



JAPAN QUALITY ASSURANCE ORGANIZATION

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JQA File No. : 400-50751

Issue Date : February 7, 2006

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EMI TEST REPORT

JQA File No. : 400-50751

Model No. : 0517T

Type of Equipment : Radio Controlled Toy
(Transmitter)

Regulations Applied : CFR 47 FCC Rules and Regulations Part 15

FCC ID : CVT0517T

Applicant : NIKKO CO., LTD.

Address : 1-7-14, Mizumoto, Katsushika-ku,
Tokyo 125-0032, Japan

Manufacturer : ZINTECH TOYS MANUFACTURING LTD.

Address : The Sixth Economical Develop District, Li Uk,
Wusha, Changan, Dongguan, Guangdong

Received date of EUT : February 1, 2006

Final Judgment : Passed

Test results in this report are obtained in use of equipment that is traceable to National Institute of Advanced Industrial Science and Technology (AIST) of Japan and National Institute of Information and Communications Technology (NICT) of Japan.

The test results only respond to the tested sample. This report should not be reproduced except in full, without the written approval of JQA EMC Engineering Dept. Testing Div.

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1 DOCUMENTATION

1.1 TEST REGULATION

FCC Rules and Regulations Part 15 Subpart A and C Intentional Radiators

Test procedure :

AC power line conducted emission, radiated emission, frequency stability and occupied bandwidth tests were performed according to the procedures in ANSI C63.4-2003.

1.2 GENERAL INFORMATION

1.2.1 Test facility :

- 1) Test Facility located at EMC Engineering Dept. Testing Div. :
 - No.2 and 3 Anechoic Chambers(3 meters Site).
 - Shielded Enclosure.
- 2) EMC Engineering Dept. Testing Div. is recognized under the National Voluntary Laboratory accreditation Program for satisfactory compliance established in title 15, Part 285 Code of Federal Regulations.
NVLAP Lab Code : 200189-0

1.2.2 Description of the Equipment Under Test (EUT) :

- | | |
|--------------------------------------|---|
| 1) Type of Equipment | : Radio Controlled Toy
(Transmitter) |
| 2) Product Type | : Production |
| 3) Category | : Low Power Communication Device
Transmitter |
| 4) EUT Authorization | : Certification |
| 5) FCC ID | : CVT0517T |
| 6) Trade Name | : NIKKO |
| 7) Model No. | : 0517T |
| 8) Operating Frequency Range | : 49.860 MHz |
| 9) Highest Frequency Used in the EUT | : 49.860 MHz |
| 10) Serial No. | : None |
| 11) Date of Manufacture | : None |
| 12) Power Rating | : DC 9.0V(Battery) |
| 13) EUT Grounding | : None |

1.2.3 Definitions for symbols used in this test report :

- x - indicates that the listed condition, standard or equipment is applicable for this report.
- indicates that the listed condition, standard or equipment is not applicable for this report.

1.3 TEST CONDITION

1.3.1 The measurement of the AC Power Line Conducted Emission

☐ - was performed in the following test site.

☒ - was not applicable.

Test location :

Safety & EMC Center EMC Engineering Dept. Testing Div.
21-25, Kinuta 1-chome, Setagaya-ku, Tokyo 157-8573, Japan

☐ - Shielded Enclosure

☐ - Anechoic Chamber No. 2 (portable Type)

Used test instruments :

Type	Number of test instruments (Refer to Appendix)
Test Receiver	N/A
Spectrum Analyzer	N/A
Cable	N/A
AMN(for EUT)	N/A
AMN(for Peripheral)	N/A
Termination	N/A

1.3.2 The measurement of the Radiated Emission(9 kHz - 30 MHz)

- ☐ - was performed in the following test site.
☒ - was not applicable.

Test location :

Safety & EMC Center EMC Engineering Dept. Testing Div.
21-25, Kinuta 1-chome, Setagaya-ku, Tokyo 157-8573, Japan

- ☐ - Anechoic Chamber No. 2 (3 meters)
☐ - Anechoic Chamber No. 3 (3 meters)

Validation of Site Attenuation :

- 1) Last Confirmed Date : N/A
2) Interval : N/A

Used test instruments :

Type	Number of test instruments (Refer to Appendix)
Test Receiver	N/A
Antenna	N/A
Cable	N/A

1.3.3 The measurement of the Radiated Emission(30 MHz - 1000 MHz)

- x - was performed in the following test site.
 - was not applicable.

Test location :

Safety & EMC Center EMC Engineering Dept. Testing Div.
21-25, Kinuta 1-chome, Setagaya-ku, Tokyo 157-8573, Japan

- x - Anechoic Chamber No. 2 (3 meters)
 - Anechoic Chamber No. 3 (3 meters)

Validation of Site Attenuation :

- 1) Last Confirmed Date :March, 2005
2) Interval :1 year

Used test instruments :

Type	Number of test instruments (Refer to Appendix)
Test Receiver	11
Antenna	26, 28
Cable	38
RF Amplifier	N/A

1.3.4 The measurement of the Radiated Emission(Above 1000 MHz)

- ☐ - was performed in the following test site.
☒ - was not applicable.

Test location :

Safety & EMC Center EMC Engineering Dept. Testing Div.
21-25, Kinuta 1-chome, Setagaya-ku, Tokyo 157-8573, Japan

- ☐ - No. 2 site (3 meters)
☐ - No. 3 site (3 meters)

Validation of Site Attenuation :

- 1) Last Confirmed Date :March, 2005
2) Interval :1 year

Used test instruments :

Type	Number of test instruments (Refer to Appendix)
Test Receiver	N/A
Spectrum Analyzer	N/A
Cable	N/A
Antenna	N/A
RF Amplifier	N/A
Band Reject Filter	N/A
High Pass Filter	N/A

1.3.5 The measurement of the Frequency Stability

☐ - was performed.
☒ - was not applicable.

Used test instruments :

Type	Number of test instruments (Refer to Appendix)
Frequency Counter	N/A
Oven	N/A
DC Power Supply	N/A

1.3.6 The measurement of the Occupied Bandwidth

☒ - was performed.
☐ - was not applicable.

Used test instruments :

Type	Number of test instruments (Refer to Appendix)
Test Receiver	13
Spectrum Analyzer	N/A
Cable	47
Antenna	22



1.4 EUT MODIFICATION / Deviation from Standard

1.4.1 EUT MODIFICATION

- x -No modifications were conducted by JQA to achieve compliance to Class B levels.
 -To achieve compliance to Class B levels, the following changes were made by JQA during the compliance test.

The modifications will be implemented in all production models of this equipment.

Applicant : Date :

Typed Name : Position :

1.4.2 Deviation from Standard:

- x - No deviations from the standard described in clause 1.1.
 - The following deviations were employed from the standard described in clause 1.1:



1.5 TEST RESULTS

AC Power Line Conducted Emission ☐ - Applicable ☒ - NOT Applicable

The requirements are ☐ - PASSED ☐ - NOT PASSED

Remarks :

Radiated Emission [§15.235(a)(b)] ☒ - Applicable ☐ - NOT Applicable

The requirements are ☒ - PASSED ☐ - NOT PASSED

Remarks:

Frequency Stability ☐ - Applicable ☒ - NOT Applicable

The requirements are ☐ - PASSED ☐ - NOT PASSED

Remarks:

Occupied Bandwidth [§15.235(b)] ☒ - Applicable ☐ - NOT Applicable

The requirements are ☒ - PASSED ☐ - NOT PASSED

Remarks:

1.6 SUMMARY

General Remarks :

The EUT was tested according to the requirements of FCC Rules and Regulations Part 15 Subpart A and C under the test configuration, as shown in clause 1.7 to 1.10. The conclusion for the test items which are required by the applied regulation is indicated under the final judgment.

Final Judgment :

The "as received" sample;

- x - fulfill the test requirements of the regulation mentioned on clause 1.1.
- fulfill the test requirements of the regulation mentioned on clause 1.1, but with certain qualifications.
- doesn't fulfill the test regulation mentioned on clause 1.1.

Begin of testing : February 3, 2006

End of testing : February 6, 2006

- JAPAN QUALITY ASSURANCE ORGANIZATION -
Approved by:

Signatories:
Issued by:



Masaaki Takahashi
Senior Manager
JQA EMC Engineering Dept.



Shigeru Osawa
Assistant Manager
JQA EMC Engineering Dept.

1.7 TEST CONFIGURATION / OPERATION OF EUT

1.7.1 Test Configuration

The equipment under test (EUT) consists of :

Item	Manufacturer	Model No.	FCC ID	Serial No.
Radio Controlled Toy (Transmitter)	ZINTECH TOYS MANUFACTURING LTD.	0517T	CVT0517T	None

1.7.2 Operating condition

Power supply Voltage : 9.0 VDC(Battery)

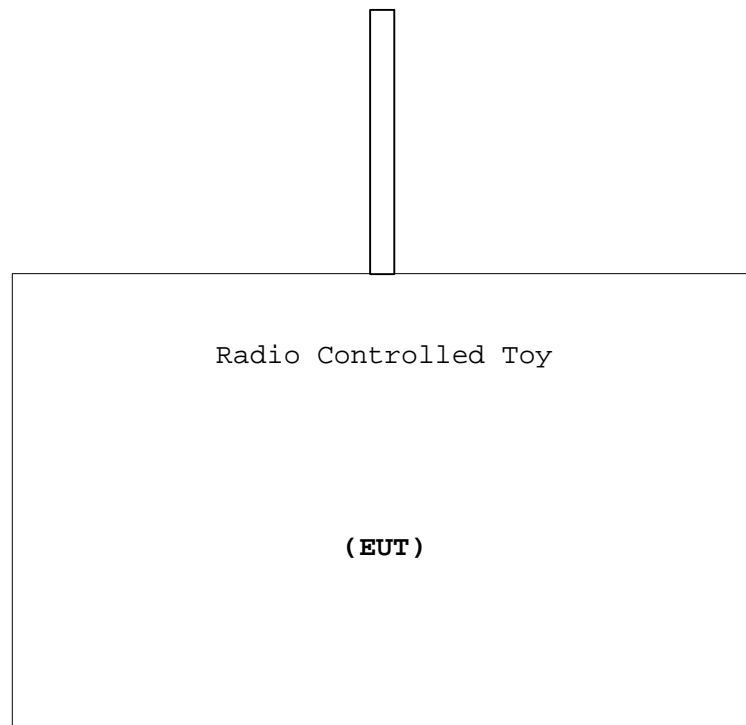
The tests have been carried out the following mode.

