

Exhibit A Technical Report, Diagram

Applicant Name And Address

Their full name and mailing address is given below:

Name : Chicony Electronics Co., Ltd.

***Address..... : No. 25, Wu-Gong 6th Rd., Wu-Ku Industrial Park, Taipei
Hsien, Taiwan, R.O.C.***

Model No. : KB-9830

Brand Name : Chicony

Chicony Electronics Co., Ltd..

FCC ID.: E8HKB-9830

EUT : RF Keyboard

Exhibit C Measurement Report

EMI TEST REPORT

FCC ID. : E8HKB-9830
Product : RF Keyboard
Model No. : KB-9830
Applicant : Chicony Electronics Co., Ltd.
Manufacturer : Chicony Electronics Co., Ltd.
Regulation Applied : FCC Rules and Regulations Part 15 Subpart C
(1998)
Report Number : ET88S-08-015
Issused Date : Aug. 31, 1999

The compliance test is only certified for the test equipment and the results of the testing report relate only to the item tested. The compliance test of this report was conducted in accordance with the appropriate standards. It's not intention to assure the quality and performance of the product. This report shall not be reproduced except in full, without the approval of ETC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

BSMI ISO 9002 and Guide 25.

TÜV Product Service ISO9002 and EN45001.

NIST NVLAP Accredited Laboratory for FCC Part 15/ CISPR 22/ AS/NZS 3548.

CNLA ISO/ IEC Guide 25.

NEMKO, FIMKO , SGS , TÜV Laboratory Assessment EN45001.

FCC, VCCI Registered.

TEST REPORT CERTIFICATE

Applicant : Chicony Electronics Co., Ltd.
No. 25, Wu-Gong 6th Rd., Wu-Ku Industrial Park, Taipei Hsien,
Taiwan, R.O.C.

Manufacturer : Chicony Electronics Co., Ltd.
No. 25, Wu-Gong 6th Rd., Wu-Ku Industrial Park, Taipei Hsien,
Taiwan, R.O.C.

Description of EUT

Regulation Applied : FCC Rules and Regulations Part 15 Subpart C (1998)

I HEREBY CERTIFY THAT: The data shown in this report were made in accordance with the procedures given in ANSI C63.4 and the energy emitted by the device was found to be within the limits applicable. I assume full responsibility for accuracy and completeness of these data.

Note: 1. The results of the testing report relate only to the items tested.

2. The testing report shall not be reproduced except in full, without the written approval of ETC.
3. The report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

Test Date : Aug. 19, 1999

Test Engineer :

Approve & Authorized Signer:

Win-Po Tsai, Supervisor, NVLAP Signatory

EMC Dept. of ELECTRONICS
TESTING CENTER, TAIWAN



Table of Contents

	Page
EMI TEST REPORT	1
TEST REPORT CERTIFICATE.....	2
TABLE OF CONTENTS.....	3
1. GENERAL INFORMATION	5
1.1 Product Description	5
1.2 Test Methodology	5
1.3 Test Facility	5
2. PROVISIONS APPLICABLE	6
2.1 Class Definition	6
2.2 Class Limitations	6
2.3 Restricted Bands of Operation	8
2.4 Labelling Requirement	9
2.5 User Information	9
3. SYSTEM TEST CONFIGURATION.....	10
3.1 EUT configuration and operating	10
3.2 Devices for Tested System.....	10
3.3 Deviation Statement.....	10
3.4 Modification Record	10
4. RADIATED EMISSION MEASUREMENT	11
4.1 Applicable Standard	11
4.2 Measurement Procedure	11
4.3 Radiated Emission Data	13
4.4 Field Strength Calculation	15
4.5 Radiated Measuring Equipment	15
4.6 Photos of Radiation Measuring Setup	16
5. CONDUCTED EMISSION MEASUREMENT	17
5.1 Applicable Standard	17
5.2 Measurement Procedure	17
5.3 Conducted Emission Data	18
5.4 Result Data Calculation	21



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5.5 Conducted Measurement Equipment.....	21
5.6 Photos of Conduction Measuring Setup	22
6. ANTENNA REQUIREMENT	23
6.1 Applicable Standard.....	23
6.2 Antenna Construction.....	23

1. GENERAL INFORMATION

1.1 Product Description

The EUT consists of one RF keyboard(transmitter) and one receiver connected with a personal computer. The RF keyboard transmits signal to receiver, then communication with the personal computer.

1.2 Test Methodology

Both conducted and radiated emissions were performed according to the procedures in ANSI C63.4. Radiated emission tests was setup on a wooden table 3 meters from the antenna.

1.3 Test Facility

The semi-anechoic chamber and conducted measurement facility used to collect the radiated and conducted data are located inside the Building at No.8, Lane 29, Wen-ming Road, Lo-shan Tsun, Kweishan Hsiang, Taoyuan, Taiwan, R.O.C.

This site has been accreditation as a FCC filing site.

2. PROVISIONS APPLICABLE

2.1 Class Definition

Unintentional radiator:

A device that intentionally generates and emits radio frequency energy for use within the device, or that sends radio frequency signals by conduction to associated equipment via connecting wiring, but which is not intended to emit RF energy by radiation or induction.

