EXHIBIT 4

Test Report

Test Report

TTEMC-F98088

APPLICATION FOR CERTIFICATION
On Behalf of
Alpha Telecom Inc.
ISDN-TA

Model : TA-MPD

FCC ID : LLM8705TA-MPD

Prepared for : Alpha Telecom Inc.
2F, No 2, Li Hsin Road, Science-Based
Industrial Park, Hsin-Chu, Taiwan, R.O.C.

Prepared By : Taiwan Tokin EMC Eng. Corp.
No. 53-11, Tin-Fu Tsun, Lin-Kou,
Taipei Hsien, Taiwan, R.O.C.

Tel : (02) 2609-9301, 2609-2133

File Number	:	ATM-G97670/G98310
Report Number	:	TTEMC-F98088
Date of Test	:	May 20, 1998
Date of Report	:	May 23, 1998

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Tok98-Foyo

TEST REPORT CERTIFICATION

Applicant	:	Alpha Telecom Inc.
Manufacturer	:	Alpha Telecom Inc.
FCC ID	:	LLM8705TA-MPD
EUT Description	:	ISDN-TA
		(A) MODEL NO. : TA-MPD
		(B) SERIAL NO. : N/A
		(C) POWER SUPPLY : AC 120V/60Hz

Measurement Procedure Used :

FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 1996 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 FCC Part 15B Class B limits both radiated and conducted emissions.
The measurement results were contained in this test report and TAIWAN TOKIN EMC ENG. CORP. was 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 can be submitted for FCC certification purposes if a 6dB margin below FCC limits was 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 : May 20, 1998

Prepared by : Monica Chang
(MONICA CHANG)

Test Engineer : Allen Wang
(ALLEN WANG)

Approve & Authorized Signer : 6/10/98
(JACKIE DENG)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	ISDN-TA (Integrated Services Digital Network-Terminal Adapter)
Model Number	:	TA-MPD
FCC ID	:	LLM8705TA-MPD
Applicant	:	Alpha Telecom Inc. 2F, No 2, Li Hsin Road, Science-Based Industrial Park, Hsin-Chu, Taiwan, R.O.C.
Manufacturer	:	Alpha Telecom Inc. 2F, No 2, Li Hsin Road, Science-Based Industrial Park, Hsin-Chu, Taiwan, R.O.C.
Exchange Adapter	:	Alpha, Cable: Detachable, 0.048m
U Interface Cable (RJ45) (Link to Power Adapter)	:	Non-Shielded, Detachable, 1.8m
S/T Interface Cable (RJ45)	:	Non-Shielded, Detachable, 1.8m
Telephone Line (RJ11)	:	Non-Shielded, Detachable, 0.36m
RS232 Cable (9Pin to 9Pin)	:	Non-Shielded, Detachable, 1.12m
Power Adapter	:	Dee Van, M/N DV-4035 Input : 120Vac / 60Hz, 55W Output : 42Vdc, 350mA
Date of Test	:	May 20, 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
Disk Ctrl Card	:	Within Mother Board
Serial/Parallel Card	:	Within Mother Board
Power Cord	:	Non-Shielded, Detachable, 1.8m
Exchange Adapter	:	Cable: Detachable, 0.062m

1.2.2. MONITOR

Model Number	:	PM36A
Serial Number	:	W70205166A
FCC ID	:	LLW9ZB1564
Manufacturer	:	Funai Electric Company of Taiwan
Data Cable	:	Shielded, Undetachable, 1.2m
Power Cord	:	Non-Shielded, Detachable, 1.5m

1.2.3. KEYBOARD

Model Number	:	RT101
Serial Number	:	A2543045
FCC ID	:	AQ6-MTN4XZ15
Manufacturer	:	DIGITAL
Data Cable	:	Shielded, Undetachable, 1.9m

