EMC Laboratory Authorization

Aut. No. : ELA 124

EMC Laboratory: **C&C Laboratory Taiwan**
No. 28 Wen-Hwa Street, 330 Taoyuan
TAIWAN R.O.C.

Scope of Authorization: The authorization covers the following standards:

EN 50081-1	EN 50082-1
EN 55022	IEC 801-2
EN 60555-2,-3	IEC 801-3
EN 61000-3-2	IEC 801-4
EN 61000-3-3	EN 61000-4-2
EN 61000-4-3	EN 61000-4-4

This is to confirm that the abovementioned EMC Laboratory has been authorized according to the conditions described in Nemko Document ELA 10.
During Nemko's visit to the laboratory on the 08. October. 1997 an assessment was made of your facilities, qualifications and testing practices, and the relevant part of your organization. It was found that the EMC Laboratory is capable of performing tests within the scope mentioned above, accordingly, Nemko will accept your test results as a basis for attesting conformity with these EMC Standards for the products in question.

In case of product certification, your test report may be used by the applicant manufacturer, enclosed to his application.

In order to maintain the authorization, the information given in the enclosed ELA-INFOs has to be carefully followed. Nemko is to be promptly notified about any changes in the situation at your 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 The authorization may at any time be withdrawn if the conditions are no longer considered to be fulfilled.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 authorization is issued on the conditions that you have signed the **"Statement by Authorization"**, **ELA 3A**-Form. The Statement of 08 October. 1997 is binding.

Oslo, 20. October. 1997

For Nemko as

Kjell Bergh

Kjell Bergh, Head of EMC Section

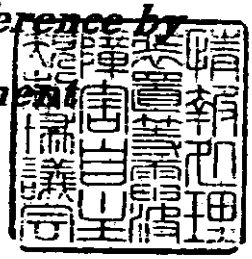
CERTIFICATE

Facility: C&C Laboratory, Co., Ltd.
(Radiation 3 and 10 meter site)
Company : C&C Laboratory, Co., Ltd.
Address : No.15, 14 Lin, Chih Twu Chi, Lu Chu Hsiang, Taoyuan, Taiwan

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures, Article 8.

Registration No. : R-393
Date of Registration : April 17, 1996
This Certificate is valid until June 30, 1999

Voluntary Control Council for Interference by Information Technology Equipment



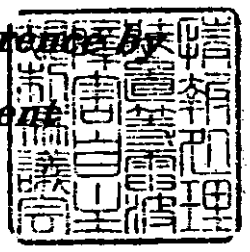
CERTIFICATE

Facility: C&C Laboratory, Company., Ltd.
(Conducted Interference Measurement)
Company : C&C Laboratory, Company., Ltd.
Address : No.15, 14 Lin, Chih Twu Chi, Lu Chu Hsiang, Taoyuan, Taiwan

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures, Article 8.

Registration No. : C-402
Date of Registration : April 17, 1996
This Certificate is valid until June 30, 1999

Voluntary Control Council for Interference by Information Technology Equipment



CERTIFICATE

Facility : C&C Open Area Test Site No.3

(Radiation 3 and 10 meter site)

Company : C&C Laboratory Co., Ltd.

Address : No.15, 14Lin, Chin Twu Chi, Lu Chu Hsiang Taoyuan Shien

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

Registration No. : R-725

Date of Registration : May 1, 1998

This Certificate is valid until June 30, 2001

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Facility : C&C Conducted Interference Test Site No.3

(Conducted Interference Measurement)

Company : C&C Laboratory Co., Ltd.

Address : No.15, 14Lin, Chin Twu Chi, Lu Chu Hsiang Taoyuan Shien

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

Registration No. : C-747

Date of Registration : May 1, 1998

This Certificate is valid until June 30, 2001

Voluntary Control Council for Interference by Information Technology Equipment

中華民國實驗室認證體系認可證書

Chinese National Laboratory Accreditation Certificate ROC

No.CNLA-ZL98078

茲以 程智科技股份有限公司程智科技電磁相容實驗室之電性測試領域經評鑑認可

十項發給本證書有效期限至九十年十一月十四日 此證

This is to certify that C & C Laboratory Co., Ltd. has been recognized by the Council of Chinese National Laboratory Accreditation as an accredited laboratory. The laboratory has been registered for ten specific tests within the field of Electrical Testing. The details of the scope of accreditation is described in the following pages and this Certificate is valid until Nov. 14, 2001.

中華民國實驗室認證委員會
主 任 委 員

Chen, Ming-Bang

The Chairman of Chinese National Laboratory Accreditation Council

中 華 民 國 八十七 年 十一 月 十五 日

(本證書共 4 頁分離使用無效This document is invalid unless accompanied by all 4 pages.)

