

# Marstech Limited

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Authorized by:  
Professional Engineers  
Ontario



Engineering &  
Administrative

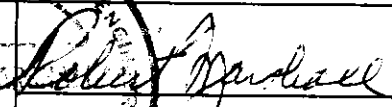


Testing For FCC  
Submissions/Verifications

Industry Canada  
Industrie Canada  
Approved Test Facility



## TEST REPORT

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  |                                                          |                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| REPORT DATE: June 5, 1998                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                  | REPORT NO: 98239D                                        |                                                                                                                      |
| CONTENTS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | See Table of Contents                                                            |                                                          |                                                                                                                      |
| SUBMITTOR:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | TEC CORPORATION<br>6-78 Minami-Cho, Mishima-Shi<br>Shizuoka-Ken, Japan 411-8520  |                                                          |                                                                                                                      |
| SUBJECT:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Model Nos:                                                                       | Document WorkCentre Pro 545 (Model Tested)<br>and TF 610 |                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | FCC ID:                                                                          | BJIOH-98001                                              |                                                                                                                      |
| TEST SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | FCC CFR 47<br>Sections: 15, Subpart B<br>NOTE: Tests Conducted Are "Type" Tests. |                                                          |                                                                                                                      |
| DATE SAMPLE RECEIVED:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N/A                                                                              | DATE TESTED:                                             | March 11, 1998                                                                                                       |
| RESULTS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Equipment tested complies with referenced specification.                         |                                                          |                                                                                                                      |
| ALTERATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | None                                                                             |                                                          |                                                                                                                      |
| Tested By:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Japan Quality Assurance<br>Organization                                          | Approved and<br>Certified by:                            | <br>Robert G. Marshall, P. Eng. |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  | Date:                                                    | June 15/98                                                                                                           |
| <b>THIS REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF MARSTECH LIMITED.</b> This report was prepared by Marstech Limited for the account of the "Submitter". The material in it reflects Marstech's judgement in light of the information available to it at the time of preparation. Any use which a Third Party makes of this report, or any reliance on decisions to be made based on it, are the responsibility of such Third Parties. Marstech accepts no responsibility for damages, if any, suffered by any Third Party as a result of decisions made or actions based on this report |                                                                                  |                                                          |                                                                                                                      |

TECHNICAL REPORT - FCC 2.1033(b)

Applicant

TEC Corporation  
6-78 Minami-Cho, Mishima-Shi  
Shizuoka-Ken, JAPAN

FCC Identifier

BJIOH-98001

Manufacturer

TEC Corporation  
Mishima-Shi, Shizuoka-Ken,  
JAPAN

TIM Electronics SDN BHD  
Bayan Lepas, Penang,  
MALAYSIA

TABLE OF CONTENTS

| <u>Exhibit</u> | <u>Description</u>                                                | <u>FCC Ref.</u> | <u>Page</u>               |
|----------------|-------------------------------------------------------------------|-----------------|---------------------------|
| A              | Installation and Operating Instructions<br>Furnished to the User. | 2.1033(b)(3)    | Exhibit A<br>Exhibit A(1) |
| B              | Description of Circuit Functions                                  | 2.1033(b)(4)    | Exhibit B<br>Exhibit B(1) |
| C              | Block and Schematic Diagrams                                      | 2.1033(b)(5)    | Exhibit C                 |
|                | Block Diagram                                                     |                 | Exhibit C(1)-1 to -2      |
|                | Schematic Diagram                                                 |                 | Exhibit C(2)-1 to -17     |
| D              | Report of Measurements/Test Facility/<br>Test Equipment List      | 2.1033(b)(6)    | Exhibit D<br>Exhibit D(1) |
| E              | Photographs                                                       | 2.1033(b)(7)    | Exhibit E                 |
|                | Label                                                             |                 | Exhibit E(1)-1 to -2      |
|                | Equipment                                                         |                 | Exhibit E(2)-1 to -16     |



JAPAN QUALITY ASSURANCE ORGANIZATION  
21-25, KINUTA 1-CHOME, SETAGAYA-KU, TOKYO 157 JAPAN  
PHONE (03) 3416-0111, TELEX 242-2531 JQA J FAX (03) 3416-9691

Issue Date : March 19, 1998  
Page 1 of 37

## EMI TEST REPORT

JQA APPLICATION NO. : 80-71209

Applicant : TEC CORPORATION  
: 6-78, Minami cho, Mishima-shi, Shizuoka-ken 411-8520, Japan

Manufacturer : TEC CORPORATION  
: 6-78, Minami-cho, Mishima shi, Shizuoka-ken 411-8520, Japan

Description of Equipment : Facsimile(including scanner capability)

Model No. : Document Work Center-PR0545

FCC ID : BJIOH-98001

Regulations Applied : FCC Rules and Regulations Part 15 Subpart B

Total Pages of this Report : 37 Pages (including this page)

Place of Measurement : JQA EMC Engineering Dept. Testing Div.

NVLAP Lab. Code : 200189 0 (Effective through : June 30, 1998)

**TEST FACILITY :** This test facility is recognized the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part285 Code of Federal Regulations.

**TEST RESULTS IN THIS REPORT** are obtained in use of equipment that is traceable to Electrotechnical Lab. of MITI Japan and Communications Research Lab. of PTT Japan.

**The test results** only responds to the tested sample.

It is not allowed to copy this report even partly without the allowance of the JQA EMC Engineering Dept. Testing Div.

Signed: \_\_\_\_\_

*T. Kato*  
Tetsuo Kato, Manager  
JQA EMC Engineering Dept.

This report must not used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

FCC ID: BJIOH-98001  
EXHIBIT D(1)  
Marstech Report #98239D



**GENERAL EQUIPMENT INFORMATION :****DESCRIPTION OF EQUIPMENT:**

- 1) Type of Equipment tested : Pre-Production
- 2) Category : Class B Digital device
- 3) Equipment Authorization : Certification
- 4) FCC ID : BJIOH-98001
- 5) Trade Name : XEROX
- 6) Model No. : Document Work Centre-PR0545
- 7) Fundamental Frequency  
Operated in the Equipment : 16 MHz, 22.953 MHz, 38.00053 MHz, 18.432 MHz, 32.768 kHz
- 8) Highest Frequency Used  
in the Equipment : 38.00053 MHz
- 9) Serial No. : 98020065
- 10) Date of Manufacture : -
- 11) Power Rating : AC 120V 50 Hz

**TEST CONDITION OF EQUIPMENT :**

- 1) Configuration of Equipment : Refer to Page 5, 6, 17, 18, 19, 20, 31, 32, 33, 34, 35
- 2) Operating Condition : Refer to Page 5
- 3) Equipment Grounding : Grounded at the plug end of the AC power line cord.
- 4) Equipment Warm-up Time : 5 minutes

