**JAPAN QUALITY ASSURANCE ORGANIZATION**
2096, OHATA, TSURU-SHI, YAMANASHI 402-0045, JAPAN
PHONE +81-554-43-5517, FAX +81-554-43-6316



# *EMI TEST REPORT*

| | |
|---|---|
| JQA APPLICATION NO. | : 441-21000 |
| Model No. | : RI-24KTY |
| Type of Equipment | : Amplifier |
| Regulations Applied | : CFR 47 FCC Rules and Regulations Part 15 |
| FCC ID | : MOZRI-24KTY |
| Applicant | : Tokai Rika Co., Ltd. |
| Address | : 260, Toyota 3-chome, Oguchi-cho, Niwa-gun, Aichi-ken 480-0195, Japan |
| Manufacture | : Tokai Rika Co., Ltd. |
| Address | : 260, Toyota 3-chome, Oguchi-cho, Niwa-gun, Aichi-ken 480-0195, Japan |
| Received date of EUT | : February 28, 2003 |
| **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 Communication Research Laboratory (CRL) of Japan.

**The test results** only responds to the tested sample.
**THIS REPORT** should not be reproduced, except in full, without the approval of the JQA SAFETY & EMC CENTER EMC ENGINEERING DEPT. TSURU EMC BRANCH.

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# 1 DOCUMENTATION

## 1.1 TEST REGULATION

FCC Rules and Regulations Part 15 Subpart A and C (June 23, 1989) 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 C63.4-1992.

## 1.2 GENERAL INFORMATION

### 1.2.1 Test facility :

1) Test Facility located at JQA SAFETY & EMC CENTER EMC ENGINEERING DEPT. TSURU EMC BRANCH:
Open Site No.1, No.2, An Anechoic Chamber (3 m and 10 m, on common plane)and a Shielded Room
**FCC Registration Number: 90728 (Date of Listing : April 2, 2002)**

2) JQA SAFETY & EMC CENTER EMC ENGINEERING DEPT. TSURU EMC BRANCH 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 : 200192-0 (Effective through : June 30, 2003)**



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

| | | |
|---|---|---|
| 1) | Type of Equipment | : Amplifier |
| 2) | Product Type | : Production |
| 3) | Category | : Low Power Communication Device Transmitter |
| 4) | EUT Authorization | : Certification |
| 5) | FCC ID | : MOZRI-24KTY |
| 6) | Trade Name | : - |
| 7) | Model No. | : RI-24KTY |
| 8) | Operating Frequency Range | : 134.2 kHz |
| 9) | Highest Frequency Used in the EUT | : 134.2 kHz |
| 10) | Serial No. | : - |
| 11) | Date of Manufacture | : - |
| 12) | Power Rating | : 5 VDC |
| 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 Testing Center EMC Engineering Dept. Tsuru EMC Branch
2096 Ohhata, Tanbozawa, Tsuru-shi Yamanashi-ken 402-0045, JAPAN

___ - Shielded Room A
___ - Shielded Room B
___ - Anechoic Chamber
___ - Open Site No.1
___ - Open Site No.2

**Used test instruments :**

| | Type | Model No. | Manufacturer | Serial No. | Last Cal. | Interval |
|---|---|---|---|---|---|---|
| ___ - | Test Receiver | ESI7 | Rohde & Schwarz | 100059 | Oct. 2002 | 1 Year |
| ___ - | Test Receiver | ESH-3 | Rohde & Schwarz | 881460/016 | May. 2002 | 1 Year |
| ___ - | LISN(for Peripheral) | KNW-407 | Kyoritsu Electrical | 8-833-5 | May. 2002 | 1 Year |
| ___ - | LISN(for EUT) | KNW-407 | Kyoritsu Electrical | 8-680-14 | May. 2002 | 1 Year |
| ___ - | LISN | KNW-243C | Kyoritsu Electrical | 8-831-1 | May. 2002 | 1 Year |
| ___ - | LISN | KNW-243C | Kyoritsu Electrical | 8-831-2 | May. 2002 | 1 Year |
| ___ - | LISN | KNW-243C | Kyoritsu Electrical | 8-831-3 | May. 2002 | 1 Year |
| ___ - | LISN | KNW-243C | Kyoritsu Electrical | 8-831-4 | May. 2002 | 1 Year |
| ___ - | LISN | ESH 2-Z5 | Rohde & Schwarz | 879341/007 | May. 2002 | 1 Year |
| ___ - | RF Cable | 3D-2W | Fujikura | No.1 | May. 2002 | 1 Year |
| ___ - | RF Cable | 3D-2W | Fujikura | No.2 | May. 2002 | 1 Year |
| ___ - | RF Cable | 3D-2W | Fujikura | No.3 | May. 2002 | 1 Year |
| ___ - | 50ohm Termination | - | TDC | 15406501E1 | Mar. 2003 | 1 Year |
| ___ - | 50ohm Termination | - | - | 15406502E1 | MAr. 2003 | 1 Year |

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

X - was performed in the following test site.
___ - was not applicable.

**Test location :**

Safety Testing Center EMC Engineering Dept. Tsuru EMC Branch
2096 Ohhata, Tsuru-shi, Yamanashi-ken 402-0045, JAPAN

___ - Open Site No. 1 (3, 10 or 30 meters)
___ - Open Site No. 2 (3 or 10 meters)
X - Anechoic Chamber(3 or 10 meters)

**Validation of Site Attenuation :**

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

**Used test instruments :**

| | Type | Model No. | Manufacturer | Serial No. | Last Cal. | Interval |
|---|---|---|---|---|---|---|
| X | Test Receiver | ESI7 | Rohde & Schwarz | 100059 | Oct. 2002 | 1 Year |
| ___ | Test Receiver | ESH-3 | Rohde & Schwarz | 881460/016 | May. 2002 | 1 Year |
| X | Loop Antenna | HFH2-Z2 | Rohde & Schwarz | 872994/043 | May. 2002 | 1 Year |
| ___ | Loop Antenna | 6502 | EMCO | 8905-2347 | May. 2002 | 1 Year |
| X | RF Cable | 5D-2W | Fujikura | 155-21-002E0 | May. 2002 | 1 Year |

### 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 Testing Center EMC Engineering Dept. Tsuru EMC Branch
2096 Ohhata, Tsuru-shi, Yamanashi-ken 402-0045, JAPAN

