

EXHIBIT 4

Test Report

Test Report

TTEMC-F98060

APPLICATION FOR CERTIFICATION

On Behalf of

Datatronics Technology, Inc.

External Voice/Fax/Data Modem

Model : (1)Discovery 5614CV (2)Datasytem 5614TV

FCC ID : E2056CVTV

Prepared for : Datatronics Technology, Inc.
15/2F, Lane 768, Pa-Teh Rd., Sec. 4,
Taipei, Taiwan, R.O.C.

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File Number : ATM-G98244
Report Number : TTEMC-F98060
Date of Test : Dec. 17, 1997 / Apr. 21, 1998
Date of Report : Apr. 23, 1998

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TEST REPORT CERTIFICATION

Applicant : Datatronics Technology, Inc.
 Manufacturer : Datatronics Technology, Inc.
 FCC ID : E2O56CVTV
 EUT Description : External Voice/Fax/Data Modem
 (A) MODEL NO. : (1)Discovery 5614CV (2)Datasystem 5614TV
 (B) SERIAL NO. : N/A
 (C) POWER SUPPLY : AC 120V/60Hz

Measurement Procedure Used:

FCC RULES AND CISPR 22 (DOCKET NO. 92-152, SEP. 1993) AND
FCC / ANSI C63.4-1992

The device described above was tested by TAIWAN TOKIN EMC ENG. CORP. to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the CISPR 22 Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and TAIWAN TOKIN EMC ENG. CORP. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits. TAIWAN TOKIN EMC ENG. CORP. recommends that this data was submitted for FCC certification purposes if a 6dB margin below CISPR limits is obtained. This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Taiwan Tokin EMC Eng. corp.

Date of Test : Dec. 17, 1997 / Apr. 21, 1998

Prepared by : Monica Chang
 (MONICA CHANG)

Test Engineer : Allen Wang
 (ALLEN WANG)

Approve & Authorized Signer :

Jackie Deng 4/27/98
 (JACKIE DENG)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	External Voice/Fax/Data Modem
Model Number	:	(1)Discovery 5614CV (2)Datasytem 5614TV
		The difference between (1) and (2) is as follows : (1)Discovery 5614CV is Tower (2)Datasytem 5614TV is Desktop The (1) is representative selected in the test and included in this report.
FCC ID	:	E2O56CVTV
Applicant	:	Datatronics Technology, Inc. 15/2F, Lane 768, Pa-Teh Rd., Sec. 4, Taipei, Taiwan, R.O.C.
Manufacturer	:	Datatronics Technology, Inc. 15/2F, Lane 768, Pa-Teh Rd., Sec. 4, Taipei, Taiwan, R.O.C.
Data Cable	:	Shielded, Detachable, 1m
Power Adapter	:	Datatronics, M/N AM-12830A Input : 120Vac, 60Hz, 15W Output : 12Vac, 830mA Nonshielded, Undetachable, 1.9m
Date of Test	:	Dec. 17, 1997 ~ Apr. 21, 1998

1.2. Details of Support Equipments

1.2.1. PERSONAL COMPUTER

Model Number	:	PC763
Serial Number	:	TA421U7881
FCC ID	:	AO9-PC76X
Manufacturer	:	Digital
Switching Power Supply	:	Astec Model SA-201-3440
Floppy Driver 3.5"	:	Teac Corp. Model FD-235HF
VGA Card	:	Sixgraph Computing Ltd. M/N Wiz 924 S/N 189477 FCC ID JYOWIZ01
Disk Ctrl Card	:	Within Mother Board
Serial/Parallel Card	:	Within Mother Board
Power Cord	:	Nonshielded, Detachable, 1.8m

1.2.2. MONITOR

Model Number	:	PM36A
Serial Number	:	W70204674A
FCC ID	:	LLW9ZB1564
Manufacturer	:	Funai Electric Company of Taiwan
Data Cable	:	Shielded, Undetachable, 1.2m
Power Cord	:	Nonshielded, Detachable, 1.5m

1.2.3. KEYBOARD

Model Number	:	BTC-5139
Serial Number	:	73B304241
FCC ID	:	E5XKBM111
Manufacturer	:	Behavior Tech Computer Corp.
Data Cable	:	Shielded, Undetachable, 1.2m

