

(EMI)

TEST REPORT

REPORT NUMBER : **TR 99-0070**

APPLICANT : **KYUSHU MATSUSHITA ELECTRIC CO., LTD.
PRINTER DIVISION**

MODEL NUMBER : **KX-P8415**

REGULATION : **FCC Rules and Regulations Part 15
Subpart B - Unintentional Radiators**

ISSUE DATE : **December 7, 1999**

**Kyushu Matsushita Electric
EMC Testing Laboratory**

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KME

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SECTION 1. EMI TEST REPORT ON EUT**APPLICANT INFORMATION**

Company	:	Kyushu Matsushita Electric Co., Ltd. Printer Division
Address	:	1471 Murata-machi, Tosu, Saga, 841-8501 Japan
Phone Number	:	0942-83-3131 (+81-942-83-3131)
Facsimile Number	:	0942-81-2725 (+81-942-81-2725)

DESCRIPTION of TEST ITEM

Kind of Equipments	:	Color Laser Printer
Condition of Equipment	:	Pre-Production
Type	:	Desk-Top Type
Trademark	:	Panasonic
Model Number	:	KX-P8415
Serial Number	:	9KMFIA00044
Power Supply	:	AC 120V 60Hz

TEST PERFORMED

Location	:	Kyushu Matsushita Electric EMC Testing Laboratory (FCC File No. 31040/SIT 1300F2)
Address	:	441-13 Nagahasu Tateishi-cho, Tosu, Saga, 841-8585 Japan
Receipt Date	:	November 30, 1999
Test Date	:	November 30, 1999
Regulation	:	FCC Rules and Regulations Part 15 Class B
Test Procedure	:	ANSI C63.4-1992

SECTION 2. TEST CERTIFICATION

1.Measurement Results

The results obtained from the measurement of the above mentioned device are shown in the attached sheets. The results in this report apply only to the sample(s) tested.

2.Summary of Results

Test sample complies with FCC Rules and Regulations
Part 15 Subpart B - Unintentional Radiators(Class B).

Worst Margin(Radiated Emission)	--	31.762MHz (V)	9.0dB (at page 5)
Worst Margin(Conducted Emission)	--	14.6291MHz	6.4dB (at page 6)

3.These test results are traceable to the National and International Standards.

4.Measurements Uncertainty, at time of test, and at last 95% Confidence, was estimated to be as follows:

Radiated Emission Measurements :

5.46dB(3m)[30-300MHz]

4.76dB(3m)[300- 1GHz]

Conducted Emission Measurements:

2.40dB[0.09- 1MHz], 2.63dB[1-30MHz]