Class A Digital Device: A digital device which is marketed for use in commercial or business environment; exclusive of a device which is marketed for use by the general public, or which is intended to be used in the home.

Class B Digital Device : A digital device which is marketed for use in a residential environment notwithstanding use in a commercial, business or industrial environment. Example of such devices that are marketed for the general public.

Note : A manufacturer may also qualify a device intended to be marketed in a commercial ,business, or industrial environment as a Class B digital device, and in fact is encouraged to do so, provided the device complies with the technical specifications for a Class B Digital Device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B Digital Device, Regardless of its intended use.

Intentional radiator:

A device that intentionally generates and emits radio frequency energy by radiation or induction.

2.2 Class Limitations

(1) Conducted Emission Requirement

For unintentional device, according to § 15.107(a) Line Conducted Emission Limit is as following :

Frequency MHZ	Emissions uV	Emissions dBuV
0.45 - 30.0	250	48.0

(2) Radiated Emission Requirement

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values :

Frequency MHZ	Distance Meters	Radiated uV/m	Radiated dBuV/m
30 - 88	3	100	40.0
88 - 216	3	150	43.5
216 - 960	3	200	46.0
above 960	3	500	54.0

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

For intentional radiator device, per § 15.249(a), the field strength of radiated emissions comply with the following values :

Frequency MHZ	Distance Meters	Fundamental		Harmonic	
		dBuV/m	mV/m	dBuV/m	uV/m
902 - 928	3	94	50	54	500
2400 - 2483.5	3	94	50	54	500
5725 - 5875	3	94	50	54	500
24000 - 24250	3	108	250	54	2500

In according with § 15.249(d), limits shown in above table are based on average limits for frequencies above 1000MHz, and frequencies below 1000MHz are based on quasi peak. However, the peak field strength of any emission shall not exceed the maximum permitted average limits by more than 20 dB.

(3) Antenna Requirement

For intentional device, according to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

(4) Band edges measurement

For intentional device, according to § 15.249(c), emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of fundamental or to the radiated emission limits in § 15.209.

2.3 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below :

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42-16.423	399.9-410	4.5-5.25
0.490 - 0.510	16.69475 - 16.69525	608-614	5.35-5.46
2.1735 - 2.1905	16.80425 - 16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475 - 156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3360-4400	Above 38.6
13.36-13.41			

2.4 Labelling Requirement

The device shall bear the following statement in a conspicuous location on the device :

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

2.5 User Information

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual.

The Federal Communications Commission Radio Frequency Interference Statement includes the following paragraph.

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

3. SYSTEM TEST CONFIGURATION

3.1 EUT configuration and operating

The system was configured for testing in a typical fashion, as a user would normally use it. During the test, the EUT keyin "H" characters and the "H" display on the monitor.

3.2 Devices for Tested System

Description	Model	Manufacturer	Cable
RF Keyboard *1	KB-9830	Chicony Electronics Co., Ltd.	----
Monitor	P750	NEC	1.8m Shielded Cable 1.8m Unshielded AC Power Cord
PC	2165	IBM	1.8m Unshielded AC Power Cord
Modem	1414	ACEEX	Power cable, 1.8m unshielded RS-232 cable, 1.8m unshielded
Printer	DeskJet 400	Hewlett-Packard	2.8m Unshielded Cable 1.2m Shielded Cable
USB Mouse	A2U800A	Dexin	1.8m Unshielded Cable

"*1" -- Equipment Under Test

3.3 Deviation Statement

(If any deviation from additions to or exclusions from test method must be stated)

N/A

3.4 Modification Record

N/A

4. RADIATED EMISSION MEASUREMENT

4.1 Applicable Standard

For intentional radiator digital devices, according to § 15.249(a), operation within the frequency band of 902 to 928 MHz, the fundamental field strength shall not exceed 94 dBuV/m and the harmonics shall not exceed 54 dBuV/m. For out band emission except for harmonics shall comply with § 15.209 or at least attenuated by 50 dB below the level of the fundamental.

4.2 Measurement Procedure

- (1). Setup the configuration per figure 1 & 2.
- (2). For emission frequencies measurement is performed in a semi-anechoic chamber to determine the accurate frequencies of higher emissions and then each selected frequency is precisely measured.
- (3). The search antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0 ° to 360 ° with a speed as slow as possible, and keep the azimuth that the highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading. A RF test receiver is also used to confirm emissions measured.
- (4). Repeat step 3 until all frequencies need to be measured were complete.
- (5). Repeat step 4 with search antenna in vertical polarized orientations.
- (6). Check the frequency of the highest emission with varying the placement of cables associated with EUT to obtain the worst case and record the result.