1.2.4. PRINTER

Model Number	:	2225C+
Serial Number	:	2806S05196
FCC ID	:	DSI6XU2225
Manufacturer	:	Hewlett Packard
Power Adapter	:	Kani, Model AD-09 Non-Shielded, Undetachable, 2.0m
Data Cable	:	Shielded, Detachable, 1.2m

1.2.5. MODEM

Model Number	:	1414
Serial Number	:	950098202
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.6. MOUSE

Model Number	:	M-S34
Serial Number	:	LZA65200980
FCC ID	:	DZL210472
Manufacturer	:	Logitech
Data Cable	:	Non-Shielded, Undetachable, 1.9m

1.2.7. ISDN

Model Number	:	STA 128
Serial Number	:	N/A
Manufacturer	:	Alpha Telecom Inc.
Power Adapter	:	ENG, M/N T48-12-1000D-2 Non-Shielded, Detachable, 1.8m

1.2.8. TELEPHONE #1

Model Number	:	69856
Serial Number	:	1M1H5513570
Manufacturer	:	Siemens

1.2.9. TELEPHONE #2

Model Number	:	BCS-1-1(T)
Serial Number	:	N/A
Manufacturer	:	NEC
Data Cable	:	Non-Shielded, Detachable, 1.8m

1.2.10. TELEPHONE #3

Model Number	:	BCS-1-1(T)
Serial Number	:	N/A
Manufacturer	:	NEC
Data Cable	:	Non-Shielded, Detachable, 1.8m

1.2.11. MERGE W/ KEYPAD

Model Number	:	ISDN 2000A
Serial Number	:	A951206528
Manufacturer	:	Technologies Group, Inc.
Data Cable (To Keyboard)	:	Non-Shielded, Detachable, 1m

1.2.12. PARTNER ISDN TA

Model Number	:	TA-MPD
Serial Number	:	N/A
Manufacturer	:	Alpha Telecom Inc.
Power Adapter	:	Dee Van, M/N DV-4035 Input : 120Vac / 60Hz, 55W Output : 42Vdc, 350mA
RJ45 Cable	:	Non-Shielded, Detachable, 1.8m

1.2.13. NOTEBOOK PC

Model Number	:	CRUISER-4100DX4
Serial Number	:	600011
FCC ID	:	IZNCRUISER
Manufacturer	:	Rever Computer Inc.
RS232 Cable	:	Nonshielded, Detachable, 1.12m
Power Adapter	:	Alitech, M/N DA-850-12 Data Cable : Shielded, Undetachable, 1.2m Power Cord : Non-Shielded, Detachable, 1.8m

1.2.14. TELEPHONE #4

Model Number	:	BCS-1-1(T)
Serial Number	:	N/A
Manufacturer	:	NEC
Data Cable	:	Non-Shielded, Detachable, 1.8m

1.3. Description of Test Facility

Site Description (No. 5 Open Site)	:	Feb. 13, 1998 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