- 1) TX mode (49.860 MHz)

1.7.3 Generating and Operating frequency of EUT

49.86 MHz

1.8 EUT ARRANGEMENT (DRAWINGS)



1.9 PRELIMINARY TEST AND TEST-SETUP (DRAWINGS)

1.9.1 AC Power Line Conducted Emission (150 kHz - 30 MHz) :

According to description of ANSI C63.4-2003 sec.13.1.3.1, the AC power line preliminary conducted emissions measurements were carried out.

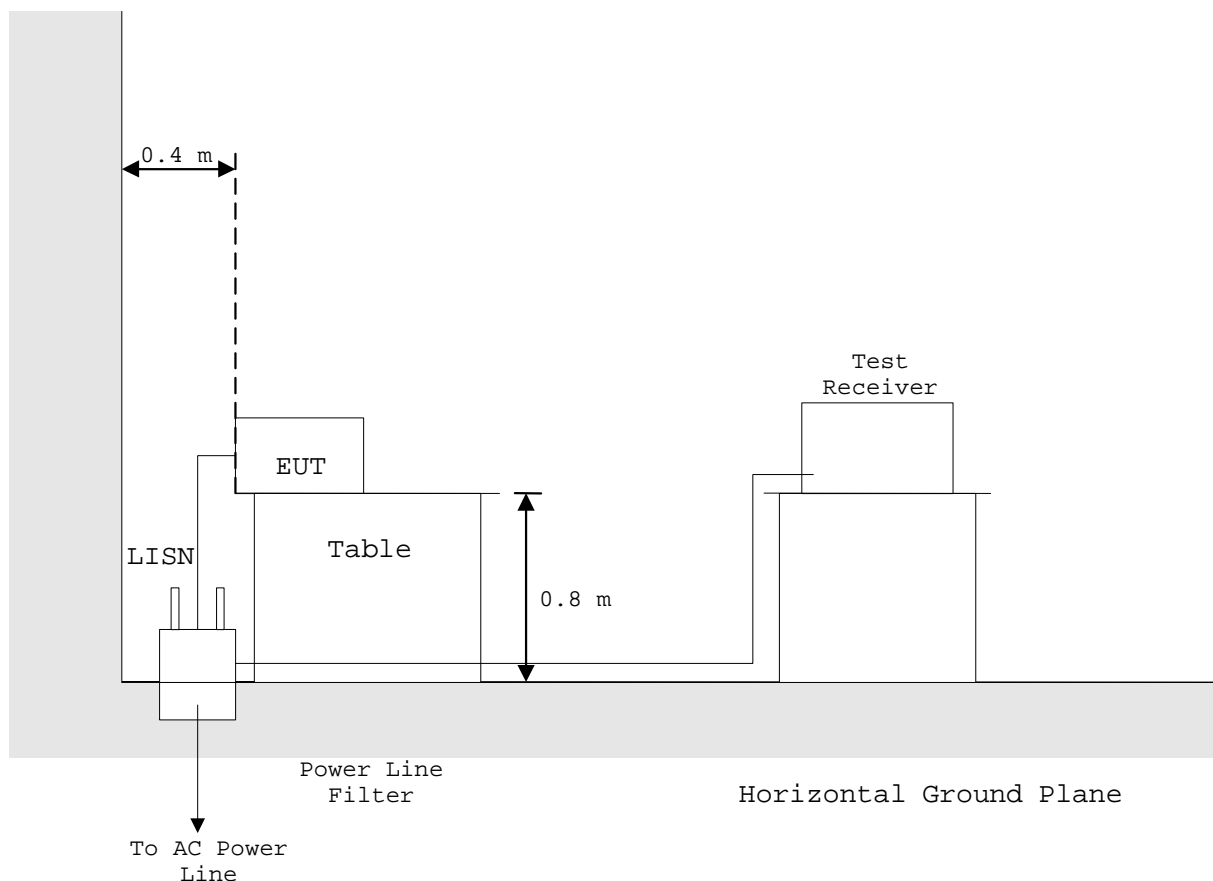
The preliminary conducted measurements were performed using the spectrum analyzer to observe the emission characteristics of the EUT.

The EUT configuration, cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for final AC power line conducted emissions measurements.

Shielded Enclosure

- Side View -

Vertical
Ground
Plane

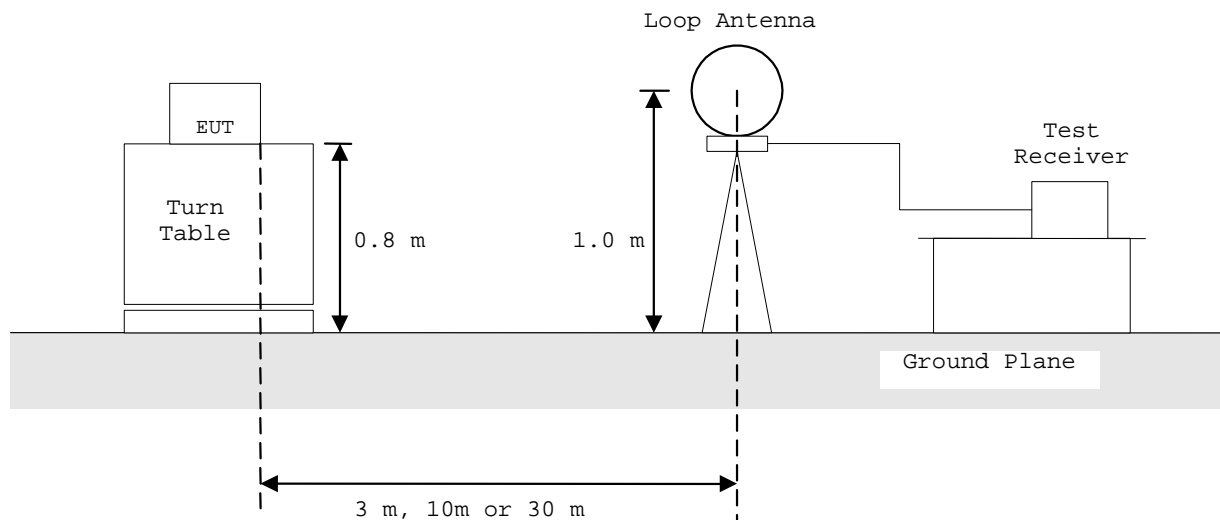


1.9.2 Radiated Emission (9 kHz - 30 MHz) :

According to description of ANSI C63.4-2003 sec.13.1.4.1, the preliminary radiated emissions measurement were carried out. The preliminary radiated measurements were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT.

The EUT configuration, cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for the final radiated emissions measurements.

- Side View -



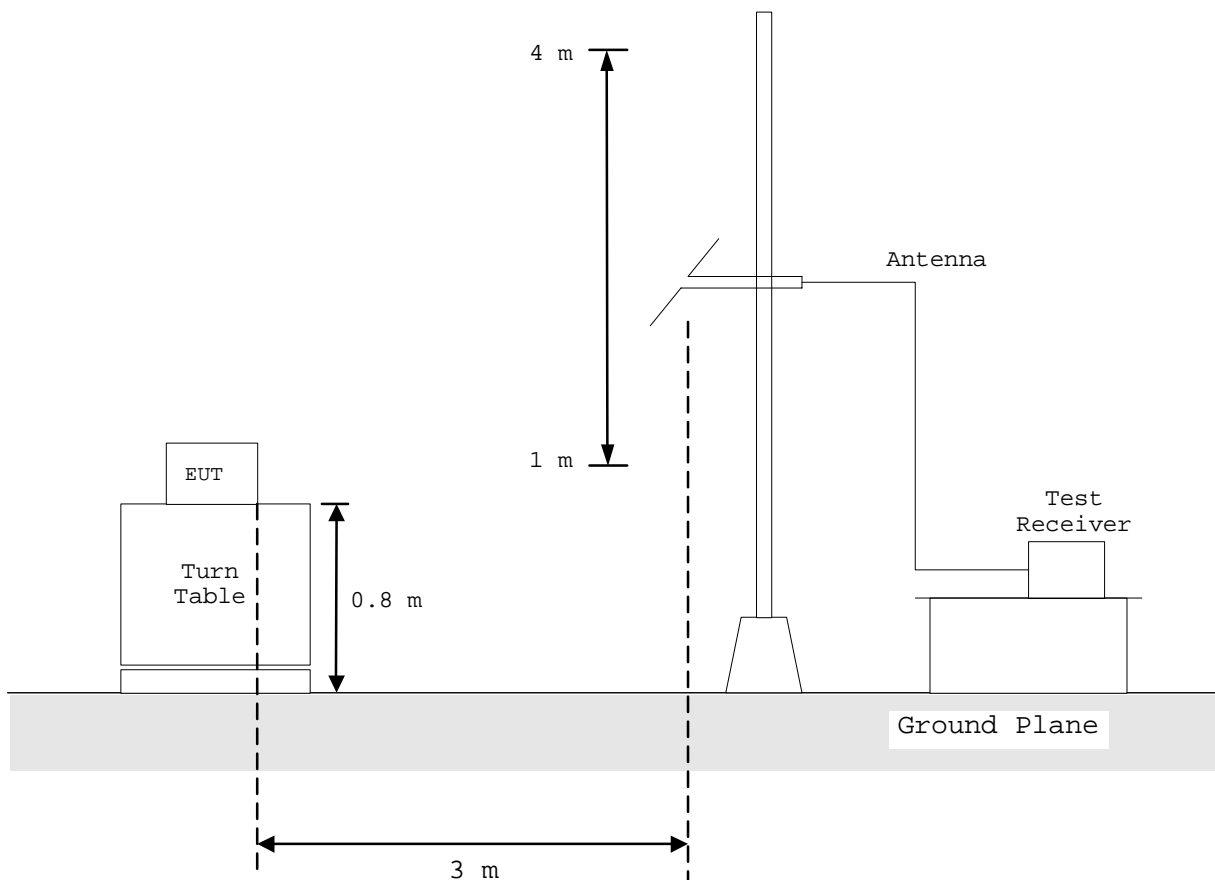
1.9.3 Radiated Emission (30 MHz - 1000 MHz) :

According to description of ANSI C63.4-2003 sec.13.1.4.1, the preliminary radiated emissions measurement were carried out. The preliminary radiated measurements were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT.