Figure 1 : Frequencies measured below 1 GHz configuration

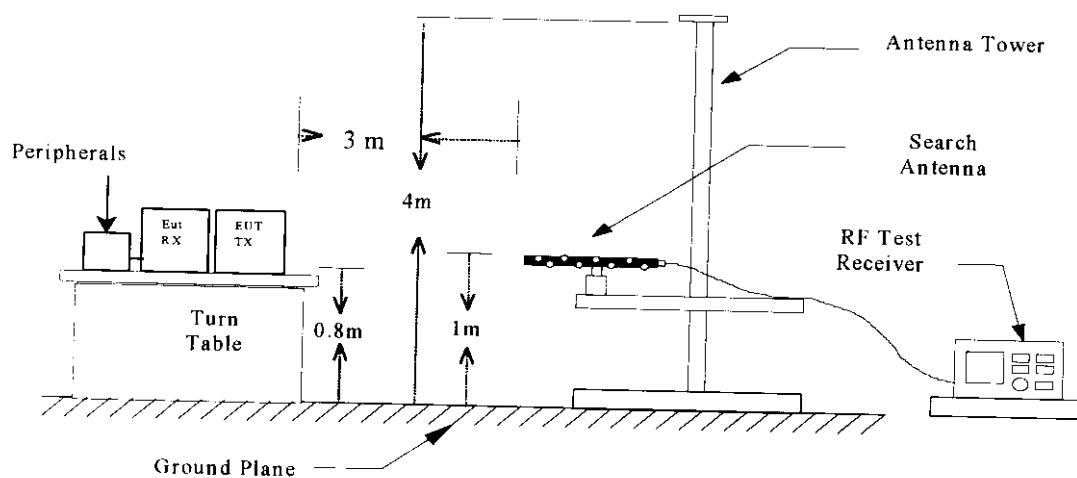
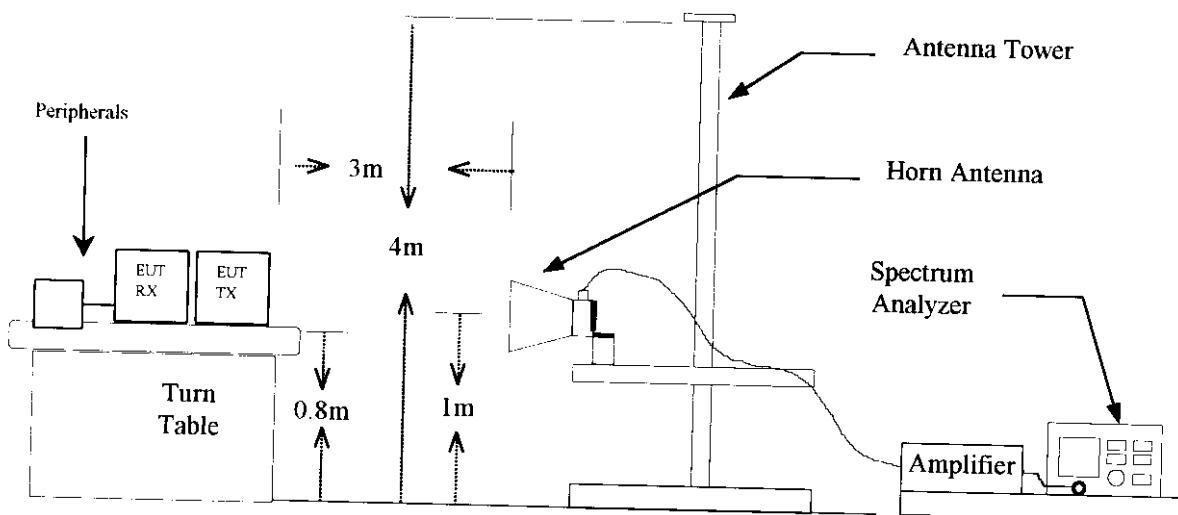


Figure 2 : Frequencies measured above 1 GHz configuration



4.3 Radiated Emission Data

A. For RX and peripheral

Model No./Type No. : KB-9830

Operation Mode : Receiving

EUT Power : DC 5V (from PC)

Test Date : Aug. 19, 1999 Temperature : 27 °C Humidity : 71%

Emission Frequency (MHz)	Meter Reading (dB μ V)		Corr'd Factor (dB)	Results (dB μ V/m)		AH (m)		DRT degree		Limit @3m (dB μ V/m)	Margin (dB)
	Hor.	Ver.		Hor.	Ver.	Hor.	Ver.	Hor.	Ver.		
42.950	***	18.4	9.5	***	27.9	***	1.0	***	42	40.0	-12.1
48.010	***	23.5	8.0	***	31.5	***	1.2	***	36	40.0	-8.6
62.975	***	27.5	8.4	***	35.9	***	1.0	***	92	40.0	-4.1
63.250	19.8	***	8.4	28.2	***	1.1	***	87	***	40.0	-11.8
93.375	***	25.6	9.6	***	35.2	***	1.1	***	5	43.5	-8.3
93.438	26.9	***	9.6	36.5	***	1.8	***	0	***	43.5	-7.0
102.900	***	21.5	9.4	***	30.9	***	1.0	***	0	43.5	-12.7
189.883	12.5	***	12.3	24.8	***	1.5	***	15	***	43.5	-18.7
221.593	14.6	***	13.4	28.0	***	1.8	***	38	***	46.0	-18.0
284.885	11.1	***	16.5	27.6	***	2.0	***	48	***	46.0	-18.4
400.008	***	21.7	20.6	***	42.3	***	1.2	***	36	46.0	-3.7
472.350	***	18.0	21.3	***	39.3	***	1.3	***	41	46.0	-6.7
472.439	19.8	***	21.3	41.1	***	1.3	***	47	***	46.0	-5.0
661.386	13.2	***	26.1	39.3	***	2.5	***	127	***	46.0	-6.7

Note:

1. AH means antenna height, DRT means degrees of rotation of turntable.
2. The symbol of "****" means the value is too low to be detected.