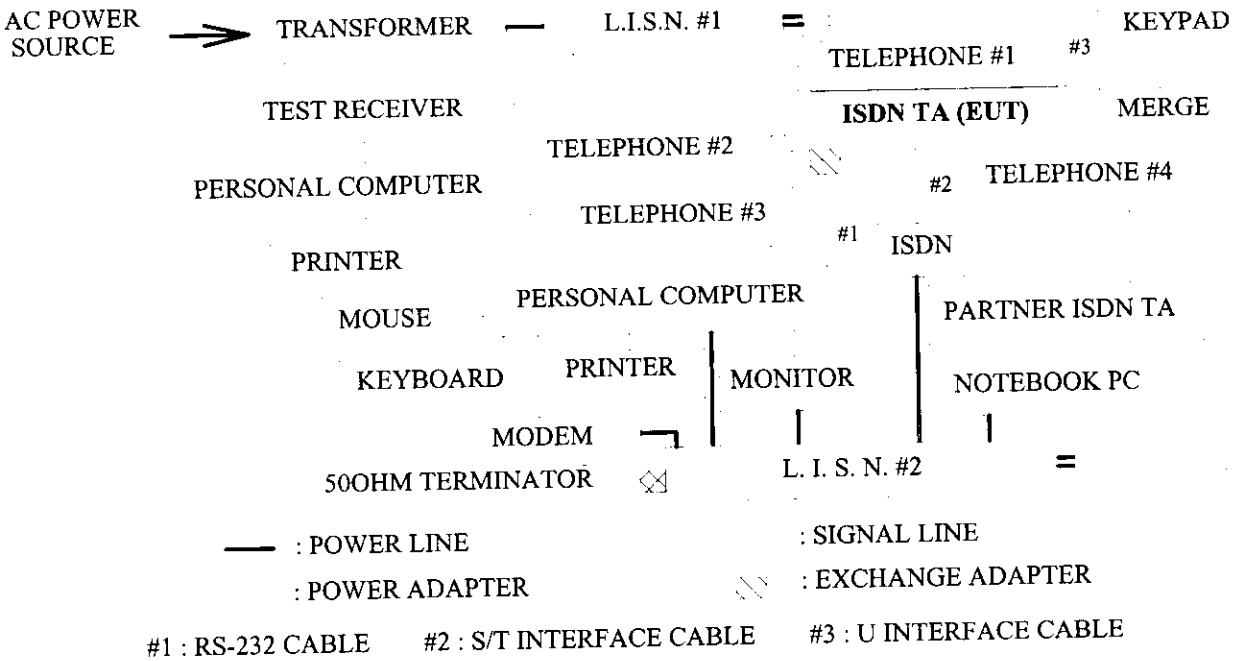
2. POWERLINE CONDUCTED TEST

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	ESHS 10	844591/015	Nov.25, 97'	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-1370-9	Jun.20, 97'	1 Year
3.	L.I.S.N. # 2	Kyoritsu	KNW-407	8-1370-10	Jun.20, 97'	1 Year

2.2. Block Diagram of Test Setup



2.3. Conducted Powerline Emission Limit (CLASS B)

Frequency	Maximum RF Line Voltage	
	uV	dBuV
0.45MHz ~ 30MHz	250	48

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. ISDN-TA (EUT)

Model Number	:	TA-MPD
FCC ID	:	LLM8705TA-MPD
Manufacturer	:	Alpha Telecom Inc.
Exchange Adapter	:	Alpha, Cable: Detachable, 0.048m
U Interface Cable (RJ45) (Link to Power Adapter)	:	Non-Shielded, Detachable, 1.8m
S/T Interface Cable (RJ45)	:	Non-Shielded, Detachable, 1.8m
Telephone Line (RJ45)	:	Non-Shielded, Detachable, 0.36m
RS232 Cable (9Pin to 9Pin)	:	Non-Shielded, Detachable, 1.12m
Power Adapter	:	Dee Van, M/N DV-4035 Input : 120Vac / 60Hz, 55W Output : 42Vdc, 350mA

2.4.2. Support Simulators : As in section 1.2

2.5. Operating Condition of EUT

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

2.5.2. Turn on the power of all equipments.

2.5.3. Setup the Personal Computer in DOS Software to link ISDN TA (EUT) through RS232 cable.

2.5.4. Data was communicated between host personal computer and partner notebook PC through the EUT, merge and partner ISDN TA.

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 ESHS 10) was set at 10KHz.

The frequency range from 450KHz to 30MHz was checked.