1.2.4. PRINTER

Model Number	:	2225C+
Serial Number	:	3123S97227
FCC ID	:	DSI6XU2225
Manufacturer	:	Hewlett Packard
Power Adapter	:	Kani, Model AD-09
	:	Nonshielded, Detachable, 2.0m
Data Cable	:	Shielded, Detachable, 1.2m

1.2.5. MODEM

Model Number	:	1414
Serial Number	:	950110299
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Nonshielded, Undetachable, 1.8m

1.2.6. MOUSE

Model Number	:	PC7XS-AA
Serial Number	:	LT42603758
FCC ID	:	DZL210513
Manufacturer	:	Digital
Data Cable	:	Nonshielded, Undetachable, 1.8m

1.2.7. DIAL TONE SYSTEM

Model Number	:	PX-4
Serial Number	:	N/A
Manufacturer	:	Vidar Sun Moon Star
Telephone Line	:	Nonshielded, Detachable, 1.9m
Power Cord	:	Nonshielded, Detachable, 1.6m

1.2.8. TELEPHONE

Model Number	:	K-2500TRP
Serial Number	:	1015198
Manufacturer	:	Kuo Yang
Data Cable	:	Nonshielded, Detachable, 0.5m

1.2.9. EARPHONE W/MICROPHONE

Product Number	:	N/A
Serial Number	:	N/A
Manufacturer	:	Shihpei
Data Cable	:	Nonshielded, Detachable, 1.1m

1.3. Description of Test Facility

Site Description (No. 1 Open Site)	:	Oct. 21, 1996 Re-file on Federal Communication Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, U.S.A.
Name of Firm	:	Taiwan Tokin EMC Eng. Corp.
Site Location	:	No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei Hsien, Taiwan, R.O.C.
NVLAP Lab Code	:	200077-0

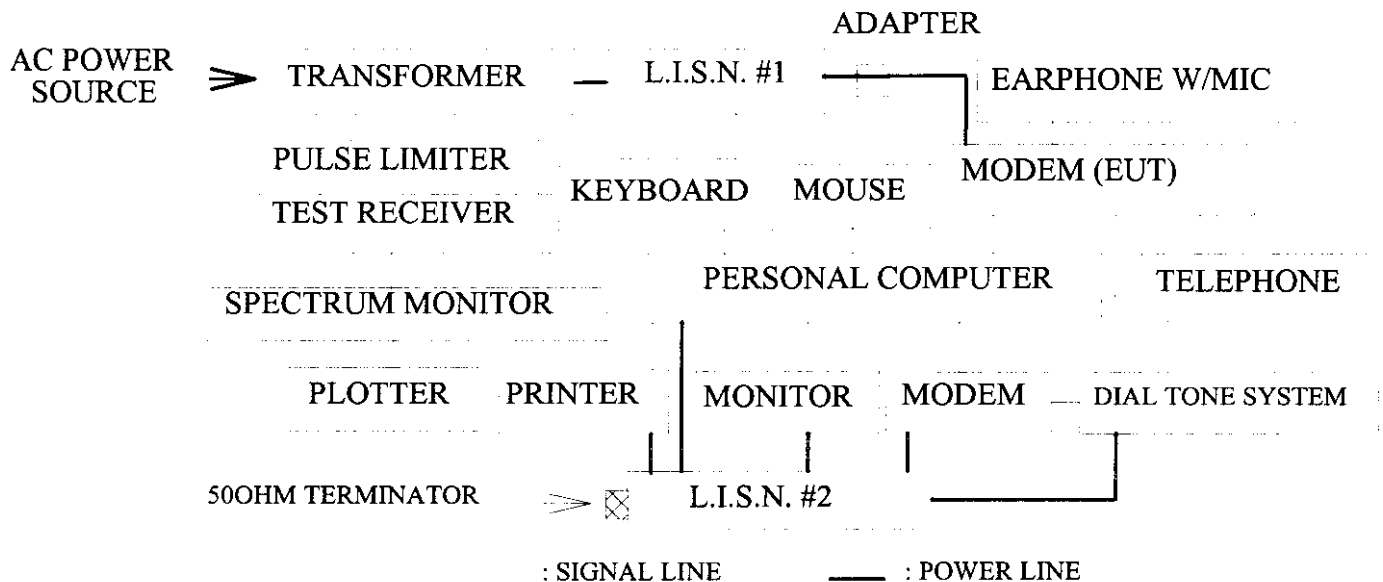
2. POWERLINE CONDUCTED TEST

2.1. Test Equipment

The following test equipments are used during the power line conducted tests :