B. For TX

Model No./Type No. : KB-9830Operation Mode : TransmittingEUT Power : DC 6VTest Date : Aug. 19, 1999 Temperature : 27 °C Humidity : 71%

Emission Frequency (MHz)	Meter Reading (dB μ V)		Corr'd Factor (dB)	Results (dB μ V/m)		AH (m)		DRT degree		Limit @3m (dB μ V/m)	Margin (dB)
	Hor.	Ver.		Hor.	Ver.	Hor.	Ver.	Hor.	Ver.		
916.348	59.6	52.5	30.4	90.0	82.9	1.5	1.1	15	5	94.0	-4.0
1832.000	17.4	16.0	26.9	44.3	42.9	1.1	1.0	37	12	54.0	-9.7
2749.044	***	***	***	***	***	***	***	***	***	***	***
4581.174	***	***	***	***	***	***	***	***	***	***	***
5498.088	***	***	***	***	***	***	***	***	***	***	***
6414.436	***	***	***	***	***	***	***	***	***	***	***
7330.784	***	***	***	***	***	***	***	***	***	***	***
8247.132	***	***	***	***	***	***	***	***	***	***	***

Note:

1. AH means antenna height, DRT means degrees of rotation of turntable.
2. The symbol of "****" means the value is too low to be detected.

4.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor, High Pass Filter Loss and Cable Loss, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation calculation is as follows:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

where

$$\text{Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

4.5 Radiated Measuring Equipment

The following instrument are used for radiated emissions measurement :

Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
EMI Test Receiver	Hewlett-Packard	8546A	3411A00192	Nov. 04, 1999
Horn Antenna	EMCO	3115	9107-3729	May 16, 2000
Logbicone Antenna	Schwarzbeck	VLUB 9160	3059	Oct. 29, 1999

Note: The standards used to perform this calibration are traceable to NML/ROC and NIST/USA.

Measuring instrument setup in measured frequency band when specified detector function is used :

Frequency Band (MHz)	Instrument	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	RF Test Receiver	Quasi-Peak	120 kHz	N/A
	Spectrum Analyzer	Peak	100 kHz	100 kHz
Above 1000	Spectrum Analyzer	Peak	1 MHz	1 MHz
	Spectrum Analyzer	Average	1 MHz	Auto

5. CONDUCTED EMISSION MEASUREMENT

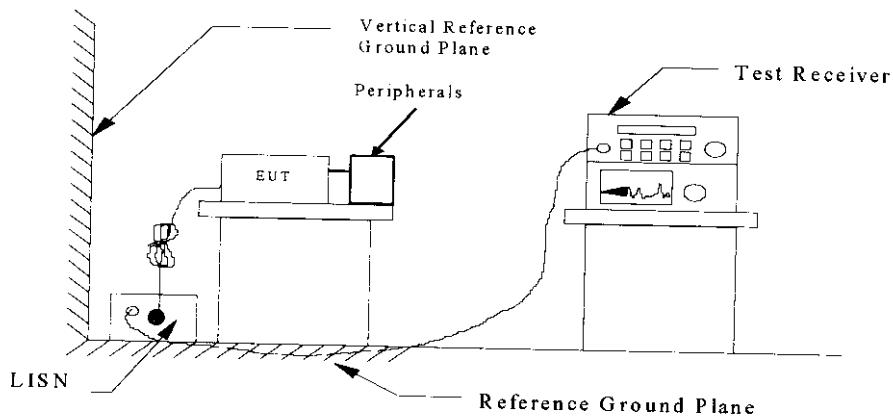
5.1 Applicable Standard

For unintentional digital devices, Line Conducted Emission Limits are in accordance to § 15.107(a). And according to § 15.107(e), an alternative to the conducted limits is CISPR 22.

5.2 Measurement Procedure

1. Setup the configuration per figure 3.
2. A preliminary scan with a spectrum monitor is performed to identify the frequency of emission that has the highest amplitude relative to the limit by operating the EUT in selected modes of operation, typical cable positions, and with a typical system configuration.
3. Record the 4 to 8 highest emissions relative to the limit.
4. Measure each frequency obtained from step 3 by a test receiver set on quasi peak detector function, and then record the accuracy frequency and emission level. If all emissions measured in the specified band are attenuated more than 20 dB from the limit, this step would be ignored, and the peak detector function would be used.
5. Confirm the highest emissions with variation of the EUT cable configuration and record the final data.
6. Repeat all above procedures on measuring each operation mode of EUT.