機構名稱：程智科技股份有限公司
實驗室名稱：程智科技電磁相容實驗室
認可編號：0363
實驗室負責人：王順競
測試領域：電性測試
發證日期：1998.11.15

Organization : C & C Laboratory Co., Ltd.
Laboratory : C & C Laboratory Co., Ltd.
Registration : 0363
Laboratory Head : WANG, Charles
Testing Field : Electrical Testing
Date of Registration: 1998.11.15

認可項目 Registration items	測試件 Test items	測試方法 Test methods	範圍 Range	認可之最佳測試能力 Best test capability recognized	備註 Remarks
EJ0102 諧波電流干擾 Harmonic current emissions	資訊類及其週邊產品 ITE and peripheral Products	IEC 1000-3-2(1995) EN 61000-3-2(1995)	測試件電壓:100～2[illegible]VAC(單相) 測試件電流:0～16 [illegible]頻率:1～40		
EJ0103 電壓變動與閃爍干擾 Voltage fluctuations and flicker	資訊類及其週邊產品 ITE and peripheral Products	IEC 1000-3-3(1994) EN 61000-3-3(1995)	[illegible]件電壓:[illegible]～270VAC(單相) [illegible]電流:[illegible]～16 A		
EJ0122 電信及資訊技術系統及儀器 Systems and apparatus of the telecommunication and	資訊類及其週邊產品 ITE and peripheral Products	CISPR 22(1996) EN 55022(1995) CNS 13438(1997) AS/NZS 3548(1995) VCCI(1997) FCC Part 15(1996)	傳導干擾:150 kHz～30 MHz 輻射干擾:30 MHz～1.0 GHz 傳導干擾:450 kHz～30 MHz 輻射干擾:30 MHz～2.0 GHz		

認可項目 Registration items	測試件 Test items	測試方法 Test methods	範圍 Range	認可之最佳測試能力 Best test capability recognized	備註 Remarks
information technology					
EJ0202 靜電放電測試 Electrostatic discharge tests	資訊類及其週邊產品 ITE and peripheral Products	IEC 1000-4-2(1995) EN 61000-4-2(1995) CNS 13022-1(1992)	空間放電: 0.2 kV～16.5 kV(+/-) 接觸放電:0.2 kV～9.0 kV(+/-)		
EJ0203 輻射耐受測試 Radiated susceptibility tests	資訊類及其週邊產品 ITE and peripheral Products	IEC 801-3(1984) IEC 1000-4-3(1995) EN 61000-4-3(1996) ENV 50204(1995)	頻率範圍:26MHz～1.0 GHz 場強 3.0 V/m,AM調變) 頻率範圍:900MHz±5MHz (200 Hz脈波調變)		
EJ0204 電性快速突波測試 Electrical fast transient/burst tests	資訊類及其週邊產品 ITE and peripheral Products	IEC 801-4(1988) IEC 1000-4-4(1995) EN 61000-4-4(1995) CNS 13022-2(1992)	測試件電壓:100～240 VAC(單相) 測試件電流:0～100A 脈衝峰值電壓:0.25～4.5 kV		
EJ0205 突波/雷擊測試 Surge/lightening tests	資訊類及其週邊產品 ITE and peripheral Products	IEC 1000-4-5(1995) ENV 50142(1994) CNS 13022-3(1992)	測試件電壓:100～270 VAC(單相)/DC 100V 測試件電流:16 A(AC/DC) 脈衝峰值電壓:0～4.2 kV 測試埠:電源線		
EJ0206 傳導耐受測試 Conducted susceptibility tests	資訊類及其週邊產品 ITE and peripheral Products	IEC 1000-4-6(1993) EN 61000-4-6(1996)	頻率範圍:150 kHz～230 MHz (振幅:10 V,AM調變)		
EJ0208 電源頻率磁場耐受	資訊類及其週邊產品 ITE and peripheral	IEC 1000-4-8(1993) EN 61000-4-8(1993)	連續磁場 1 A/m～100 A/m		

認可項目 Registration items	測試件 Test items	測試方法 Test methods	範圍 Range	認可之最佳測試能力 Best test capability recognized	備註 Remarks
測試 Power frequency magnetic field immunity test	Products				
EJ0211 電壓下降，瞬斷和緩變耐受測試 Voltage dips,short interruptions and voltage variations immunity tests (以下空白)	資訊類及其週邊產品 ITE and peripheral Products	IEC 1000-4-11(1994) EN 61000-4-11(1994)	電壓瞬斷:100% 電壓下降:0~100% [illegible]:標準緩變波形		

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VERIFICATION OF COMPLIANCE

Equipment Under Test:	LCD MONITOR
Trade Name:	TRL, RIC
FCC ID:	HSUTRLL-50T
Model Number:	L-50T
Serial Number:	N/A
Applicant:	**ROYAL INFORMATION ELECTRONICS CO., LTD.** No. 3, Lane 11, Tzu-Chang St., Tu-Cheng Ind. District, Taipei Hsien, Taiwan, R.O.C.
Manufacturer:	**ROYAL INFORMATION ELECTRONICS CO., LTD.** No. 3, Lane 11, Tzu-Chang St., Tu-Cheng Ind. District, Taipei Hsien, Taiwan, R.O.C.
Type of Test:	FCC Class B
Measurement Procedure:	ANSI C63.4: 1992
File Number:	980316-F
Date of test:	Nov. 22 / 23, 1998
Tested by:	Clare Chou
Deviation:	None
Condition of Test Sample:	Normal

The above equipment was tested by C&C Laboratory, Co., Ltd. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, Subpart B and the measurement procedure according to ANSI C63.4, 1992. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Charles Wang