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESH3	893044/015	Aug.01, 97'	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-855-9	Apr.14, 98'	1 Year
3.	L.I.S.N. # 2	Kyoritsu	KNW-407	8-881-13	Apr.14, 98'	1 Year

2.2. Block Diagram of Test Setup



2.3. Conduction Limit (CISPR 22 Class B)

FREQUENCY	MAXIMUM RF LINE VOLTAGE	
	QUASI-PEAK LEVEL	AVERAGE LEVEL
150KHz ~ 500KHz	66 ~ 56 dB	56 ~ 46 dB
500KHz ~ 5MHz	56 dB	46 dB
5MHz ~ 30MHz	60 dB	50dB

REMARKS : RF LINE VOLTAGE (dBuV) = 20 log RF LINE VOLTAGE (uV)

2.4. EUT Configuration on Measurement

The following equipments were installed on RF LINE VOLTAGE measurement to meet the Commission requirement and operating in a manner which tended to maximize its emission characteristics in a normal application.

2.4.1. External Voice/Fax/Data Modem (EUT)

Model Number	:	(1)Discovery 5614CV (2)Datasytem 5614TV
Serial Number	:	N/A
FCC ID	:	E2O56CVTV
Manufacturer	:	Datatronics Technology, Inc.
Data Cable	:	Shielded, Detachable, 1m
Power Adapter	:	Datatronics, M/N AM-12830A
		Input : 120Vac, 60Hz, 15W
		Output : 12Vac, 830mA
		Nonshielded, Undetachable, 1.9m

2.4.2. Support Simulators : As in section 1.2.

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulators as shown on 2.2.

2.5.2. Turn on the power of all equipments.

2.5.3. The host personal computer sent and received data to Modem (EUT) through dial tone system & partner modem.

2.5.4. Personal Computer displayed the sent/received data to monitor.

2.5.5. The other peripheral devices were drove and operated in turn during all testing.

2.6. Test Procedure

The EUT was connected to the power mains through a line impedance stabilization network (L.I.S.N. #1) and the other peripheral devices power cord were connected to the power mains through a line impedance stabilization network (L.I.S.N. #2). This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions simulators of the interface cables should be manipulated according to FCC ANSI C63.4-1992 during conducted measurement.

The bandwidth of the field strength meter (R & S Test Receiver ESH3) was set at 10KHz.

The frequency range from 150KHz to 30MHz was checked.

All the test results are listed in section 2.7.

2.7. Line Conducted RF Voltage Measurement Results

The frequency range from 150KHz to 30 MHz was investigated.