Figure 3 : Conducted emissions measurement configuration



5.3 Conducted Emission Data

For RX and peripheral

Model No./Type No. : KB-9830

Operation Mode : Receiving

EUT Power : AC 110V/60Hz(Testing the power of PC)

Test Date : Aug. 19, 1999 Temperature : 26 °C Humidity : 70%

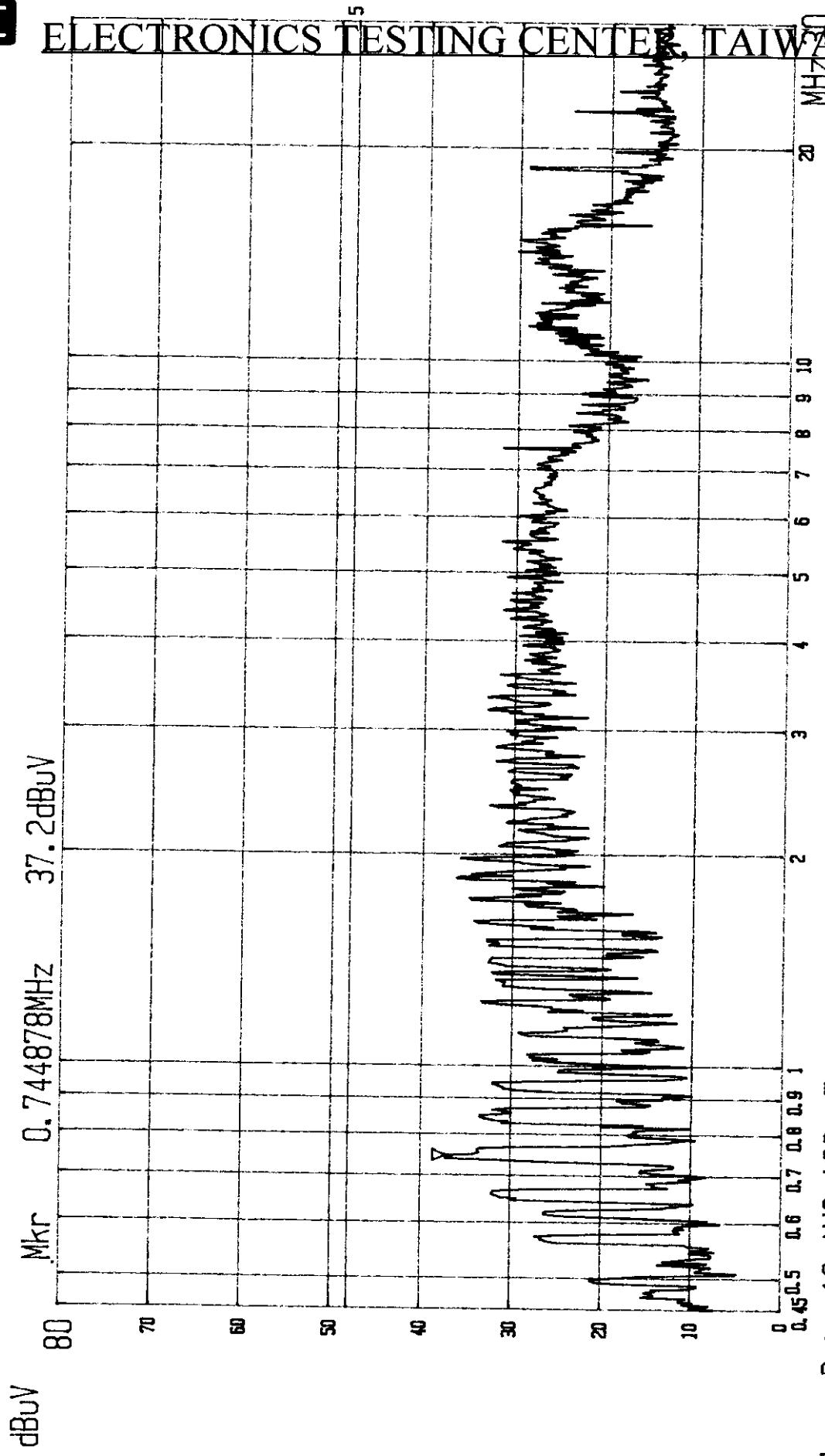
Emission Frequency (MHz)	Meter Reading (dBuV)		CORR'd Factor (dB)	Results (dBuV)		Limit (dBuV)	Margins (dB)
	L1	L2		L1	L2		
0.748	***	37.0	0.1	***	37.1	48.0	-10.9
0.774	37.2	***	0.1	37.3	***	48.0	-10.7
1.398	***	33.8	0.2	***	34.0	48.0	-14.0
1.841	36.2	***	0.2	36.4	***	48.0	-11.6
1.966	***	34.2	0.2	***	34.4	48.0	-13.6
3.331	33.0	***	0.2	33.2	***	48.0	-14.8
7.502	***	31.2	0.3	***	31.5	48.0	-16.5
11.207	29.0	***	0.4	29.4	***	48.0	-18.6
13.891	***	29.0	0.4	***	29.4	48.0	-18.6
14.285	30.2	***	0.4	30.6	***	48.0	-17.4
18.725	29.0	30.8	0.4	29.4	31.2	48.0	-16.8

Note :