2.7. Line Conducted RF Voltage Measurement Results

All the test results are listed in the following pages(4 Pages) :

Test Date : May 20, 1998 Temperature : 26.8 ℃ Humidity : 57 %

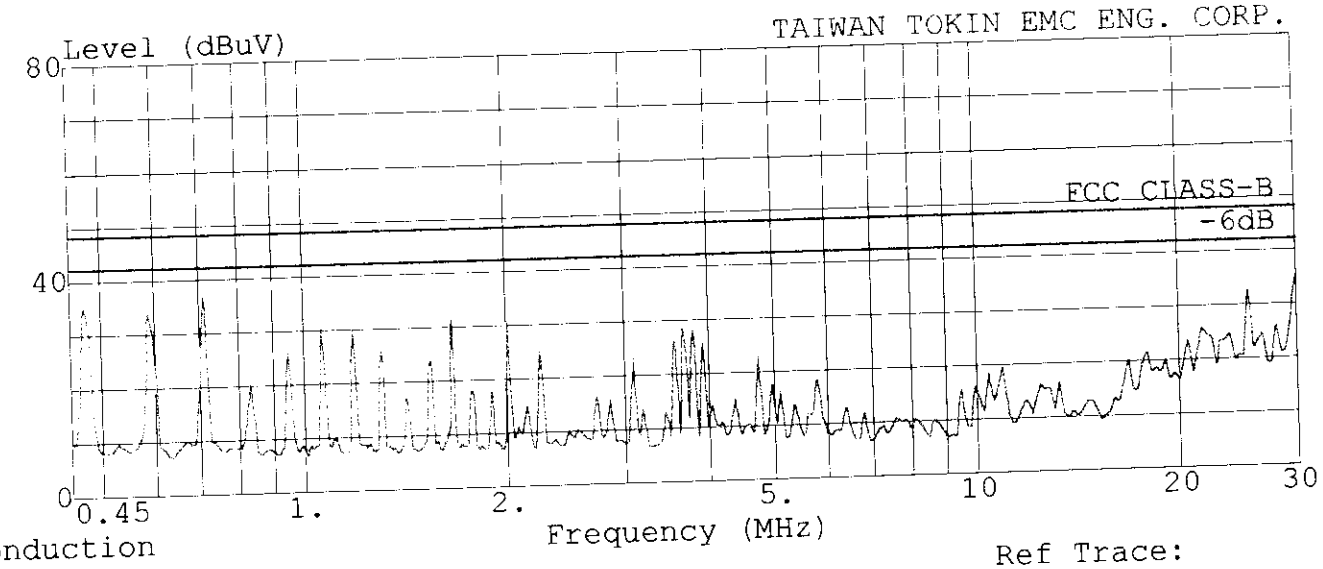
Reference Data # : #24, (25) ; #36 (37)

TOKIN

Test Site:
#53-11 Tingfu Tsun,Linkou
Taipei, Taiwan R.O.C.
Tel:02-6092133 Fax:02-6099303

TAIWAN TOKIN EMC ENG. CORP.

Data#: File#: ALPHA.EMI Date: 5-20,1998 Time: 17:22:02



conduction Ref Trace:

Trace :
Limit : FCC CLASS-B
Probe : LISN(FCC)8-1370-10 LINE
Margin: -6.0dB
EUT : ISDN TA M/N:TA-MPD
Power : 120V/60Hz
Memo :
:
:

TOKIN

Test Site:
#53-11 Tingfu Tsun,Linkou
Taipei, Taiwan R.O.C.
Tel:02-6092133 Fax:02-6099303

TAIWAN TOKIN EMC ENG. CORP.

Data#: File#: ALPHA.EMI Date: 5-20,1998 Time: 17:27:45
conduction
Limit : FCC CLASS-B
Probe : LISN(FCC)8-1370-10 LINE
Margin: -6.0dB
EUT : ISDN TA M/N:TA-MPD
Power : 120V/60Hz
Memo :
:
:

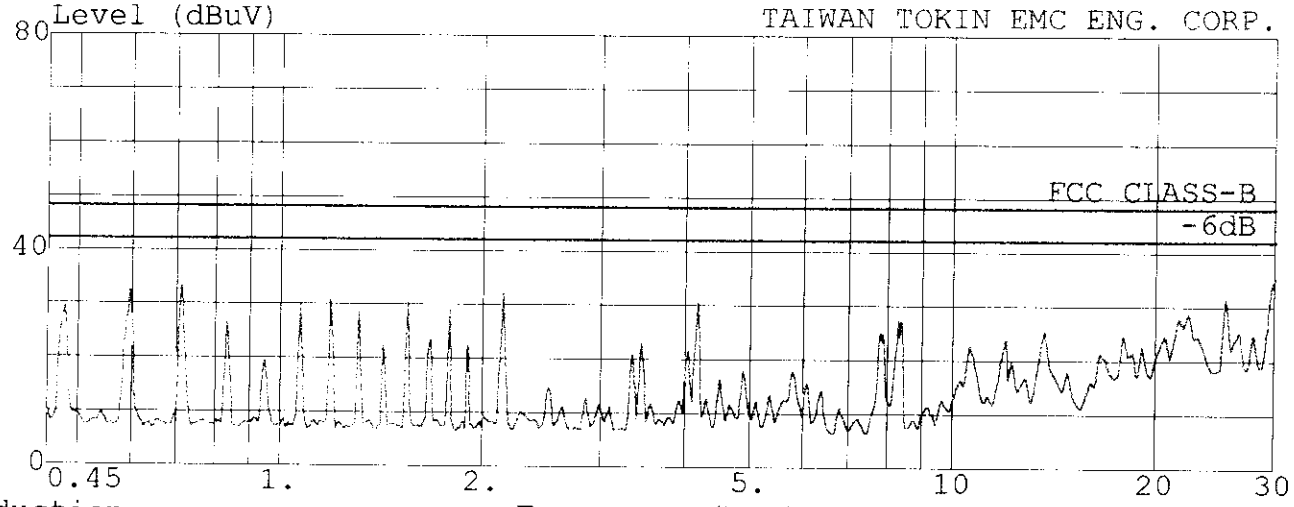
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.473	34.80	-13.20	48.00	34.65	0.11	0.04	0.00	QP
2	0.594	33.37	-14.63	48.00	33.23	0.10	0.04	0.00	QP
3	0.708	37.18	-10.82	48.00	37.03	0.10	0.05	0.00	QP
4	1.655	33.09	-14.91	48.00	32.94	0.10	0.05	0.00	QP
5	25.340	26.25	-21.75	48.00	25.60	0.45	0.20	0.00	QP
6	28.994	28.12	-19.88	48.00	27.43	0.49	0.20	0.00	QP

TOKIN

TAIWAN TOKIN EMC ENG. CORP.

Test Site:
#53-11 Tingfu Tsun,Linkou
Taipei, Taiwan R.O.C.
Tel:02-6092133 Fax:02-6099303

Data#: File#: ALPHA.EMI Date: 5-20,1998 Time: 17:30:13



conduction

Trace :
Limit : FCC CLASS-B
Probe : LISN(FCC)8-1370-10 NEUTRAL
Margin: -6.0dB
EUT : ISDN TA M/N:TA-MPD
Power : 120V/60Hz
Memo :
:
:

Ref Trace:

TOKIN

Test Site:
#53-11 Tingfu Tsun,Linkou
Taipei, Taiwan R.O.C.
Tel:02-6092133 Fax:02-6099303

TAIWAN TOKIN EMC ENG. CORP.