The EUT configuration, cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for the final radiated emissions measurements.

Anechoic Chamber

- Side View -



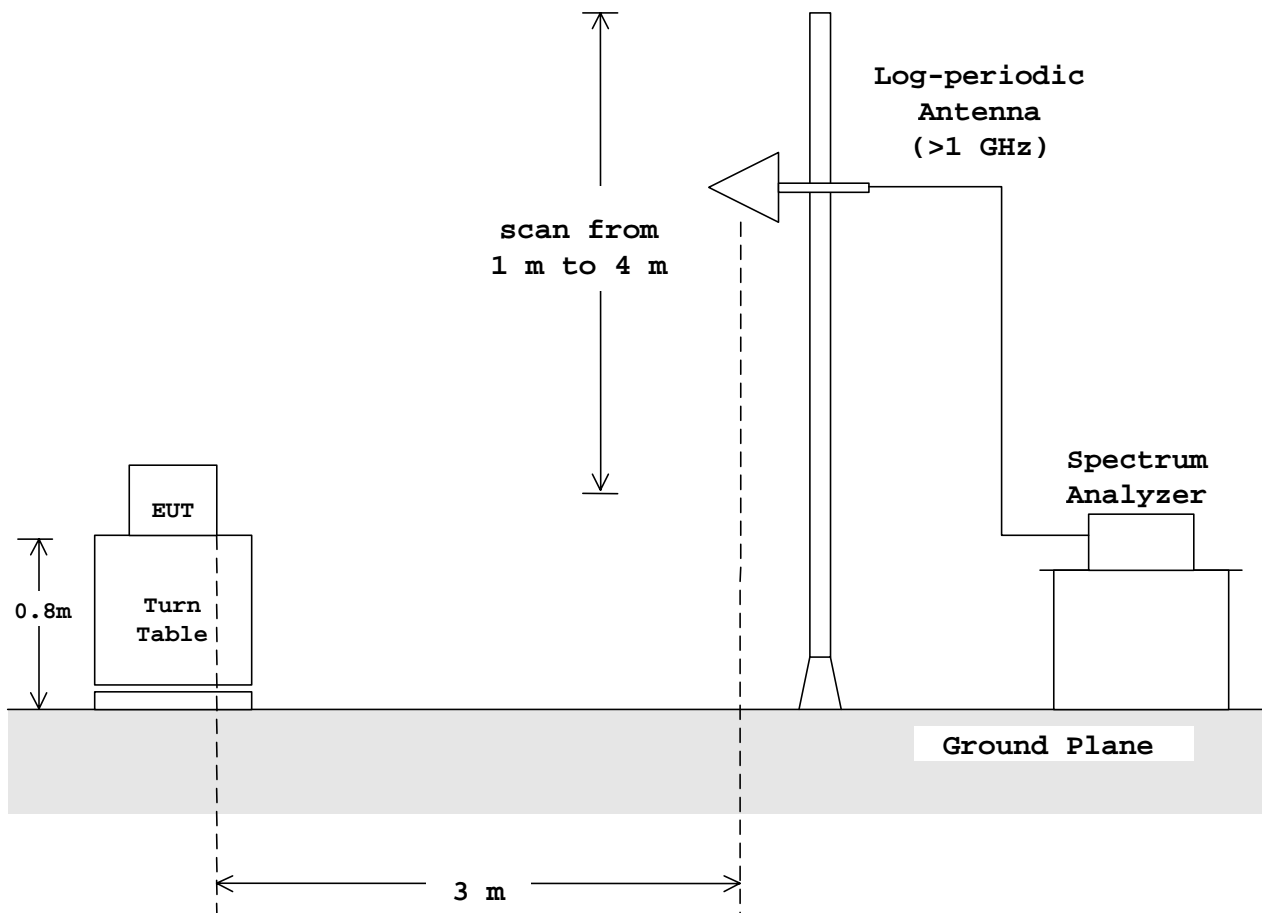
1.9.4 Radiated Emission (Above 1 GHz) :

According to description of ANSI C63.4-2003 sec.13.1.4.1, the preliminary radiated emissions measurements were carried out. The preliminary radiated measurements were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT.

The EUT configuration, cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for the final radiated emissions measurements.

Anechoic Chamber

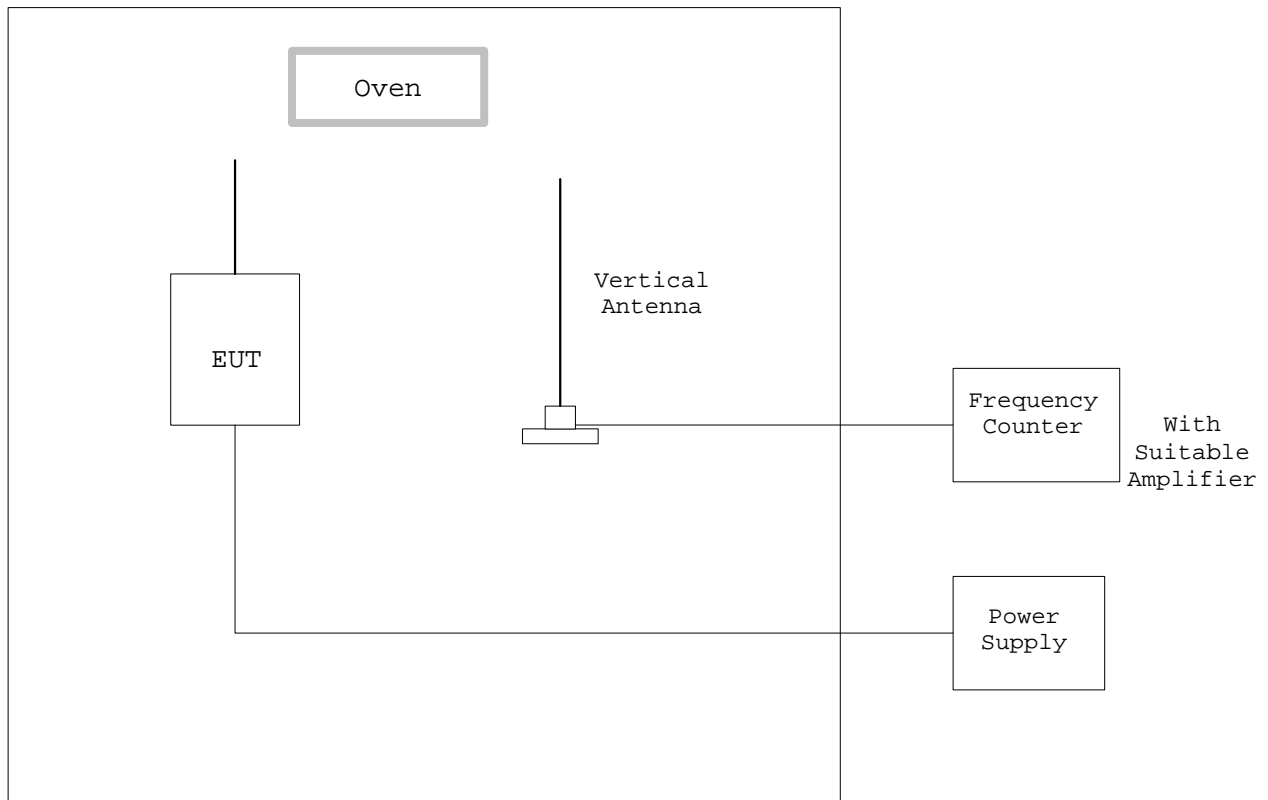
- Side View -



1.9.5 Frequency Stability :

According to description of ANSI C63.4-2003 sec.13.1.5 and sec.13.1.6, the frequency stability measurements were carried out. By using frequency counter with suitable RF amplifier, the carrier frequency of the transmitter under test was measured with a temperature variation of -20°C to $+50^{\circ}\text{C}$ at the normal supply voltage, and if required, with a variation in the primary voltage from 85 % to 115 % the rated supply voltage at the temperature of $+20^{\circ}\text{C}$.

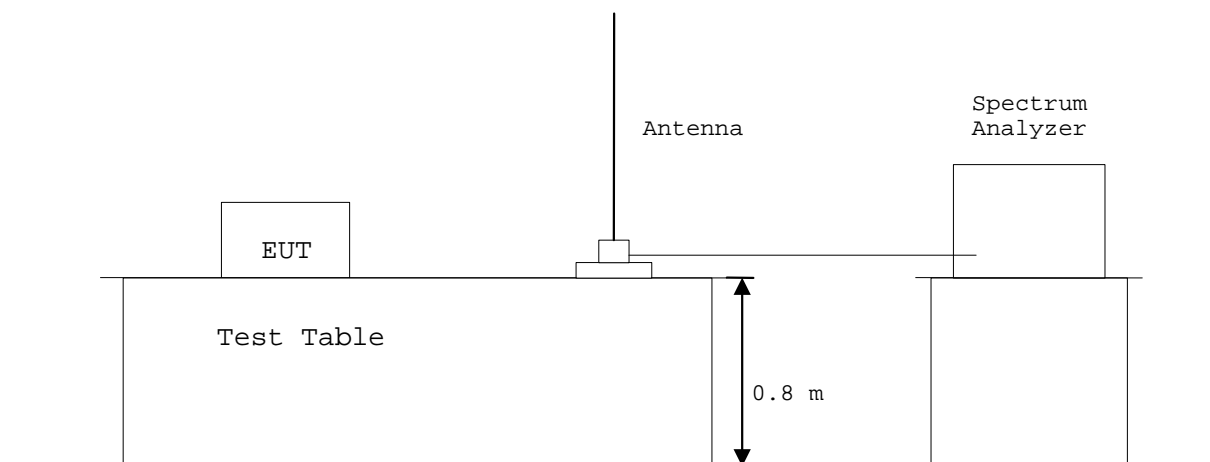
These measurements were carried out after allow sufficient time (approximately 1 hour) for the temperature of the chamber to stabilize.