___ - Open Site No. 1 (3, 10 or 30 meters)
___ - Open Site No. 2 (3 or 10 meters)
X - Anechoic Chamber(3 or 10 meters)

**Validation of Site Attenuation :**

1) Last Confirmed Date :May, 2002
2) Interval :1 year

**Used test instruments :**

| | Type | Model No. | Manufacturer | Serial No. | Last Cal. | Interval |
|---|---|---|---|---|---|---|
| X | Test Receiver | ESI7 | Rohde & Schwarz | 100059 | Oct. 2002 | 1 Year |
| ___ | Test Receiver | ESVS10 | Rohde & Schwarz | 843744/018 | May. 2002 | 1 Year |
| ___ | Test Receiver | ESVS10 | Rohde & Schwarz | 84231/004 | May. 2002 | 1 Year |
| ___ | Biconical Antenna | BBA9106 | Schwarzbeck | 11905065-2 | May. 2002 | 1 Year |
| ___ | Biconical Antenna | BBA9106 | Schwarzbeck | 11905065-3 | May. 2002 | 1 Year |
| X | Biconical Antenna | BBA9106 | Schwarzbeck | G4397001 | May. 2002 | 1 Year |
| ___ | Log-Periodic Antenna | UHALP9107 | Schwarzbeck | 91071212 | May. 2002 | 1 Year |
| ___ | Log-Periodic Antenna | UHALP9107 | Schwarzbeck | 9107915 | May. 2002 | 1 Year |
| X | Log-Periodic Antenna | UHALP9108 | Schwarzbeck | G43599003 | May. 2002 | 1 Year |
| ___ | Dipole Antenna | KBA-511A | Kyoritsu Electrical | 0-195-5 | May. 2002 | 1 Year |
| ___ | Dipole Antenna | KBA-511A | Kyoritsu Electrical | 0-230-6 | May. 2002 | 1 Year |
| ___ | Dipole Antenna | KBA-611 | Kyoritsu Electrical | 0-196-8 | May. 2002 | 1 Year |
| ___ | Dipole Antenna | KBA-611 | Kyoritsu Electrical | 0-228-13 | May. 2002 | 1 Year |
| ___ | RF Cable | 20D/5D-2W | Fujikura | No.1 | May. 2002 | 1 Year |
| ___ | RF Cable | 20D/5D-2W | Fujikura | No.2 | May. 2002 | 1 Year |
| X | RF Cable | 20D/5D-2W | Fujikura | No.3 | May. 2002 | 1 Year |

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

___ - was performed in the following test site.
_X_ - was not applicable.

**Test location :**

Safety Testing Center EMC Engineering Dept. Tsuru EMC Branch
2096 Ohhata, Tsuru-shi, Yamanashi-ken 402-0045, JAPAN

____- Open Site No. 1 (3, 10 or 30 meters)
____- Open Site No. 2 (3 or 10 meters)
____- Anechoic Chamber(3 or 10 meters)

**Validation of Site Attenuation :**

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

**Used test instruments :**

| | Type | Model No. | Manufacturer | Serial No. | Last Cal. | Interval |
|---|---|---|---|---|---|---|
| ___ | Spectrum Analyzer | 8563E | Hewlett Packard | 3438A00756 | May. 2002 | 1 Year |
| ___ | Spectrum Analyzer | R4131C | Advantest | 717201249 | May. 2002 | 1 Year |
| ___ | Log-Periodic Antenna | 94612-1 | Rohde & Schwarz | 97062301 | May. 2002 | 1 Year |
| ___ | RF Amplifier | WJ-6611-513 | Watkins-Johnson | 0288 | May. 2002 | 1 Year |
| ___ | RF Amplifier | WJ-6682-834 | Watkins-Johnson | 0052 | May. 2002 | 1 Year |
| ___ | RF Amplifier | WJ-6870-506 | Watkins-Johnson | 0018 | May. 2002 | 1 Year |
| ___ | RF Cable(7m) | SUCOFLEX 104 | Suhner | 52146/4 | May. 2002 | 1 Year |
| ___ | RF Cable(3m) | SUCOFLEX 104 | Suhner | 52053/4 | May. 2002 | 1 Year |
| ___ | RF Cable(2m) | SUCOFLEX 104 | Suhner | 39934/4 | May. 2002 | 1 Year |
| ___ | RF Cable(1m) | SUCOFLEX 104 | Suhner | 35687/4 | May. 2002 | 1 Year |

### 1.3.5 The measurement of the Frequency Stability

___ - was performed.
_x_ - was not applicable.

**Used test instruments :**

| | Type | Model No. | Manufacturer | Serial No. | Last Cal. | Interval |
|---|---|---|---|---|---|---|
| ___ | - Frequency Counter | 53131A | Hewlett Packard | 3546A11807 | May 2002 | 1 Year |
| ___ | - Oven | - | Ohnishi Co. Ltd. | - | Aug. 2002 | 1 Year |
| ___ | - DC Power Supply | 6628A | Hewlett Packard | 3224A00284 | July 2002 | 1 Year |

### 1.3.6 The measurement of the Occupied Bandwidth

___ - was performed.
_x_ - was not applicable.

**Used test instruments :**

| | Type | Model No. | Manufacturer | Serial No. | Last Cal. | Interval |
|---|---|---|---|---|---|---|
| ___ | - Spectrum Analyzer | 8560E | Hewlett Packard | 3240A00189 | Sep. 2002 | 1 Year |
| ___ | - Spectrum Analyzer | 8563E | Hewlett Packard | 3221A00201 | May. 2002 | 1 Year |
| ___ | - Spectrum Analyzer | 8566B | Hewlett Packard | 2140A01091 | Apr. 2002 | 1 Year |
| ___ | - Spectrum Analyzer | 8566B | Hewlett Packard | 2747A05855 | May. 2002 | 1 Year |
| ___ | - Function Generator | 3325A | Hewlett Packard | 2512A21776 | May. 2002 | 1 Year |
| ___ | - FM Linear Detector | MS61A | Anritsu Corp. | M77486 | Sep. 2002 | 1 Year |
| ___ | - Level Meter | ML422C | Anritsu Corp. | M87571 | June 2002 | 1 Year |

## 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** x **- NOT Applicable**

The requirements are ___ **- PASSED** ___ **- NOT PASSED**

**Remarks :**

**Radiated Emission [§15.209(a)(b)]** x **- Applicable** ___ **- NOT Applicable**

The requirements are x **- PASSED** ___ **- NOT PASSED**

**Remarks:**

**Frequency Stability** ___ **- Applicable** x **- NOT Applicable**

The requirements are ___ **- PASSED** ___ **- NOT PASSED**

**Remarks:**

**Occupied Bandwidth** ___ **- Applicable** x **- 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 (June 23, 1989) under the test configuration, as shown in clause 1.7 to 1.10.
The conclusion for the test items of 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 : March 7, 2003

End of testing : March 8, 2003



**- JAPAN QUALITY ASSURANCE ORGANIZATION -**

Approved by:

Takaharu Hada
Director
Tsuru EMC Branch
JQA EMC Engineering Dept.