Charles Wang / Director

VERIFICATION OF COMPLIANCE

Equipment Under Test:	LCD MONITOR
Trade Name:	TRL, RIC
FCC ID:	HSUTRLL-50T
Model Number:	L-50T
Serial Number:	N/A
Applicant:	**ROYAL INFORMATION ELECTRONICS CO., LTD.** No. 3, Lane 11, Tzu-Chang St., Tu-Cheng Ind. District, Taipei Hsien, Taiwan, R.O.C.
Manufacturer:	**ROYAL INFORMATION ELECTRONICS CO., LTD.** No. 3, Lane 11, Tzu-Chang St., Tu-Cheng Ind. District, Taipei Hsien, Taiwan, R.O.C.
Type of Test:	FCC Class B
Measurement Procedure:	ANSI C63.4: 1992
File Number:	980316-F
Date of test:	Nov. 22 / 23, 1998
Tested by:	Clare Chou
Deviation:	None
Condition of Test Sample:	Normal

The above equipment was tested by C&C Laboratory, Co., Ltd. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, Subpart B and the measurement procedure according to ANSI C63.4, 1992. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Charles Wang

Charles Wang / Director

PRODUCT INFORMATION

Housing Type: Plastic

AC power during Test: 115VAC/60Hz

Power Supply Power Rating: 13Vdc, 1.6A
5Vdc, 2.8A

AC Adapter Manufacturer: ROYAL

AC Adapter Model: ADP-02

AC Adapter Power Rating: I/P: 100-240VAC, 50/60Hz, 0.85A
O/P: 13Vdc, 1.6A
5Vdc, 2.8A

AC Adapter Power Cable Type: AC IN: Unshielded, 1.8m (Detachable)
DC OUT: Shielded, 0.5m with a core
(Non-Detachable)

Video Cable: Shielded, 1.8m with two ferrite core. (Detachable)

OSC/Clock Frequencies : 4MHz

15" XGA/TFT LCD Panel: NEC **Model:** NL-10276AC30-03

Working Frequency:

Resolution	H-Sync	V-Sync
1024 x 768	60kHz	75 Hz
1024 x 768	56.6kHz	70 Hz
640 x 480	31.5kHz	60 Hz

I/O PORT TYPES	Q'TY	TESTED WITH
1). Video Port	1	1
2). Microphone-In Port	1	1
3). Microphone-Out Port	1	1
4). Speaker Out Port	1	1
5). Line-In Port	1	1
6). Down Stream USB Port	4	4
7). Up Stream USB Port	1	1

SUPPORT EQUIPMENT

Equipment	Model #	Serial #	FCC ID	Trade Name	Data Cable	Power Cord
PC	VL SERIES 5 5/166	SG74903048	FCC DoC	HP	1)Unshielded, 1.6m To EUT Mic-Out 2)Unshielded, 1.6m To EUT Line-In	Unshielded, 1.8m
Modem	2400SE	94-364-176272	DK467GSM24	Computer Peripheral	Shielded, 1.8m	Unshielded, 2.0m
Printer	2225C+	2621S40315	DS16XU2225	HP	Shielded, 1.8m	AC I/P Unshielded, 1m DC O/P Unshielded, 2m
Keyboard (USB)	KV-8933	N/A	FCC DoC	CHICONY	Shielded, 1m	N/A
Keyboard	K288	H803151754	FKD46AK288	Genuine	Shielded, 1.4m	N/A
USB Mouse	M-UA34	LTC73700526	DZL211087	Logitech	Shielded, 1.84m	N/A
USB Mouse	M-UA34	LTC73700507	DZL211087	Logitech	Shielded, 1.8m	N/A
USB Mouse	M-UA34	LTC73700535	DZL211087	Logitech	Shielded, 1.8m	N/A
Mouse	M-S34	LTC62102288	DZL210472	Acer	Shielded, 1.89m	N/A
Microphone	S-124 1	J80316621	N/A	N/A	Unshielded, 1.2m	N/A
Headphone	MDR-004	N/A	N/A	Sony	Unshielded, 1.5m	N/A
VGA Card	DSV3365V2	E86002330	LUT-3365	S3	N/A	N/A

All the above equipment/cables were placed in worse case positions to maximize emission signals.

Grounding: Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

MEASUREMENT PROCEDURE
(PRELIMINARY LINE CONDUCTED EMISSION TEST)

1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4: 1992 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

2) Support equipment, if needed, was placed as per ANSI C63.4: 1992.

3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4: 1992.

4) The EUT received AC power through a Line Impedance Stabilization Network (LISN) which supplied power source of 115VAC/60Hz and was grounded to the ground plane.

5) All support equipment received power from a second LISN supplying power of 110VAC/60Hz.

6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum analyzer connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to analyzer and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the analyzer.

7) Analyzer scanned from 150kHz to 30MHz for emissions in each of the test modes. Analyzer settings were stated on the Measuring Instrument Settings page.

8) During the above scans, the emissions were maximized by cable manipulation.