**CONCLUSIONS OF THE TEST RESULTS:**

The data shown in this report were made in accordance with the procedures given in ANSI C63.4-1992. And the Equipment Under Test complied with the requirements of FCC Rules Part15 subpart B sec.107 and 109 as detailed from page 3 to page 37.

|                                              | Results               | Page |
|----------------------------------------------|-----------------------|------|
| AC Powerline Conducted Emissions Measurement | : PASSED              |      |
| Minimum margin with respect to the Limits    |                       |      |
| (1) Ready Mode                               | : 13.1 dB at 0.68 MHz | 7    |
| (2) Copy Mode                                | : 3.1 dB at 0.45 MHz  | 9    |
| (3) Transmitting Mode                        | : 8.0 dB at 0.55 MHz  | 11   |
| (4) Receiving Mode                           | : 5.3 dB at 0.48 MHz  | 13   |
| (5) Scanning Mode                            | : 8.3 dB at 0.52 MHz  | 15   |
| Measurement Uncertainty                      | : $\pm 2.2$ dB        |      |

|                               |                                    |
|-------------------------------|------------------------------------|
| Tested by: <u>Y. Nakajima</u> | Date: <u>March 11, 1998</u>        |
| Yoichi Nakajima               | Temp: <u>20°C</u> Humi: <u>40%</u> |
| Testing Engineer              |                                    |

|                                           |                       |    |
|-------------------------------------------|-----------------------|----|
| Radiated Emissions Measurement            | : PASSED              |    |
| Minimum margin with respect to the Limits |                       |    |
| (1) Ready Mode                            | : 4.6 dB at 137.7 MHz | 21 |
| (2) Copy Mode                             | : 3.4 dB at 137.7 MHz | 23 |
| (3) Transmitting Mode                     | : 4.9 dB at 856.1 MHz | 25 |
| (4) Receiving Mode                        | : 3.8 dB at 600.0 MHz | 27 |
| (5) Scanning Mode                         | : 4.5 dB at 600.0 MHz | 29 |
| Measurement Uncertainty                   | : $\pm 3.2$ dB        |    |

|                               |                                    |
|-------------------------------|------------------------------------|
| Tested by: <u>Y. Nakajima</u> | Date: <u>March 11, 1998</u>        |
| Yoichi Nakajima               | Temp: <u>20°C</u> Humi: <u>60%</u> |
| Testing Engineer              |                                    |

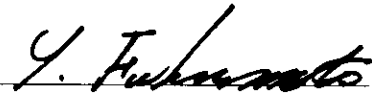
**EQUIPMENT(EUT) MODIFICATION:**

No modifications were conducted by JQA to achieve compliance to Class B levels.

I HEREBY CERTIFY THAT : The data shown in this report were made in accordance with the procedures Given in ANSI C63.4 1992 and the energy emitted by the equipment was found to be within the limits Applicable.

I assume full responsibility for accuracy and completeness of these data.

Approved Signatory : \_\_\_\_\_



Yuichi Fukumoto

Deputy Manager

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**TEST CONDITIONS AND CONFIGURATION OF EUT**

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1. The equipment under test (EUT) consists of:

| <u>Item</u> | <u>Manufacturer</u> | <u>Model No.</u>            | <u>FCC ID</u> | <u>Serial No.</u> |
|-------------|---------------------|-----------------------------|---------------|-------------------|
| A Facsimile | TEC Corp.           | Document Work Centre-PR0545 | BJ10H-98001   | 98020065          |

2. The measurement was carried out with the following equipment and accessories connected:

|       | <u>Item</u>        | <u>Manufacturer</u>         | <u>Model No.</u> | <u>FCC ID</u> | <u>Serial No.</u> |
|-------|--------------------|-----------------------------|------------------|---------------|-------------------|
| B(*1) | Personal Computer  | Compaq computer Corporation | Series2820D      | CNT75MBZ4D    | 7408HDJ41440      |
| C     | Mouse              | IBM                         | 13H6690          | DZL210429     | 23 D418331        |
| D     | AC Adaptor         | Compaq computer Corporation | Series2822       | N/A           | 40607799          |
| E     | External Telephone | -                           | -                | N/A           |                   |
| F(*2) | HA System Terminal | Toshiba Corp.               | THE-105          | N/A           | 7M02806           |
| G(*2) | Facsimile          | TEC Corp.                   | Document Wor     | BJ10H 98001   | 98020065          |

Note 1. This personal computer was operated with the AC adaptor(Model No.:Series2822,  
Input: 100-120/ 220 240VAC 50/60Hz, Output: 18.5VDC by Compaq computer Corporation.).

Note 2. These equipment were placed outside an anechoic chamber.

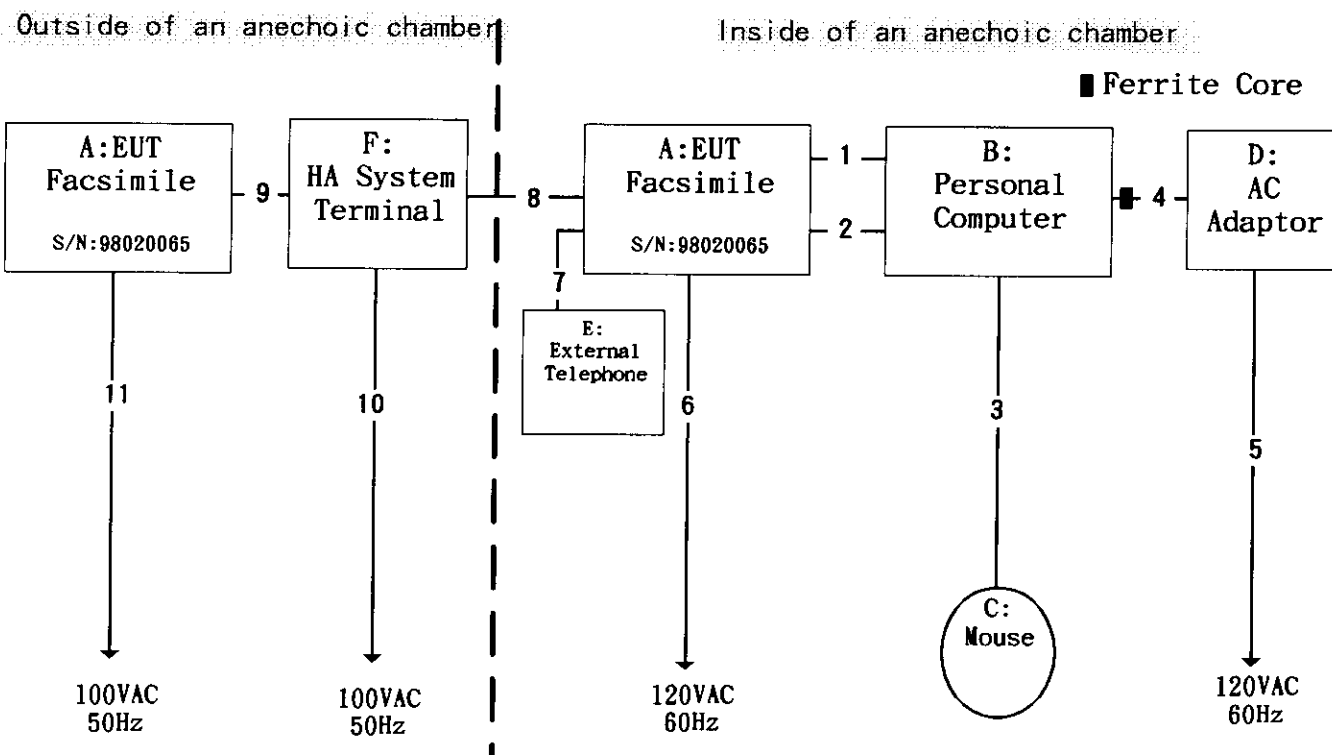
3. Configuration of the equipment under test

