



## **EMI TEST REPORT**

JQA APPLICATION NO. : 400-40418  
Model No. : RP6440H  
Type of Equipment : Radio Controlled Toy  
(Superregenerative Type)  
Regulations Applied : CFR 47 FCC Rules and Regulations Part 15  
FCC ID : CVTRP6440H  
Applicant : NIKKO CO., LTD.  
Address : 1-7-14, Mizumoto, Katsushika-ku,  
Tokyo 125-0032, Japan  
Manufacturer : NIKKO TEC INTERNATIONAL LTD.  
Address : Rm. 601-603, Houston Center, 63, Mody Road,  
Tsimshatsui East, Kowloon, Hong Kong  
Received date of EUT : August 18, 2004  
**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 B Superregenerative Receiver

#### **Test procedure :**

AC power line conducted emission, radiated emission and antenna conducted power tests were performed according to the procedures in ANSI C63.4-2001.

### **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.

Expiration date of FCC test facility filing : May 27, 2005

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 (Effective through : June 30, 2005)

#### **1.2.2 Description of the Equipment Under Test (EUT) :**

|                                      |   |                            |
|--------------------------------------|---|----------------------------|
| 1) Type of Equipment                 | : | Radio Controlled Toy       |
| 2) Product Type                      | : | Production                 |
| 3) Category                          | : | Superregenerative Receiver |
| 4) EUT Authorization                 | : | Certification              |
| 5) FCC ID                            | : | CVTRP6440HH                |
| 6) Trade Name                        | : | NIKKO                      |
| 7) Model No.                         | : | RP6440H                    |
| 8) Tuning Frequency Range            | : | 49.830 MHz - 49.890 MHz    |
| 9) Highest Frequency Used in the EUT | : | -                          |
| 10) Serial No.                       | : | None                       |
| 11) Date of Manufacture              | : | July, 2004                 |
| 12) Power Rating                     | : | 9.6VDC (Battery pack)      |
| 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.  
x - 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<br>(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(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

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

**Validation of Site Attenuation :**

1) Last Confirmed Date :March, 2004  
2) Interval :1 year

**Used test instruments :**

| Type             | Number of test instruments<br>(Refer to Appendix) |
|------------------|---|
| Test Receiver    | TR05  |
| Antenna          | AN03, AN07, AN09                                  |
| Cable            | CA02  |
| RF Amplifier     | N/A   |
| Signal Generator | SG05  |

**1.3.3 The measurement of the Radiated Emission(Above 1000 MHz)**

       - was performed in the following test site.  
x - 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, 2004
- 2) Interval :1 year

**Used test instruments :**

| Type              | Number of test instruments<br>(Refer to Appendix) |
|-------------------|---|
| Test Receiver     | N/A   |
| Spectrum Analyzer | N/A   |
| Cable             | N/A   |
| Antenna           | N/A   |
| RF Amplifier      | N/A   |

**1.3.4 The measurement of the Antenna Conducted Power**

       - was performed in the following test site.  
x - 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<br>(Refer to Appendix) |
|-------------------|---|
| Test Receiver     | N/A   |
| Spectrum Analyzer | N/A   |
| Cable             | N/A   |
| RF Amplifier      | N/A   |



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## 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:

\_\_\_\_\_

\_\_\_\_\_



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**1.5 TEST RESULTS / UNCERTAINTY****AC Power Line Conducted Emission** - Applicable  - NOT Applicable

The requirements are

 - PASSED - NOT PASSED

Min. Limit Margin

dB

at

MHz

Max. Limit Exceeding

dB

at

MHz

Uncertainty of Measurement Results

+/- 2.4 dB (level of confidence:95%)

**Remarks :****Radiated Emission [§15.109(a)]** - Applicable  - NOT Applicable

The requirements are

 - PASSED - NOT PASSED

Min. Limit Margin

21.5 dB

at

198.11 MHz

Max. Limit Exceeding

dB

at

MHz

Uncertainty of Measurement Results

+/- 3.8 dB (level of confidence:95%)

Biconical Antenna

+/- 4.7 dB (level of confidence:95%)

Log-Periodic Antenna

+/- 3.4 dB (level of confidence:95%)

Half Wave Dipole Antenna

**Remarks:****Antenna Conducted Power [§15.111]** - Applicable  - NOT Applicable

The requirements are

 - PASSED - NOT PASSED

Min. Limit Margin

dB

at

MHz

Max. Limit Exceeding

dB

at

MHz

Uncertainty of Measurement Results

+/- 2.1 dB (level of confidence:95%)

**Remarks:**

**1.6 SUMMARY****General Remarks :**

The EUT was tested according to the requirements of FCC Rules and Regulations Part 15 Subpart A and B 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;

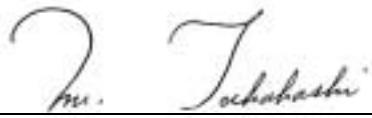
- x - fulfill the test requirements of the regulation mentioned on clause 1.1.
- fulfill the test requirements of the regulation mentioned on clause 1.1, but with certain qualifications.
- doesn't fulfill the test regulation mentioned on clause 1.1.

Begin of testing : August 31, 2004

End of testing : September 3, 2004

- JAPAN QUALITY ASSURANCE ORGANIZATION -

Approved by:



Masaaki Takahashi  
Senior Manager  
JQA EMC Engineering Dept.

Signatories:

Issued by:



Shigeru Osawa  
Assistant Manager  
JQA EMC Engineering Dept.