9) The following test mode(s) were scanned during the preliminary test:
Mode(s):

1. EUT running at video resolution: 640x480 (60Hz)
2. EUT running at video resolution: 1024 x 768 (70Hz)
3. EUT running at video resolution: 1024 x768 (75Hz)

10) After the preliminary scan, we found the following test mode(s) producing the highest emission level.

Mode: 3

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

MEASUREMENT PROCEDURE
(FINAL LINE CONDUCTED EMISSION TEST)

1) EUT and support equipment was set up on the test bench as per step 10 of the preliminary test.

2) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in peak mode, then the emission signal was re-checked using a Quasi-Peak/A.V. detector.

3) The test data of the worst case condition(s) was reported on the Summary Data page.

Data Sample:

Freq. MHz	PEAK Raw dBuV	Q.P. Raw dBuV	Average Raw dBuV	Q.P. Limit dBuV	Average Limit dBuV	Q.P. Margin dB	Average Margin dB	Note
x.xx	43.95	---	---	56	46	-12.05	-2.05	L 1

Freq. = Emission frequency in MHz

Raw dBuV = Uncorrected Analyzer/ Receiver reading

Limit dBuV = Limit stated in standard

Margin dB = Reading in reference to limit

Note = Current carrying line of reading

"---" = The emission level complied with the Average limits with at least 2dB margin, so no further recheck.

LINE CONDUCTED EMISSION LIMIT

Frequency	Maximum RF Line Voltage	
	Q.P.	AVERAGE
150kHz-500kHz	66-56dBuV	56-46dBuV
500kHz-5MHz	56dBuV	46dBuV
5MHz-30MHz	60dBuV	50dBuV

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

MEASUREMENT PROCEDURE
(PRELIMINARY RADIATED EMISSION TEST)

1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane as per ANSI C63.4: 1992 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

2) Support equipment, if needed, was placed as per ANSI C63.4: 1992.

3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4: 1992.

4) The EUT received 115VAC/60Hz power source from the outlet socket under the turntable. All support equipment received 110VAC/60Hz power from another socket under the turntable.

5) The antenna was placed at some given distance away from the EUT as stated in ANSI C63.4: 1992. The antenna connected to the analyzer via a cable and at times a pre-amplifier would be used.

6) The analyzer quickly scanned from 30MHz to 1000MHz. Analyzer settings were stated on the Measuring Instrument Settings page. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

7) The following test mode(s) were scanned during the preliminary test:
Mode(s):

1. EUT running at video resolution: 640x480 (60Hz)
2. EUT running at video resolution: 1024 x 768 (70Hz)
3. EUT running at video resolution: 1024 x768 (75Hz)

8) After the preliminary scan, we found the following test mode(s) producing the highest emission level.

Mode: 3

Then, the EUT and cable configuration, antenna position, polarization and turntable position of the above highest emission level were recorded for reference of final testing.

MEASUREMENT PROCEDURE
(FINAL RAIDATED EMISSION TEST)

1) EUT and support equipment were set up on the turntable as per step 8 of the preliminary test.

2) The analyzer scanned from 30MHz to 1000MHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

3) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the limit in peak mode, then the emission signal was re-checked using a Quasi-Peak detector, and only Q.P. reading will record in this report.

4) The test data of the worst case condition(s) was reported on the Summary Data page.

Data Sample:

Freq. (MHz)	Raw Data (dB)	Corr. Factor (dBuV)	Emiss. Level (dBuV/m)	Limits	Margin (dB)	Det ector	Ant. Heig. (cm)	Turn Table (°)
xx.xx	14.0	11.2	26.2	30	-3.8	Peak	102	17

Freq.	= Emission frequency in MHz
Raw Data (dB)	= Uncorrected Analyzer / Receiver reading
Corr. Factor (dBuV)	= Correction factors of antenna factor and cable loss
Emiss. Level	= Raw reading converted to dBuV and CF added
Limit dBuV/m	= Limit stated in standard
Margin dB	= Reading in reference to limit
Detector	= Detector function (Peak, Q.P.)
Antenna Height	= Antenna height above ground plane
Turn Table	= EUT placement in reference to antenna

RADIATED EMISSION LIMIT

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m/ Q.P.)
30-230	10	30
230-1000	10	37

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

SUMMARY DATA

(LINE CONDUCTED TEST)

Model Number: L-50T **Location:** Site # 3

Tested by: Clare Chou

Test Mode: EUT running at video resolution: 1024x768 (75Hz)

Test Results: Passed

Temperature: 25℃ **Humidity:** 58%RH

(The chart below shows the highest readings taken from the final data)

FREQ MHz	Peak Raw dBuV	Q.P. Raw dBuV	AVG Raw dBuV	Q.P. Limit dBuV	AVG Limit dBuV	Q.P. Margin dB	AVG Margin dB	NOTE
0.157	46.0	---	---	65.6	55.6	-19.6	-9.6	L1
0.212	43.8	---	---	63.1	53.1	-19.3	-9.3	L1
0.532	41.4	---	---	56.0	46.0	-14.6	-4.6	L1
0.853	42.3	---	---	56.0	46.0	-13.7	-3.7	L1
1.169	42.0	---	---	56.0	46.0	-14.0	-4.0	L1
1.384	42.0	---	---	56.0	46.0	-14.0	-4.0	L1
0.157	37.7	---	---	65.6	55.6	-27.9	-17.9	L2
0.216	32.6	---	---	62.9	52.9	-30.3	-20.3	L2
0.638	30.9	---	---	56.0	46.0	-25.1	-15.1	L2
0.692	30.3	---	---	56.0	46.0	-25.7	-15.7	L2
1.384	29.9	---	---	56.0	46.0	-26.1	-16.1	L2
10.161	36.6	---	---	60.0	50.0	-23.4	-13.4	L2