|                                               |                                          |
|-----------------------------------------------|------------------------------------------|
| AC Power Line Conducted Emissions Measurement | : Refer to page 5, 6, 17, 18, 19, 20     |
| Radiated Emissions Measurement                | : Refer to page 5, 6, 31, 32, 33, 34, 35 |

4. Operating Condition

- Ready Mode
- Copy Mode
- Transmitting Mode
- Receiving Mode
- Scanning Mode

## CONFIGURATION OF TESTED SYSTEM



### Cable Description:

| Cable No. | Description                    | Manufacturer          | Shielded | Ferrite | Length | Connector    |
|-----------|--------------------------------|-----------------------|----------|---------|--------|--------------|
| 1         | PC Cable(Serial)               | LOROM INDUSTRIES      | YES      | NO      | 1.8    | Metallic     |
| 2         | PC Cable(Parallel)             |                       | YES      | NO      | 1.8    | Non-metallic |
| 3         | Mouse Cable                    | IBM                   | YES      | NO      | 1.8    | Non-metallic |
| 4         | AC Adaptor Cable               | Compaq computer Corp. | YES      | YES     | 1.0    | Non-metallic |
| 5         | AC Power Cable(for AC Adaptor) | -                     | NO       | NO      | 2.0    | Non-metallic |
| 6         | AC Power Cable(for EUT)        | -                     | NO       | NO      | 1.8    | Non-metallic |
| 7         | Moduler Cable                  |                       | NO       | NO      | 1.8    | Non-metallic |
| 8         | Moduler Cable                  |                       | NO       | NO      | 10.0   | Non-metallic |
| 9         | Moduler Cable                  | -                     | NO       | NO      | 1.8    | Non-metallic |
| 10        | AC Power Cable(for HA System)  | Toshiba Corp.         | NO       | NO      | 1.8    | Non-metallic |
| 11        | AC Power Cable(for FAX)        |                       | NO       | NO      | 1.8    | Non-metallic |



## [Ready Mode]

### AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.7.2.3, the AC power line preliminary conducted emissions measurement 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.

| Frequency<br>(MHz) | LISN<br>Factor<br>(dB) | Meter Reading  |                | Limits<br>(dB/uV) | Emission Levels |                | Margins     |             |
|--------------------|------------------------|----------------|----------------|-------------------|-----------------|----------------|-------------|-------------|
|                    |                        | V-A<br>(dB/uV) | V-B<br>(dB/uV) |                   | V-A<br>(dB/uV)  | V-B<br>(dB/uV) | V-A<br>(dB) | V-B<br>(dB) |
| 0.57               | 0.2                    | 22.4           | 22.8           | 48.0              | 22.6            | 23.0           | 25.4        | 25.0        |
| 0.68               | 0.2                    | 34.7           | 32.9           | 48.0              | 34.9            | 33.1           | 13.1        | 14.9        |
| 0.85               | 0.2                    | 32.5           | 30.8           | 48.0              | 32.7            | 31.0           | 15.3        | 17.0        |
| 1.20               | 0.2                    | 26.0           | 24.7           | 48.0              | 26.2            | 24.9           | 21.8        | 23.1        |
| 1.37               | 0.2                    | 26.4           | 27.3           | 48.0              | 26.6            | 27.5           | 21.4        | 20.5        |
| 1.88               | 0.2                    | 23.2           | 23.6           | 48.0              | 23.4            | 23.8           | 24.6        | 24.2        |
| 2.39               | 0.2                    | 20.1           | 22.2           | 48.0              | 20.3            | 22.4           | 27.7        | 25.6        |
| 2.90               | 0.2                    | 24.7           | 23.0           | 48.0              | 24.9            | 23.2           | 23.1        | 24.8        |
| 3.35               | 0.2                    | 23.1           | 23.6           | 48.0              | 23.3            | 23.8           | 24.7        | 24.2        |
| 4.61               | 0.2                    | 11.0           | 21.1           | 48.0              | 11.2            | 21.3           | 36.8        | 26.7        |
| 5.13               | 0.2                    | 17.7           | 21.8           | 48.0              | 17.9            | 22.0           | 30.1        | 26.0        |
| 7.69               | 0.2                    | 21.5           | 23.3           | 48.0              | 21.7            | 23.5           | 26.3        | 24.5        |
| 8.55               | 0.2                    | 18.0           | 20.5           | 48.0              | 18.2            | 20.7           | 29.8        | 27.3        |
| 10.71              | 0.2                    | 21.0           | 21.3           | 48.0              | 21.2            | 21.5           | 26.8        | 26.5        |
| 11.94              | 0.2                    | 18.3           | 18.6           | 48.0              | 18.5            | 18.8           | 29.5        | 29.2        |
| 14.37              | 0.3                    | 20.1           | 16.5           | 48.0              | 20.4            | 16.8           | 27.6        | 31.2        |
| 15.92              | 0.3                    | 22.6           | 23.8           | 48.0              | 22.9            | 24.1           | 25.1        | 23.9        |
| 18.00              | 0.4                    | 32.3           | 32.4           | 48.0              | 32.7            | 32.8           | 15.3        | 15.2        |
| 21.79              | 0.4                    | 26.3           | 26.6           | 48.0              | 26.7            | 27.0           | 21.3        | 21.0        |
| 22.45              | 0.4                    | 29.2           | 29.4           | 48.0              | 29.6            | 29.8           | 18.4        | 18.2        |
| 25.31              | 0.5                    | 27.1           | 27.2           | 48.0              | 27.6            | 27.7           | 20.4        | 20.3        |
| 27.65              | 0.6                    | 27.8           | 28.2           | 48.0              | 28.4            | 28.8           | 19.6        | 19.2        |
| 30.00              | 0.6                    | 29.8           | 29.8           | 48.0              | 30.4            | 30.4           | 17.6        | 17.6        |