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## 1.7 TEST CONFIGURATION / OPERATION OF EUT

### 1.7.1 Test Configuration

**The equipment under test (EUT) consists of :**

| Symbol | Item                 | Manufacturer                    | Model No. | FCC ID     | Serial No. |
|--------|----------------------|---------------------------------|-----------|------------|------------|
| A      | Radio Controlled Toy | NIKKO TEC<br>INTERNATIONAL LTD. | RP6440H   | CVTRP6440H | None       |

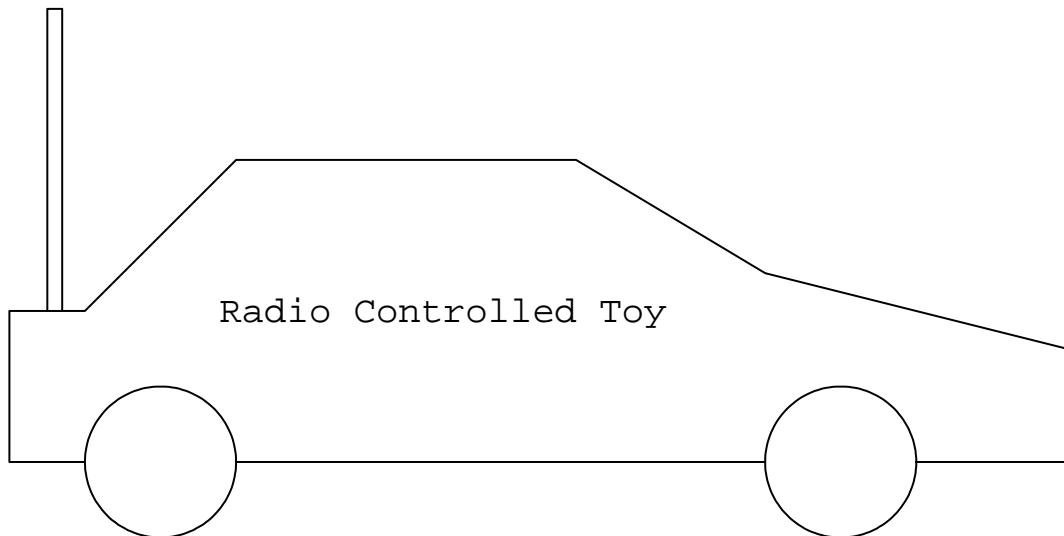
### 1.7.2 Operating condition

Power supply Voltage : 9.6VDC (Battery Pack)

The tests have been carried out under the receiving condition.

### 1.7.3 Generating and Operating frequency of EUT

N/A

**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) :**

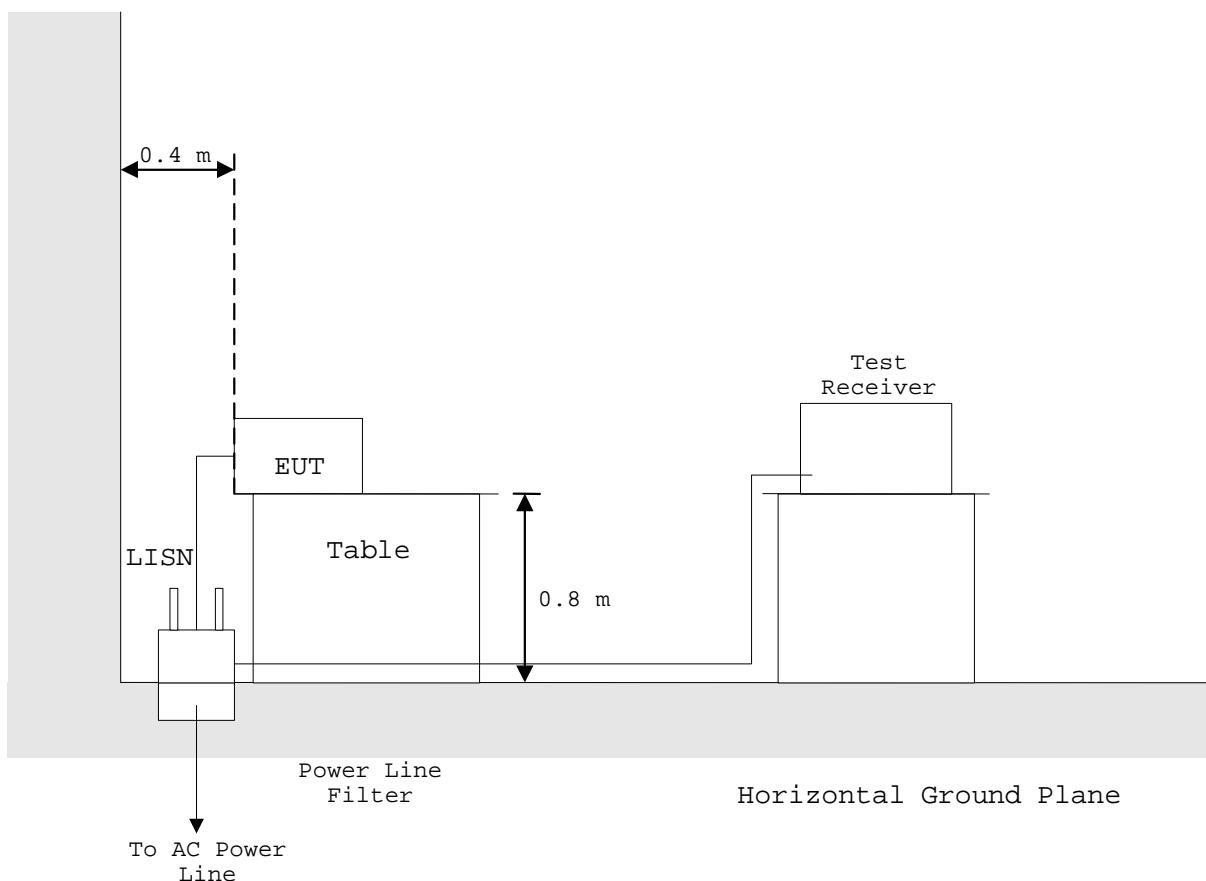
According to description of ANSI C63.4-2001 sec.7.2.3, the AC power line preliminary conducted emissions measurements were carried out.