Issue Date : December 7, 1999

Certifying Manager : H.Hara



SECTION 3. TEST RESULTS EMISSION

3.1 Radiated Emission (at Page 5)

3.2 Conducted Emission (at Page 6)

Tested by : T.Yamagami

Reviewed by : M.Horie *M. Horie*

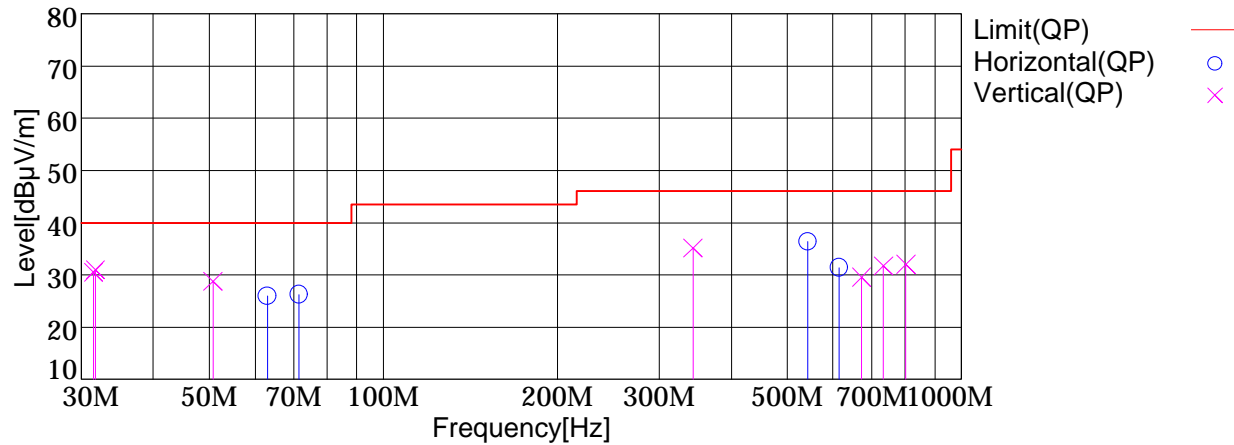
RADIATED EMISSION

Test condition of instrument

Model Name : Color Laser Printer
 model No. : KX-P8415
 Serial No. : 9KMFIA00044
 Operator : T.Yamagami
 Points : 11
 Detector : QP
 RBW : 120kHz

Date : 1999/11/30 11:10
 Temperature : 19 deg
 Humidity : 38 %
 EUT Warm-up Time : 30minutes
 Distance : 3m
 Test Mode : Parallel Printing Mode
 Comment : Level=Emission Level=Meter Reading
 +Antenna Factor+Cable Loss(Cable, Preamp)

The measurement was radiated the worst emissions condition. Power Supply: 120V60Hz
 Limit: [FCC Part 15] Class B<3m>



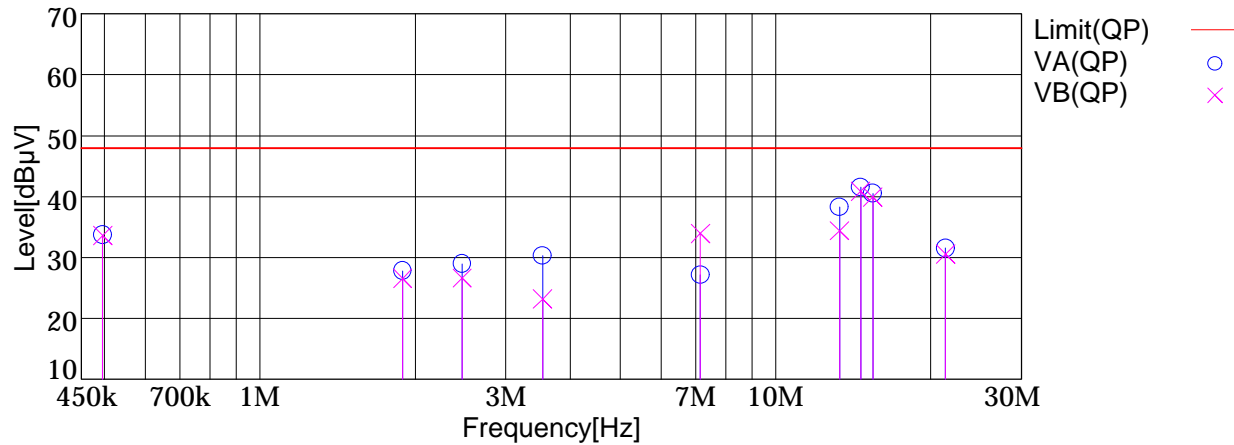
Frequency [MHz]	Meter Reading (QP) [dBµV]	Ant. Type	Antenna Factor [dB/m]	Cable & Preamp [dB]	Level(QP) [dBµV/m]	Angle[°]	Height [cm]	Pola.	Limit [dBµV/m]	Margin [dB]
31.509	37.4	BC	19.3	-26.2	30.5	162	100	Vert.	40.0	9.5
31.762	37.9	BC	19.2	-26.1	31.0	171	100	Vert.	40.0	9.0
50.719	42.4	BC	12.1	-25.7	28.8	121	100	Vert.	40.0	11.2
63.007	42.8	BC	8.6	-25.4	26.0	277	343	Hori.	40.0	14.0
71.462	43.9	BC	7.5	-25.2	26.2	61	301	Hori.	40.0	13.8
343.450	40.9	LP	16.5	-22.2	35.2	76	100	Vert.	46.0	10.8
542.301	38.4	LP	19.9	-21.9	36.4	124	114	Hori.	46.0	9.6
614.608	31.6	LP	21.5	-21.7	31.4	163	100	Hori.	46.0	14.6
672.124	28.8	LP	22.1	-21.3	29.6	338	100	Vert.	46.0	16.4
733.915	30.4	LP	22.5	-21.2	31.7	49	100	Vert.	46.0	14.3
801.874	29.4	LP	23.2	-20.6	32.0	4	100	Vert.	46.0	14.0