- Notes: 1). The spectrum was checked from 0.45 MHz to 30 MHz.  
2). V-A : One end & Ground ; V-B : The other end & Ground  
3). The symbol of '<' means 'or less'.  
4). The symbol of '>' means 'or greater'.  
5). The cable( 2.0 m length) loss is included in the LISN factor.  
6). See sec.11.5.2 in ANSI C63.4-1992 for the symbol '\*'.  
7). A sample calculation was made at 0.57 MHz.

$$Lf + Mr = 0.2 + 22.4 = 22.6 \text{ dB/uV}$$

Where,

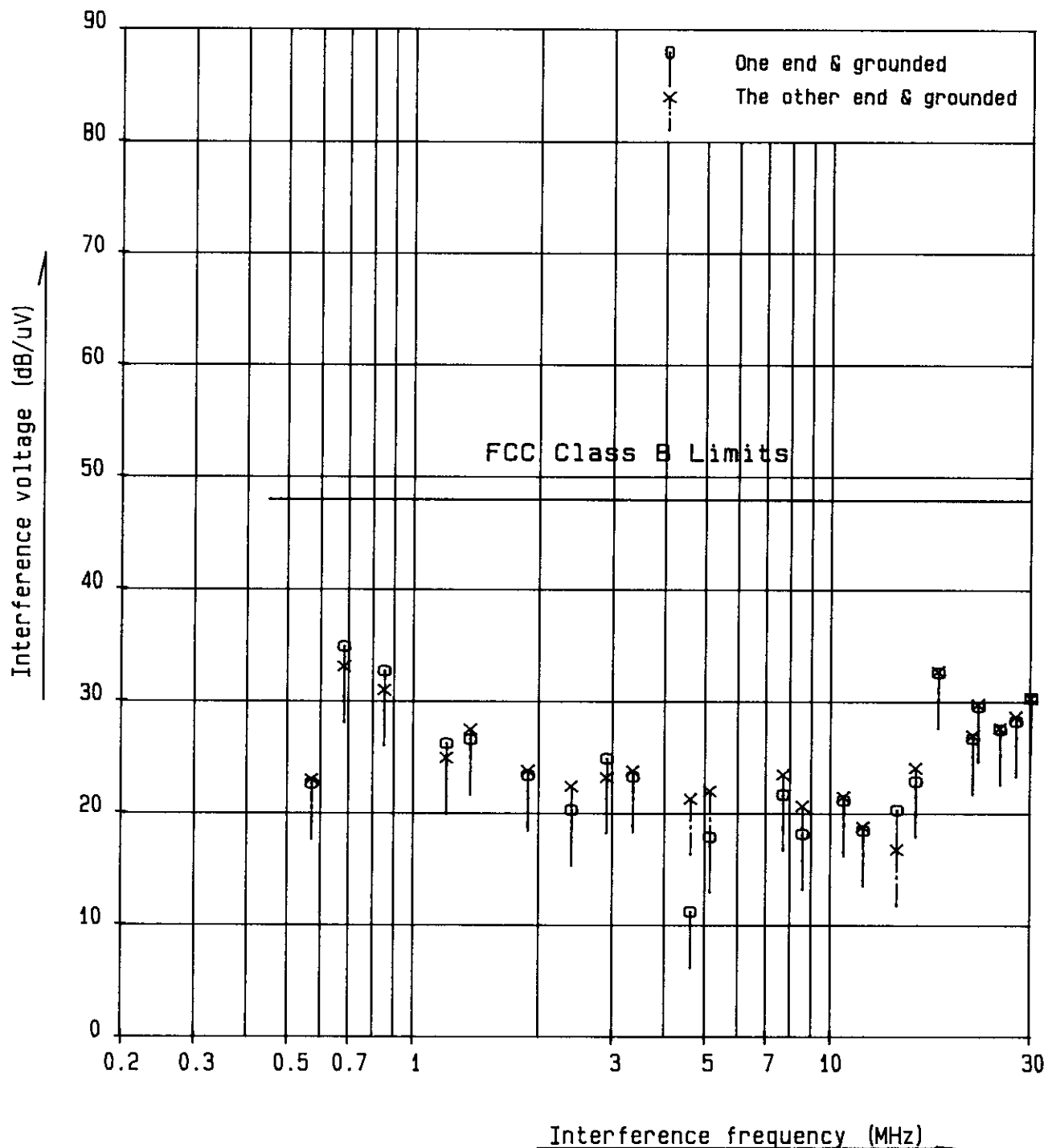
Lf : LISN Factor

Mr : Meter Reading

[Ready Mode]

## AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545



## [Copy Mode]

### AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.7.2.3, the AC power line preliminary conducted emissions measurement 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.

| Frequency<br>(MHz) | LISN<br>Factor<br>(dB) | Meter Reading  |                | Limits<br>(dB/uV) | Emission Levels |                | Margins     |             |
|--------------------|------------------------|----------------|----------------|-------------------|-----------------|----------------|-------------|-------------|
|                    |                        | V-A<br>(dB/uV) | V-B<br>(dB/uV) |                   | V-A<br>(dB/uV)  | V-B<br>(dB/uV) | V-A<br>(dB) | V-B<br>(dB) |
| 0.45               | 0.2                    | 44.7           | 42.7           | 48.0              | 44.9            | 42.9           | 3.1         | 5.1         |
| 0.50               | 0.2                    | 37.7           | 37.5           | 48.0              | 37.9            | 37.7           | 10.1        | 10.3        |
| 0.68               | 0.2                    | 29.2           | 28.0           | 48.0              | 29.4            | 28.2           | 18.6        | 19.8        |
| 0.80               | 0.2                    | 29.0           | 28.3           | 48.0              | 29.2            | 28.5           | 18.8        | 19.5        |
| 1.00               | 0.2                    | 24.0           | 26.0           | 48.0              | 24.2            | 26.2           | 23.8        | 21.8        |
| 1.47               | 0.2                    | 21.0           | 23.8           | 48.0              | 21.2            | 24.0           | 26.8        | 24.0        |
| 2.57               | 0.2                    | 20.7           | 22.5           | 48.0              | 20.9            | 22.7           | 27.1        | 25.3        |
| 2.90               | 0.2                    | 23.5           | 24.7           | 48.0              | 23.7            | 24.9           | 24.3        | 23.1        |
| 3.35               | 0.2                    | 24.2           | 24.2           | 48.0              | 24.4            | 24.4           | 23.6        | 23.6        |
| 5.02               | 0.2                    | 22.8           | 23.0           | 48.0              | 23.0            | 23.2           | 25.0        | 24.8        |
| 7.01               | 0.2                    | 20.8           | 21.2           | 48.0              | 21.0            | 21.4           | 27.0        | 26.6        |
| 8.76               | 0.2                    | 19.3           | 23.0           | 48.0              | 19.5            | 23.2           | 28.5        | 24.8        |
| 10.70              | 0.2                    | 21.8           | 21.8           | 48.0              | 22.0            | 22.0           | 26.0        | 26.0        |
| 12.59              | 0.3                    | 20.0           | 20.6           | 48.0              | 20.3            | 20.9           | 27.7        | 27.1        |
| 15.72              | 0.3                    | 23.5           | 24.2           | 48.0              | 23.8            | 24.5           | 24.2        | 23.5        |
| 18.00              | 0.4                    | 31.5           | 31.5           | 48.0              | 31.9            | 31.9           | 16.1        | 16.1        |
| 20.07              | 0.4                    | 25.7           | 25.7           | 48.0              | 26.1            | 26.1           | 21.9        | 21.9        |
| 21.77              | 0.4                    | 28.2           | 28.2           | 48.0              | 28.6            | 28.6           | 19.4        | 19.4        |
| 22.35              | 0.4                    | 30.2           | 30.5           | 48.0              | 30.6            | 30.9           | 17.4        | 17.1        |
| 25.00              | 0.5                    | 27.6           | 28.1           | 48.0              | 28.1            | 28.6           | 19.9        | 19.4        |
| 27.65              | 0.6                    | 28.0           | 28.5           | 48.0              | 28.6            | 29.1           | 19.4        | 18.9        |
| 30.00              | 0.6                    | 29.5           | 30.0           | 48.0              | 30.1            | 30.6           | 17.9        | 17.4        |