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 ( 30 MHz - 1000 MHz) :**

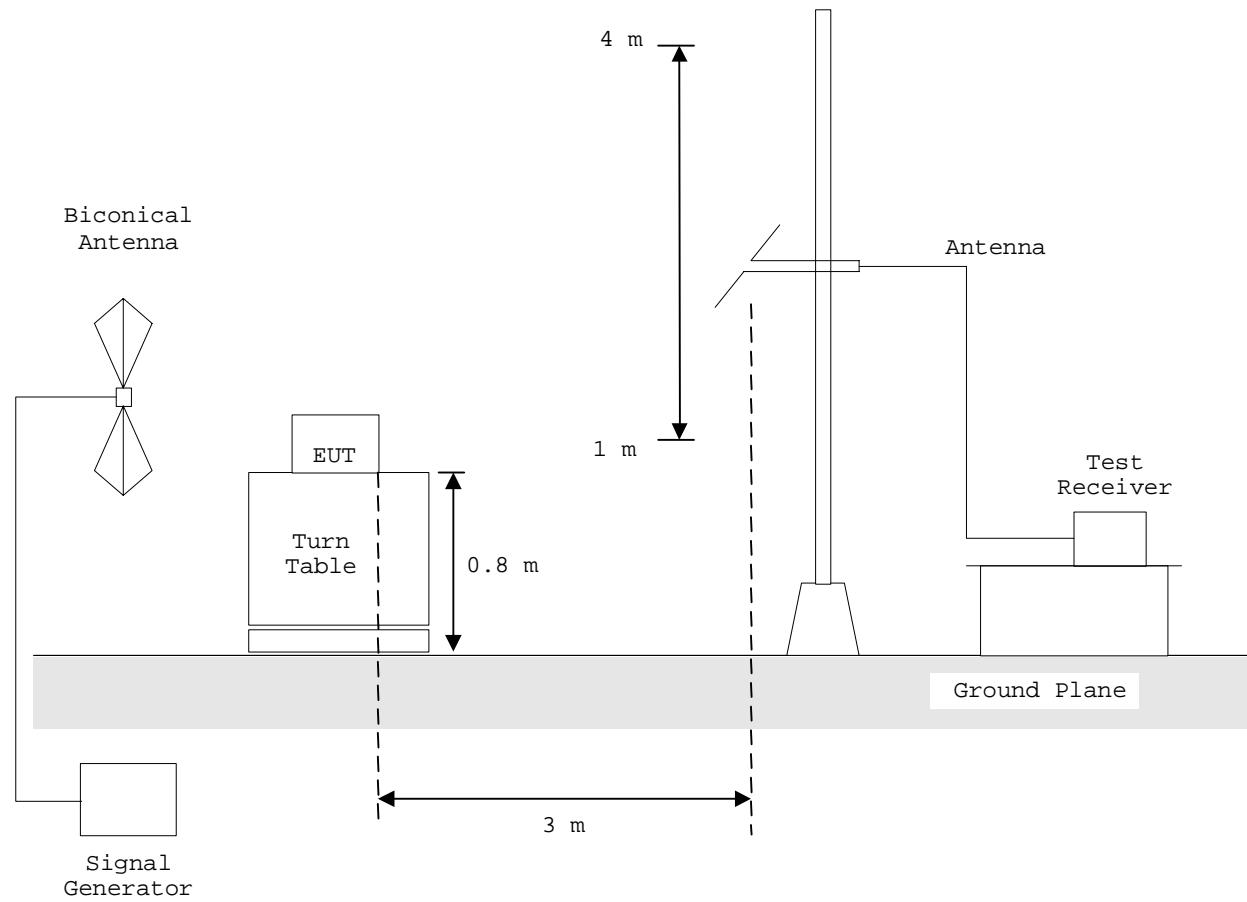
According to description of ANSI C63.4-2001 sec.8.3.1.1, the preliminary radiated emissions measurements were carried out. The preliminary radiated measurements were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT.

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.

The EUT is a superregenerative receiver. The radiated measurements were carried out according to ANSI C63.4-2001 sec.12.1.1.1. Refer to the "cohere" plot below.