BC: Biconical LP: Log-peri

LINE CONDUCTION

		Test condition of instrument	
Model Name	: Color Laser Printer	Date	: 1999/11/30 18:56
model No.	: KX-P8415	Temperature	: 17deg
Serial No.	: 9KMFIA00044	Humidity	: 38%
Operator	: T.Yamagami	EUT Warm-up Time	: 30minutes
Points	: 18	Test Mode	: Parallel Printing Mode
Detector	: QP	Comment	: Level=Emission Level =Meter Reading+Factor(LISN, Cable)
RBW	: 10kHz		

The measurement was conducted the worst emissions condition. Power Supply: 120V60Hz
Limit: [FCC Part15] Class B

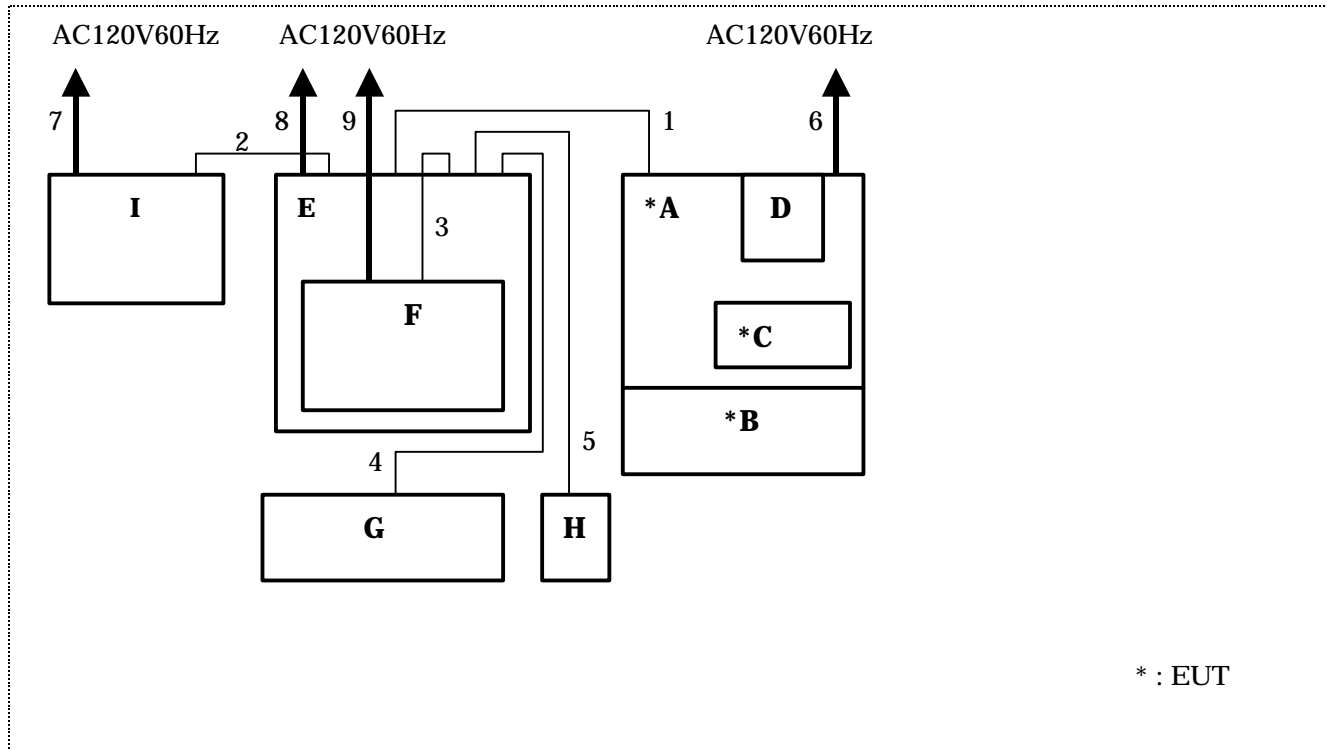


Frequency[MHz]	Meter Reading (QP)[dBµV]	Factor[dB]	Level(QP) [dBµV]	Line	Limit[dBµV]	Margin[dB]
0.4955	33.6	0.1	33.7	VA	47.9	14.2
1.8914	27.6	0.2	27.8	VA	47.9	20.1
2.4667	28.8	0.2	29.0	VA	47.9	18.9
3.5334	30.1	0.2	30.3	VA	47.9	17.6
7.1511	26.8	0.3	27.1	VA	47.9	20.8
13.3128	38.0	0.3	38.3	VA	47.9	9.6
14.6291	41.2	0.3	41.5	VA	47.9	6.4
15.4482	40.1	0.4	40.5	VA	47.9	7.4
21.3739	31.0	0.5	31.5	VA	47.9	16.4
0.4955	33.5	0.1	33.6	VB	47.9	14.3
1.8914	26.3	0.2	26.5	VB	47.9	21.4
2.4681	26.4	0.2	26.6	VB	47.9	21.3
3.5334	23.0	0.2	23.2	VB	47.9	24.7
7.1493	33.6	0.3	33.9	VB	47.9	14.0