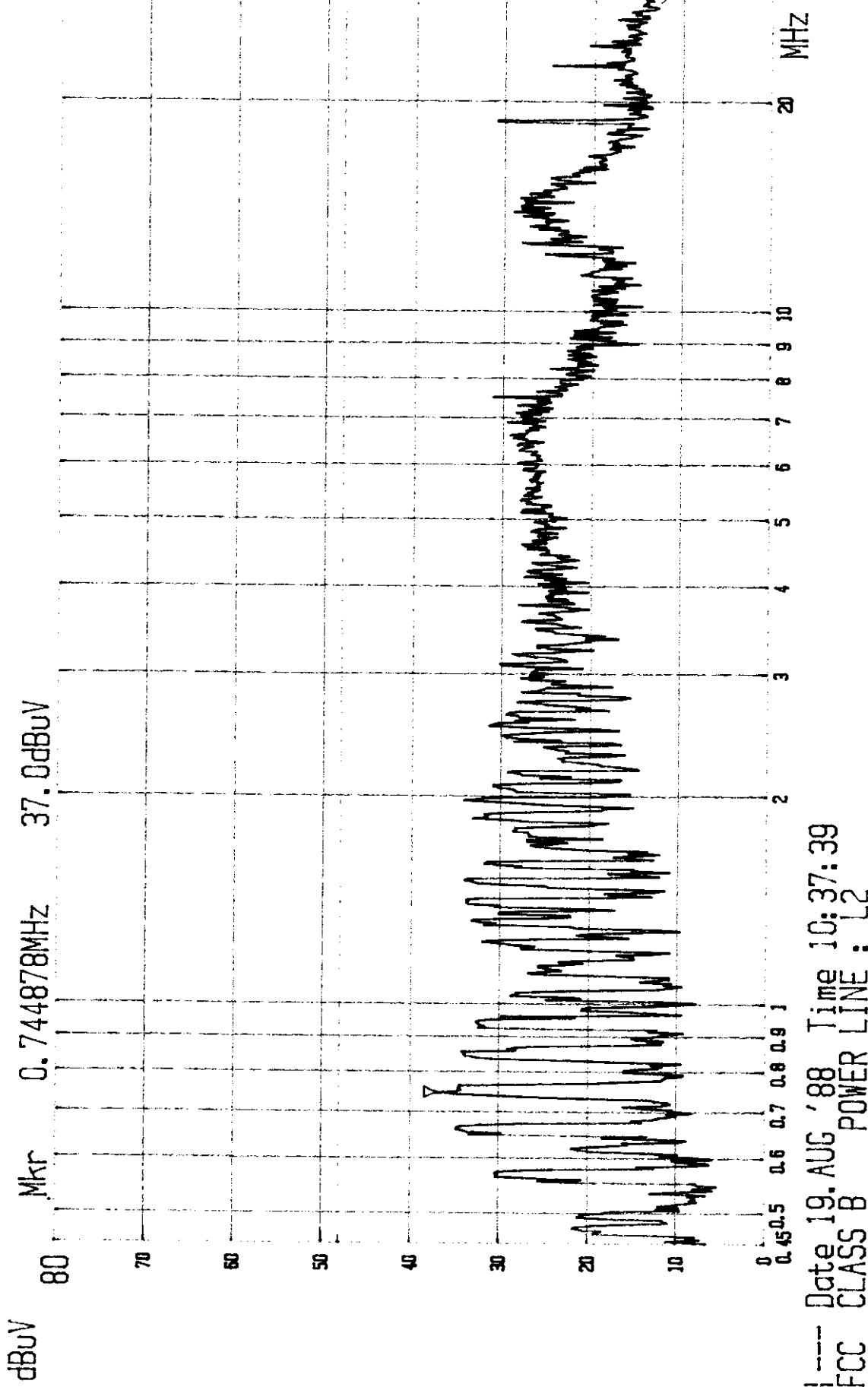
1. “***” means the noise is too low to be measured.
2. The full frequency range scanning test data is shown in next two pages.

ETC

ELECTRONICS TESTING CENTER, TAIWAN



FCC CLASS B POWER LINE : L1
Date 19. AUG '88 Time 10:41:07



5.4 Result Data Calculation

The result data is calculated by adding the LISN Factor to the measured reading. The basic equation with a sample calculation is as follows:

$$\text{RESULT} = \text{READING} + \text{LISN FACTOR}$$

Assume a receiver reading of 22.5 dB μ V is obtained, and LISN Factor is 0.1 dB, then the total of field strength is 22.6 dB μ V.