Signal Generator Frequency : 49.86 MHz

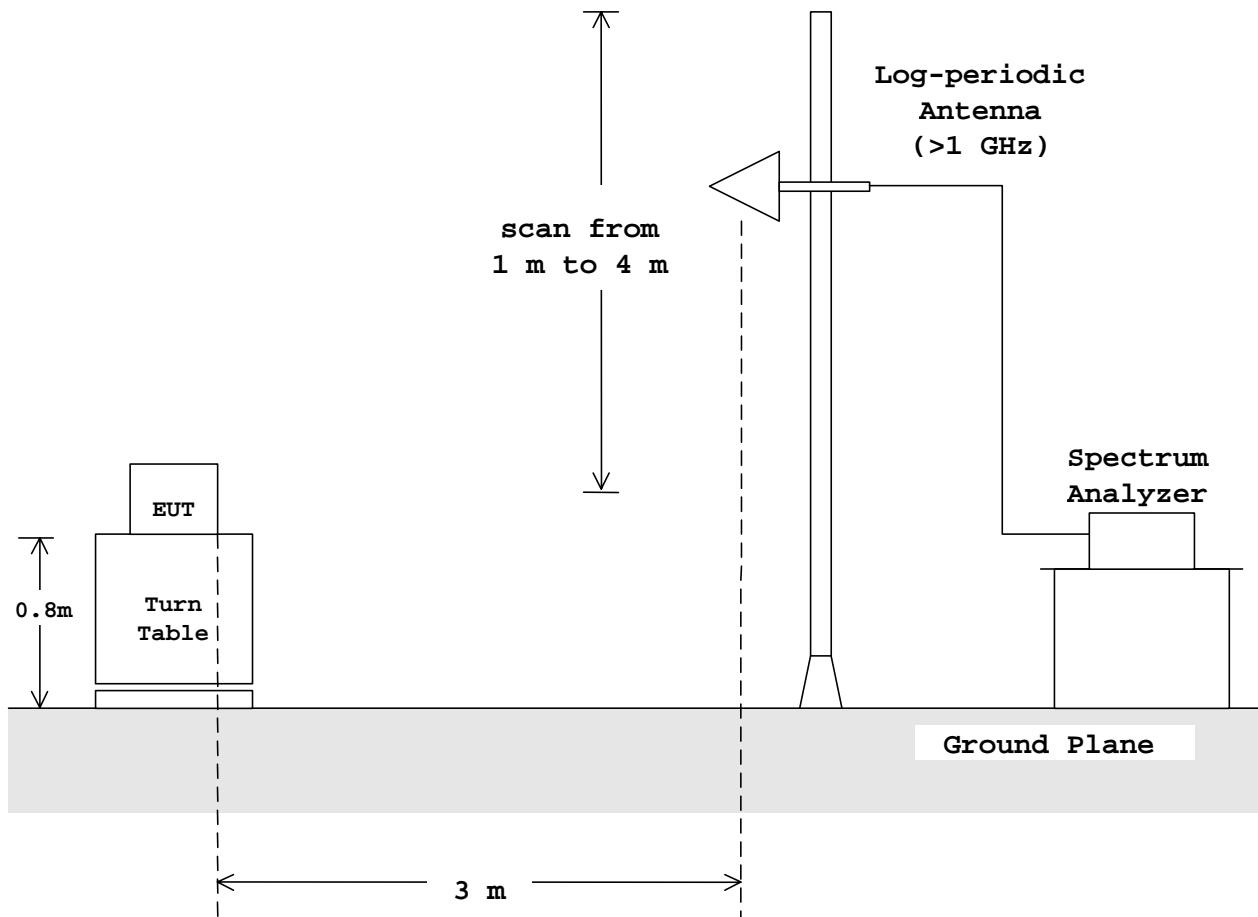
Signal Generator Output Level : -40 dBm

**Anechoic Chamber****- Side View -**

**1.9.3 Radiated Emission (Above 1 GHz) :**

According to description of ANSI C63.4-2001 sec.8.3.1.1, 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.

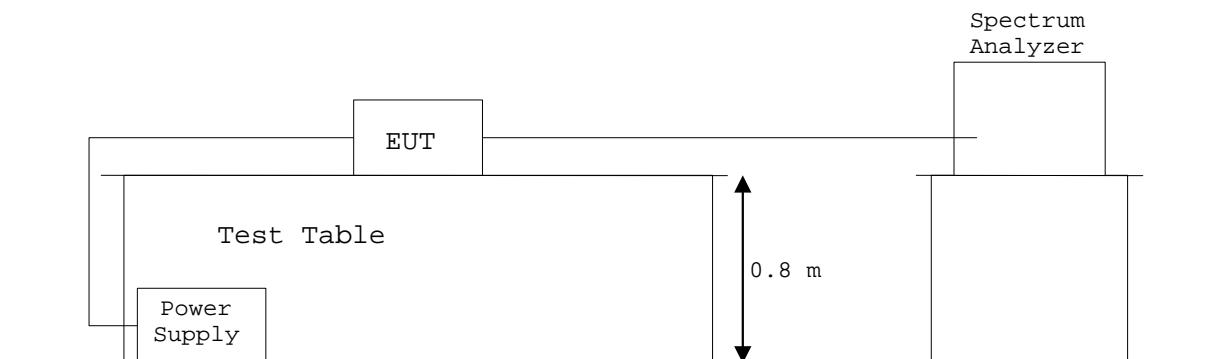
The EUT configuration, cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for the final radiated emissions measurements.

**Anechoic Chamber****- Side View -**

**1.9.4 Antenna Conducted Power :**

According to description of ANSI C63.4-2001 sec.12.1.5, the antenna conducted power measurements were carried out.

Antenna-conducted power measurements shall be performed with the EUT antenna terminals connected directly to either a spectrum analyzer or another measuring instrument, if the antenna impedance matches the impedance of the measuring instrument. Otherwise, use a balun or impedance-matching network to connect the measuring instrument to antenna terminals of the EUT. Losses in decibels in any balun or impedance-matching network used shall be added to the measured value in dB $\mu$ V.

**Shielded Enclosure****- Side View -**

**1.10 TEST ARRANGEMENT (PHOTOGRAPHS)****PHOTOGRAPHS OF EUT CONFIGURATION FOR RADIATED EMISSIONS MEASUREMENT**

Photograph present configuration with maximum emission





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## 2 TEST DATA

### 2.1 AC Power Line Conducted Emissions

Note : This test was not applicable.

### 2.2 Radiated Emissions Measurement

Tuning Frequency : 49.86 MHz

Distance of Measurement : 3.0 meters

Date : September 3, 2004

Temp. : 24 °C Humi. : 62 %

| Frequency (MHz) | P-A Factor (dB) | Correction 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         |      |
| 30.00           | 0.0             | 15.4                   | V <          | 0.0                  | -  | -    | 40.0            | -    | <                        | 15.4 | -     | >            | 24.6 |
| 51.89           | 0.0             | 10.8                   | V            | 4.5                  | -  | -    | 40.0            | -    | 15.3                     | -    | 24.7  | -            | -    |
| 54.76           | 0.0             | 9.8                    | V            | 4.9                  | -  | -    | 40.0            | -    | 14.7                     | -    | 25.3  | -            | -    |
| 91.20           | 0.0             | 9.7                    | V            | 5.0                  | -  | -    | 43.5            | -    | 14.7                     | -    | 28.8  | -            | -    |
| 143.12          | 0.0             | 15.5                   | H            | 0.9                  | -  | -    | 43.5            | -    | 16.4                     | -    | 27.1  | -            | -    |
| 198.11          | 0.0             | 17.8                   | H            | 4.2                  | -  | -    | 43.5            | -    | 22.0                     | -    | 21.5  | -            | -    |
| 221.10          | 0.0             | 18.7                   | H            | 3.6                  | -  | -    | 46.0            | -    | 22.3                     | -    | 23.7  | -            | -    |

Notes :

- 1) The spectrum was checked from 30 MHz to 1000 MHz.
- 2) The cable loss, amp. gain and antenna factor are included

in the correction factor.