Data#: File#: ALPHA.EMI Date: 5-20,1998 Time: 17:36:51

conduction
Limit : FCC CLASS-B
Probe : LISN(FCC)8-1370-10 NEUTRAL
Margin: -6.0dB
EUT : ISDN TA M/N:TA-MPD
Power : 120V/60Hz
Memo :
:
:

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.473	28.78	-19.22	48.00	28.63	0.11	0.04	0.00	QP
2	0.590	31.54	-16.46	48.00	31.40	0.10	0.04	0.00	QP
3	0.712	34.09	-13.91	48.00	33.94	0.10	0.05	0.00	QP
4	2.133	28.20	-19.80	48.00	28.05	0.10	0.05	0.00	QP
5	4.037	31.33	-16.67	48.00	31.18	0.10	0.05	0.00	QP
6	28.995	28.90	-19.10	48.00	28.21	0.49	0.20	0.00	QP

3. RADIATED EMISSION TEST

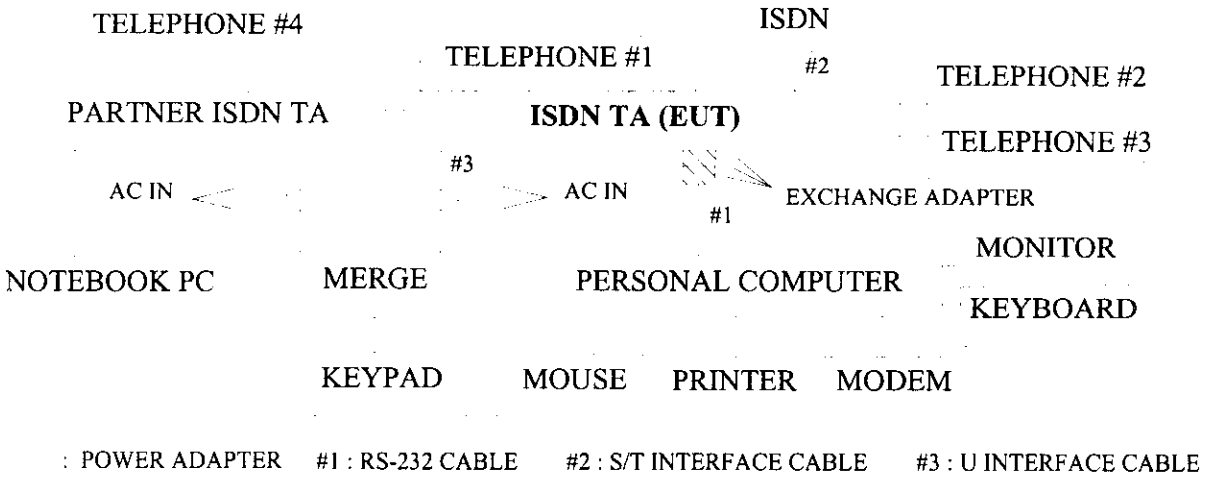
3.1. Test Equipment

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

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8568B	3001A05001	Feb.10, 98'	1 Year
2.	Q.P Adapter	HP	85650A	2811A01395	Feb.10, 98'	1 Year
3.	Computer	TOKIN	586PC	N/A	N/A	NA
4.	Printer	NEC	P2000	553295372	N/A	N/A
5.	Amplifier	HP	8447D	2944A07185	Aug.04, 97'	1 Year
6.	Biconical Antenna	Chase	VBA6106A	1245	Aug.04, 97'	1 Year
7.	Log Periodic Antenna	Chase	UPA6109	1035	Aug.04, 97'	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 Setup Diagram

ANTENNA TOWER

ANTENNA ELEVATION VARIES FROM 1METER TO 4 METERS

3 METERS

EUT

0.8
METER

TURN TABLE

GROUND PLANE

3.3. Radiation Limit (CLASS B)

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMITS	
MHz	Meters	uV/M	dBuV/M
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0

Remark: (1) Emission level (dBuV/M) = 20 log Emission level (uV/M)
(2) The tighter limit applies at the edge between two frequency bands.
(3) 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 were same as those used in conducted measurement. Please refer to 2.4.

3.5. Operating Condition of EUT

Same as conducted measurement which was listed in 2.5.

3.6. Test Procedure

The EUT and its simulators were placed on a turn table which is 0.8 meter above ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 3 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 a 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 on radiated measurement.

