APPENDIX 6

TEST FACILITY

THE AMERICAN
ASSOCIATION
FOR LABORATORY
ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

C & C LABORATORY CO., LTD
Taoyuan, Taiwan, R.O.C

for technical competence in the field of

Electrical (EMC) Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC Guide 25-1990 "General Requirements for the Competence of Calibration and Testing Laboratories" (equivalent to relevant requirements of the ISO 9000 series of standards) and any additional program requirements in the identified field of testing.

Presented this 7th day of November, 1997.

SEAL

President
For the Accreditation Council
Certificate Number 824.01
Valid to January 31, 2000

For tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical (EMC) Scope of Accreditation
(REVISED)

American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990 and EN 45001-1989

C & C LABORATORY CO., LTD
No. 15, 14 Lin, Chin Twu Chi
Lu Chu Hsiang, Taoyuan, TAIWAN, R.O.C.

Charles Wang Phone: 002 886 3 324 5966; Fax: 002 886 3 324 5235

ELECTRICAL (EMC)

Valid to: January 31, 2000 Certificate Number: 0824-01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests:

Electrical Emissions - Enclosure - 3 & 10 Meters; to 6.5 GHz
(Sites 1 and 3)

Electrical Emissions - AC Power - 0 - 300 V; 50 - 400 Hz
(Sites 1 and 3)

On the following products/equipment:

Computer Components and Peripherals; Networking Components; Wireless Communications Components; Electronic Components

Using the following test methods/specifications/standards:

Code of Federal Regulations (CFR) 47, FCC Part 15 using ANSI C63.4

AS/NZS 3548

BCIQ CNS 13438

CISPR 22

EN: 50081-1, 50082-1, 55022

VCCI V3

Revised 08/18/98

附件如文

速別件

經濟部商品檢驗局（函）

中華民國捌拾柒年壹月貳拾日
檢四八十七二字第 01386 號

受文者：耀智科技股份有限公司

行文單位：正本：耀智科技股份有限公司

副本：本局第二組（二份）、第三組、秘書室（請刊登於本局標準檢驗雜誌）、資訊室（請刊載於國際網路）、檢驗處、各分局（均無附件）

主旨：有關 貴公司電磁相容檢測實驗室申請本局電磁相容檢測領域認可案，業經實地評鑑結果，同意認可登錄，請 查照。

說明：

一、認可登錄範圍如下：

實驗室名稱：耀智科技股份有限公司電磁相容檢測實驗室
實驗室地址：桃園縣蘆竹鄉赤塗村14鄰15號

認可代號	認可產品類別	報告簽署人
SL2-IN-E-14	（II）資訊設備（CNS13438）	林淑文

評鑑標準：ISO Guide 25（1990年版）

二、本案評鑑認可期限三年，自八十七年元月十七日起至九十年元月十六日止，評鑑追查須每年乙次，評鑑費用另行通知繳款。

三、上開已認可領域如有變更事項，請於變更日起二週內函送相關資料至本局備查。

四、貴公司執行本局指定之檢驗業務，依「商品檢驗法」第二十六條規定以執行公務論，且 貴公司應依規定履行相關之責任與義務。

五、檢送「商品電磁相容型式試驗報告」格式乙份，請自行印製使用（附件）。

局長 陳仕鑫

依照分層負責規定授權單位主管決行

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

March 13, 1998

IN REPLY REFER TO
31040/SIT
1300F2

C & C Laboratory Co., Ltd.
1st Fl., No. 344, Fu Ching Street
Taipei, Taiwan

Attention: Ceres Lin

Re: Measurement facility located at Taoyuan
(3 and 10 meter site)

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 or notification under Parts 15 or 18 of the Commission's Rules. Our list will also indicate that the facility complies with the radiated and AC line conducted test site criteria in ANSI C63.4-1992. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has been also added to our list of those who perform these measurement services for the public on a fee basis. This list is updated monthly and is available on the Laboratory's Public Access Link (PAL) at 301-725-1072, and also on the Internet at the FCC Website www.fcc.gov/oet/info/database/testsite/.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

April 20, 1998

IN REPLY REFER TO
31040/SIT
1300F2

C&C Laboratory Co., Ltd.
1st Fl., No. 344, Fu Ching Street
Taipei, Taiwan

Attention: Charles Wang

Re: Measurement facility located at Taoyuan, Site No. 3
(3 and 10 meter site)