- Notes: 1). The spectrum was checked from 0.45 MHz to 30 MHz.  
2). V-A : One end & Ground ; V-B : The other end & Ground  
3). The symbol of '<' means 'or less'.  
4). The symbol of '>' means 'or greater'.  
5). The cable( 2.0 m length) loss is included in the LISN factor.  
6). See sec.11.5.2 in ANSI C63.4-1992 for the symbol '\*'.  
7). A sample calculation was made at 0.45 MHz.

$$Lf + Mr = 0.2 + 44.7 = 44.9 \text{ dB/uV}$$

Where,

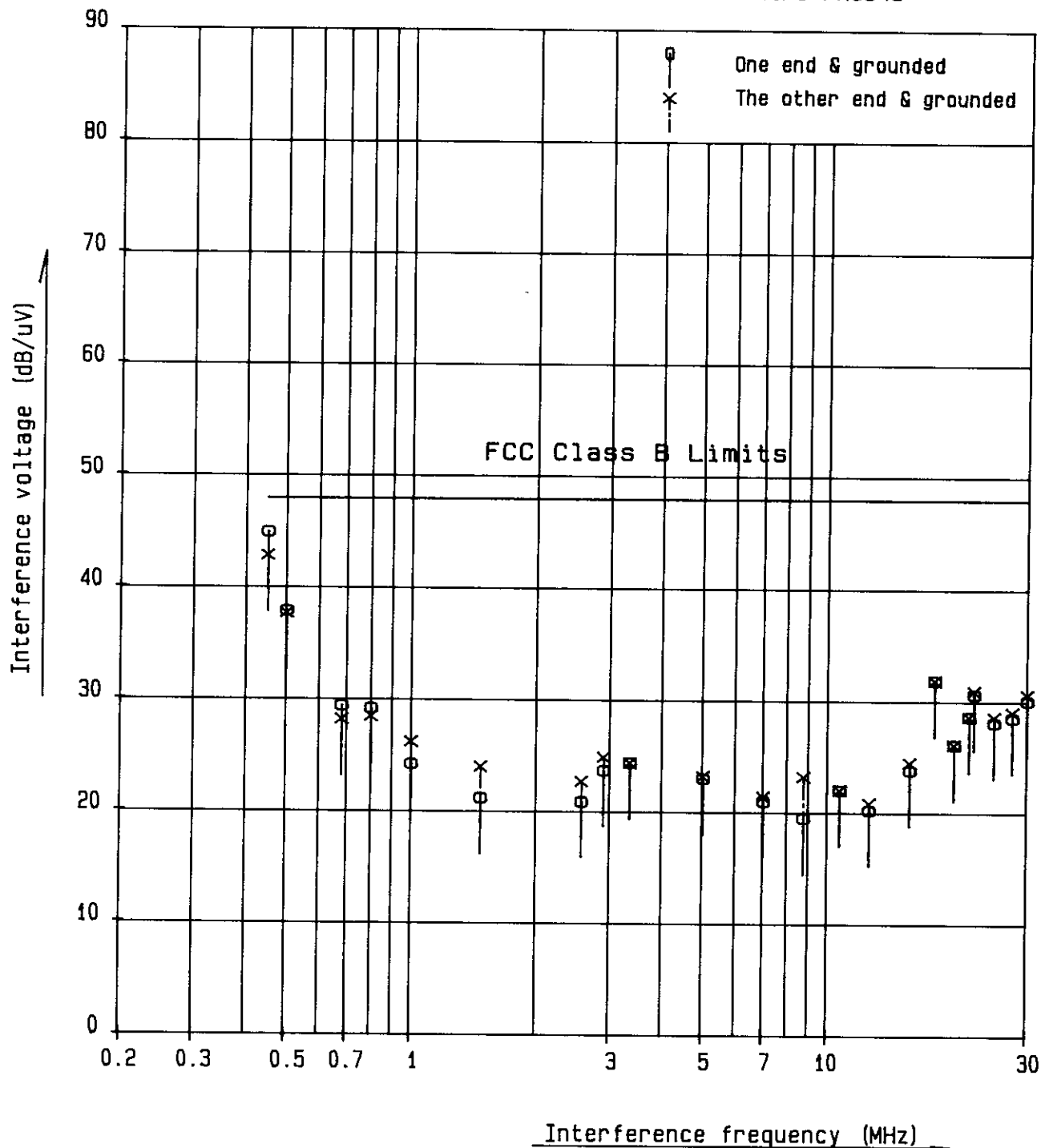
Lf : LISN Factor

Mr : Meter Reading

[Copy Mode]

## AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545



## [Transmitting Mode]

### AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.7.2.3, the AC power line preliminary conducted emissions measurement 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.