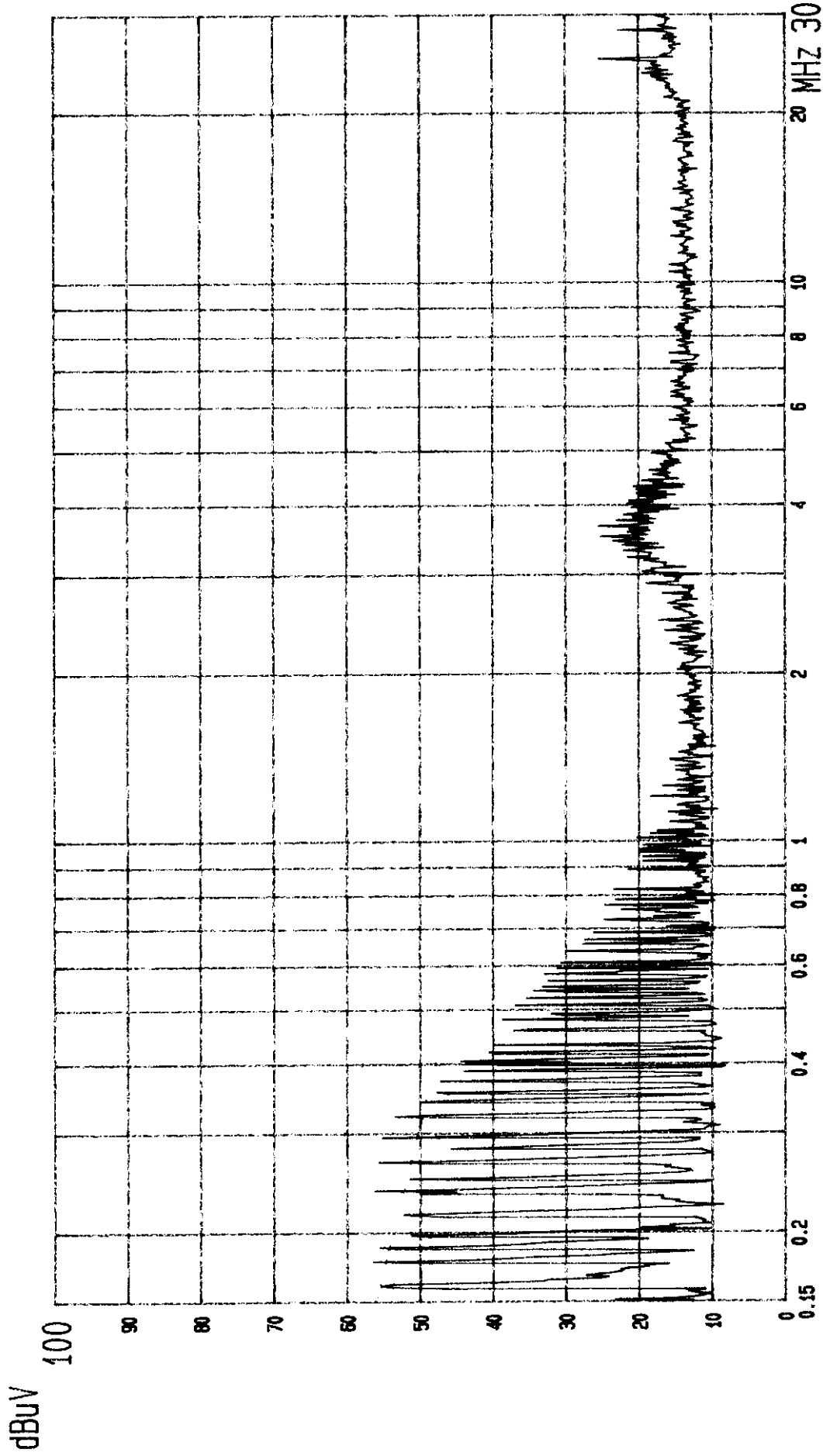
All emissions not reported below are too low against the prescribed limits.