Signatories:
Issued by:

Y. Fukumoto

Yuichi Fukumoto
Manager
Tsuru EMC Branch
JQA EMC Engineering Dept.

## 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 | Amplifier | Tokai Rika Co., Ltd. | RI-24KTY | MOZRI-24KTY | - |

**The measurement was carried out with the following support equipment connected :**

**None.**

**Type of Cable :**

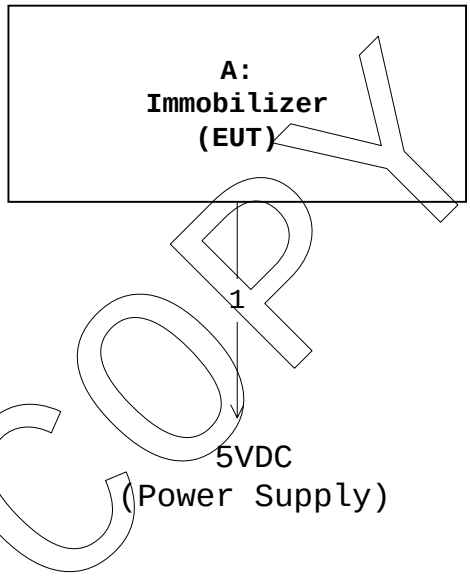
| Symbol | Description | Identification (Manufacturer etc.) | Shielded YES / NO | Ferrite Core | Connector type Shielded YES / NO | Length (m) |
|---|---|---|---|---|---|---|
| 1 | DC Power Cable(for EUT) | - | NO | NO | NO | 1.0 |



### 1.7.2 Operating condition

Power supply Voltage : 5 VDC(from Power Supply)
The tests have been carried out under the transmitting condition.

## 1.8 EUT ARRANGEMENT (DRAWINGS)



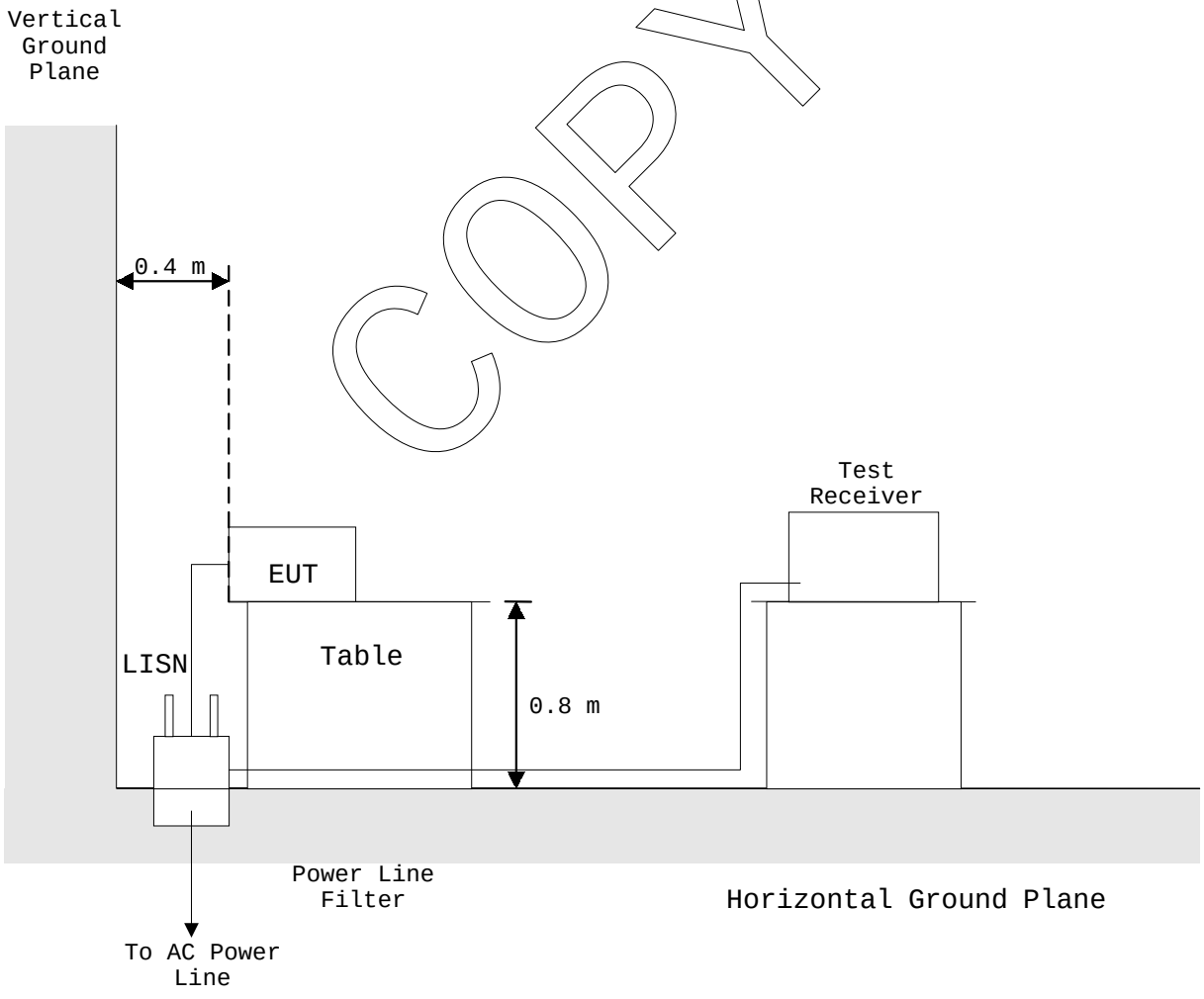
## 1.9 PRELIMINARY TEST AND TEST-SETUP (DRAWINGS)

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

According to description of ANSI C63.4-1992 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**

