、醫療儀器、資訊設備產品、家庭用電器產品、廣播接收機與相關設備及燈具產品類依CNS13803, CNS13438, CNS13783-1, CNS13439, CNS14115所作出的檢測資料與測試報告。

相關試驗室資訊已建置於本局網頁中 http://www.bsmi.gov.tw

貴公司EMI測試場地之認可編號為 SL2-IS-E-0020, SL2-IN-E-0020, SL2-R1-E-0020, SL2-[illegible]-E-0020, SL2-A[illegible]2-L1-E-0020 "，並應於全部測試報告加註本項認可編號。

已被認可之測試領域及檢測設備如有任何變更事項，[illegible]變更日起二週內函送相關資料至本局辦理。

本證書有效期間至西元2004年10月31日。

經濟部標準檢驗局

局長
林能中

中華民國九十年十二月三十一日