1.9.6 Occupied Bandwidth :

According to description of ANSI C63.4-2003 sec.13.1.7, the occupied bandwidth measurements were carried out. By using a spectrum analyzer with a vertical antenna for picking up the signal, the measurements of the emission were made under the transmitting modes of the EUT.

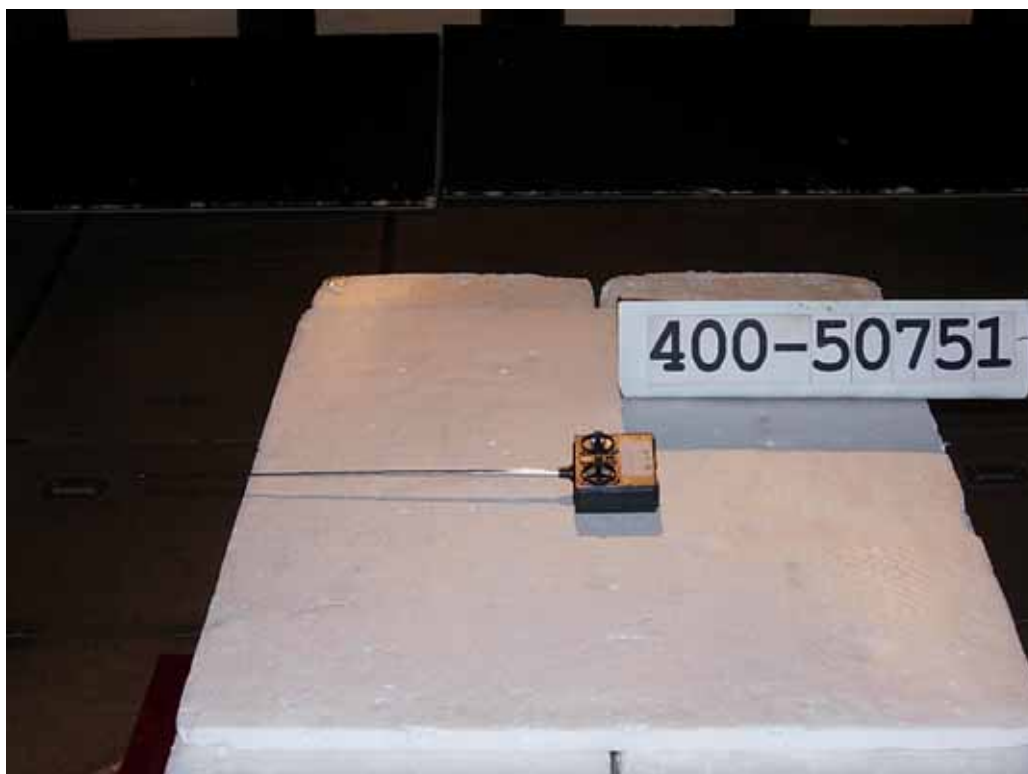
The resolution bandwidth of spectrum analyzer was set to the value specified in sec.13.1.7.



1.10 TEST ARRANGEMENT (PHOTOGRAPHS)

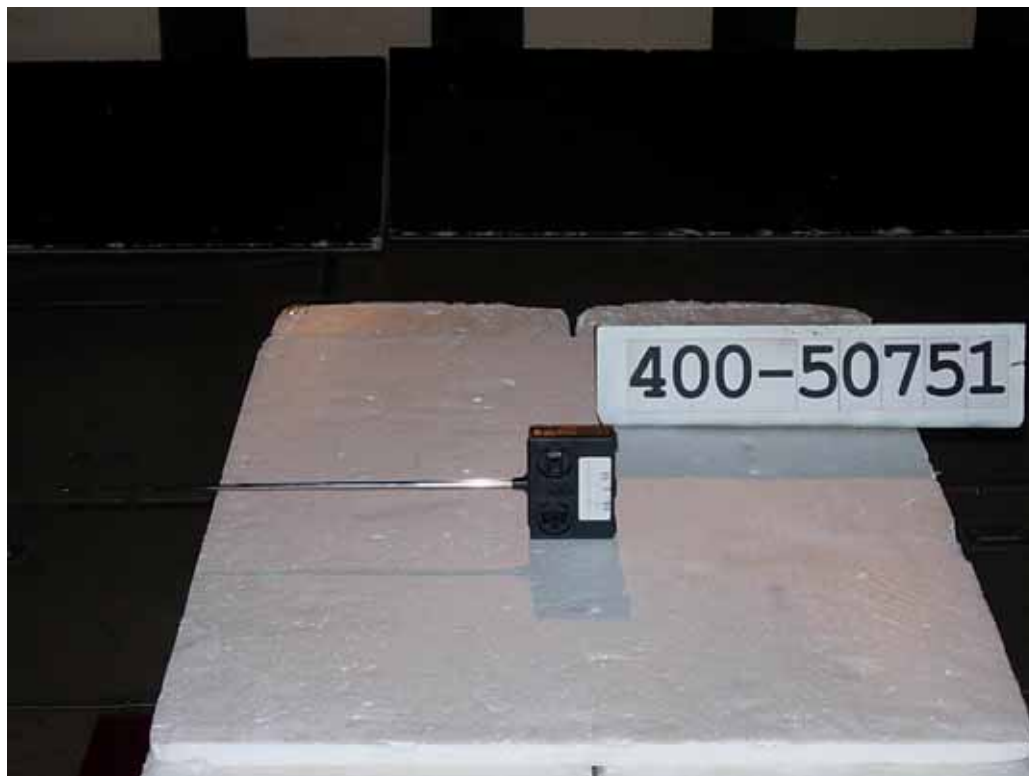
PHOTOGRAPHS OF EUT CONFIGURATION FOR RADIATED EMISSIONS MEASUREMENT

Photograph present configuration with maximum emission



PHOTOGRAPHS OF EUT CONFIGURATION FOR RADIATED EMISSIONS MEASUREMENT

Photograph present configuration with maximum emission



2 TEST DATA

2.1 AC Power Line Conducted Emissions

Note : This test was not applicable.

2.2 Radiated Emissions Measurement

Operating Frequency : 49.860 MHz
 Distance of Measurement : 3.0 meters

Date : February 3, 2006

Temp. : 24 °C Humi. : 40 %

Frequency (MHz)	P-A Factor (dB)	Antenna Factor (dB)	Polarization	Meter Reading (dBuV)			Limits (dBuV/m)		Emission Levels (dBuV/m)		Margins (dB)	
				QP	AV	Peak	QP/AV	Peak	QP/AV	Peak	QP/AV	Peak
49.9	0.0	11.6	V	-	44.6	50.6	80.0	100.0	56.2	62.2	23.8	37.8
99.7	0.0	11.0	V	14.9	-	-	43.5	-	25.9	-	17.6	-
149.6	0.0	15.8	H	1.4	-	-	43.5	-	17.2	-	26.3	-
199.4	0.0	17.9	H	0.2	-	-	43.5	-	18.1	-	25.4	-
249.3	0.0	19.6	H	2.0	-	-	46.0	-	21.6	-	24.4	-
299.2	0.0	21.8	V	4.2	-	-	46.0	-	26.0	-	20.0	-
349.0	0.0	18.2	H	7.0	-	-	46.0	-	25.2	-	20.8	-
398.9	0.0	19.0	H	3.3	-	-	46.0	-	22.3	-	23.7	-
448.7	0.0	20.1	H	< 0.0	-	-	46.0	-	< 20.1	-	> 25.9	-
498.6	0.0	21.3	H	< 0.0	-	-	46.0	-	< 21.3	-	> 24.7	-
548.5	0.0	22.4	H	< 0.0	-	-	46.0	-	< 22.4	-	> 23.6	-

- Notes :
- 1) The spectrum was checked from 30 MHz to 1000 MHz.
 - 2) The cable loss is included in the antenna factor.
 - 3) The symbol of "<" means "or less".
 - 4) The symbol of ">" means "or greater".
 - 5) A sample calculation(QP/AV) was made at 49.86 (MHz).
 $PA + Af + Mr = 0 + 11.6 + 44.6 = 56.2 \text{ (dBuV/m)}$
 PA = Peak to Average Factor(P-A Factor)
 Af = Antenna Factor
 Mr = Meter Reading

6) Measuring Instrument Setting :

<u>Detector function</u>	<u>Resolution Bandwidth</u>	<u>Video Bandwidth</u>
Quasi-peak(QP)	120 kHz	-
Average(AV)	120 kHz	-
Peak	120 kHz	-

Tested by :