Date of Test : Apr. 21, 1998 Temperature : 23 °C

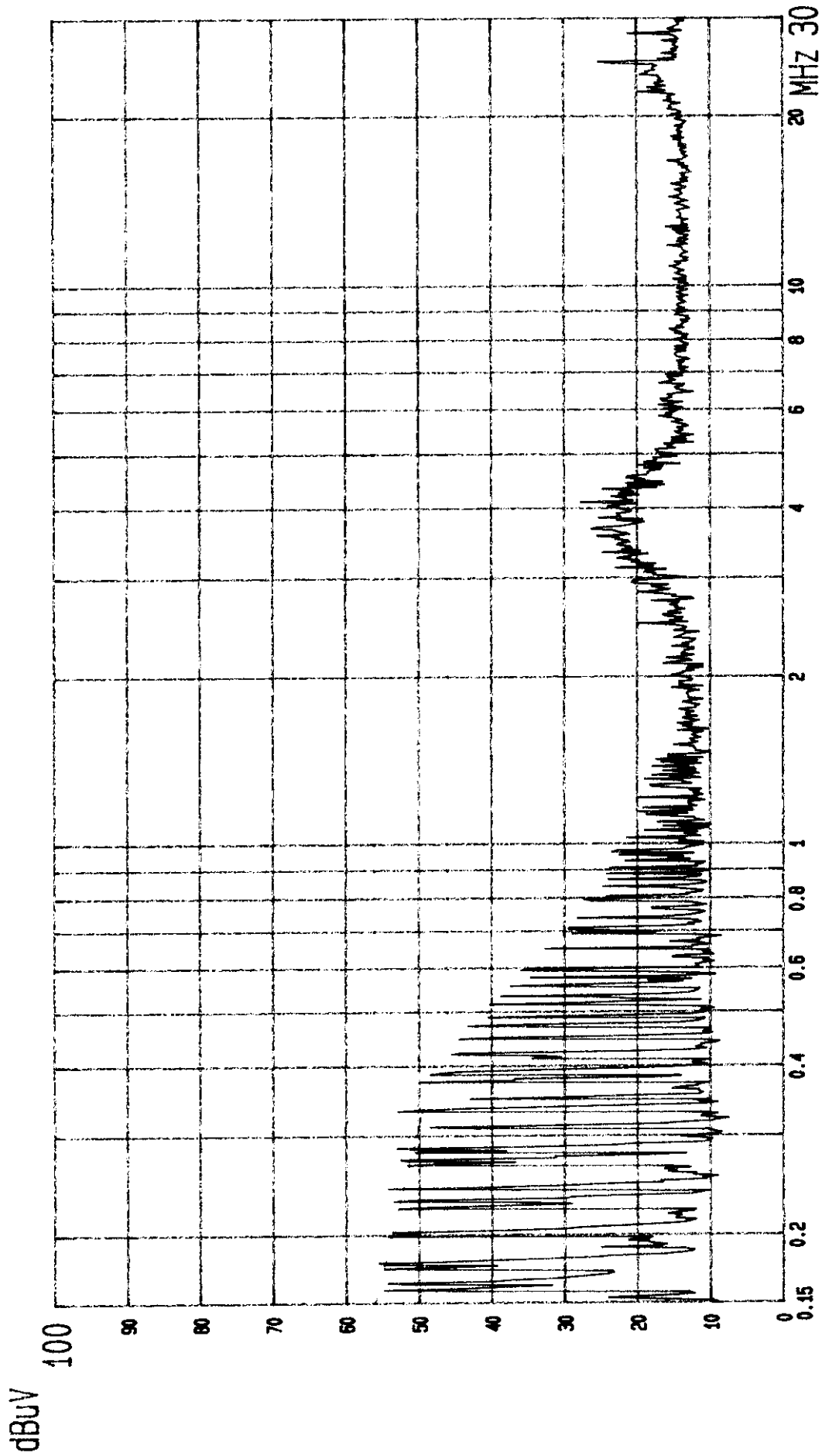
EUT : External Voice/Fax/Data Modem Humidity : 54 %

Frequency (MHz)	Factor dBuV	Measurement (dBuV)				Reading (dBuV)				Limits (dBuV)	
		Phase A Neutral		Phase B Live		Phase A Neutral		Phase B Live		Q.P.	Average
		Q.P.	Average	Q.P.	Average	Q.P.	Average	Q.P.	Average		
0.1500	0.4	48.0	23.2	*	*	48.4	23.6	*	*	66.0	56.0
0.1582	0.4	*	*	47.6	23.6	*	*	48.0	24.0	65.5	55.5
0.1899	0.4	*	*	46.6	18.4	*	*	47.0	18.8	64.0	54.0
0.1900	0.4	47.2	20.3	*	*	47.6	20.7	*	*	64.0	54.0
0.2215	0.3	*	*	46.0	15.4	*	*	46.3	15.7	62.8	52.8
0.2535	0.3	46.6	15.7	*	*	46.9	16.0	*	*	61.6	51.6
0.2590	0.3	*	*	45.7	14.4	*	*	46.0	14.7	61.4	51.4
0.2848	0.3	45.8	14.2	*	*	46.1	14.5	*	*	60.6	50.6
0.2870	0.3	*	*	45.4	13.5	*	*	45.7	13.8	60.6	50.6
0.3103	0.3	*	*	44.5	12.8	*	*	44.8	13.1	59.9	49.9
0.3173	0.3	43.5	13.1	*	*	43.8	13.4	*	*	59.7	49.7
0.3601	0.3	*	*	41.5	11.3	*	*	41.8	11.6	58.7	48.7
0.3610	0.3	39.6	11.8	*	*	39.9	12.1	*	*	58.6	48.6