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 or notification under Parts 15 or 18 of the Commission's Rules. Our list will also indicate that the facility complies with the radiated and AC line conducted test site criteria in ANSI C63.4-1992. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has been also added to our list of those who perform these measurement services for the public on a fee basis. This list is updated monthly and is available on the Laboratory's Public Access Link (PAL) at 301-725-1072, and also on the Internet at the FCC Website www.fcc.gov/oet/info/database/testsite/.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch

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

APPENDIX 7

TEST EQUIPMENT

MEASURING INSTRUMENT SETTING

TEST TYPE	DETECTOR	FREQUENCY RANGE	RESOLUTION BANDWIDTH	VIDEO BANDWIDTH
Conducted	Peak/Avg	10kHz-150kHz	300Hz	100kHz
Conducted	Peak/QP/Avg	150kHz-30MHz	9kHz	100kHz
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 (EMISSION)

Instrumentation: The following list contains equipment used at C & C Laboratory, Co., Ltd. for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2-1988 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10kHz to 1.0 / 2.0 GHz.

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	R3261AN	71720234	05/02/1998	05/02/1999
Pre-Amplifier	ADVANTEST	R14601	73120099	10/28/1997	01/14/1998
EMI Test Receiver	R&S	ESVS10	846285/016	12/01/1997	12/01/1998
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	10/17/1997	10/17/1998
Pre-Amplifier	HP	8447D	2944A09173	01/14/1998	01/14/1999
EMI Test Receiver	R&S	ESVS20	838804/004	12/13/1997	12/13/1998
Precision Dipole	R&S	HZ-12	846932/0004	06/06/1997	06/06/1998
Precision Dipole	R&S	HZ-13	846556/0008	06/16/1997	06/16/1998
Horn Antenna	EMCO	3115	9602-4659	04/04/1998	04/04/1999
Bilog Antenna	CHASE	CBL6112A	2179	07/03/1997	07/02/1998
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 (100Hz-1.5GHz)	HP	8568B	3001A05004 3014A18846	03/25/1998	03/24/1999
Quasi-Peak Adapter	HP	85650A	2811A01399	03/25/1998	03/24/1999
RF Preselector (20Hz-2GHz)	HP	85685A	2947A01064	03/25/1998	03/24/1999
LISN (10kHz-100MHz)	EMCO	3825/2	9106-1809	03/13/1998	03/12/1999
LISN (10kHz-100MHz)	EMCO	3825/2	9106-1810	03/13/1998	03/12/1999

Conducted Emission Test Site # 3					
EQUIPMENT TYPE	*** MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL. DUE**
Receiver (9kHz-2.75GHz)	ROHDE & SCHWARZ	ESCS30	844793/012	12/19/1997	12/18/1998
LISN (10kHz-100MHz)	EMCO	3825/2	9003-1628	04/29/1998	04/28/1999
LISN (10kHz-100MHz)	ROHDE & SCHWARZ	ESH3-Z5	848773/014	05/04/1998	05/03/1999

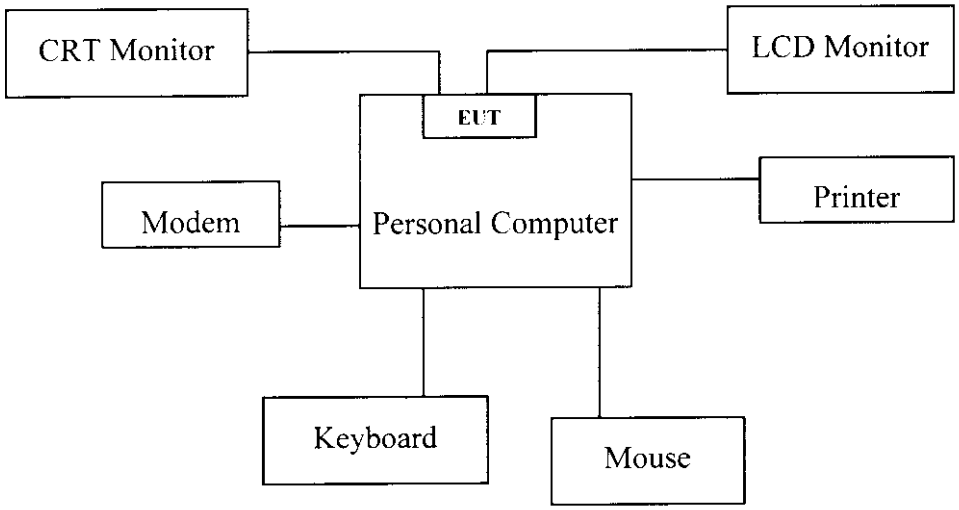
The calibrations of the measuring instruments, including any accessories that may effect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.