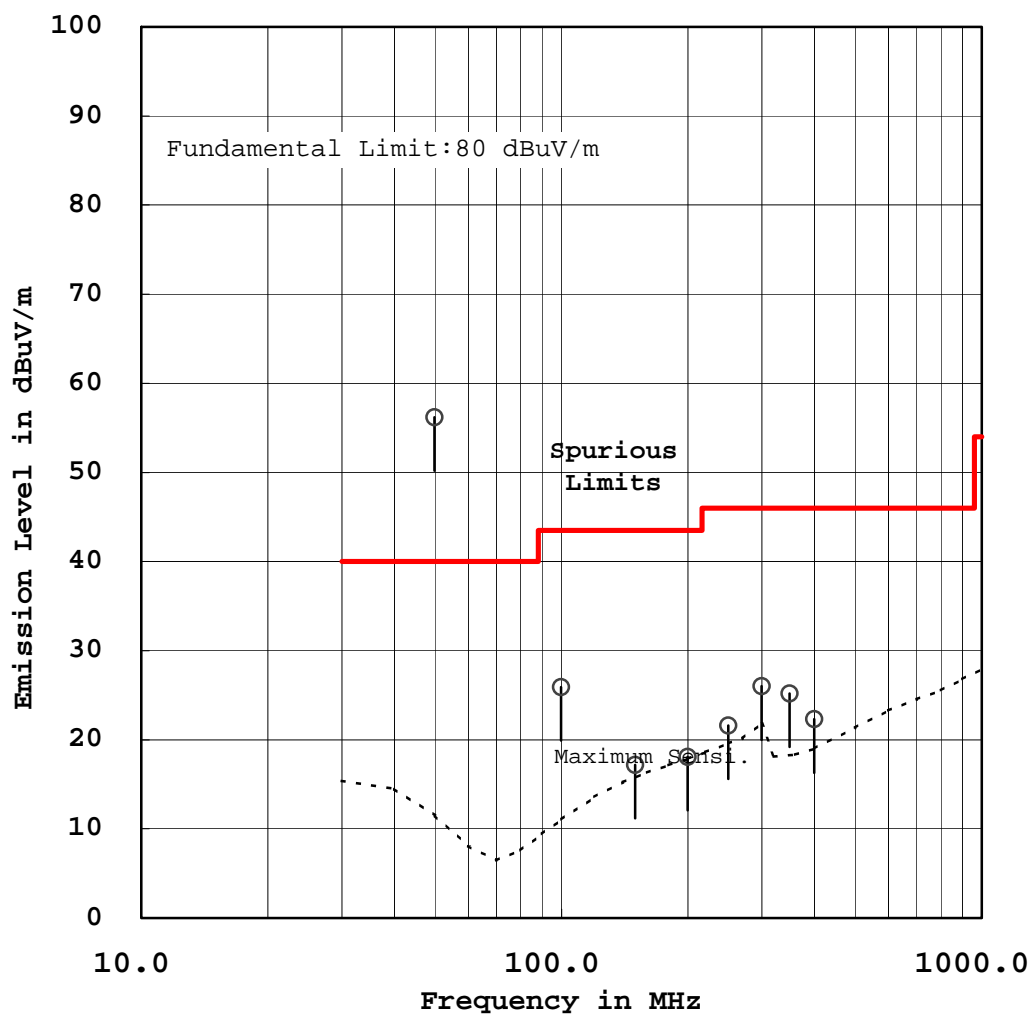


Masanori Takahashi
 Testing Engineer

RADIATED EMISSION MEASUREMENT

Model No. : 0517T

Standard : CFR 47 FCC Rules Part 15 O QP/AV
 Operating Frequency(MHz) : 49.86



2.3 Frequency Stability

Note : This test was not applicable.

2.4 Occupied Bandwidth Measurement

Date : February 6, 2006
Temp.: 23 °C Humi.: 48 %

Measurements Results :

Refer to the attached graphs.

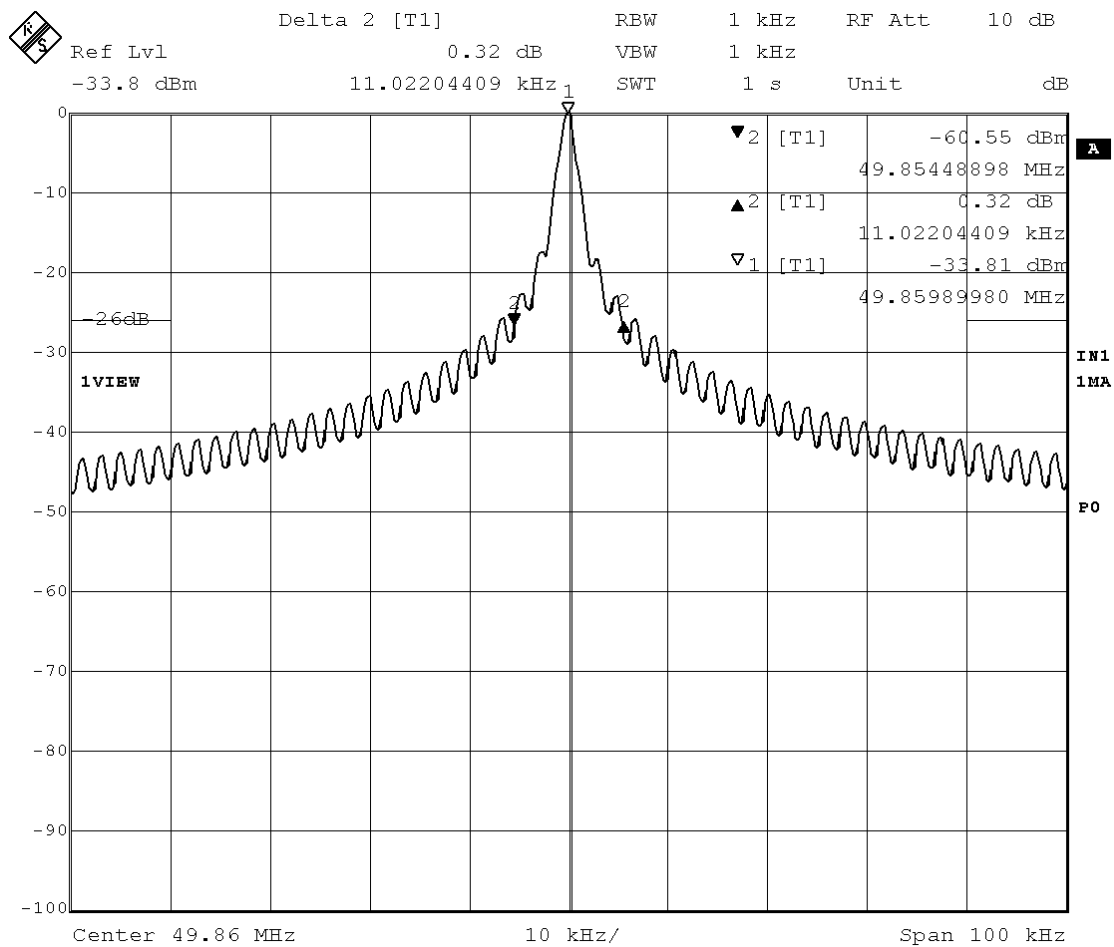
Tested by : M. Takahashi
Masanori Takahashi
Testing Engineer