Remark : 1. All reading are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss



--- Date 21.APR.'98 Time 17:31:54
DATATRONICS EUT: MODEM M/N: DISCOVERY 5614CV/DATASYS TEM 5614TV PAGE: 001.
LINE: VA. (PEAK VALUE) TAIWAN EMC.ENG.CORP.



--- Date 21.APR.'98 Time 17:37:13
DATATRONICS EUT: MODEM M/N: DISCOVERY 5614CV/DATASYSTEM 5614TV PAGE: 002.
LINE: VB. (PEAK VALUE) TAIWAN TOKIN EMC.ENG.CORP.

3. RADIATED EMISSION TEST

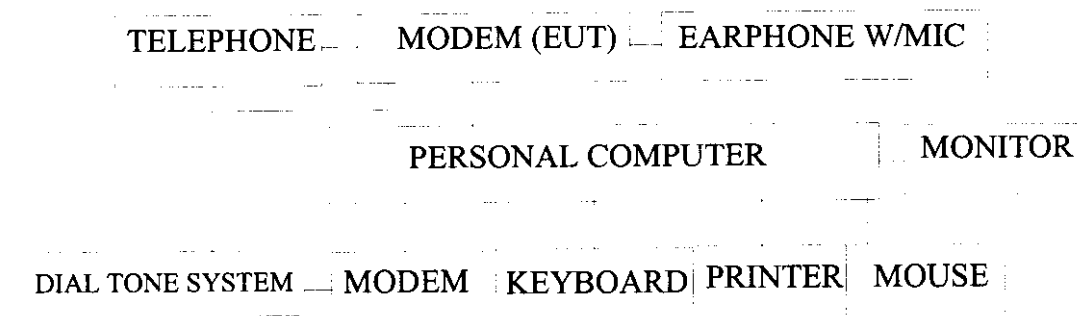
3.1. Test Equipment

The following test equipments are used during the radiated emission tests :

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde&Schwarz	ESVP	879691/036	Jul. 19, 97'	1 Year
2.	Broadband Antenna	Schwarzbeck	BBA 9106	A1L	Jan. 08, 98'	1 Year
3.	Broadband Antenna	Schwarzbeck	UHALP 9108 A	0138	Jan. 08, 98'	1 Year

3.2. Block Diagram of Test Setup

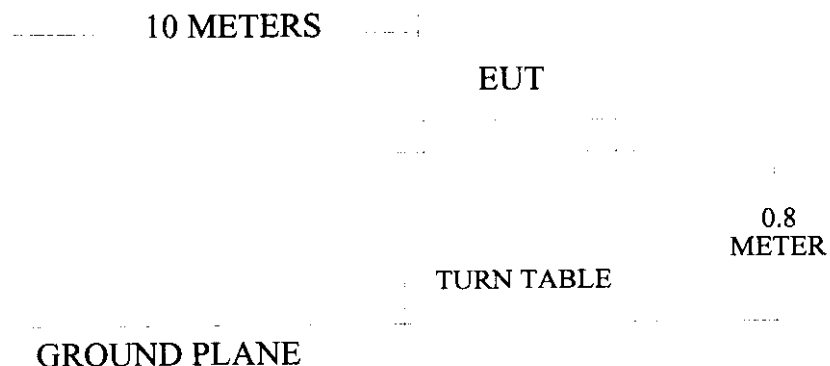
3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Open Field Test Site (10m) Setup Diagram

ANTENNA TOWER

ANTENNA ELEVATION VARIES FROM 1METER TO 4 METER



3.3. Radiation Limit (CISPR 22 Class B)

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMITS
MHz	Meters	dBuV/m
30 ~ 230	10	30
230 ~ 1000	10	37

Remark : (1) The tighter limit shall apply at the edge between two frequency bands.
 (2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.4. EUT Configuration on Measurement

The configuration of EUT and its simulators are same as those used in conducted measurement. Please refer to 2.4.