APPENDIX 8

BLOCK DIAGRAM OF TEST SETUP

System Diagram of Connections between EUT and Simulators

EUT: VGA CARD
Model Number: 9811-11A
Power Cord : Unshielded, 1.8m
FCC ID: ICUVGA-GW811



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. **800 x 600 (LCD + CRT)**
2. **1024 x 768 (LCD + CRT)**
3. **1280 x 1024 (LCD + CRT)**

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

2

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 and Average 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	L1

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 limit, with at least 2dB margin limits, 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. **800 x 600 (LCD + CRT)**
2. **1024 x 768 (LCD + CRT)**
3. **1280 x 1024 (LCD + CRT)**

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

Mode(s):

2

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 test report.

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

Freq. (MHz)	Raw Data (dB)	Corr. Factor (dBuV)	Emiss. Level (dBuV/m)	Limits	Margin (dB)	Det ector	Ant. Heig. (cm)	Turn Table (°)
xx.xx	12.20	10.88	23.08	30.0	-6.92	Pk	150	180

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 dBuV/m	= 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 or Q.P.)
Ant. Heig.	= 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

SUMMARY DATA
(LINE CONDUCTED TEST)

Model Number: 9811-11A **Location:** Site # 3

Tested by: Jacky Yeh

Test Mode: 1024 x 768 (LCD + CRT)

Test Results: Passed

Temperature: 28℃ **Humidity:** 60%RH

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

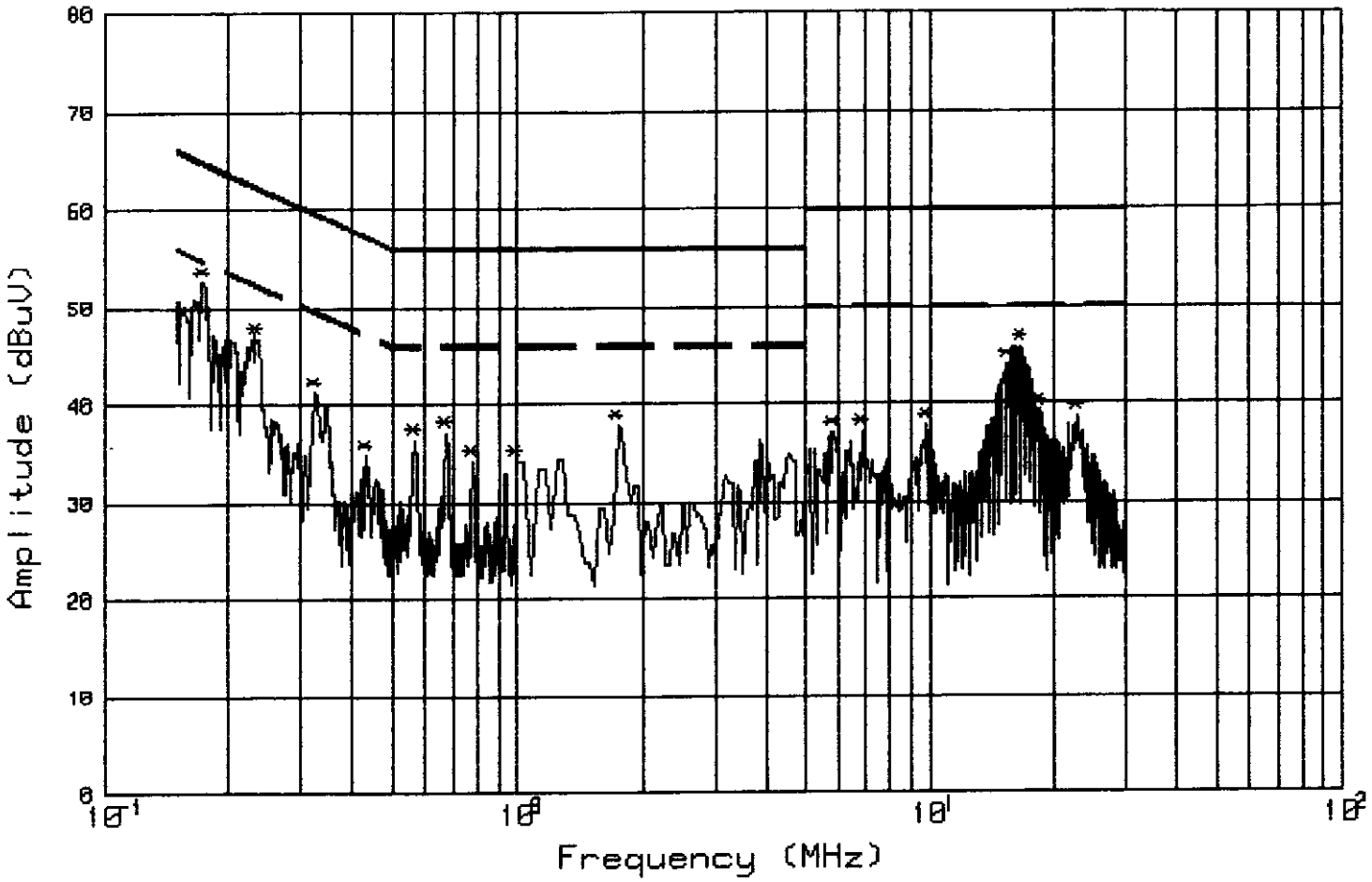
FREQ MHz	PEAK RAW dBuV	Q.P. RAW dBuV	AVG RAW dBuV	Q.P. Limit dBuV	AVG Limit dBuV	Q.P. Margin dB	AVG Margin dB	NOTE
0.174	52.6	---	---	64.8	54.8	-12.2	-2.2	L1
0.326	41.2	---	---	59.6	49.6	-18.4	-8.4	L1
0.676	37.2	---	---	56.0	46.0	-18.8	-8.8	L1
1.746	37.8	---	---	56.0	46.0	-18.2	-8.2	L1
15.500	44.0	---	---	60.0	50.0	-16.0	-6.0	L1
16.660	45.8	---	---	60.0	50.0	-14.2	-4.2	L1