Emission Limitation

FCC ID : CVT0517T

Model : 0517T

Mode of EUT : Forward

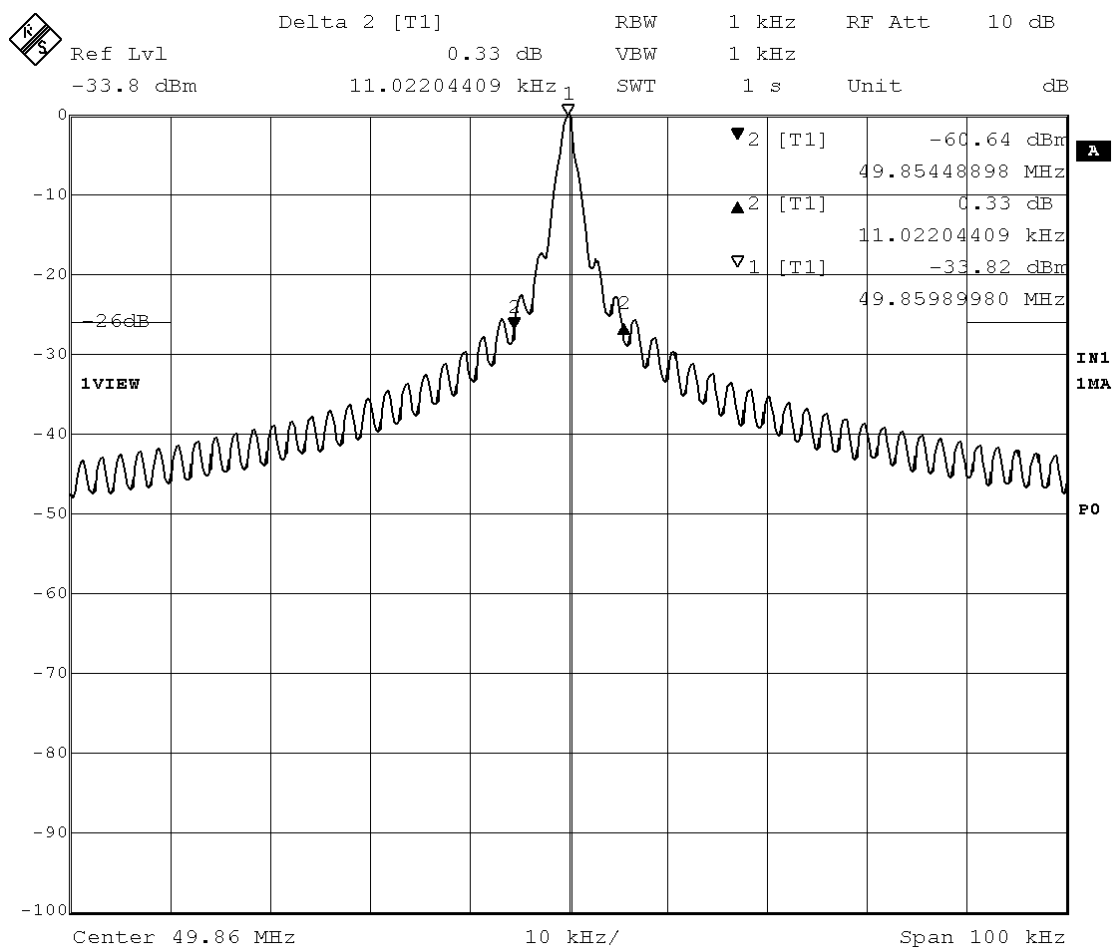


Emission Limitation

FCC ID : CVT0517T

Model : 0517T

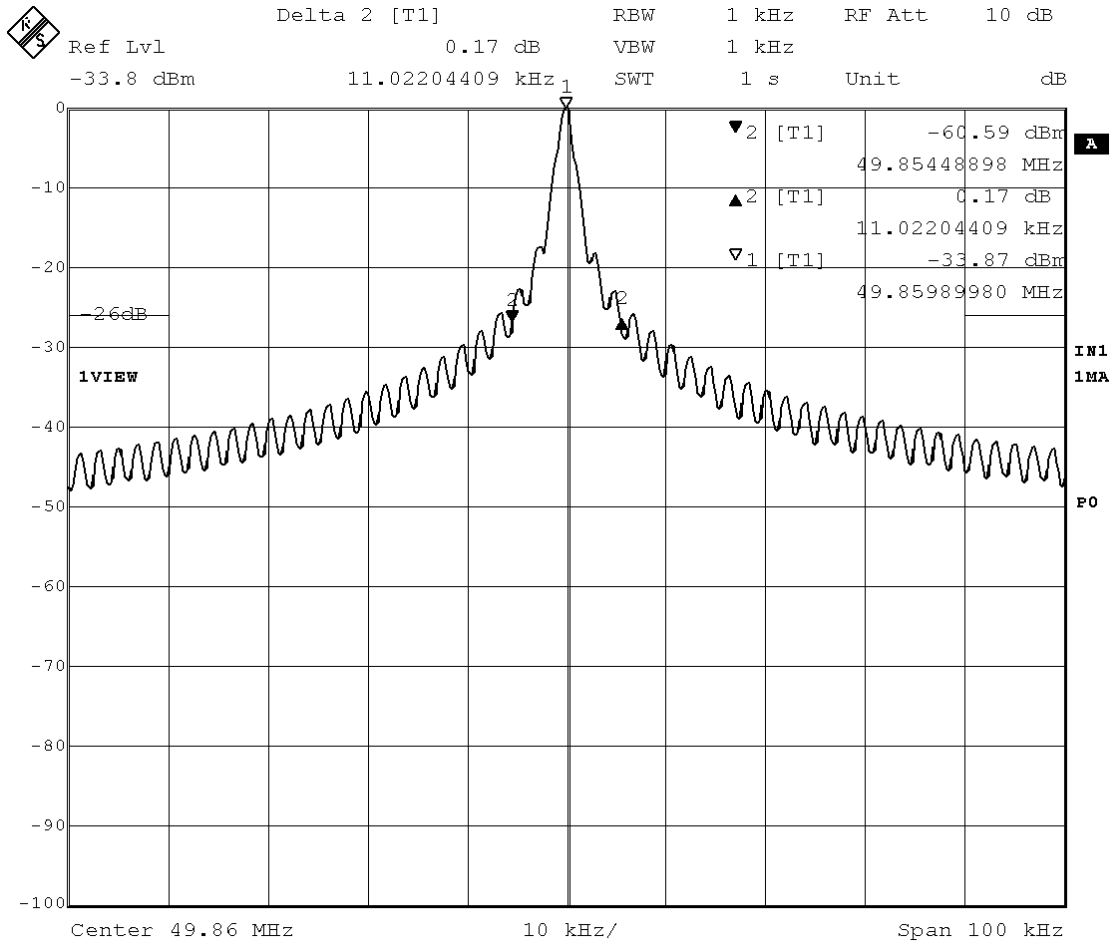
Mode of EUT : Forward Left



Emission Limitation

FCC ID : CVT0517T
 Model : 0517T

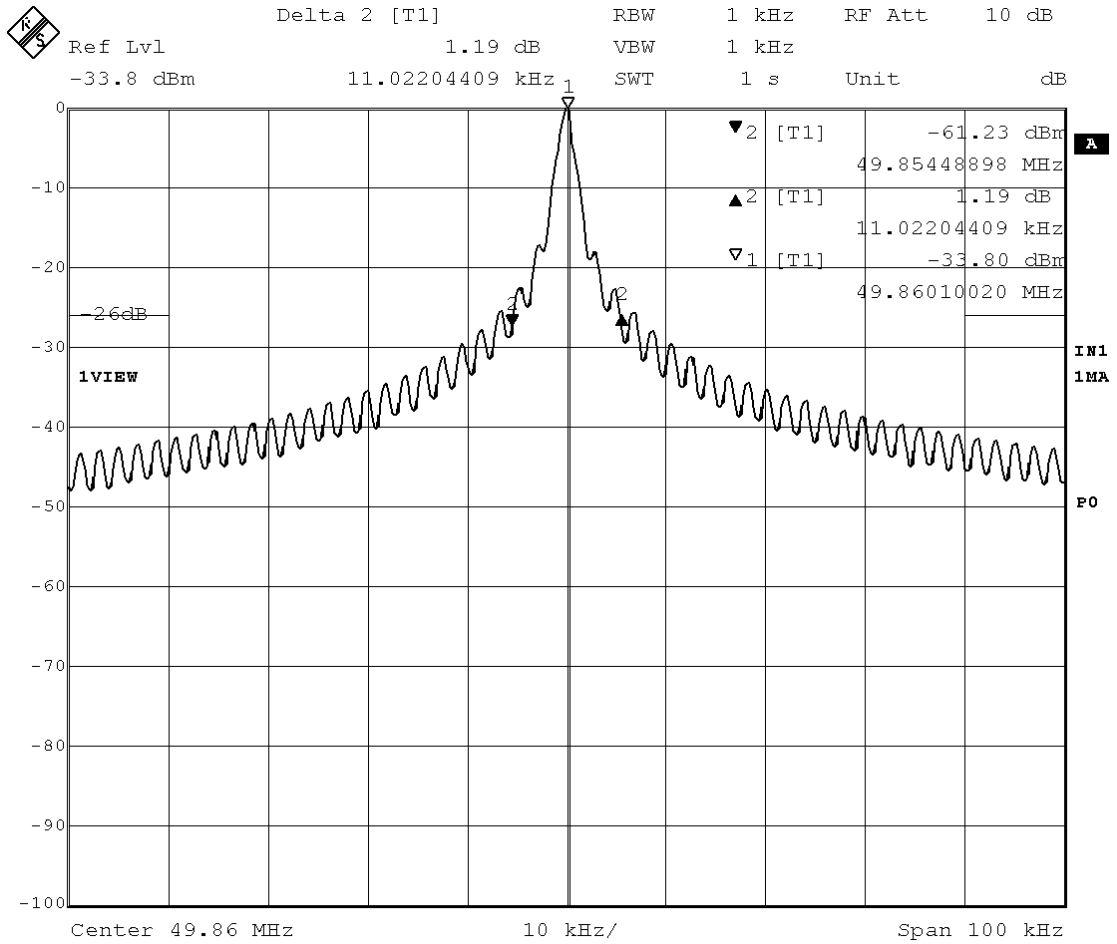
Mode of EUT : Forward Right



Emission Limitation

FCC ID : CVT0517T
 Model : 0517T

Mode of EUT : Reverse

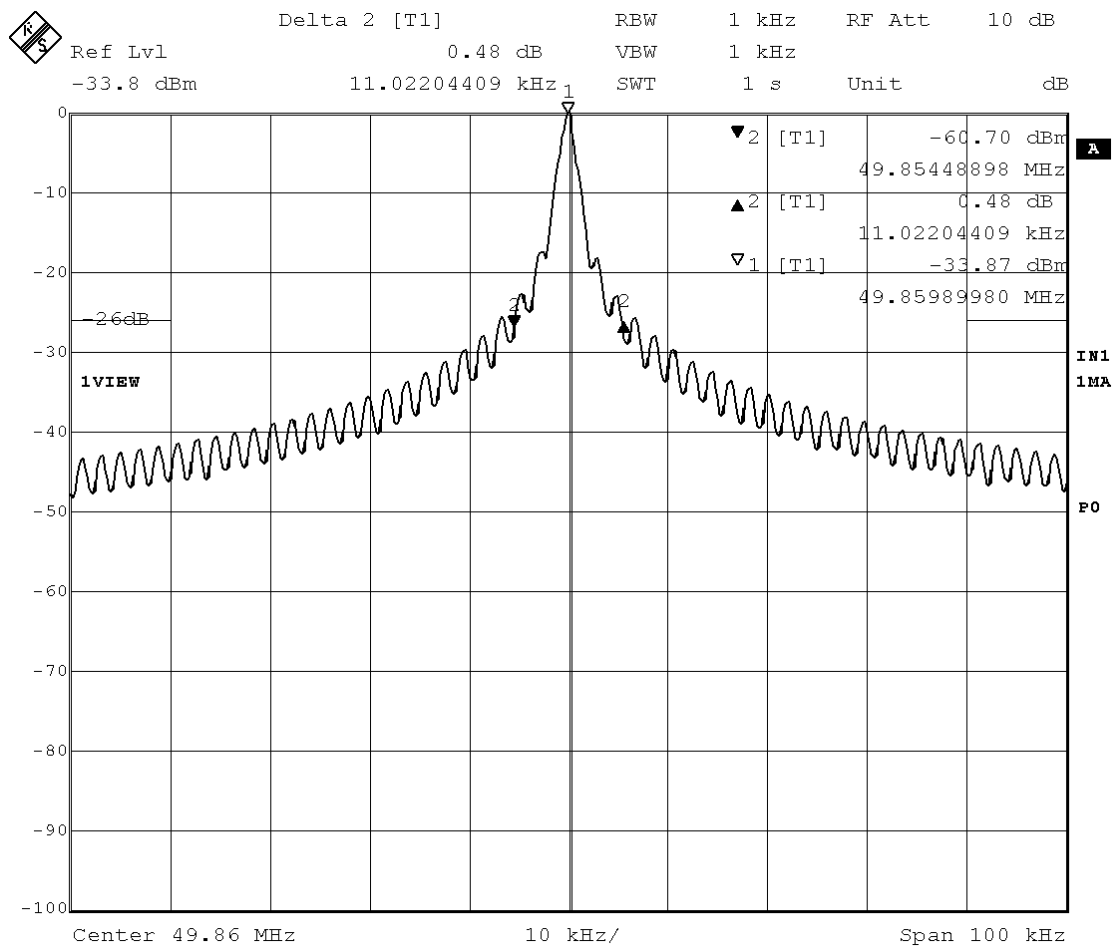


Emission Limitation

FCC ID : CVT0517T

Model : 0517T

Mode of EUT : Reverse Left

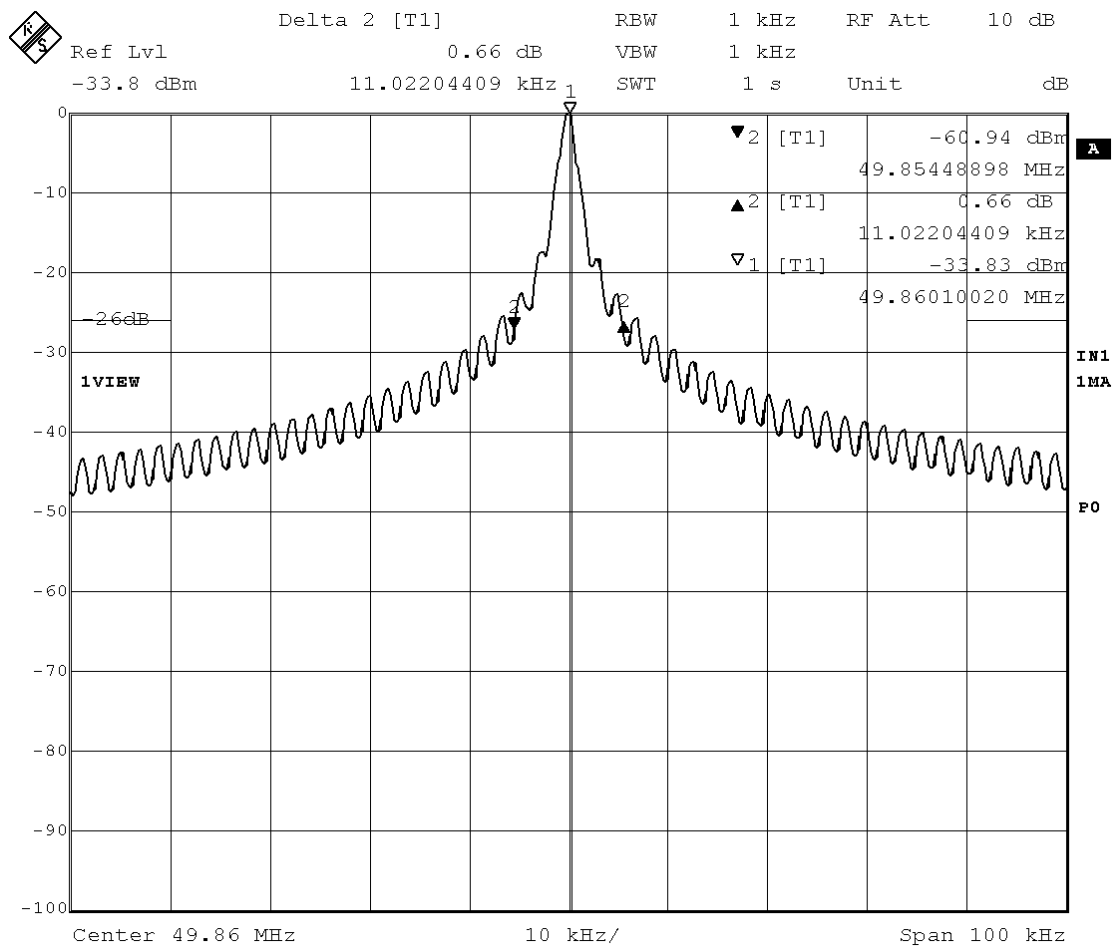


Emission Limitation

FCC ID : CVT0517T

Model : 0517T

Mode of EUT : Reverse Right

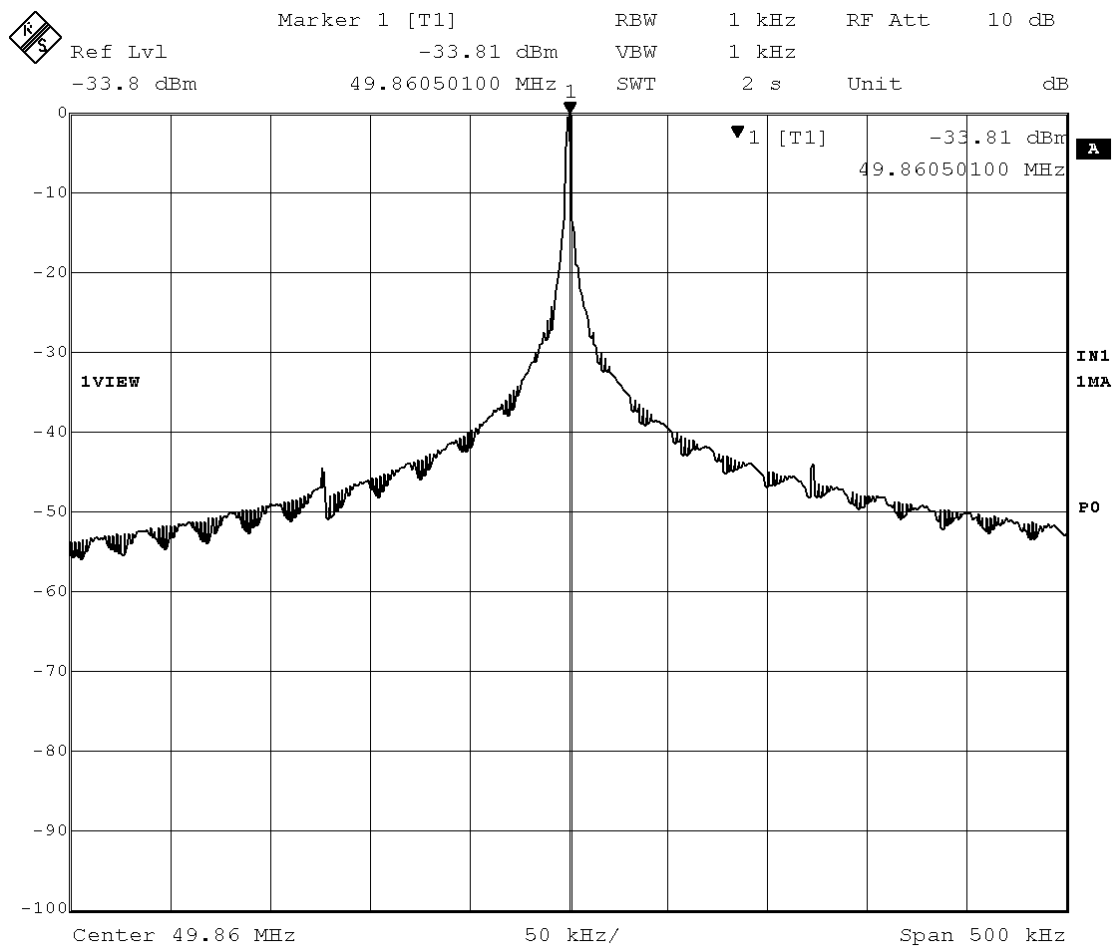


Emission Limitation

FCC ID : CVT0517T

Model : 0517T

Mode of EUT : Reverse Right



Appendix

Test Instruments List

							30-Jan-2006
No	Type	Model	Manufacturer	Serial	ID	Last Cal.	Interval
<u>Test Facilities:</u>							
1	Anechoic Chamber A	-	TDK	-	800-01-502E0	Mar 2005	1 Year
2	Anechoic Chamber B	-	TDK	-	800-01-503E0	Mar 2005	1 Year
3	Shield Room A	-	TDK	-	800-01-501E0	-	-
4	Shield Room B	-	Ray Proof	-	800-01-010E0	-	-
5	Shield Room C	-	TDK	-	800-01-504E0	-	-
6	Shield Room D	-	Emerson	-	800-01-022E0	-	-
7	Shield Room E	-	TDK	-	800-01-505E0	-	-
<u>Measuring Instruments:</u>							
8	Test Receiver	ESH2	Rohde & Schwarz	880370/016	119-01-503E0	May 2005	1 Year
9	Test Receiver	ESH3	Rohde & Schwarz	881460/030	119-01-023E0	May 2005	1 Year
10	Test Receiver	ESHS10	Rohde & Schwarz	835871/004	119-01-505E0	Apr 2005	1 Year
11	Test Receiver	ESVS10	Rohde & Schwarz	826148/002	119-03-504E0	Apr 2005	1 Year
12	Test Receiver	ESVS10	Rohde & Schwarz	832699/001	119-03-506E0	Apr 2005	1 Year
13	Test Receiver	ESI26	Rohde & Schwarz	100043	119-03-511E0	Aug 2005	1 Year
14	Spectrum Analyzer	R3182	Advantest	120600581	122-02-521E0	Mar 2005	1 Year
15	Spectrum Analyzer	8566B	Hewlett Packard	2140A01091	122-02-501E0	Oct 2005	1 Year
16	RF Pre-selector	85685A	Hewlett Packard	2648A00522	122-02-503E0	Oct 2005	1 Year