| Frequency<br>(MHz) | LISN<br>Factor<br>(dB) | Meter Reading  |                | Limits<br>(dB/uV) | Emission Levels |                | Margins     |             |
|--------------------|------------------------|----------------|----------------|-------------------|-----------------|----------------|-------------|-------------|
|                    |                        | V-A<br>(dB/uV) | V-B<br>(dB/uV) |                   | V-A<br>(dB/uV)  | V-B<br>(dB/uV) | V-A<br>(dB) | V-B<br>(dB) |
| 0.45               | 0.2                    | 39.1           | 38.2           | 48.0              | 39.3            | 38.4           | 8.7         | 9.6         |
| 0.55               | 0.2                    | 39.8           | 38.4           | 48.0              | 40.0            | 38.6           | 8.0         | 9.4         |
| 0.70               | 0.2                    | 32.8           | 30.0           | 48.0              | 33.0            | 30.2           | 15.0        | 17.8        |
| 0.80               | 0.2                    | 30.9           | 27.4           | 48.0              | 31.1            | 27.6           | 16.9        | 20.4        |
| 0.99               | 0.2                    | 26.4           | 27.2           | 48.0              | 26.6            | 27.4           | 21.4        | 20.6        |
| 1.41               | 0.2                    | 22.0           | 24.1           | 48.0              | 22.2            | 24.3           | 25.8        | 23.7        |
| 2.27               | 0.2                    | 20.0           | 21.0           | 48.0              | 20.2            | 21.2           | 27.8        | 26.8        |
| 2.90               | 0.2                    | 24.4           | 24.3           | 48.0              | 24.6            | 24.5           | 23.4        | 23.5        |
| 3.35               | 0.2                    | 25.0           | 25.2           | 48.0              | 25.2            | 25.4           | 22.8        | 22.6        |
| 5.02               | 0.2                    | 20.0           | 20.0           | 48.0              | 20.2            | 20.2           | 27.8        | 27.8        |
| 7.01               | 0.2                    | 20.0           | 20.7           | 48.0              | 20.2            | 20.9           | 27.8        | 27.1        |
| 8.62               | 0.2                    | 19.2           | 19.8           | 48.0              | 19.4            | 20.0           | 28.6        | 28.0        |
| 10.70              | 0.2                    | 21.0           | 20.9           | 48.0              | 21.2            | 21.1           | 26.8        | 26.9        |
| 12.59              | 0.3                    | 18.0           | 17.0           | 48.0              | 18.3            | 17.3           | 29.7        | 30.7        |
| 15.72              | 0.3                    | 21.0           | 22.0           | 48.0              | 21.3            | 22.3           | 26.7        | 25.7        |
| 18.00              | 0.4                    | 30.8           | 30.8           | 48.0              | 31.2            | 31.2           | 16.8        | 16.8        |
| 20.07              | 0.4                    | 23.1           | 23.2           | 48.0              | 23.5            | 23.6           | 24.5        | 24.4        |
| 21.77              | 0.4                    | 28.0           | 28.8           | 48.0              | 28.4            | 29.2           | 19.6        | 18.8        |
| 22.82              | 0.5                    | 29.1           | 29.8           | 48.0              | 29.6            | 30.3           | 18.4        | 17.7        |
| 25.00              | 0.5                    | 26.0           | 26.4           | 48.0              | 26.5            | 26.9           | 21.5        | 21.1        |
| 27.65              | 0.6                    | 27.4           | 27.4           | 48.0              | 28.0            | 28.0           | 20.0        | 20.0        |
| 30.00              | 0.6                    | 24.0           | 24.2           | 48.0              | 24.6            | 24.8           | 23.4        | 23.2        |

- Notes: 1). The spectrum was checked from 0.45 MHz to 30 MHz.  
2). V-A : One end & Ground ; V-B : The other end & Ground  
3). The symbol of '<' means 'or less'.  
4). The symbol of '>' means 'or greater'.  
5). The cable( 2.0 m length) loss is included in the LISN factor.  
6). See sec.11.5.2 in ANSI C63.4-1992 for the symbol '\*'.  
7). A sample calculation was made at 0.45 MHz.

$$Lf + Mr = 0.2 + 39.1 = 39.3 \text{ dB/uV}$$

Where,

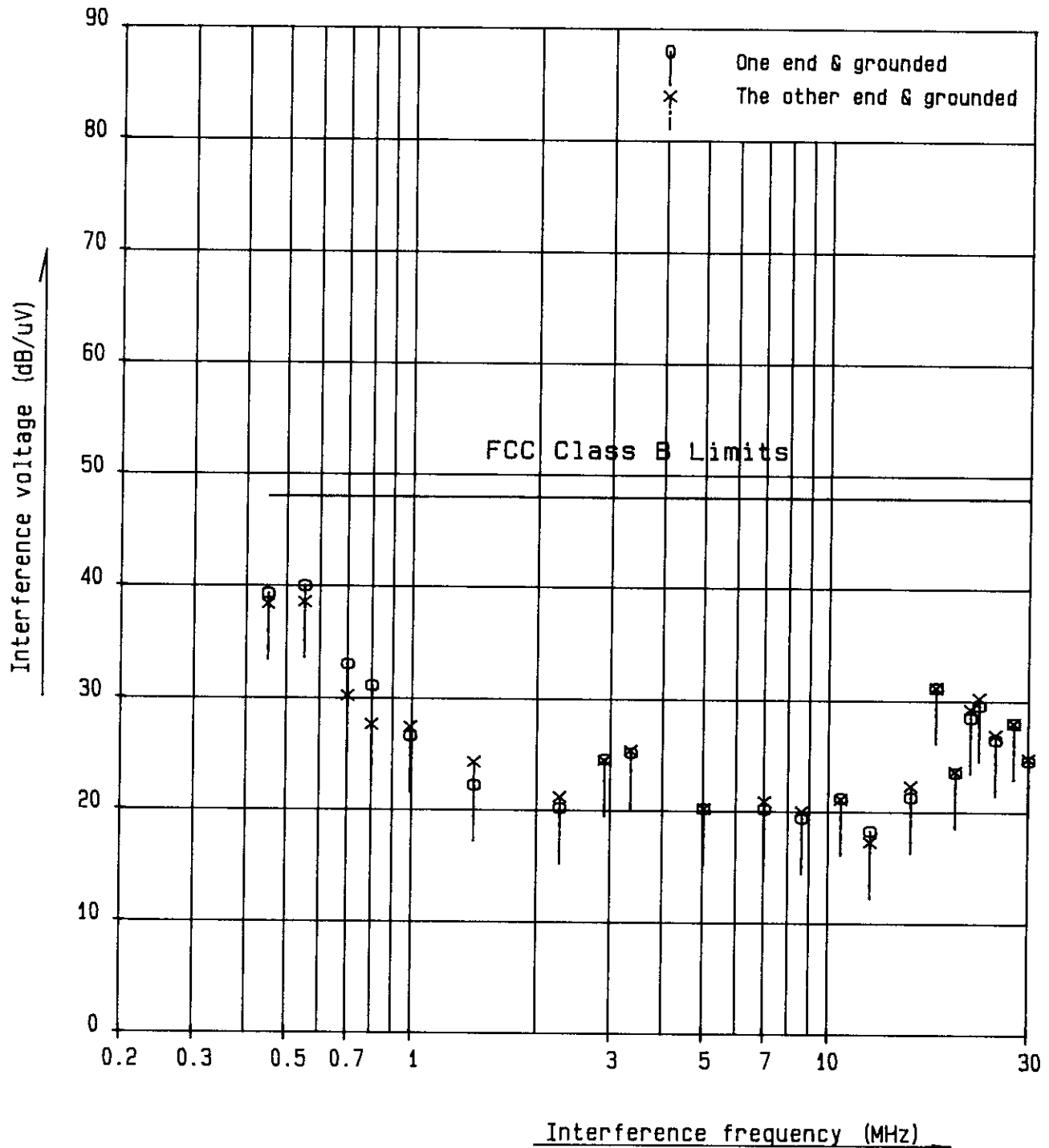
Lf : LISN Factor

Mr : Meter Reading

[Transmitting Mode]

## AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545



## [Receiving Mode]

### AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.7.2.3, the AC power line preliminary conducted emissions measurement 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.

| Frequency<br>(MHz) | LISN<br>Factor<br>(dB) | Meter Reading  |                | Limits<br>(dB/uV) | Emission Levels |                | Margins     |             |
|--------------------|------------------------|----------------|----------------|-------------------|-----------------|----------------|-------------|-------------|
|                    |                        | V-A<br>(dB/uV) | V-B<br>(dB/uV) |                   | V-A<br>(dB/uV)  | V-B<br>(dB/uV) | V-A<br>(dB) | V-B<br>(dB) |
| 0.48               | 0.2                    | 42.5           | 40.3           | 48.0              | 42.7            | 40.5           | 5.3         | 7.5         |
| 0.52               | 0.2                    | 39.0           | 38.1           | 48.0              | 39.2            | 38.3           | 8.8         | 9.7         |
| 0.68               | 0.2                    | 30.2           | 29.9           | 48.0              | 30.4            | 30.1           | 17.6        | 17.9        |
| 0.80               | 0.2                    | 23.1           | 22.4           | 48.0              | 23.3            | 22.6           | 24.7        | 25.4        |
| 0.94               | 0.2                    | 26.4           | 26.5           | 48.0              | 26.6            | 26.7           | 21.4        | 21.3        |
| 1.40               | 0.2                    | 20.0           | 22.5           | 48.0              | 20.2            | 22.7           | 27.8        | 25.3        |
| 2.28               | 0.2                    | 18.8           | 20.4           | 48.0              | 19.0            | 20.6           | 29.0        | 27.4        |
| 2.90               | 0.2                    | 24.0           | 24.8           | 48.0              | 24.2            | 25.0           | 23.8        | 23.0        |
| 3.35               | 0.2                    | 25.0           | 25.5           | 48.0              | 25.2            | 25.7           | 22.8        | 22.3        |
| 5.02               | 0.2                    | 20.2           | 20.0           | 48.0              | 20.4            | 20.2           | 27.6        | 27.8        |
| 7.01               | 0.2                    | 19.8           | 20.9           | 48.0              | 20.0            | 21.1           | 28.0        | 26.9        |
| 8.62               | 0.2                    | 18.8           | 21.4           | 48.0              | 19.0            | 21.6           | 29.0        | 26.4        |
| 10.70              | 0.2                    | 21.0           | 20.6           | 48.0              | 21.2            | 20.8           | 26.8        | 27.2        |
| 12.59              | 0.3                    | 15.9           | 16.4           | 48.0              | 16.2            | 16.7           | 31.8        | 31.3        |
| 15.72              | 0.3                    | 21.0           | 21.5           | 48.0              | 21.3            | 21.8           | 26.7        | 26.2        |
| 18.00              | 0.4                    | 30.5           | 30.7           | 48.0              | 30.9            | 31.1           | 17.1        | 16.9        |
| 20.07              | 0.4                    | 23.0           | 22.8           | 48.0              | 23.4            | 23.2           | 24.6        | 24.8        |
| 21.77              | 0.4                    | 25.0           | 24.6           | 48.0              | 25.4            | 25.0           | 22.6        | 23.0        |
| 22.82              | 0.5                    | 27.4           | 27.5           | 48.0              | 27.9            | 28.0           | 20.1        | 20.0        |
| 25.00              | 0.5                    | 23.6           | 23.8           | 48.0              | 24.1            | 24.3           | 23.9        | 23.7        |
| 27.65              | 0.6                    | 26.5           | 26.9           | 48.0              | 27.1            | 27.5           | 20.9        | 20.5        |
| 30.00              | 0.6                    | 23.8           | 23.9           | 48.0              | 24.4            | 24.5           | 23.6        | 23.5        |

- Notes: 1). The spectrum was checked from 0.45 MHz to 30 MHz.  
2). V-A : One end & Ground ; V-B : The other end & Ground  
3). The symbol of '<' means 'or less'.  
4). The symbol of '>' means 'or greater'.  
5). The cable( 2.0 m length) loss is included in the LISN factor.  
6). See sec.11.5.2 in ANSI C63.4-1992 for the symbol '\*'.  
7). A sample calculation was made at 0.48 MHz.