3) The symbol of "<"means "or less".

4) The symbol of ">"means "or greater".

5) A sample calculation(QP/AV) was made at 30 (MHz).

$$PA + Cf + Mr = 0 + 15.4 + 0 = 15.4 \text{ (dBuV/m)}$$

PA = Peak to Average Factor(P-A Factor)

Cf = Correction Factor

Mr = Meter Reading

6) Measuring Instrument Setting :

| <u>Detector function</u> | <u>Resolution</u> | <u>Bandwidth</u> | <u>Video Bandwidth</u> |
|--------------------------|-------------------|------------------|------------------------|
|--------------------------|-------------------|------------------|------------------------|

|                |         |   |  |
|----------------|---------|---|--|
| Quasi-peak(QP) | 120 kHz | - |  |
|----------------|---------|---|--|

|             |       |       |  |
|-------------|-------|-------|--|
| Average(AV) | 1 MHz | 10 Hz |  |
|-------------|-------|-------|--|

|      |       |       |  |
|------|-------|-------|--|
| Peak | 1 MHz | 1 MHz |  |
|------|-------|-------|--|

Tested by :

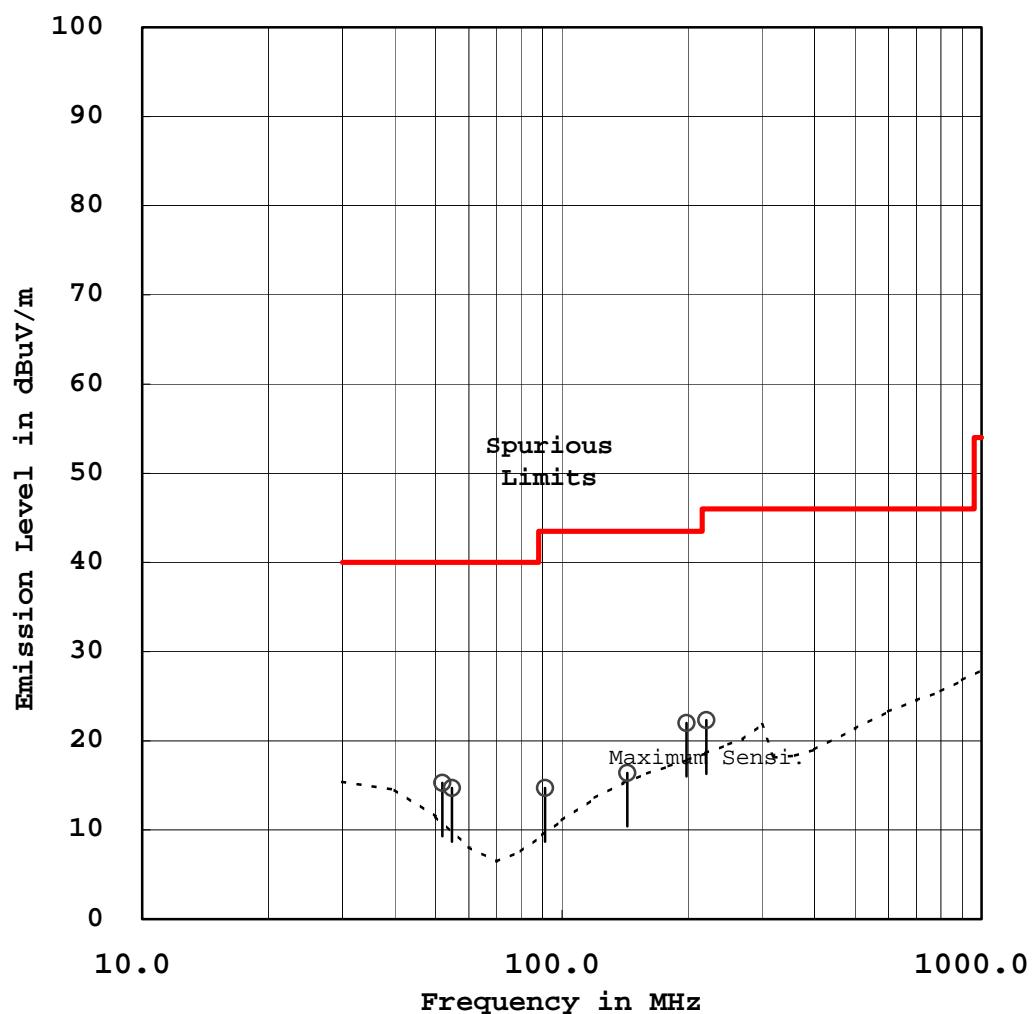
Masanori Takahashi

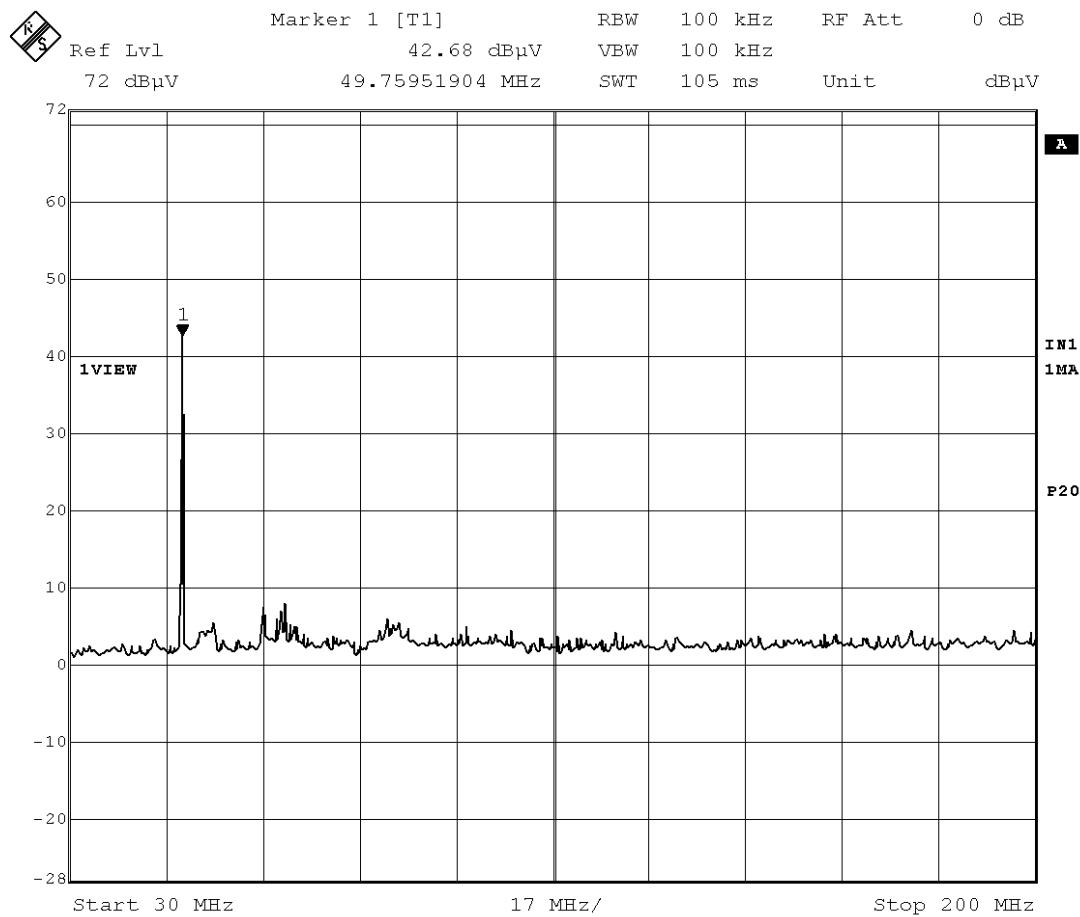
Testing Engineer

**RADIATED EMISSION MEASUREMENT**

Model No. : RP6440H

|                                     |                                |
|-------------------------------------|--------------------------------|
| Standard : CFR 47 FCC Rules Part 15 | <input type="checkbox"/> QP/AV |
| Tuning Frequency(MHz) : 49.86       |                                |



**Coherent Emission Plot****2.3 Antenna Conducted Power Measurement**

Note : This test was not applicable



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## Appendix

### Test Instruments List

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**Test Receivers**

| No.  | Type          | Model  | Manufacturer    | Serial     | ID           | Last Cal. | Interval |