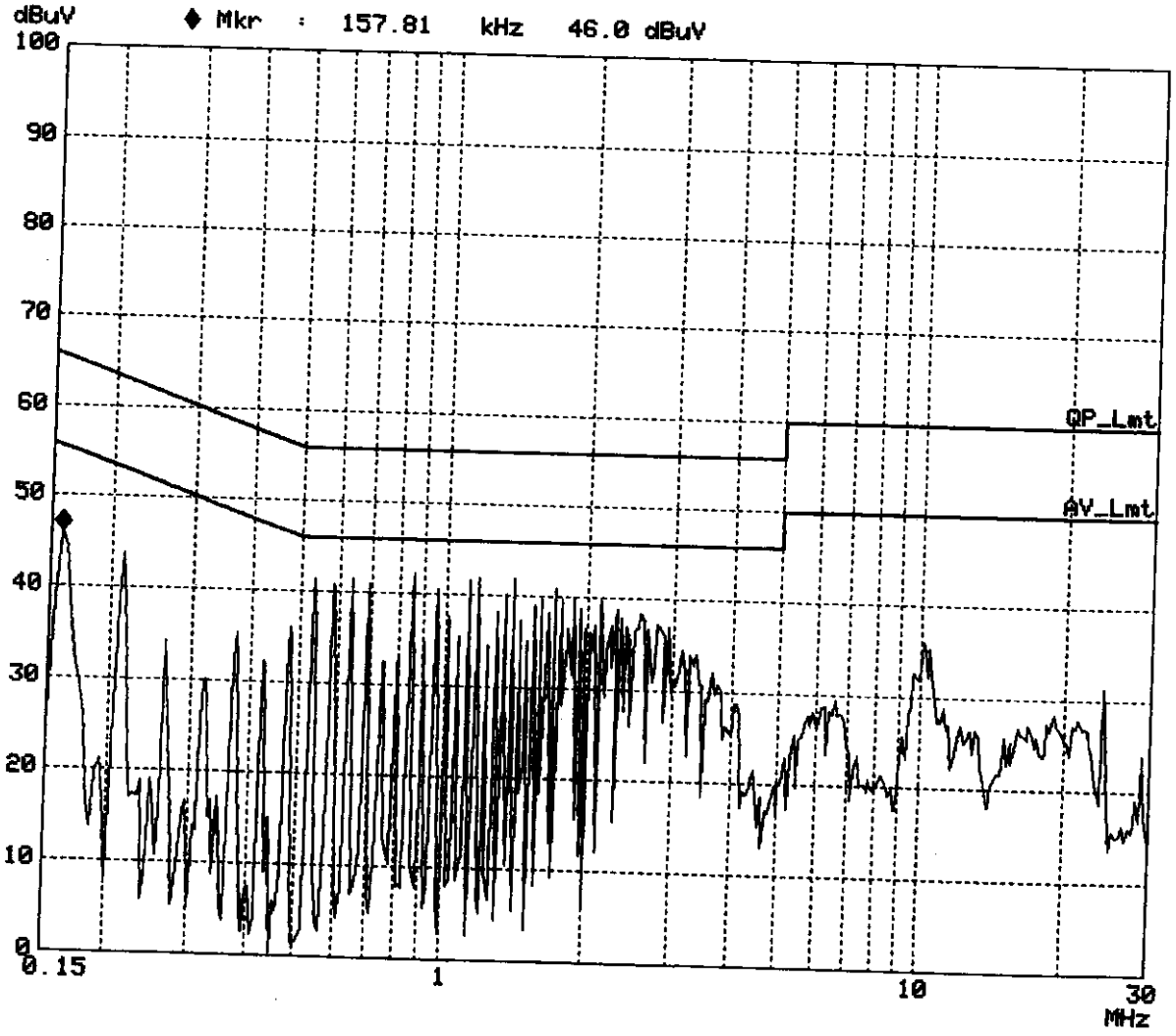
L1 = Line One (Hot side) / L2 = Line Two (Neutral side)

****NOTE: "---" denotes the emission level complied with the Average limit, with at least 2dB margin, so no further re-check .**

Manuf: ROYAL
Op Cond: 1024*768 75Hz
Operator: Clare Chou
Comment: 115VAC/60Hz FCC L1
File name: CISPR22B.SPC
Date: 22. Nov 98 16:45

Overview Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	3.9k	9k	PK	0.10ms	10dBLN	OFF