13.3128	34.1	0.3	34.4	VB	47.9	13.5
14.6291	40.6	0.3	40.9	VB	47.9	7.0
15.4482	39.5	0.4	39.9	VB	47.9	8.0
21.3755	30.0	0.5	30.5	VB	47.9	17.4

SECTION 4. DESCRIPTION OF TEST EQUIPMENT

4.1 Construction of Equipment

The Construction of EUT during the test as follows.



Symbols or number assigned to equipment or cables on this diagram is used on tables in section 4.2 to 4.3.

4.2 EUT and Support Equipment Used

The EUT was supported by the following equipment during the test.

Indication in the following left side column corresponds to section 4.1

	Item	Model No. [Manufacturer]		Serial No.	FCC I/D
A	Color Laser Printer [EUT]	KX-P8415	[KME]	9KMFIA00044	N.A.
B	2 nd Cassette Feeder with Auto Duplex Unit [EUT]	KX-PCSF2	[KME]	9DSFBC07627	N.A.
C	128MB DIMM [EUT]	KX-PEMD4	[KME]	9HAMA00001	N.A.
D	Ethernet NIC	KX-PNBC8	[KME]	9HCMA00001	N.A.
E	Computer	D6553-WJ101	[HEWLETT PACKARD]	SG83901455	DoC
F	CRT Display	ASTSVGA-LR14	[AST]	92240043	GWG-XXX449XC
G	Keyboard	SK-2502	[HEWLETT PACKARD]	M980900431	GYUR41SK
H	Mouse	M-S34	[HEWLETT PACKARD]	LZB82550931	DZL211029
I	Printer	KX-P3200	[KME]	5LMDMA01052	ACJ5Z6KX-P3200