|------|---------------|--------|-----------------|------------|--------------|-----------|----------|
| TR01 | Test Receiver | ESH2   | Rohde & Schwarz | 880370/016 | 119-01-503E0 | May 2004  | 1 Year   |
| TR02 | Test Receiver | ESH3   | Rohde & Schwarz | 881460/030 | 119-01-023E0 | May 2004  | 1 Year   |
| TR03 | Test Receiver | ESHS10 | Rohde & Schwarz | 835871/004 | 119-01-505E0 | May 2004  | 1 Year   |
| TR04 | Test Receiver | ESV    | Rohde & Schwarz | 872148/039 | 119-03-008E0 | May 2004  | 1 Year   |
| TR05 | Test Receiver | ESVS10 | Rohde & Schwarz | 826148/002 | 119-03-504E0 | May 2004  | 1 Year   |
| TR06 | Test Receiver | ESVS10 | Rohde & Schwarz | 832699/001 | 119-03-506E0 | May 2004  | 1 Year   |
| TR07 | Test Receiver | ESI26  | Rohde & Schwarz | 100043     | 119-04-511E0 | Aug. 2004 | 1 Year   |

**Spectrum Analyzers**

| No.  | Type              | Model  | Manufacturer    | Serial     | ID           | Last Cal. | Interval |
|------|-------------------|--------|-----------------|------------|--------------|-----------|----------|
| SA01 | Spectrum Analyzer | 8560E  | Hewlett Packard | 3240A00189 | 122-02-504E0 | Oct. 2003 | 1 Year   |
| SA02 | Spectrum Analyzer | 8566B  | Hewlett Packard | 2140A01091 | 122-02-501E0 | Oct. 2003 | 1 Year   |
| SA03 | RF Pre-selector   | 85685A | Hewlett Packard | 2648A00522 | 122-02-503E0 | Oct. 2003 | 1 Year   |
| SA04 | Spectrum Analyzer | 8566B  | Hewlett Packard | 2747A05855 | 122-02-517E0 | Apr. 2004 | 1 Year   |
| SA05 | RF Pre-selector   | 85685A | Hewlett Packard | 2901A00933 | 122-02-519E0 | Apr. 2004 | 1 Year   |
| SA06 | Spectrum Analyzer | R3132  | ADVANTEST       | 120500072  | 122-02-520E0 | Sep. 2003 | 1 Year   |
| SA07 | Spectrum Analyzer | R3182  | ADVANTEST       | 120600581  | 122-02-521E0 | Mar. 2004 | 1 Year   |