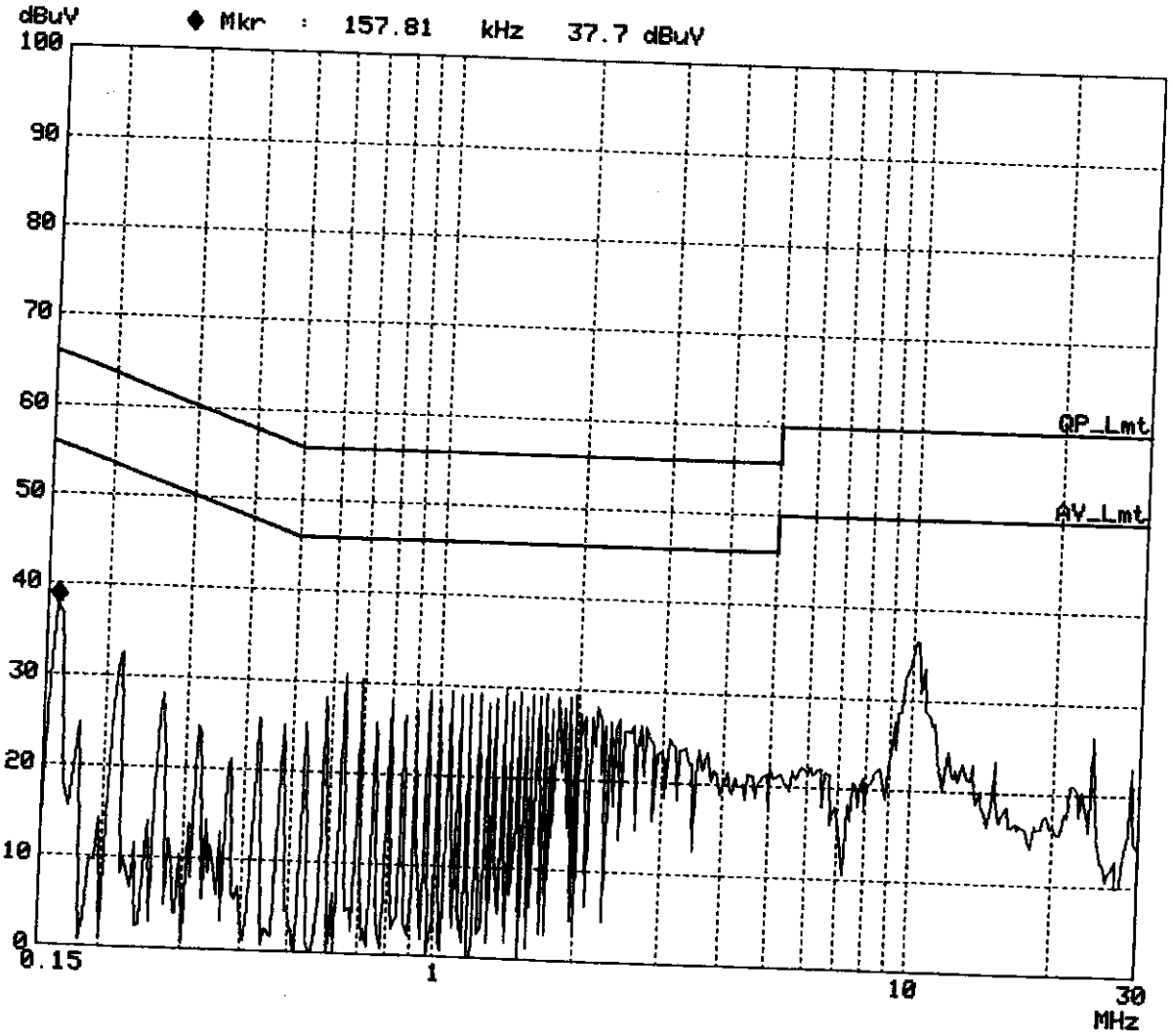


C & C Lab. Co. Ltd.
File No. 980316-F
Page 15-1

Op Cond:	1024*768 75Hz
Operator:	Clare Chou
Comment:	115VAC/60Hz FCC L2
File name:	CISPR22B.SPC
Date:	22. Nov 98 16:49

Overview Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	3.9k	9k	PK	0.10ms	10dBLN	OFF



C & C Lab. Co. Ltd.
File No. 980316-F
Page 12-2

SUMMARY DATA

(RADIATED EMISSION TEST)

Model Number: L-50T **Location:** Site # 3

Tested by: Clare Chou **Polar:** Vertical – 10m

Test Mode: EUT running at video resolution: 1024x768 (75Hz)

Test Results: Passed

Temperature: 26℃ **Humidity:** 58%RH

(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	Raw Data (dB)	Corr. Factor (dBuV)	Emiss. Level (dBuV/m)	Limits	Margin (dB)	Det ector	Ant. Heig. (cm)	Turn Table (°)
153.10	12.7	14.0	26.7	30.0	-3.3	Pk	100.0	230.0
156.93	13.1	13.8	26.9	30.0	-3.1	Pk	100.0	203.6
195.14	12.7	12.5	25.2	30.0	-4.8	Pk	100.0	67.0
216.59	11.1	13.7	24.8	30.0	-5.2	Pk	100.0	91.1
520.56	7.3	23.8	31.1	37.0	-5.9	Pk	237.9	91.7
633.29	4.6	25.8	30.4	37.0	-6.6	Pk	192.4	275.2