The bandwidth setting on the field strength meter (HP Spectrum Analyzer 8568B) 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 reported below are too low against the FCC CLASS B limit..

Date of Test : May 20, 1998 Temperature : 29 ℃

EUT : ISDN-TA Humidity : 54 %

	Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBuV	Emission Level Horizontal dBuV/m	Limits dBuV/m	Margin dBuV/m
	38.296	20.54	1.62	8.03	30.19	40.00	9.81
	73.710	12.64	2.07	15.47	30.18	40.00	9.82
	92.139	16.39	2.24	19.73	38.36	43.50	5.14
	110.582	17.74	2.40	15.19	35.33	43.50	8.17
	129.012	19.91	2.59	11.41	33.91	43.50	9.59
	165.879	21.58	2.87	11.49	35.94	43.50	7.56
	184.304	21.93	2.97	13.30	38.20	43.50	5.30
	199.675	20.68	3.09	8.54	32.31	43.50	11.19
*	**276.440**	**24.84**	**3.56**	**13.32**	**41.72**	**46.00**	**4.28**
	294.871	26.10	3.68	10.97	40.75	46.00	5.25
	331.735	14.68	3.89	21.63	40.20	46.00	5.80
	368.641	16.09	4.10	21.31	41.50	46.00	4.50
	460.815	17.16	4.62	16.72	38.50	46.00	7.50
	552.902	19.20	5.07	13.13	37.40	46.00	8.60
	589.758	19.18	5.24	16.03	40.45	46.00	5.55
	645.052	20.05	5.52	15.52	41.09	46.00	4.91
	755.634	21.07	6.05	9.95	37.07	46.00	8.93
	829.354	22.16	6.39	6.97	35.52	46.00	10.48

Remark :
1. All readings are Quasi-Peak values.
2. The worst emission was detected at 276.440MHz with corrected signal level of 41.72dBuV/m (limit was 46.0dBuV/m) when the antenna was at horizontal polarization and was at 1.7m high and the turn table was at 340°.
3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Date of Test : May 20, 1998 Temperature : 29 ℃

EUT : ISDN-TA Humidity : 54 %

	Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBuV	Emission Level Vertical dBuV/m	Limits dBuV/m	Margin dBuV/m
	36.856	20.34	1.61	10.28	32.23	40.00	7.77
	46.408	16.67	1.76	12.42	30.85	40.00	9.15
	64.502	13.35	2.00	18.37	33.72	40.00	6.28
	85.930	15.24	2.18	14.72	32.14	40.00	7.86
	129.030	18.54	2.59	15.53	36.66	43.50	6.84
	147.448	20.34	2.72	11.21	34.27	43.50	9.23
	165.873	19.38	2.87	11.39	33.64	43.50	9.86
	184.314	21.83	2.97	10.05	34.85	43.50	8.65
	202.736	22.22	3.11	1.68	27.01	43.50	16.49
	276.439	25.07	3.56	10.99	39.62	46.00	6.38
	294.912	25.83	3.68	6.34	35.85	46.00	10.15
	331.778	15.05	3.89	17.48	36.42	46.00	9.58
*	**368.595**	**15.29**	**4.10**	**21.46**	**40.85**	**46.00**	**5.15**
	460.811	17.18	4.62	16.11	37.91	46.00	8.09
	571.385	19.54	5.14	10.86	35.54	46.00	10.46
	645.056	19.82	5.52	12.18	37.52	46.00	8.48
	700.344	20.32	5.79	8.10	34.21	46.00	11.79
	829.364	22.47	6.39	2.72	31.58	46.00	14.42

Remark :
1. All readings are Quasi-Peak values.
2. The worst emission was detected at 368.595MHz with corrected signal level of 40.85dBuV/m (limit was 46dBuV/m) when the antenna was at vertical polarization and was at 1.3m high and the turn table was at 225°.
3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

4. DEVIATION TO TEST SPECIFICATIONS

【 NONE 】