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

****NOTE: "---" denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.**

C&C Lab.(Taiwan) Cond. Test Site #3

CISPR 22 - Class B QP/AV Limit



Model:9811-11A No. 2 Test Date: 2 Sep 1998 09:04:05
Remark:(FCC)
Auto-Marking;RBW=VBW=10 KHz;SWEEP TIME AUTO LISN= L1
Tester:Jacky Detector=Peak(R3261C S.P.A.)

No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Total (dBuV)	AV.Lmt (dBuV)	Margin (dB)	Warning Mark
1	.174	52.6	-	52.6	54.8	-2.2	!
2	.235	46.8	-	46.8	52.3	-5.5	
3	.326	41.2	-	41.2	49.6	-8.4	
4	.433	34.8	-	34.8	47.2	-12.4	
5	.565	36.4	-	36.4	46.0	-9.6	
6	.676	37.2	-	37.2	46.0	-8.8	
7	.783	34.2	-	34.2	46.0	-11.8	
8	1.000	34.2	-	34.2	46.0	-11.8	
9	1.746	37.8	-	37.8	46.0	-8.2	
10	5.847	37.0	-	37.0	50.0	-13.0	
11	6.883	37.2	-	37.2	50.0	-12.8	
12	9.824	37.8	-	37.8	50.0	-12.2	
13	15.500	44.0	-	44.0	50.0	-6.0	
14	16.660	45.8	-	45.8	50.0	-4.2	
15	18.566	39.2	-	39.2	50.0	-10.8	

C&C Lab. Co. Ltd.
File No. [illegible]

SUMMARY DATA
(LINE CONDUCTED TEST)

Model Number: 9811-11A **Location:** Site # 3

Tested by: Jacky Yeh

Test Mode: 1024 x 768 (LCD + CRT)