**Antennas**

| No.  | Type              | Model     | Manufacturer     | Serial      | ID           | Last Cal. | Interval |
|------|-------------------|-----------|------------------|-------------|--------------|-----------|----------|
| AN01 | Loop Antenna      | HFH2-Z2   | Rohde & Schwarz  | 881058/61   | 119-05-036E0 | May. 2004 | 1 Year   |
| AN02 | Dipole Antenna    | KBA-511   | Kyoritsu         | 0-170-1     | 119-05-506E0 | Nov. 2003 | 1 Year   |
| AN03 | Dipole Antenna    | KBA-511A  | Kyoritsu         | 0-201-13    | 119-05-504E0 | Nov. 2003 | 1 Year   |
| AN04 | Dipole Antenna    | KBA-611   | Kyoritsu         | 0-147-14    | 119-05-507E0 | Nov. 2003 | 1 Year   |
| AN05 | Dipole Antenna    | KBA-611   | Kyoritsu         | 0-210-5     | 119-05-505E0 | Nov. 2003 | 1 Year   |
| AN06 | Biconical Antenna | BBA9106   | Schwarzbeck      | VHA91031150 | 119-05-111E0 | Nov. 2003 | 1 Year   |
| AN07 | Biconical Antenna | BBA9106   | Schwarzbeck      | -           | 119-05-078E0 | Nov. 2003 | 1 Year   |
| AN08 | Log-peri. Antenna | UHALP9107 | Schwarzbeck      | -           | 119-05-079E0 | Nov. 2003 | 1 Year   |
| AN09 | Log-peri. Antenna | UHALP9107 | Schwarzbeck      | -           | 119-05-110E0 | Nov. 2003 | 1 Year   |
| AN10 | Log-peri. Antenna | HL025     | Rohde & Schwarz  | 340182/015  | 119-05-100E0 | Jan. 2004 | 1 Year   |
| AN11 | Horn Antenna      | 3115      | EMC Test Systems | 6442        | 119-05-514E0 | Jan. 2004 | 1 Year   |
| AN12 | Horn Antenna      | 3116      | EMC Test Systems | 2547        | 119-05-515E0 | May 2003  | 2 Year   |



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**Networks**

| No.  | Type            | Model    | Manufacturer | Serial   | ID           | Last Cal. | Interval |
|------|-----------------|----------|--------------|----------|--------------|-----------|----------|
| NE01 | LISN            | KNW-407  | Kyoritsu     | 8-833-6  | 149-04-052E0 | Apr. 2004 | 1 Year   |
| NE02 | LISN            | KNW-407  | Kyoritsu     | 8-855-2  | 149-04-055E0 | Apr. 2004 | 1 Year   |
| NE03 | LISN            | KNW-407  | Kyoritsu     | 8-1130-6 | 149-04-062E0 | Apr. 2004 | 1 Year   |
| NE04 | LISN            | KNW-242C | Kyoritsu     | 8-837-13 | 149-04-054E0 | Apr. 2004 | 1 Year   |
| NE05 | Absorbing Clamp | MDS21    | Luthi        | 03293    | 119-06-506E0 | Sep. 2003 | 1 Year   |

**Cables**

| No.  | Type               | Model         | Manufacturer    | Serial   | ID           | Last Cal. | Interval |
|------|--------------------|---------------|-----------------|----------|--------------|-----------|----------|
| CA01 | RF Cable           | 5D-2W         | Fujikura        | -        | 155-21-001E0 | Feb. 2004 | 1 Year   |
| CA02 | RF Cable           | 5D-2W         | Fujikura        | -        | 155-21-002E0 | Feb. 2004 | 1 Year   |
| CA03 | RF Cable           | 3D-2W         | Fujikura        | -        | 155-21-005E0 | Apr. 2004 | 1 Year   |
| CA04 | RF Cable           | 3D-2W         | Fujikura        | -        | 155-21-006E0 | Apr. 2004 | 1 Year   |
| CA05 | RF Cable           | 3D-2W         | Fujikura        | -        | 155-21-007E0 | Apr. 2004 | 1 Year   |
| CA06 | RF Cable           | RG213/U       | Rohde & Schwarz | -        | 155-21-010E0 | Apr. 2004 | 1 Year   |
| CA07 | RF Cable(10m)      | S 04272B      | Suhner          | -        | 155-21-011E0 | May 2004  | 1 Year   |
| CA08 | RF Cable(2m 18GHz) | SUCOFLEX 104  | Suhner          | -        | 155-21-012E0 | May 2004  | 1 Year   |
| CA09 | RF Cable(1m 18GHz) | SUCOFLEX 104  | Suhner          | -        | 155-21-013E0 | May 2004  | 1 Year   |
| CA10 | RF Cable(1m N)     | S 04272B      | Suhner          | -        | 155-21-015E0 | May 2004  | 1 Year   |
| CA11 | RF Cable(1m 26GHz) | SUCOFLEX 104  | Suhner          | 182811/4 | 155-21-016E0 | Dec. 2003 | 1 Year   |
| CA12 | RF Cable(4m 26GHz) | SUCOFLEX 104  | Suhner          | 190630   | 155-21-017E0 | Dec. 2003 | 1 Year   |
| CA13 | RF Cable(10m)      | F130-S1S1-394 | MEGA PHASE      | 10510    | 155-21-018E0 | Dec. 2003 | 1 Year   |
| CA14 | RF Cable(7m)       | 3D-2W         | Fujikura        | -        | 155-21-009E0 | Apr. 2004 | 1 Year   |
| CA15 | RF Cable(7m)       | RG223/U       | Suhner          | -        | 155-21-021E0 | May 2004  | 1 Year   |