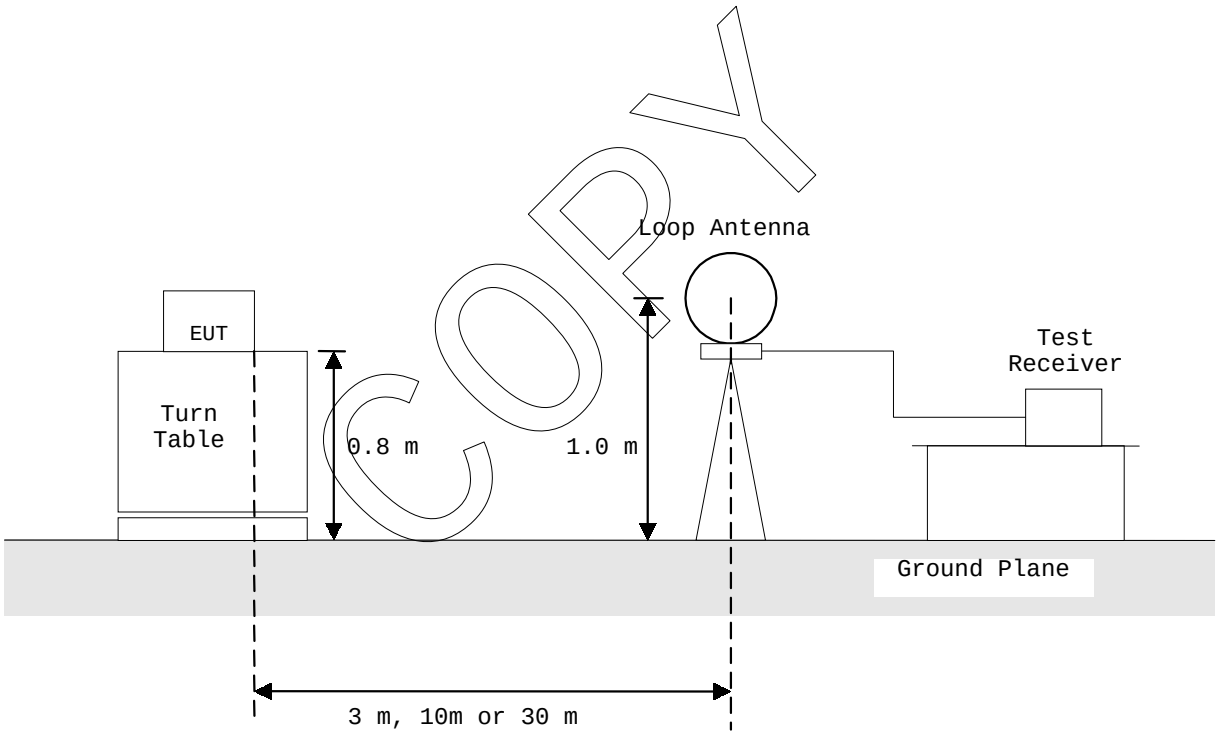
**- Side View -**



### 1.9.2 Radiated Emission ( 9 kHz – 30 MHz) :

According to description of ANSI C63.4-1992 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 -**

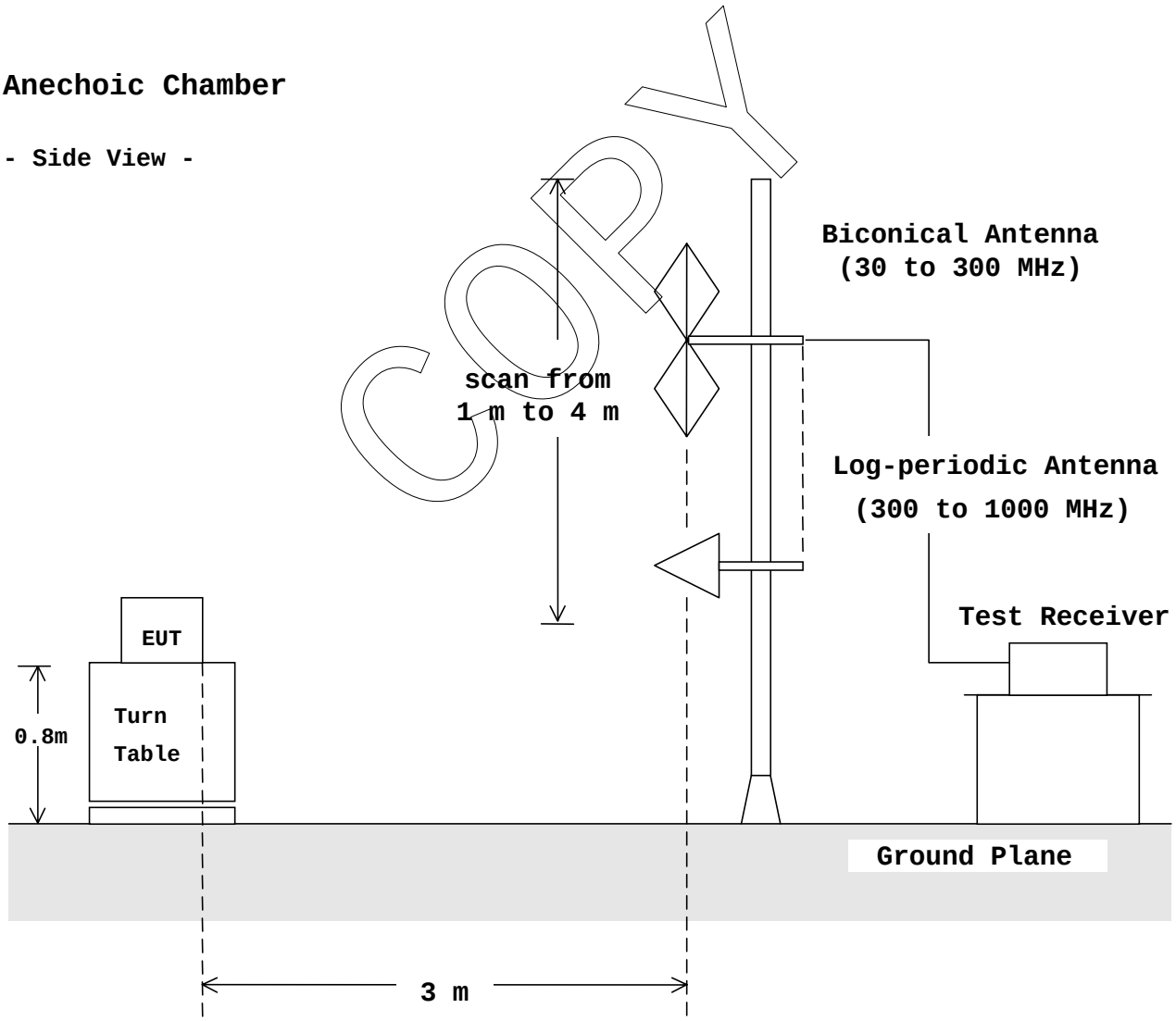


### 1.9.3 Radiated Emission ( 30 MHz – 1000 MHz) :

According to description of ANSI C63.4-1992 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 -**