4.3 Cable(s) Used

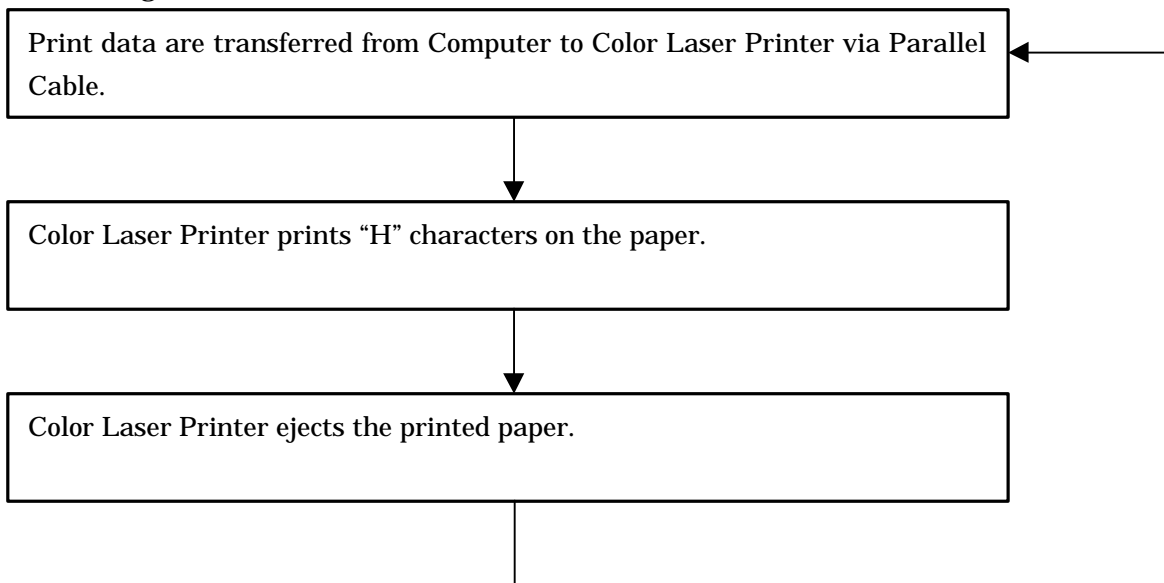
The following cable(s) was used for the test.

Indication number in the following left side column corresponds to Section 4.1

No	Name	Length	Shield	Connector	Ferrite Core
1	Parallel Cable	2.0 m	Shielded	Metallic Hood	None
2	Serial Cable	1.8 m	Shielded	Metallic Hood	None
3	Monitor Cable	1.8 m	Shielded	Metallic Hood	None
4	Keyboard Cable	2.0 m	Shielded	Metallic Hood	None
5	Mouse Cable	2.0 m	Shielded	Metallic Hood	None
6	AC Cord for Color Laser Printer	2.1 m	Unshielded	Plastic Hood	None
7	AC Cord for Serial Printer	2.1 m	Unshielded	Plastic Hood	None
8	AC Cord for Computer	2.1 m	Unshielded	Plastic Hood	None
9	AC Cord for CRT Display	2.1 m	Unshielded	Plastic Hood	None

4.4 Operating Condition

Parallel Printing Mode



4.5 Any deviations from, additions to or exclusions from the test method

No deviation

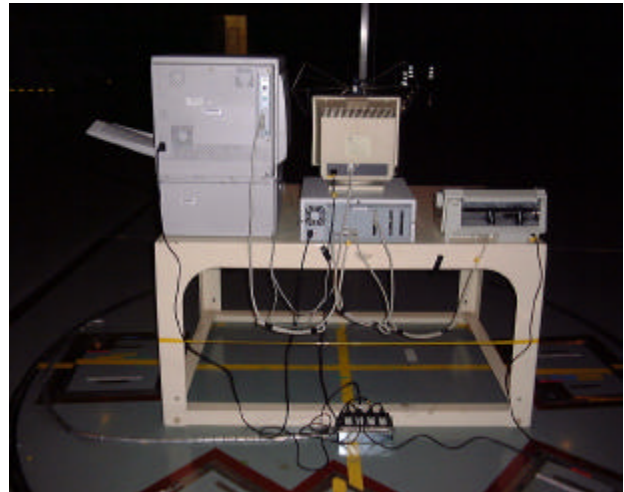
SECTION 5. PHOTOGRAPHS OF MAXIMUM EMISSION SET-UP

5.1 Radiated Emission

Test setup in accordance with ANSI C63.4 - 1992



(front view)