17	Spectrum Analyzer	8566B	Hewlett Packard	2747A05855	122-02-517E0	Apr 2005	1 Year
18	RF Pre-selector	85685A	Hewlett Packard	2901A00933	122-02-519E0	Apr 2005	1 Year
19	Spectrum Analyzer	R3132	Advantest	120500072	122-02-520E0	Sep 2005	1 Year
20	Spectrum Analyzer	R3132	Advantest	150400998	122-02-523E0	Jul 2005	1 Year
65	Power Meter	436A	Hewlett Packard	1725A01930	100-02-501E0	Apr 2005	1 Year
66	Power Sensor	8482A	Hewlett Packard	1551A01013	100-02-501E0	Apr 2005	1 Year
67	Power Sensor	8485A	Hewlett Packard	2942A08969	100-04-021E0	Apr 2005	1 Year
68	FM Linear Detector	MS61A	Anritsu	M77486	123-02-008E0	Oct 2005	1 Year
69	Level Meter	ML422C	Anritsu	M87571	114-02-501E0	Jun 2005	1 Year
70	Measuring Amplifier	2636	B & K	1614851	082-01-502E0	May 2005	1 Year
75	Frequency Counter	53131A	Hewlett Packard	3546A11807	102-02-075E0	May 2005	1 Year
83	FFT Analyzer	R9211C	Advantest	02020253	122-02-506E0	Jun 2005	1 Year
84	Noise Meter	MN-446	Meguro	53030478	082-01-144E0	Apr 2005	1 Year
86	Peak Power Analyzer	8990A/84815A	Hewlett Packard	3220A00486/ 3227A00118	100-02-016E0	Apr 2005	1 Year
<u>Antennas:</u>							
21	Loop Antenna	HFH2-Z2	Rohde & Schwarz	881058/62	119-05-033E0	May 2005	1 Year
22	Dipole Antenna	KBA-511	Kyoritsu	0-170-1	119-05-506E0	Oct 2005	1 Year
23	Dipole Antenna	KBA-511A	Kyoritsu	0-201-13	119-05-504E0	Oct 2005	1 Year
24	Dipole Antenna	KBA-611	Kyoritsu	0-147-14	119-05-507E0	Oct 2005	1 Year
25	Dipole Antenna	KBA-611	Kyoritsu	0-170-1	119-05-505E0	Oct 2005	1 Year
26	Biconical Antenna	BBA9106	Schwarzbeck	VHA91031150	119-05-111E0	Nov 2005	1 Year
27	Biconical Antenna	BBA9106	Schwarzbeck	-	119-05-078E0	Nov 2005	1 Year
28	Log-peri. Antenna	UHALP9107	Schwarzbeck	-	119-05-079E0	Nov 2005	1 Year
29	Log-peri. Antenna	UHALP9107	Schwarzbeck	-	119-05-110E0	Nov 2005	1 Year
30	Log-peri. Antenna	HL025	Rohde & Schwarz	340182/015	119-05-100E0	Jan 2006	1 Year
31	Horn Antenna	3115	EMC Test Systems	6442	119-05-514E0	Jan 2006	2 Year
32	Horn Antenna	3116	EMC Test Systems	2547	119-05-515E0	May 2005	2 Year