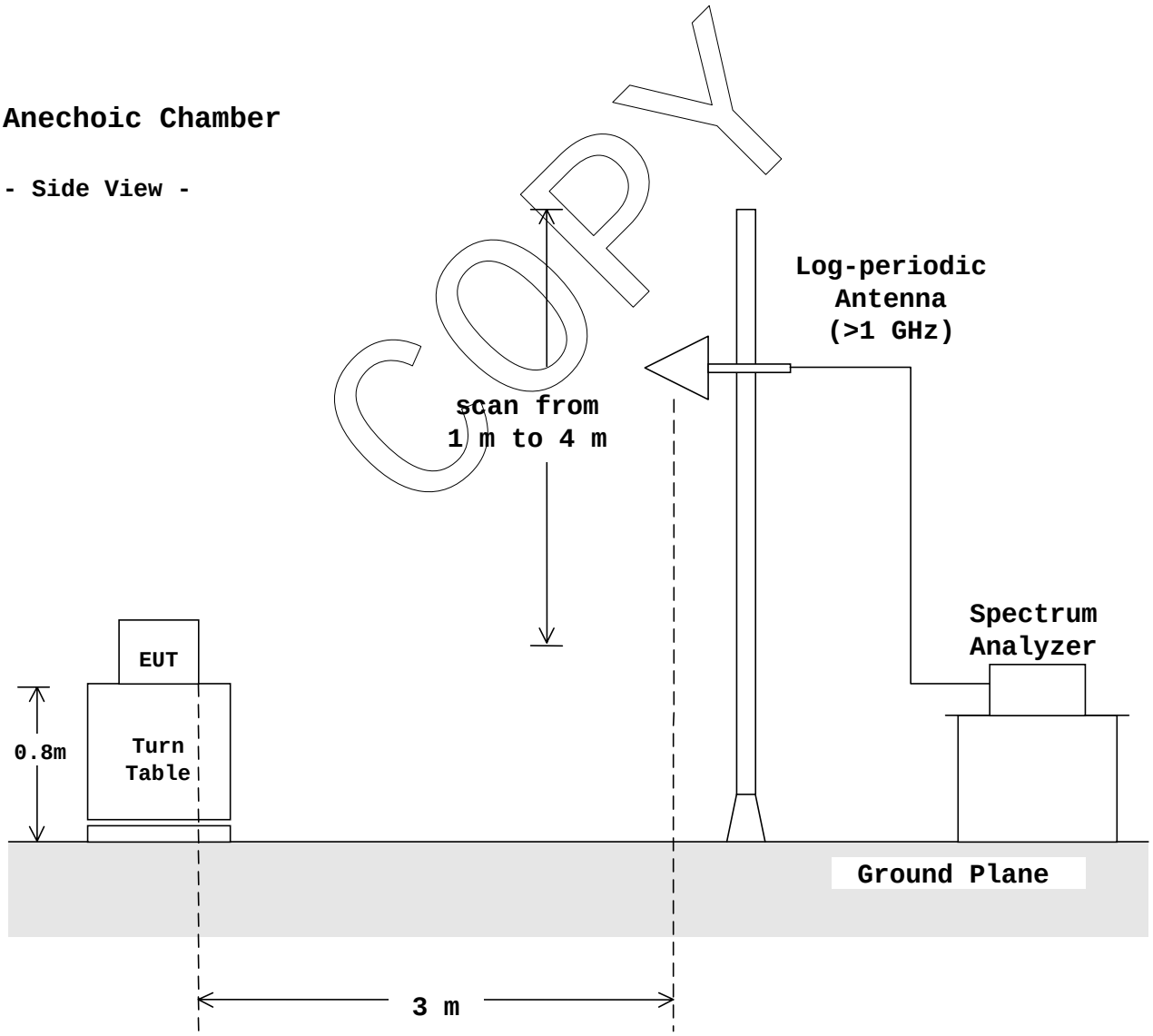
**1.9.4 Radiated Emission (Above 1 GHz) :**

According to description of ANSI C63.4-1992 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**