Test Results: Passed

Temperature: 28℃ **Humidity:** 60%RH

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

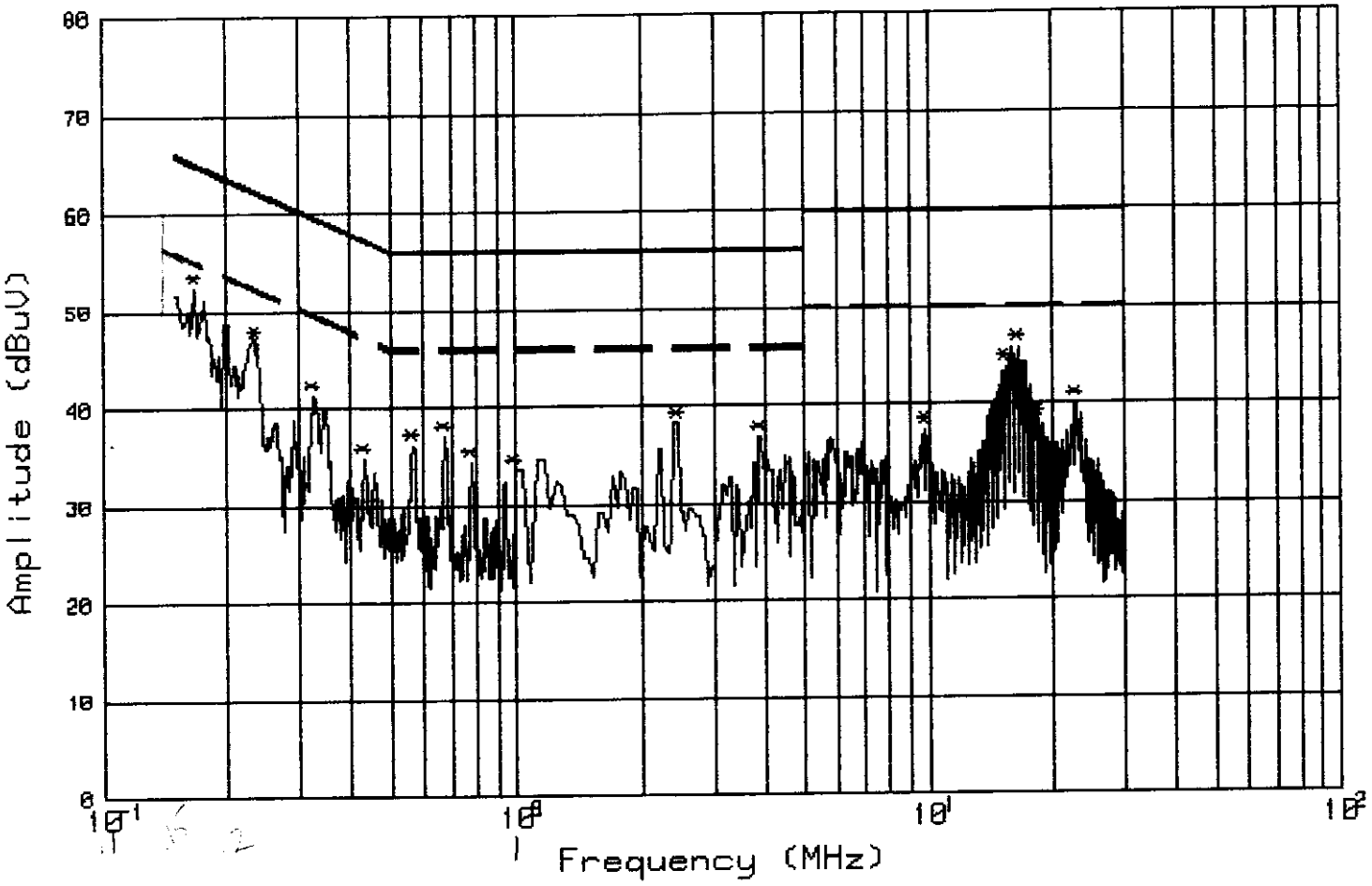
FREQ MHz	PEAK RAW dBuV	Q.P. RAW dBuV	AVG RAW dBuV	Q.P. Limit dBuV	AVG Limit dBuV	Q.P. Margin dB	AVG Margin dB	NOTE
0.168	52.4	---	---	65.0	55.0	-12.6	-2.6	L2
0.236	46.8	---	---	62.2	52.2	-15.4	-5.4	L2
0.675	37.0	---	---	56.0	46.0	-19.0	-9.0	L2
2.450	38.2	---	---	56.0	46.0	-17.8	-7.8	L2
15.376	43.8	---	---	60.0	50.0	-16.2	-6.2	L2
16.536	45.8	---	---	60.0	50.0	-14.2	-4.2	L2

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

****NOTE: "---" denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.**

C&C Lab.(Taiwan) Cond. Test Site #3

CISPR 22 - Class B QP/AV Limit



Model:9811-11A No. 1 Test Date: 2 Sep 1998 09:05:00
Remark:(FCC)
Auto-Marking;RBW=VBW=10 KHz;SWEEP TIME AUTO LISN= L2
Tester:Jacky Detector=Peak(R3261C S.P.A.)