$$\text{RESULT} = 22.5 + 0.1 = 22.6 \text{ dB } \mu \text{ V}$$

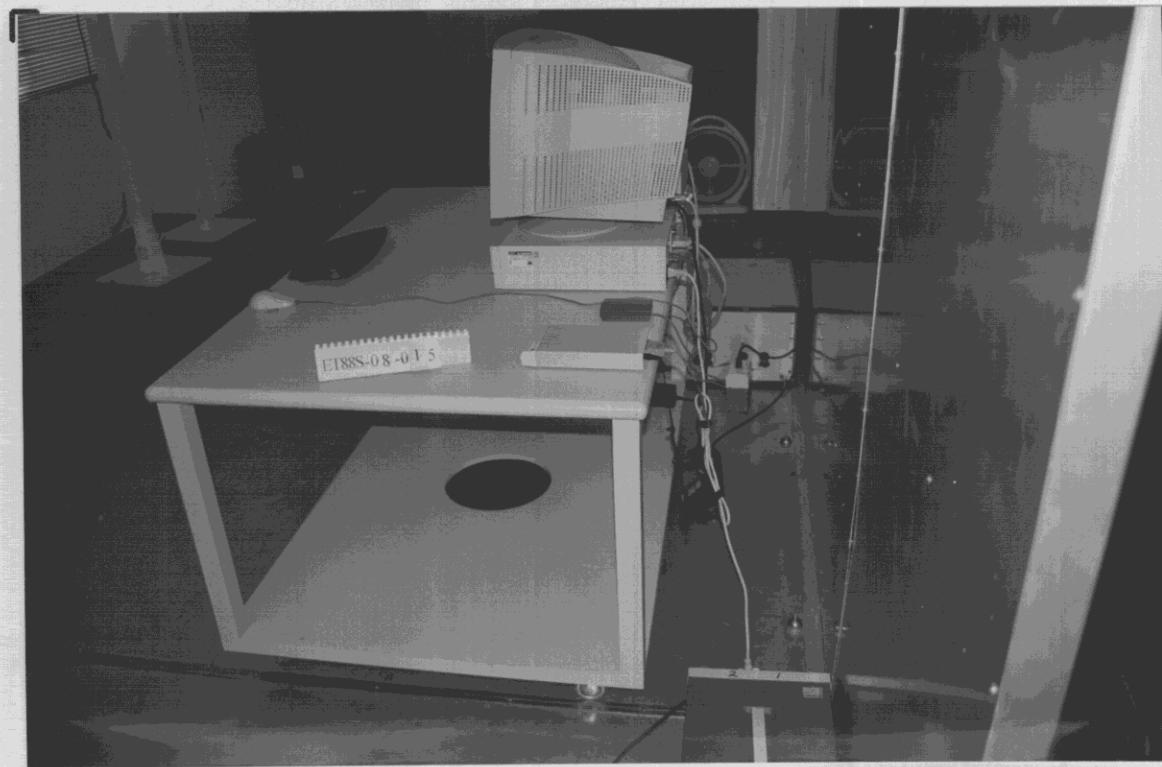
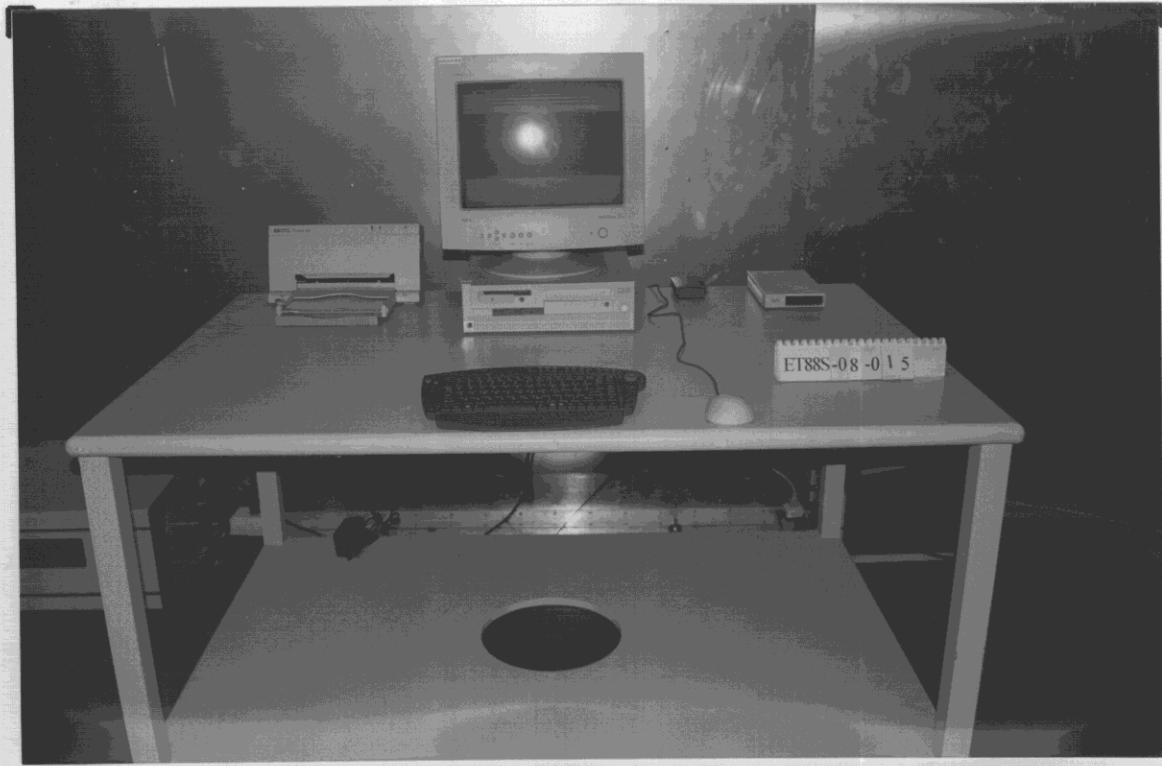
$$\begin{aligned}\text{Level in } \mu \text{ V} &= \text{Common Antilogarithm}[(22.6 \text{ dB } \mu \text{ V})/20] \\ &= 13.48 \text{ } \mu \text{ V}\end{aligned}$$

5.5 Conducted Measurement Equipment

The following test equipment are used during the conducted test .

Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
EMI Test Receiver	Rohde and Schwarz	ESH3	894718/018	Jan. 20, 2000
Line Impedance Stabilization network	EMCO	3825/2	9704-2677	Oct. 29, 1999
Line Impedance Stabilization network	EMCO	37100/2M	9702-1001A	Dec. 02, 1999
Plotter	Hewlett-Packard	7470A	----	N/A

Note: The standards used to perform this calibration are traceable to NML/ROC and NIST/USA.

5.6 Photos of Conduction Measuring Setup

6. ANTENNA REQUIREMENT

6.1 Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

6.2 Antenna Construction

The antenna is permanently mounted on RF keyboard, no consideration of replacement.

ELECTRONICS TESTING CENTER, TAIWAN

**No. 8, Lane 29, Wen-Ming RD., Lo-Shan Tsun, Kui-Shan Hsiang,
Taoyuan Hsien 333, Taiwan, R.O.C.**

TEL : (03)3280026

FAX : (03)3280034

CORRECTION

- 1. First of all, we accept your suggestion for this application be for the transmitter Certification and a DoC be for the receiver.**
- 2. The second, the transmitt frequency is fixed, the frequency is 916.348MHz.**
- 3. Please find attachment of the file for “Spectrum plot of band edge”.**

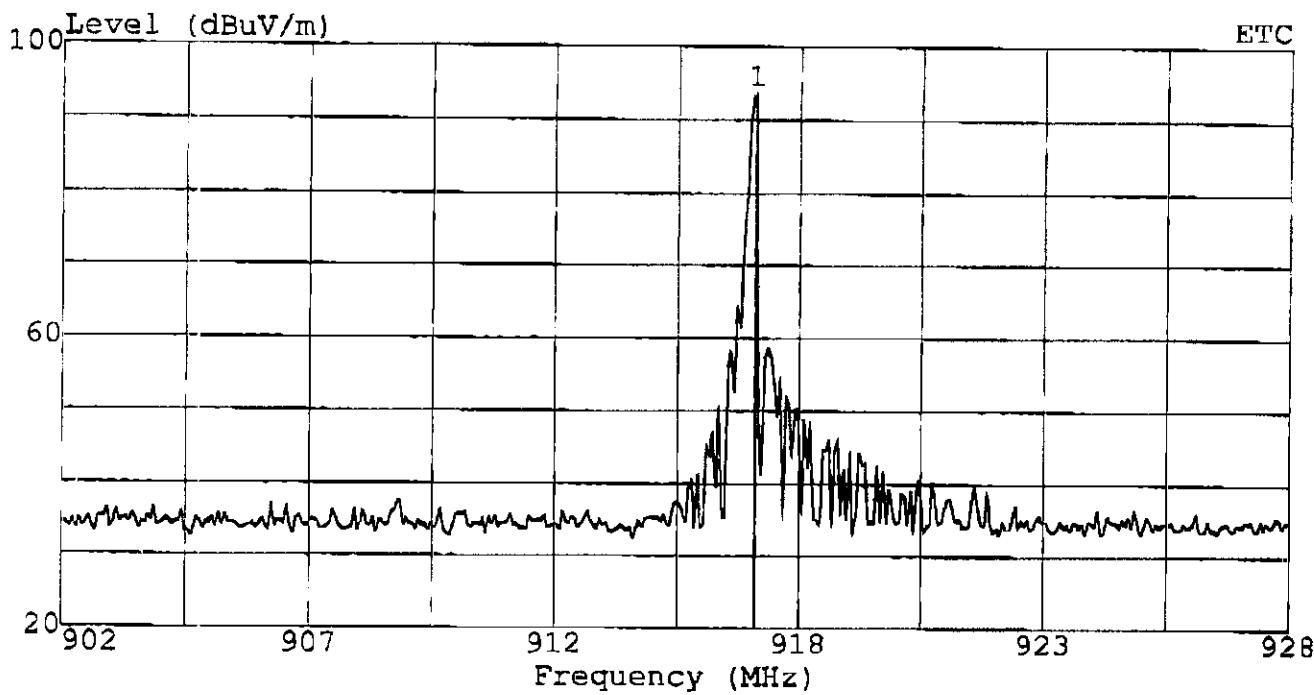


ELECTRONICS TESTING CENTER, TAIWAN

NO.8, LANE 29, WEN-MING RD.,
 LO-SHAN TSUN, KUI-SHAN HSIANG,
 TAOYUAN HSIEN 333, TAIWAN, R.O.C.
 Tel:03-3280026 Fax:03-3280034

Data#: 65 File#: CNS13438.EMI

Date: 1999-11-26 Time: 09:02:58



Trace:

Ref Trace: 64

Limit: 3m Probe: HORIZONTAL

EUT : KEYBOARD

Model:

Memo :

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor
	MHz	dB	dB	dB	dB	dB	dB	dB
1	916.664	93.64	-----	-----	93.64	0.00	0.00	0.00