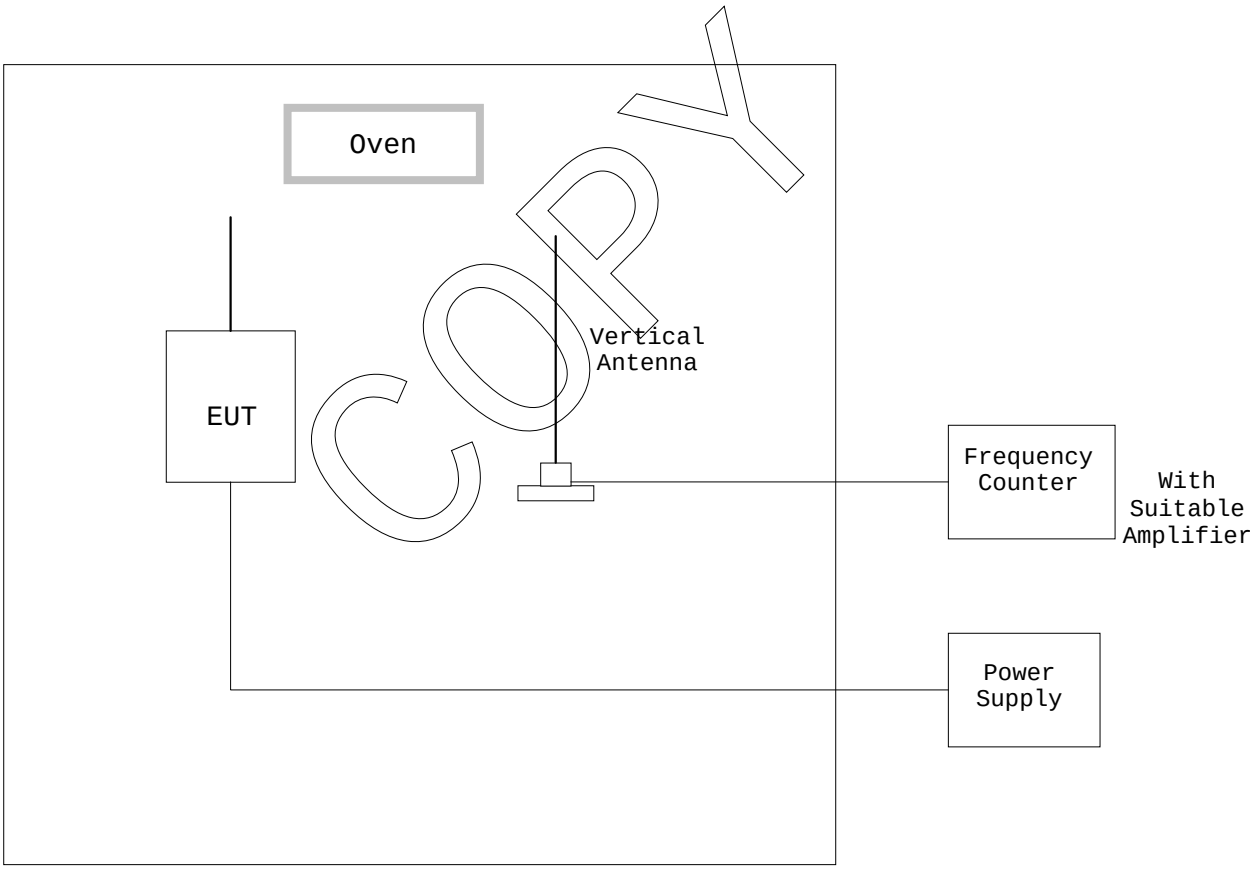
**- Side View -**





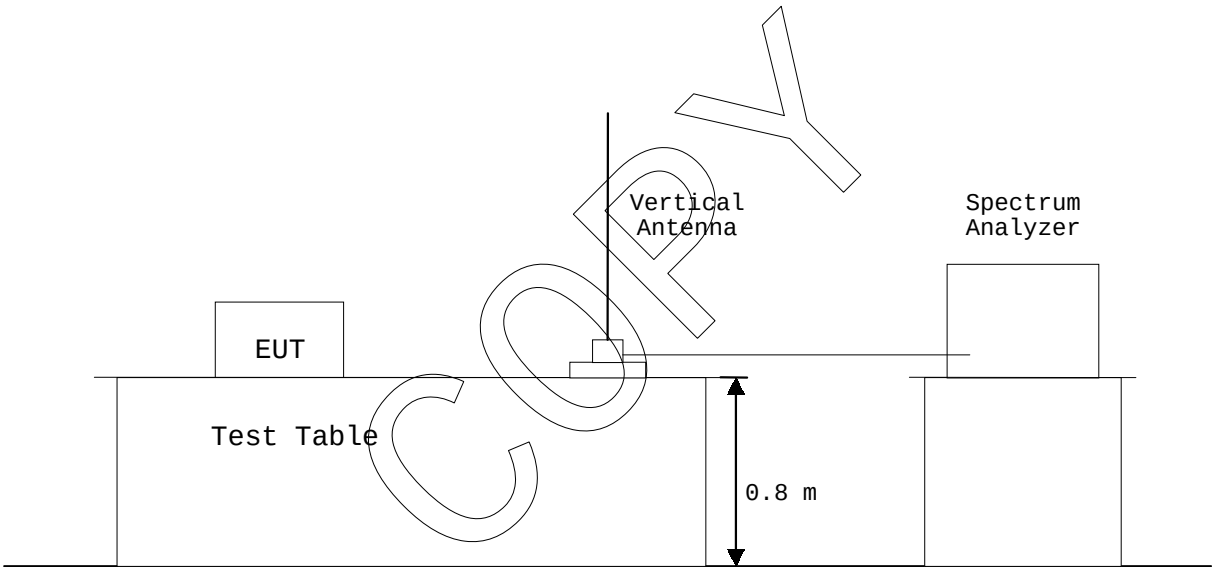
### 1.9.5 Frequency Stability :

According to description of ANSI C63.4-1992 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°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°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 C63.4-1992 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.

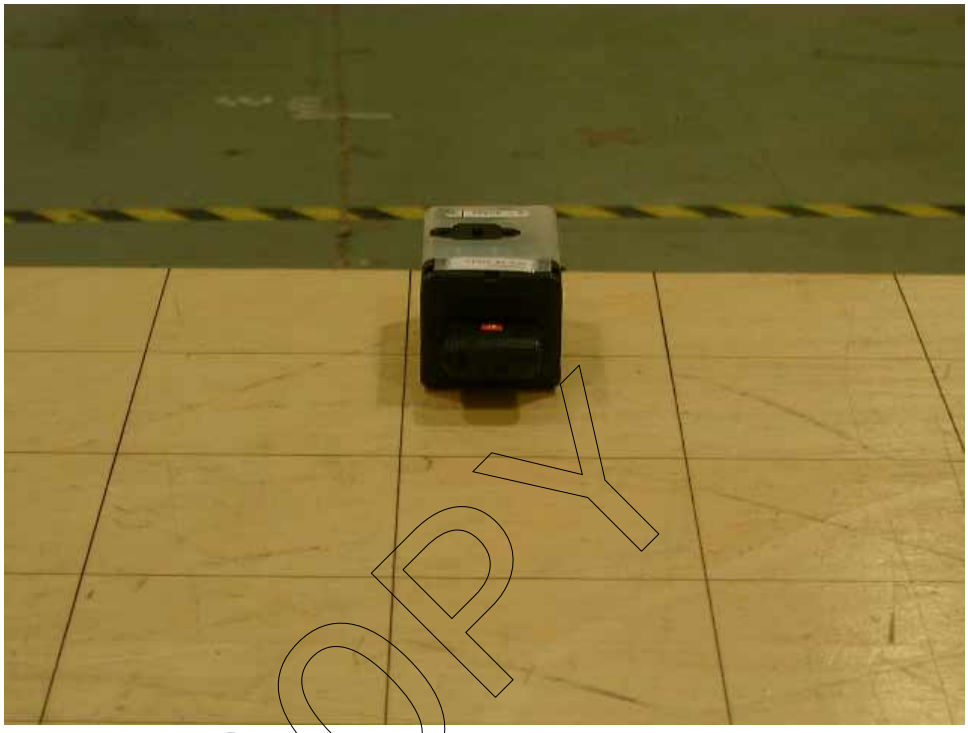


## 1.10 TEST ARRANGEMENT (PHOTOGRAPHS)

**PHOTOGRAPHS OF EUT CONFIGURATION FOR RADIATED EMISSIONS MEASUREMENT**

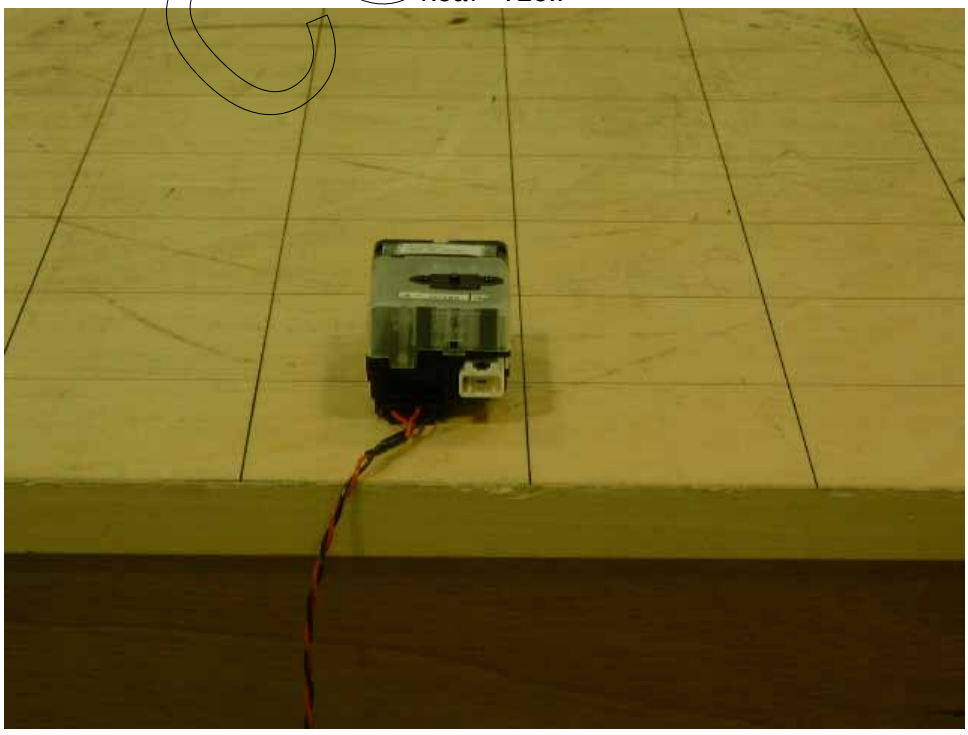
Photograph present configuration with maximum emission