(rear view)

5.2 Conducted Emission

Test setup in accordance with ANSI C63.4 - 1992



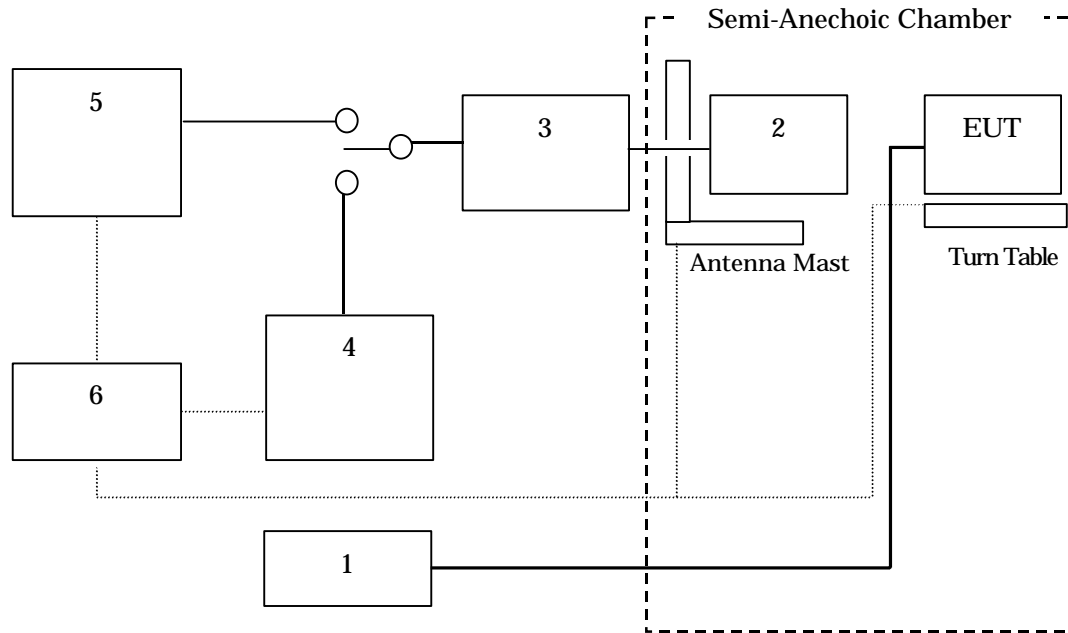
(front view)



(side view)