SUMMARY DATA

(RADIATED EMISSION TEST)

Model Number: L-50T **Location:** Site # 3

Tested by: Sunny Chen **Polar:** Horizontal – 10m

Test Mode: EUT running at video resolution: 1024x768

Test Results: Passed

Temperature: 26℃ **Humidity:** 58%RH

(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	Raw Data (dB)	Corr. Factor (dBuV)	Emiss. Level (dBuV/m)	Limits	Margin (dB)	Det ector	Ant. Heig. (cm)	Turn Table (°)
115.54	7.1	14.3	21.4	30.0	-8.6	Pk	400.0	282.5
156.26	8.7	13.3	22.0	30.0	-8.0	Pk	400.0	207.7
216.39	7.9	13.8	21.7	30.0	-8.3	Pk	400.0	118.7
422.57	7.4	22.2	29.6	37.0	-7.4	Pk	312.4	226.9
676.87	4.1	26.5	30.6	37.0	-6.4	Pk	208.3	221.9
976.44	1.8	30.3	32.1	37.0	-4.9	Pk	113.7	59.0

APPENDIX 1

LETTER OF AGENT AUTHORIZATION

皇旗資訊股份有限公司
ROYAL INFORMATION ELECTRONICS CO., LTD.

TU CHENG FACTORY:
NO. 3, LANE 11, TZU-CHANG ST.,
TU-CHENG IND. DISTRICT,
TAIPEI HSIEN, TAIWAN, R.O.C.
TEL:(02)2684100(REP.)
FAX:(02)2680908

1 LAN FACTORY:
NO. 77-15, SAN CHI ROAD,
WU CHIEH HSIANG,
1 LAN HSIEN, TAIWAN, R.O.C.
TEL:(039)508800(REP.)
FAX:(039)507408

Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046
U.S.A

Gentlemen,

We the undersigned, hereby authorized C&C Laboratory, Taiwan to act on our behalf in all matters relating to applications for equipment authorizations, including the signing of all documents relating to these matters. Any and all acts carried out by C&C Laboratory, Taiwan on our behalf shall have the same effect as acts of our own.

The applicant certifies that, in the case of an individual applicant is not subject to a denial of federal benefits, that includes FCC benefits, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853 (a) , in the case of a non-individual applicant (e.g. corporation, partnership or other unincorporated association) , no party to the application is subject to a denial of federal benefits, that includes FCC benefits, pursuant to that section.

Sincerely yours,

J. Y. JAN / Assistant Manager

APPENDIX 2

LETTER OF MODIFICATION

APPENDIX 7

TEST EQUIPMENT

MEASURING INSTRUMENT SETTING

TEST TYPE	DETECTOR	FREQUENCY RANGE	RESOLUTION BANDWIDTH	VIDEO BANDWIDTH
Conducted	Peak/QP/Avg	150kHz-30MHz	9kHz	9kHz
Radiated	Peak	30MHz-1GHz	100kHz	100kHz
Radiated	QP	30MHz-1GHz	120kHz	120kHz
Radiated	Peak/Avg	Above 1GHz	1MHz	1MHz

Note: All readings on data pages are taken with the detector in peak mode unless otherwise stated.

UNITS OF MEASUREMENT

Measurements of radiated interference are reported in terms of dBuV/m, at a specified distance.
The indicated readings on the spectrum analyzer are converted to dBuV/m by use of appropriate conversion factors. Measurements of conducted interference are reported in terms of dBuV.

TEST EQUIPMENT LIST

Instrumentation: The following list contains equipment used at C & C Laboratory, Co., Ltd. for testing. The equipment conforms to the American National Standard Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10kHz to 2GHz.

Equipment used during the tests:

Open Area Test Site: ☐ # 1 ; ■ #3

Open Area Test Site # 1					
EQUIPMENT TYPE	*** MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL. DUE**
Spectrum Analyzer	ADVANTEST	R3261A	71720234	05/02/1998	05/02/1999
Pre-Amplifier	ADVANTEST	R14601	73120099	11/02/1998	11/01/1999
EMI Test Receiver	R&S	ESVS10	846285/016	12/12/1997	12/12/1998
Precision Dipole	R&S	HZ-12	846932/0004	06/16/1998	06/16/1999
Precision Dipole	R&S	HZ-13	846556/0008	06/16/1998	06/16/1999
Horn Antenna	EMCO	3115	9602-4659	04/04/1998	04/04/1999
Bilog Antenna	CHASE	CBL6112A	2309	03/14/1998	03/14/1999
Turn Table	EMCO	2081-1.21	N/A	N/A	N/A
Antenna Tower	EMCO	2075-2	9707-2604	N/A	N/A
Controller	EMCO	2090	N/A	N/A	N/A
RF Switch	ANRITSU	MP59B	N/A	N/A	N/A
Site Information	C&C	N/A	N/A	03/07/1998	03/06/1999