- Front View –





- Rear View –



# TEST DATA

## 2.1 AC Power Line Conducted Emission Measurement( 0.45 MHz – 30 MHz )

Note : This test was not applicable.

## 2.2 Radiated Emissions Measurement( 9 kHz – 30 MHz )

Date : March 7, 2003
Temp.: 16 °C Humi.: 28 %

**Operating Frequency** : 134.2 kHz
**Distance of Measurement** : 30 meters

| Frequency (MHz) | Meter Reading (dBμV/m) | Field Strength (dBμV/m) |
|---|---|---|
| Fundamental | | |
| 0.1342 | < 30.0 | < 30.0 |
| Harmonic Frequency | | |
| 0.2684 | < 33.2 | < 33.2 |
| 0.4026 | < 31.4 | < 31.4 |
| 0.5368 | < 30.1 | < 30.1 |
| 0.6710 | < 29.0 | < 29.0 |
| 0.8052 | < 28.1 | < 28.1 |
| 0.9394 | < 27.3 | < 27.3 |
| 1.0736 | < 27.0 | < 27.0 |
| 1.2078 | < 27.0 | < 27.0 |
| 1.3410 | < 27.0 | < 27.0 |



Note : The fundamental field strength was found undetectable weak of the field strength meter.

Tested by : Y. Fukumoto
Yuichi Fukumoto
Testing Engineer

**The distance of measurements was reduced to 10 meters.**

Date : March 7, 2003
Temp.: 20 °C Humi.: 40 %

**Operating Frequency** : 134.2 kHz
**Distance of Measurement** : 10 meters

| Frequency (MHz) | Meter Reading (dBμV/m) | Field Strength (dBμV/m) |
|---|---|---|
| Fundamental | | |
| 0.1342 | 30.2 | 30.2(Average) |
| 0.1342 | 42.4 | 42.4(Peak) |
| Harmonic Frequency | | |
| 0.2684 | < 33.2 | < 33.2(Average) |
| 0.2684 | < 39.4 | < 39.4(Peak) |
| 0.4026 | < 31.4 | < 31.4(Average) |
| 0.4026 | < 36.6 | < 36.6(Peak) |
| 0.5368 | < 30.1 | < 30.1 |
| 0.6710 | < 29.0 | < 29.0 |
| 0.8052 | < 28.1 | < 28.1 |
| 0.9394 | < 27.3 | < 27.3 |
| 1.0736 | < 27.0 | < 27.0 |
| 1.2078 | < 27.0 | < 27.0 |
| 1.3420 | < 27.0 | < 27.0 |



Note: 1. Meter reading value shows field strength, because the value includes antenna factor.
2. The symbol of "<" means "or less".
3. Measuring Instrument Setting:
Frequency Range : 110 kHz to 490 kHz
Detector Function : Average/Peak, IF Band width : 10 kHz

Frequency Range : 536.8 kHz to 1250 kHz
Detector Function : CISPR Quasi-peak Peak, IF Band width : 9 kHz

For fundamental, the measured field strength was extrapolated to distance 300 meters, using the formula that field strength varies as the inverse distance square(40 dB per decade of distance).

Calculation :

Average: 30.2 dBμV/m – $20\log_{10}((300/10)^2)$= 30.2 – 59.1 = -28.9 dBμV/m at 300 meters
Limits for fundamental(§15.209(a)) = $20\log_{10}(2400/134.2)$ = 25.0 dBμV/m

Peak: 42.4 dBμV/m – $20\log_{10}((300/10)^2)$= 42.4 – 59.1 = -16.7 dBμV/m at 300 meters
Limits for fundamental(§15.209(a)) = $20\log_{10}(2400/134.2)$+20 = 45.0 dBμV/m