SECTION 6. TEST ARRANGEMENT AND LIST OF TEST INSTRUMENTS

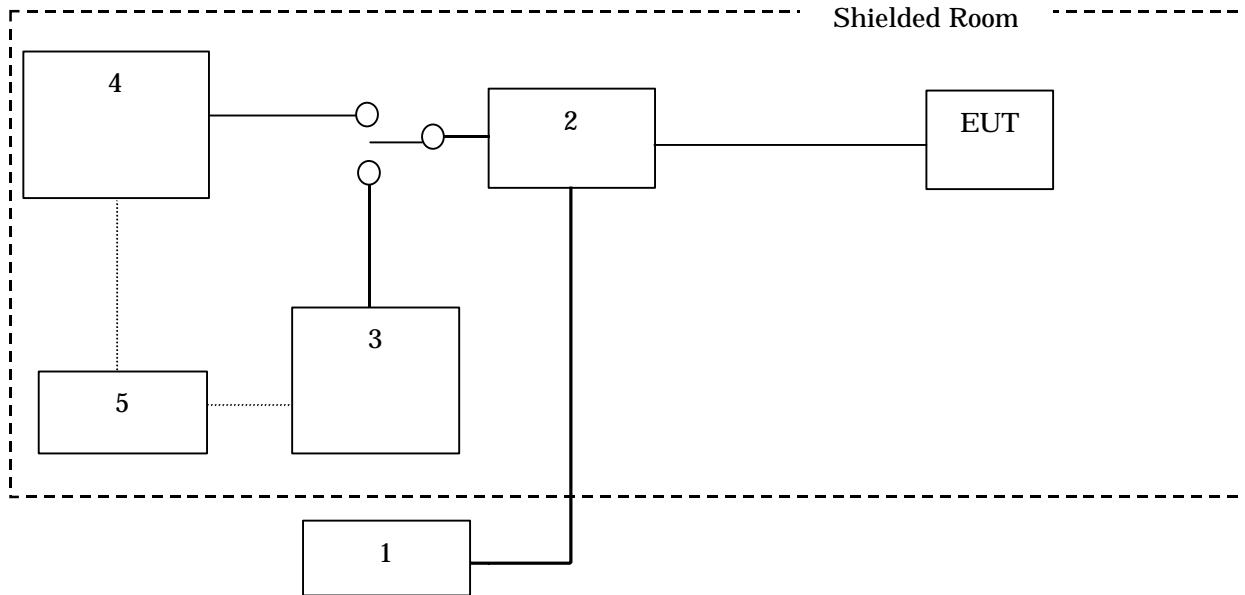
6.1 Radiated Emission



NO	Apparatus	Model No. (Manufacture)	Specification	Calibration		Serial No.
				Date	Interval	
1	Power Supply	* FUK-23749-1 (NF)	50/60Hz 36kVA 264V	---	---	---
2	Antenna	* BBA9106 * UHALP9107 (Schwarzbeck)	30M - 300MHz 300M -1000MHz	Oct-99 Oct-99	1 year 1 year	91031448 1729
3	Pre-Amplifier	* 8447D (HP)	0.1-1300MHz Gain >25dB	Oct-99	1 year	2944A08823
4	Spectrum Analyzer	R3371A (Advantest)	100-26.5GHz	Oct-99	1 year	68630014
5	EMI Receiver	* ESVS10 (R&S)	20M-1000MHz	Oct-99	1 year	844594/005
6	PC	PC340 (IBM)	---	---	---	---
-	Semi-Anechoic Chamber	* 3m method(NSA) (RIKEN) 10m method(NSA) (RIKEN)	30M-1000MHz 1-18GHz 30M-1000MHz 1-18GHz	Sep-99 Sep-99	1 year 1 year	--- ---
-	Cables	* 1R1-6 * 1RA 1RB	30M-1000MHz 30M-1000MHz 30M-1000MHz	Nov-99 Nov-99 Nov-99	1 year 1 year 1 year	--- --- ---
-	SW Box	* PSU(R&S)	---	Nov-99	1 year	---

* Used for final test

6.2 Conducted Emission



No	Apparatus	Model No. (Manufacture)	Specification	Calibration		Serial No.
				Date	Interval	
1	Power Supply	* FUK-23749-3 (NF)	50/60Hz 4kVA 264V	---	---	---
2	LISN	* KNW-407 (Kyoritsu)	250V15A	Oct-99	1 year	8-1345-3
3	Spectrum Analyzer	R3261C (Advantest)	9kHz-2.6GHz	Nov-98	3 years	61720502
4	EMI Receiver	* ESHS10 (R&S)	9kHz-30MHz	Oct-99	1 year	844077/017
5	PC	PC340 (IBM)	---	---	---	---
-	Shielded Room	* --- (RIKEN)	0.15M-30MHz	---	---	---
-	R.F.Fuse	* MP612 (ANRITSU)	---	Oct-99	1 year	---
-	50ohm Terminator	* ---	---	Jan-99	1 year	---
-	Cables	* 3C1-4	0.15M-30MHz	Oct-99	1 year	---
-	SW Box	* PSU(R&S)	---	Oct-99	1 year	---

* Used for final test