3.5. Operating Condition of EUT

Same as conducted measurement which is listed in 2.5.

3.6. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 10 meters away from the receiving antenna which was mounted on a antenna tower. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) and dipole antenna were used as receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-1992 during radiated measurement.

The bandwidth setting on the field strength meter (R&S TEST RECEIVER ESVP) was 120KHz.

The frequency range from 30MHz to 1000MHz was checked.

All the test results are listed in section 3.7.

3.7. Radiated Emission Noise Measurement Results

The frequency spectrum from 30 MHz to 1000 MHz was investigated. All the emissions not report below are too low against the CISPR 22 Class B limit.

Date of Test : Dec. 17, 1997 Temperature : 23 °C

EUT : External Voice/Fax/Data Modem Humidity : 75 %

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level	
			Horizontal dBuV	Horizontal dBuV/m	Limits dBuV/m	Margin dBuV/m
56.451	14.54	1.27	- 1.50	14.31	30.00	15.69
84.675	13.96	1.65	3.20	18.81	30.00	11.19
112.900	18.42	2.01	2.00	22.43	30.00	7.57
141.123	20.72	2.33	1.30	24.35	30.00	5.65
* 169.348	21.31	2.80	3.60	27.71	30.00	2.29
197.573	21.92	3.47	0.90	26.29	30.00	3.71
225.772	22.65	4.28	- 0.80	26.13	30.00	3.87
254.021	23.53	4.52	0.00	28.05	37.00	8.95
282.246	24.72	4.31	0.70	29.73	37.00	7.27
310.466	14.40	4.27	5.20	23.87	37.00	13.13
395.139	15.68	4.55	6.10	26.33	37.00	10.67
479.811	16.93	4.91	0.20	22.04	37.00	14.96
508.035	17.46	5.05	- 0.10	22.41	37.00	14.59
564.484	18.38	5.38	2.30	26.06	37.00	10.94
649.156	19.45	6.08	1.20	26.73	37.00	10.27
790.276	20.76	6.49	- 2.30	24.95	37.00	12.05

- Remark :
1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 169.348MHz with corrected signal level of 27.71dBuV/m (limit is 30dBuV/m) when the antenna was at horizontal polarization and was at 4m high and the turn table was at 22.5 ° .
 3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

Date of Test : Dec. 17, 1997 Temperature : 23 °CEUT : External Voice/Fax/Data Modem Humidity : 75 %

Frequency MHz	Antenna	Cable	Meter Reading	Emission Level		Margin dBuV/m
	Factor dB/m	Loss dB	Vertical dBuV	Vertical dBuV/m	Limits dBuV/m	
56.449	15.39	1.27	5.30	21.96	30.00	8.04
* 84.674	14.40	1.65	11.10	27.15	30.00	2.85
112.900	17.36	2.01	5.20	24.57	30.00	5.43
141.123	20.74	2.33	1.90	24.97	30.00	5.03
169.348	20.60	2.80	1.60	25.00	30.00	5.00
197.573	23.76	3.47	- 0.60	26.63	30.00	3.37
225.796	21.00	4.28	- 3.30	21.98	30.00	8.02
254.021	23.16	4.52	- 1.50	26.18	37.00	10.82
282.246	23.40	4.31	0.90	28.61	37.00	8.39
310.466	14.06	4.27	2.70	21.03	37.00	15.97
366.914	15.23	4.40	3.70	23.33	37.00	13.67
423.363	16.72	4.64	5.10	26.46	37.00	10.54
479.811	17.44	4.91	0.90	23.25	37.00	13.75
536.260	18.83	5.19	2.70	26.72	37.00	10.28
592.708	19.61	5.54	- 1.20	23.95	37.00	13.05

- Remark :
1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 84.674MHz with corrected signal level of 27.15dBuV/m (limit is 30dBuV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 242.5 ° .
 3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

4. DEVIATION TO TEST SPECIFICATIONS

【 NONE 】