Tested by : Y. Fukumoto
Yuichi Fukumoto
Testing Engineer

## 2.3. Radiated Emissions Measurements (30 MHz - 1000 MHz)

Date : March 08, 2003
Temp. : 22°C Humi.: 34%

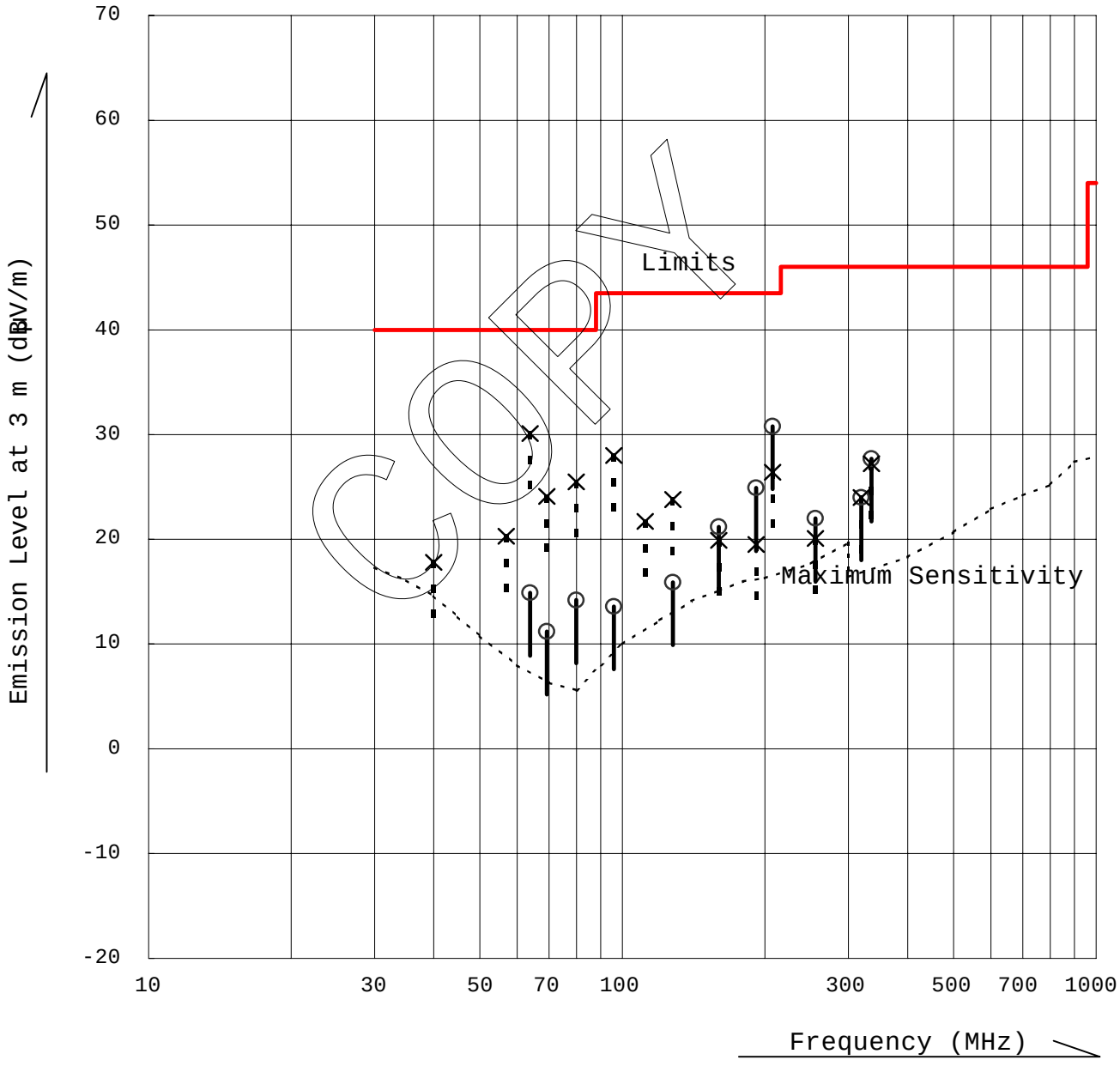
| Frequency (MHz) | Antenna Factor (dB/m) | Meter Reading (dBµV) Horiz. | Meter Reading (dBµV) Ver. | Limits (dBµV/m) | Emission Level (dBµV/m) Horiz. | Emission Level (dBµV/m) Ver. | Margin (dB) Horiz. | Margin (dB) Ver. | Comment |
|---|---|---|---|---|---|---|---|---|---|
| 30.0 | 19.3 | < -2.0 | < -2.0 | 40.0 | < 17.3 | < 17.3 | > 22.7 | > 22.7 | |
| 40.0 | 16.6 | < -2.0 | 1.2 | 40.0 | < 14.6 | 17.8 | > 25.4 | 22.2 | |
| 56.9 | 10.8 | < -2.0 | 9.5 | 40.0 | < 8.8 | 20.3 | > 31.2 | 19.7 | |
| 63.9 | 9.3 | 5.6 | 20.8 | 40.0 | 14.9 | 30.1 | 25.1 | 9.9 | |
| 69.3 | 8.3 | 2.9 | 15.8 | 40.0 | 11.2 | 24.1 | 28.8 | 15.9 | |
| 79.9 | 7.6 | 6.6 | 17.9 | 40.0 | 14.2 | 25.5 | 25.8 | 14.5 | |
| 95.9 | 11.1 | 2.5 | 16.9 | 43.5 | 13.6 | 28.0 | 29.9 | 15.5 | |
| 111.8 | 13.4 | < -2.0 | 8.3 | 43.5 | < 11.4 | 21.7 | > 32.1 | 21.8 | |
| 127.8 | 15.0 | 0.9 | 8.8 | 43.5 | 15.9 | 23.8 | 27.6 | 19.7 | |
| 159.8 | 17.1 | 4.1 | 2.8 | 43.5 | 21.2 | 19.9 | 22.3 | 23.6 | |
| 191.7 | 18.2 | 6.7 | 1.3 | 43.5 | 24.9 | 19.5 | 18.6 | 24.0 | |
| 207.7 | 18.6 | 12.2 | 7.8 | 43.5 | 30.8 | 26.4 | 12.7 | 17.1 | |
| 255.6 | 19.9 | 2.1 | 0.2 | 46.0 | 22.0 | 20.1 | 24.0 | 25.9 | |
| 319.5 | 18.8 | 5.2 | 5.2 | 46.0 | 24.0 | 24.0 | 22.0 | 22.0 | |
| 335.5 | 19.1 | 8.6 | 8.1 | 46.0 | 27.7 | 27.2 | 18.3 | 18.8 | |
| 400.0 | 20.3 | < -2.0 | < -2.0 | 46.0 | < 18.3 | < 18.3 | > 27.7 | > 27.7 | |
| 500.0 | 22.7 | < -2.0 | < -2.0 | 46.0 | < 20.7 | < 20.7 | > 25.3 | > 25.3 | |
| 600.0 | 24.9 | < -2.0 | < -2.0 | 46.0 | < 22.9 | < 22.9 | > 23.1 | > 23.1 | |
| 800.0 | 27.2 | < -2.0 | < -2.0 | 46.0 | < 25.2 | < 25.2 | > 20.8 | > 20.8 | |
| 1000.0 | 29.9 | < -2.0 | < -2.0 | 54.0 | < 27.9 | < 27.9 | > 26.1 | > 26.1 | |

Notes: 1) Test Location : Anechoic Chamber
2) Test Distance : 3 m
3) The spectrum was checked from 30 MHz to 1000 MHz.
4) Antenna factor includes the cable loss for 33 meter.
5) The symbol of "<" means "or less".
6) The symbol of ">" means "more than".
7) A sample calculation was made at 30.0 MHz
Af + Mr = 19.3 + -2.0 = 17.3 dBµV/m
Af : Antenna Factor Mr : Meter Reading
8) Setting of measuring instrument :
Detector Function : CISPR Quasi-Peak
IF Bandwidth : 120 kHz

Tested by : Y. Fukumoto
Yuichi Fukumoto

## Radiated Emissions Measurements (30 MHz - 1000 MHz)

| | | |
|---|---|---|
| Measuring Distance : 3 m | O | Horizontal |
| Classifications : B | X | Vertical |



## 2.4 Radiated Emissions Measurement( Above 1 GHz )

Note : This test was not applicable.

## 2.5 Frequency Stability Measurement

Note : This test was not applicable.

## 2.6 Occupied Bandwidth Measurement

Note : This test was not applicable.