**Amplifiers**

| No.  | Type         | Model                  | Manufacturer    | Serial     | ID           | Last Cal. | Interval |
|------|--------------|------------------------|-----------------|------------|--------------|-----------|----------|
| AM01 | AF Amplifier | P-500L                 | Accuphase       | BOY806     | 127-01-501E0 | Feb. 2004 | 1 Year   |
| AM02 | RF Amplifier | 8447D                  | Hewlett Packard | 1937A02168 | 127-01-065E0 | May 2004  | 1 Year   |
| AM03 | RF Amplifier | 8447D                  | Hewlett Packard | 2944A07289 | 127-01-509E0 | May 2004  | 1 Year   |
| AM05 | RF Amplifier | DBP-0102N533           | DBS Microwave   | 012        | 127-02-504E0 | Jun. 2004 | 1 Year   |
| AM06 | RF Amplifier | WJ-6882-814            | Watkins-Johnson | 0414       | 127-04-017E0 | Jun. 2004 | 1 Year   |
| AM07 | RF Amplifier | WJ-5315-556            | Watkins-Johnson | 106        | 127-04-006E0 | Jun. 2004 | 1 Year   |
| AM08 | RF Amplifier | WJ-5320-307            | Watkins-Johnson | 645        | 127-04-005E0 | Jun. 2004 | 1 Year   |
| AM09 | RF Amplifier | JS4-00102600<br>-28-5A | MITEQ           | 669167     | 127-04-502E0 | Apr. 2004 | 1 Year   |

**Signal Generators**

| No.  | Type               | Model    | Manufacturer             | Serial     | ID           | Last Cal. | Interval |
|------|--------------------|----------|--------------------------|------------|--------------|-----------|----------|
| SG01 | Function Generator | 3325B    | Hewlett Packard          | 2847A03284 | 118-08-124E0 | Jul. 2004 | 1 Year   |
| SG02 | Function Generator | VP-7422A | Matsushita Communication | 050351E122 | 118-08-503E0 | Jul. 2004 | 1 Year   |
| SG03 | Signal Generator   | 8664A    | Hewlett Packard          | 3035A00140 | 118-03-014E0 | Jun. 2004 | 1 Year   |
| SG04 | Signal Generator   | 8664A    | Hewlett Packard          | 3438A00756 | 118-04-502E0 | Jun. 2004 | 1 Year   |
| SG05 | Signal Generator   | 6061A    | Gigatronics              | 5130593    | 118-04-024E0 | Mar. 2004 | 1 Year   |

**Auxiliary Equipment**

| No.  | Type                | Model          | Manufacturer    | Serial     | ID           | Last Cal. | Interval |
|------|---------------------|----------------|-----------------|------------|--------------|-----------|----------|
| AU01 | Termination(50)     | -              | Suhner          | -          | 154-06-501E0 | Jan. 2004 | 1 Year   |
| AU02 | Termination(50)     | -              | Suhner          | -          | 154-06-502E0 | Jan. 2004 | 1 Year   |
| AU03 | Power Meter         | 436A           | Hewlett Packard | 1725A01930 | 100-02-501E0 | Apr. 2004 | 1 Year   |
| AU04 | Power Sensor        | 8482A          | Hewlett Packard | 1551A01013 | 100-02-501E0 | Apr. 2004 | 1 Year   |
| AU05 | Power Sensor        | 8485A          | Hewlett Packard | 2942A08969 | 100-04-021E0 | Apr. 2004 | 1 Year   |
| AU06 | FM Linear Detector  | MS61A          | Anritsu         | M77486     | 123-02-008E0 | Oct. 2003 | 1 Year   |
| AU07 | Level Meter         | ML422C         | Anritsu         | M87571     | 114-02-501E0 | Jun. 2004 | 1 Year   |
| AU08 | Measuring Amplifier | 2636           | B & K           | 1614851    | 082-01-502E0 | May 2004  | 1 Year   |
| AU09 | Microphone          | 4134           | B & K           | 1269477    | 147-01-503E0 | May 2004  | 1 Year   |
| AU10 | Preamplifier        | 2639           | B & K           | 1268763    | 127-01-504E0 | May 2004  | 1 Year   |
| AU11 | Pistonphone         | 4220           | B & K           | 1165008    | 147-02-501E0 | Mar. 2004 | 1 Year   |
| AU12 | Artificial Mouth    | 4227           | B & K           | 1274869    | -            | N/A       | N/A      |
| AU13 | Frequency Counter   | 53131A         | Hewlett Packard | 3546A11807 | 102-02-075E0 | May 2004  | 1 Year   |
| AU14 | Oven                | -              | Ohnishi         | -          | 023-02-018E0 | May 2004  | 1 Year   |
| AU15 | DC Power Supply     | 6628A          | Hewlett Packard | 3224A00284 | 072-05-503E0 | Jun. 2004 | 1 Year   |
| AU16 | Band Reject Filter  | BRM12294       | Micro-tronics   | 003        | 149-01-501E0 | Jan. 2004 | 1 Year   |
| AU17 | High Pass Filter    | F-100-4000-5-R | RLC Electronics | 0149       | 149-01-502E0 | Feb. 2004 | 1 Year   |
| AU18 | Attenuator          | 43KC-10        | Anritsu         | -          | 148-03-506E0 | Feb. 2004 | 1 Year   |
| AU19 | Attenuator          | 43KC-20        | Anritsu         | -          | 148-03-507E0 | Feb. 2004 | 1 Year   |
| AU20 | Attenuator          | 355D           | Hewlett Packard | 219-10782  | 148-03-065E0 | Apr. 2004 | 1 Year   |
| AU21 | FFT Analyzer        | R9211C         | Advantest       | 02020253   | 122-02-506E0 | Jun. 2004 | 1 Year   |
| AU22 | Noise Meter         | MN-446         | Meguro          | 53030478   | 082-01-144E0 | Apr. 2004 | 1 Year   |