Open Area Test Site # 3					
EQUIPMENT TYPE	*** MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL. DUE**
Spectrum Analyzer	ADVANTEST	R3261C	71720533	10/27/1998	10/26/1999
Pre-Amplifier	HP	8447D	2944A09173	01/14/1998	01/14/1999
EMI Test Receiver	R&S	ESVS20	838804/004	12/03/1997	12/03/1998
Precision Dipole	R&S	HZ-12	846932/0004	06/06/1998	06/06/1999
Precision Dipole	R&S	HZ-13	846556/0008	06/16/1998	06/16/1999
Horn Antenna	EMCO	3115	9602-4659	04/04/1998	04/04/1999
Bilog Antenna	CHASE	CBL6112A	2179	11/29/1997	11/29/1998
Turn Table	EMCO	2081-1.21	9709-1885	N/A	N/A
Antenna Tower	EMCO	2075-2	9707-2060	N/A	N/A
Controller	EMCO	2090	9709-1256	N/A	N/A
RF Switch	ANRITSU	MP59B	N/A	N/A	N/A
Site Information	C&C	N/A	N/A	01/21/1998	01/20/1999

Conducted Emission Test Site: ☐ # 1 ; ■ #3

Conducted Emission Test Site # 1					
EQUIPMENT TYPE	* MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL. DUE
Spectrum Analyzer	ADVANTEST	R3261A	71720234	05/02/1998	05/02/1999
EMI Test Receiver	R&S	ESHS10	843743/015	12/03/1997	12/03/1998
LISN	EMCO	3825/2	9106-1809	08/14/1998	08/14/1999
LISN	EMCO	3825/2	9106-1810	08/14/1998	08/14/1999

Conducted Emission Test Site # 3					
EQUIPMENT TYPE	* MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL. DUE
Spectrum Analyzer	ADVANTEST	R3261A	91720031	03/25/1998	03/24/1999
EMI Test Receiver	R&S	ESCS30	844793/012	12/19/1997	12/19/1998
LISN	R&S	ESH2-Z5	843285/010	12/04/1997	12/04/1998
LISN	EMCO	3825/2	9003-1628	04/29/1998	04/28/1999

The calibrations of the measuring instruments, including any accessories that may effect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.

APPENDIX 8

BLOCK DIAGRAM OF TEST SETUP

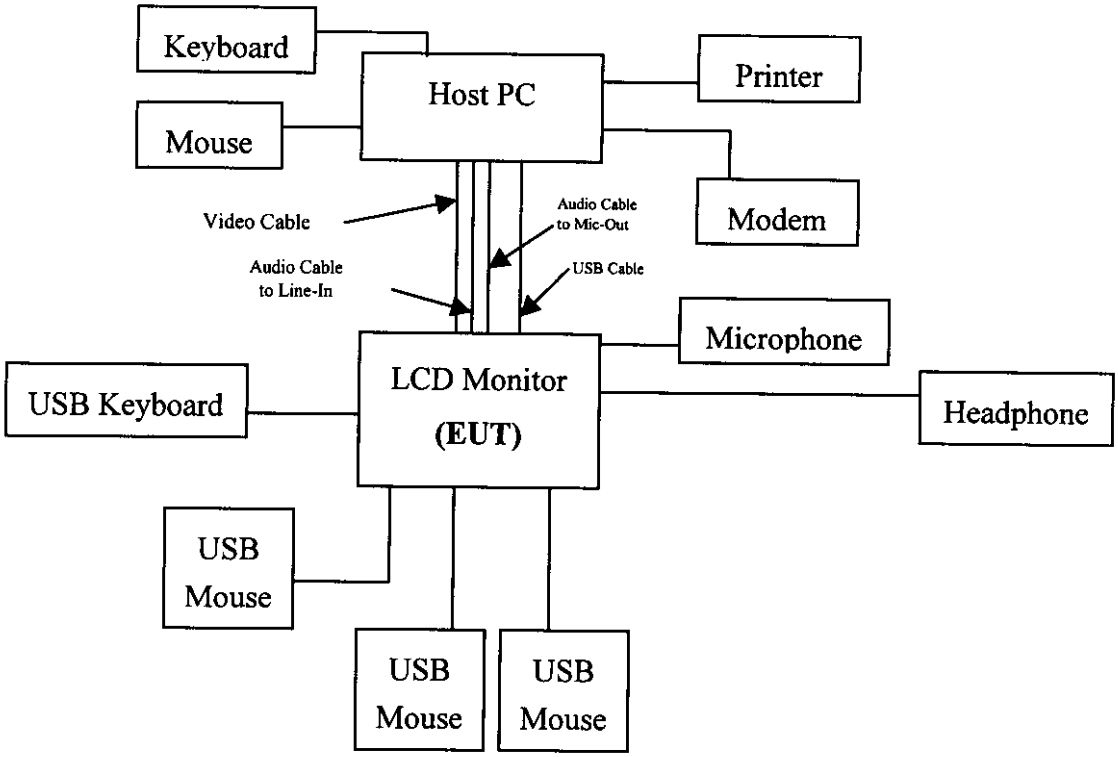
System Diagram of Connections between EUT and Simulators

EUT: LCD MONITOR

Trade Name: TRL, RIC

Model Number: L-50T

Power Cord: Shielded, 1.8m



APPENDIX 9

PHOTOGRAPHS
(TEST SETUP OF LINE CONDUCTED EMISSION TEST)