No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Total (dBuV)	AV.Lmt (dBuV)	Margin (dB)	Warning Mark
1	.168	52.4	-	52.4	55.0	-2.6	!
2	.236	46.8	-	46.8	52.2	-5.4	
3	.326	41.2	-	41.2	49.6	-8.4	
4	.431	34.8	-	34.8	47.2	-12.4	
5	.564	36.2	-	36.2	46.0	-9.8	
6	.675	37.0	-	37.0	46.0	-9.0	
7	.784	34.4	-	34.4	46.0	-11.6	
8	1.000	33.6	-	33.6	46.0	-12.4	
9	2.450	38.2	-	38.2	46.0	-7.8	
10	3.900	36.8	-	36.8	46.0	-9.2	
11	9.824	37.4	-	37.4	50.0	-12.6	
12	15.376	43.8	-	43.8	50.0	-6.2	
13	16.536	45.8	-	45.8	50.0	-4.2	
14	18.441	38.2	-	38.2	50.0	-11.8	
15	22.791	40.0	-	40.0	50.0	-10.0	

C & C Lab. C...
File No. 980201-F

SUMMARY DATA
(RADIATED EMISSION TEST)

Model Number: 9811-11A

Location: Site # 3

Tested by: Jacky Yeh

Test Mode: 1024 x 768 (LCD + CRT)

Test Results: Passed

Polar: Vertical--10m

Temperature: 30℃

Humidity: 63%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 (°)
56.30	17.3	8.9	26.2	30.0	-3.8	Pk	100.4	303.9
169.13	12.5	12.8	25.3	30.0	-4.7	Pk	100.4	232.2
260.12	15.9	17.3	33.2	37.0	-3.8	Pk	100.4	190.5
300.36	14.5	18.4	32.9	37.0	-4.1	Pk	375.5	42.8
520.10	8.6	23.7	32.3	37.0	-4.7	Pk	241.2	126.8
797.10	3.1	28.4	31.5	37.0	-5.5	Pk	141.6	204.5

SUMMARY DATA
(RADIATED EMISSION TEST)

Model Number: 9811-11A **Location:** Site # 3

Tested by: Jacky Yeh

Test Mode: 1024 x 768 (LCD + CRT)

Test Results: Passed **Polar:** Horizontal--10m

Temperature: 30℃ **Humidity:** 63%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 (°)
46.15	12.3	13.6	25.9	30.0	-4.1	Pk	400.0	184.2
139.95	12.6	13.9	26.5	30.0	-3.5	Pk	400.0	256.4
220.96	12.4	12.9	25.3	30.0	-4.7	Pk	400.0	310.6
314.92	14.7	19.1	33.8	37.0	-3.2	Pk	365.5	184.5
522.22	9.9	22.8	32.7	37.0	-4.3	Pk	241.8	114.2
797.22	5.4	27.3	32.7	37.0	-4.3	Pk	133.0	63.0

TEST FACILITY (EN 55022)

Location: No. 15, 14 Line, Chin Twu Chi, Lu Chu Hsiang, Taoyuan, Taiwan, R.O.C.

Description: There are two 3/10m open area test sites and two line conducted labs for final test, and one 3/10m open area test site for engineering lab. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 1992 and CISPR 22/EN 55022 requirements.

Site Filing: A site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046.

Registration also was made with Voluntary Control Council for Interference (VCCI).

Site Accreditation: Accredited by NEMKO (Authorization #: ELA 124) for EMC & A2LA (Certificate #: 824.01) for Emission

Also accredited by BCIQ for the product category of Information Technology Equipment.

Instrument Tolerance: All measuring equipment is in accord with ANSI C63.4 and CISPR 22 requirements that meet industry regulatory agency and accreditation agency requirement.

Ground Plane: Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna. It has no holes or gaps having longitudinal dimensions larger than one-tenth of a wavelength at the highest frequency of measurement up to 1GHz.

Site #1 & #3 Line Conducted Test Site: Vertical ground plane (2.2m x 2.2m)
Horizontal ground plane (2.5m x 2.5m)

Nemko

Worldwide Testing and Certification

ELA 4

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