							30-Jan-2006
No	Type	Model	Manufacturer	Serial	ID	Last Cal.	Interval
<u>Cables:</u>							
38	RF Cable	5D-2W	Fujikura	-	155-21-001E0	Feb 2005	1 Year
39	RF Cable	5D-2W	Fujikura	-	155-21-002E0	Feb 2005	1 Year
40	RF Cable	3D-2W	Fujikura	-	155-21-005E0	Apr 2005	1 Year
41	RF Cable	3D-2W	Fujikura	-	155-21-006E0	Apr 2005	1 Year
42	RF Cable	3D-2W	Fujikura	-	155-21-007E0	Apr 2005	1 Year
43	RF Cable	RG213/U	Rohde & Schwarz	-	155-21-010E0	Apr 2005	1 Year
44	RF Cable(10m)	S 04272B	Suhner	-	155-21-011E0	May 2005	1 Year
45	RF Cable(1.5m 18GHz)	S 04272B	Suhner	-	155-21-012E0	May 2005	1 Year
46	RF Cable(1m 18GHz)	SUCOFLEX	Suhner	-	155-21-013E0	May 2005	1 Year
47	RF Cable(1m N)	S 04272B	Suhner	-	155-21-015E0	Jun 2005	1 Year
48	RF Cable(1m 26GHz)	SUCOFLEX 104E	Suhner	14543/4E	155-21-016E0	Dec 2005	1 Year
49	RF Cable(4m 26GHz)	SUCOFLEX	Suhner	190630	155-21-017E0	Dec 2005	1 Year
50	RF Cable(10m)	F130-S1S1-394	MEGA PHASE	10510	155-21-018E0	Dec 2005	1 Year
51	RF Cable(7m)	3D-2W	Fujikura	-	155-21-009E0	Apr 2005	1 Year
52	RF Cable(7m)	RG223/U	Suhner	-	155-21-021E0	May 2005	1 Year
140	RF Cable(0.5m)	G 04233 D-10	Suhner	-	155-21-022E0	Jun 2005	1 Year
<u>Networks:</u>							
33	LISN	KNW-407	Kyoritsu	8-833-6	149-04-052E0	Apr 2005	1 Year
34	LISN	KNW-407	Kyoritsu	8-855-2	149-04-055E0	Apr 2005	1 Year
35	LISN	KNW-407	Kyoritsu	8-1130-6	149-04-092E0	Apr 2005	1 Year
36	LISN	KNW-242C	Kyoritsu	8-837-13	149-04-054E0	Apr 2005	1 Year
37	Absorbing Clamp	MDS21	Luthi	03293	119-06-506E0	Aug 2005	1 Year
<u>Amplifiers:</u>							
53	AF Amplifier	P-500L	Accuphase	BOY806	127-01-501E0	Feb 2005	1 Year
54	RF Amplifier	WJ-6882-814	Watkins-Johnson	0414	127-04-017E0	Jun 2005	1 Year
55	RF Amplifier	WJ-5315-556	Watkins-Johnson	106	127-04-006E0	Jun 2005	1 Year
56	RF Amplifier	WJ-5320-307	Watkins-Johnson	645	127-04-005E0	Jun 2005	1 Year
57	RF Amplifier	JS4-00102600-28-5A	MITEQ	669167	127-04-502E0	Apr 2005	1 Year
<u>Generators:</u>							
58	Function Generator	3325B	Hewlett Packard	2847A03284	118-08-124E0	Jul 2005	1 Year
59	Function Generator	VP-7422A	Matsushita Communication	050351E122	118-08-503E0	Jul 2005	1 Year
60	Signal Generator	8664A	Hewlett Packard	3035A00140	118-03-014E0	Jun 2005	1 Year
61	Signal Generator	8664A	Hewlett Packard	3438A00756	118-04-502E0	Jun 2005	1 Year
62	Signal Generator	6061A	Gigatronics	5130593	118-04-024E0	Mar 2005	1 Year
141	TV Pattern Generator	PM5418TNSI	Philips Consumer	LO609096	118-06-101E0	Oct 2005	1 Year
142	TV Signal Generator	LSG-221B	Leader	9070008	118-03-011E0	Jun 2005	1 Year
143	TV Signal Generator	LSG-221B	Leader	0957702	118-03-015E0	Jun 2005	1 Year
144	IRE RF Standard 463 Signal Generator		Shibasoku	M-61231	118-06-015E0	Jun 2005	1 Year
145	OFDM IF Modulator	3509A-001	Eiden Co., Ltd.	EC93522	118-06-504E0	Nov 2005	1 Year
146	DVB-T Modulator	3500BB-002	Eiden Co., Ltd.	EC93527	118-06-505E0	Nov 2005	1 Year
147	8VSB Modulator	3313B-002	Eiden Co.	EC93339	118-06-506E0	Nov 2005	1 Year
148	QAM Modulator	3317C-BJ2	Eiden Co.	EC93516	118-06-507E0	Nov 2005	1 Year
149	All Channel up Converter	4222A-002	Eiden Co.	EC93510	118-06-508E0	Nov 2005	1 Year

							30-Jan-2006
No	Type	Model	Manufacturer	Serial	ID	Last Cal.	Interval
Others:							
63	Termination(50)	-	Suhner	-	154-06-501E0	Jan 2006	1 Year
64	Termination(50)	-	Suhner	-	154-06-502E0	Jan 2006	1 Year
71	Microphone	4134	B & K	1253497	147-01-502E0	May 2005	1 Year
72	Preamplifier	2639	B & K	1268763	127-01-504E0	-	-
73	Pistonphone	4220	B & K	1165008	147-02-501E0	Mar 2005	1 Year
74	Artificial Mouth	4227	B & K	1274869	-	-	-
76	Oven	-	Ohnishi	-	023-02-018E0	May 2005	1 Year
77	DC Power Supply	6628A	Hewlett Packard	3224A00284	072-05-503E0	Jun 2005	1 Year
78	Band RejectFilter	BRM12294	Micro-tronics	003	149-01-501E0	Jan 2006	1 Year
79	High Pass Filter	F-100-4000-5-R	RLC Electronics	0149	149-01-502E0	Feb 2005	1 Year
80	Attenuator	43KC-10	Anritsu	-	148-03-506E0	Feb 2005	1 Year
81	Attenuator	43KC-20	Anritsu	-	148-03-507E0	Feb 2005	1 Year
82	Attenuator	355D	Hewlett Packard	219-10782	148-03-065E0	Apr 2005	1 Year
85	RF Detector	75KC-50	Anritsu	305002	100-02-506E0	Jul 2005	1 Year
150	Matching Pad	ZT-130	Tamagawa	1013366	155-03-504E0	Jun 2005	1 Year
151	Matching Pad	ZT-130	Tamagawa	1013367	155-03-505E0	Jun 2005	1 Year
152	Matching Pad	12N50/75B	Wiltron	93008	155-03-062E0	Jun 2005	1 Year
153	Attenuation Pad	UFA-01	Tamagawa	-	148-03-511E0	Jun 2005	1 Year
154	Attenuation Pad	1-10	Weinschel	AU1302	148-03-110E0	Jun 2005	1 Year
155	Attenuation Pad	1-6	Weinschel	AD8054	148-03-069E0	Jun 2005	1 Year
156	Combining Network	1870A	Weinschel	635A	086-02-016E0	Jun 2005	1 Year
157	Electronic Polymeter	PM-20	TOA Denpa Kogyo	C58214	114-01-003E0	Jun 2005	1 Year
158	400Hz Band Pass Filter	-	JEIC	-	149-02-016E0	Nov 2005	1 Year
159	Automatic Noise Figure Indicator	ENF-2005	ELENA Electronics	79436	118-17-501E0	Feb 2005	1 Year
160	Solid-state Noise Source	MC1100	Microwave Semiconductor	998	118-17-501E0	Feb 2005	1 Year
161	Isolation Transformer	KIT-5601	Kyoritsu	8-1520-2	155-03-502E0	Jul 2005	1 Year
162	Isolation Transformer	D-65396	Erika Fiedler	32	155-03-506E0	Jul 2005	1 Year