$$L_f + M_r = 0.2 + 42.5 = 42.7 \text{ dB/uV}$$

Where,

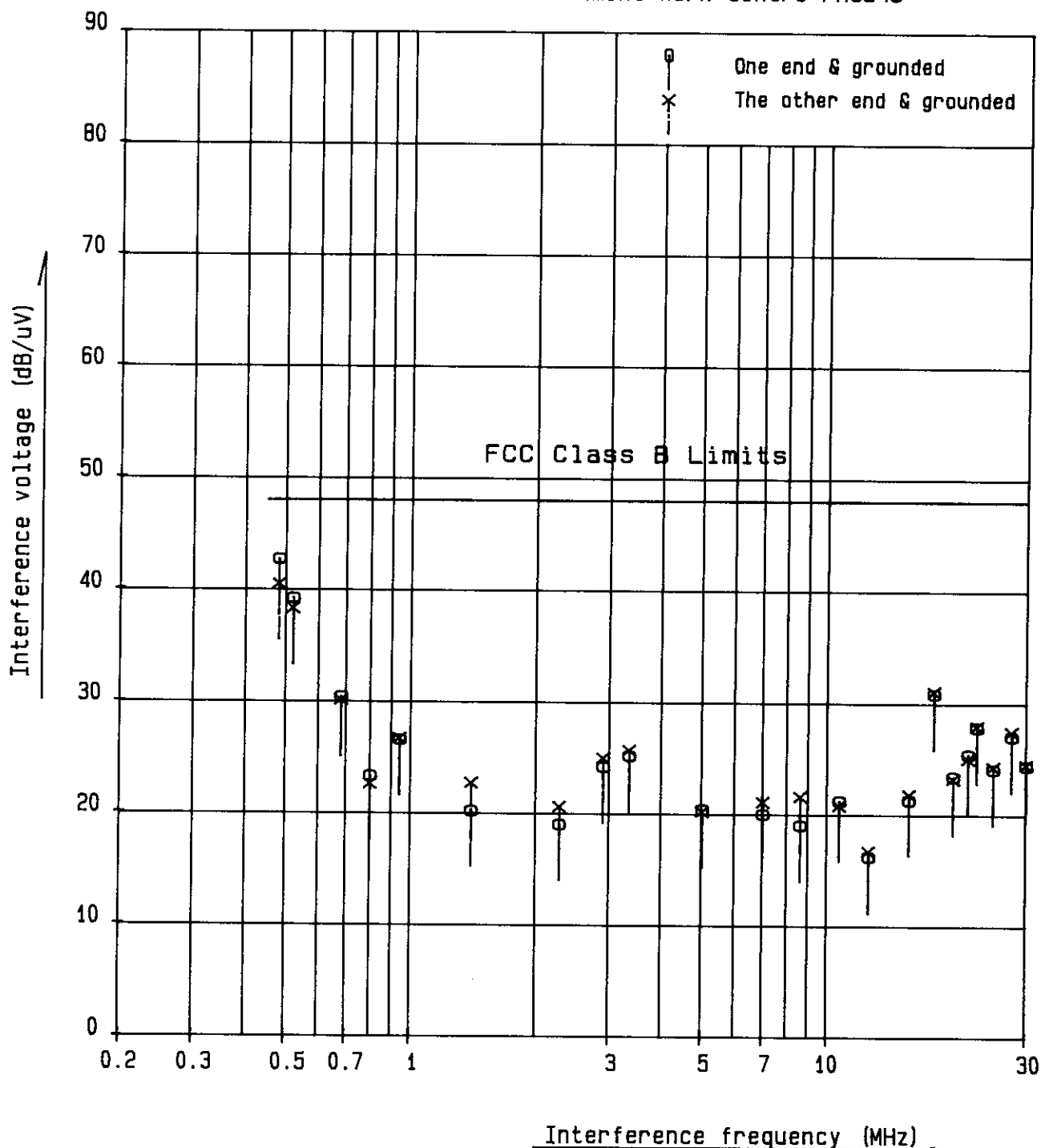
$L_f$  : LISN Factor

$M_r$  : Meter Reading

[Receiving Mode]

## AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545





## [Scanning Mode]

### AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.7.2.3, the AC power line preliminary conducted emissions measurement 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.

| Frequency<br>(MHz) | LISN<br>Factor<br>(dB) | Meter Reading  |                | Limits<br>(dB/uV) | Emission Levels |                | Margins     |             |
|--------------------|------------------------|----------------|----------------|-------------------|-----------------|----------------|-------------|-------------|
|                    |                        | V-A<br>(dB/uV) | V-B<br>(dB/uV) |                   | V-A<br>(dB/uV)  | V-B<br>(dB/uV) | V-A<br>(dB) | V-B<br>(dB) |
| 0.45               | 0.2                    | 39.4           | 38.8           | 48.0              | 39.6            | 39.0           | 8.4         | 9.0         |
| 0.52               | 0.2                    | 39.5           | 38.0           | 48.0              | 39.7            | 38.2           | 8.3         | 9.8         |
| 0.68               | 0.2                    | 32.3           | 30.0           | 48.0              | 32.5            | 30.2           | 15.5        | 17.8        |
| 0.95               | 0.2                    | 26.2           | 27.4           | 48.0              | 26.4            | 27.6           | 21.6        | 20.4        |
| 1.23               | 0.2                    | 22.5           | 23.0           | 48.0              | 22.7            | 23.2           | 25.3        | 24.8        |
| 1.67               | 0.2                    | 20.0           | 23.4           | 48.0              | 20.2            | 23.6           | 27.8        | 24.4        |
| 2.57               | 0.2                    | 21.5           | 22.6           | 48.0              | 21.7            | 22.8           | 26.3        | 25.2        |
| 2.90               | 0.2                    | 23.5           | 23.8           | 48.0              | 23.7            | 24.0           | 24.3        | 24.0        |
| 3.35               | 0.2                    | 24.1           | 24.4           | 48.0              | 24.3            | 24.6           | 23.7        | 23.4        |
| 5.02               | 0.2                    | 20.9           | 21.4           | 48.0              | 21.1            | 21.6           | 26.9        | 26.4        |
| 7.01               | 0.2                    | 18.8           | 21.0           | 48.0              | 19.0            | 21.2           | 29.0        | 26.8        |
| 8.71               | 0.2                    | 19.0           | 19.2           | 48.0              | 19.2            | 19.4           | 28.8        | 28.6        |
| 10.70              | 0.2                    | 21.8           | 21.5           | 48.0              | 22.0            | 21.7           | 26.0        | 26.3        |
| 12.59              | 0.3                    | 20.0           | 19.5           | 48.0              | 20.3            | 19.8           | 27.7        | 28.2        |
| 15.71              | 0.3                    | 21.2           | 22.1           | 48.0              | 21.5            | 22.4           | 26.5        | 25.6        |
| 18.00              | 0.4                    | 30.5           | 30.7           | 48.0              | 30.9            | 31.1           | 17.1        | 16.9        |
| 20.07              | 0.4                    | 21.9           | 22.0           | 48.0              | 22.3            | 22.4           | 25.7        | 25.6        |
| 21.59              | 0.4                    | 29.0           | 29.2           | 48.0              | 29.4            | 29.6           | 18.6        | 18.4        |
| 22.25              | 0.4                    | 30.5           | 30.8           | 48.0              | 30.9            | 31.2           | 17.1        | 16.8        |
| 25.00              | 0.5                    | 24.8           | 25.0           | 48.0              | 25.3            | 25.5           | 22.7        | 22.5        |
| 27.65              | 0.6                    | 27.8           | 28.0           | 48.0              | 28.4            | 28.6           | 19.6        | 19.4        |
| 30.00              | 0.6                    | 27.9           | 27.6           | 48.0              | 28.5            | 28.2           | 19.5        | 19.8        |

- Notes: 1). The spectrum was checked from 0.45 MHz to 30 MHz.  
2). V-A : One end & Ground ; V-B : The other end & Ground  
3). The symbol of '<' means 'or less'.  
4). The symbol of '>' means 'or greater'.  
5). The cable( 2.0 m length) loss is included in the LISN factor.  
6). See sec.11.5.2 in ANSI C63.4-1992 for the symbol '\*'.  
7). A sample calculation was made at 0.45 MHz.

$$L_f + M_r = 0.2 + 39.4 = 39.6 \text{ dB/uV}$$

Where,

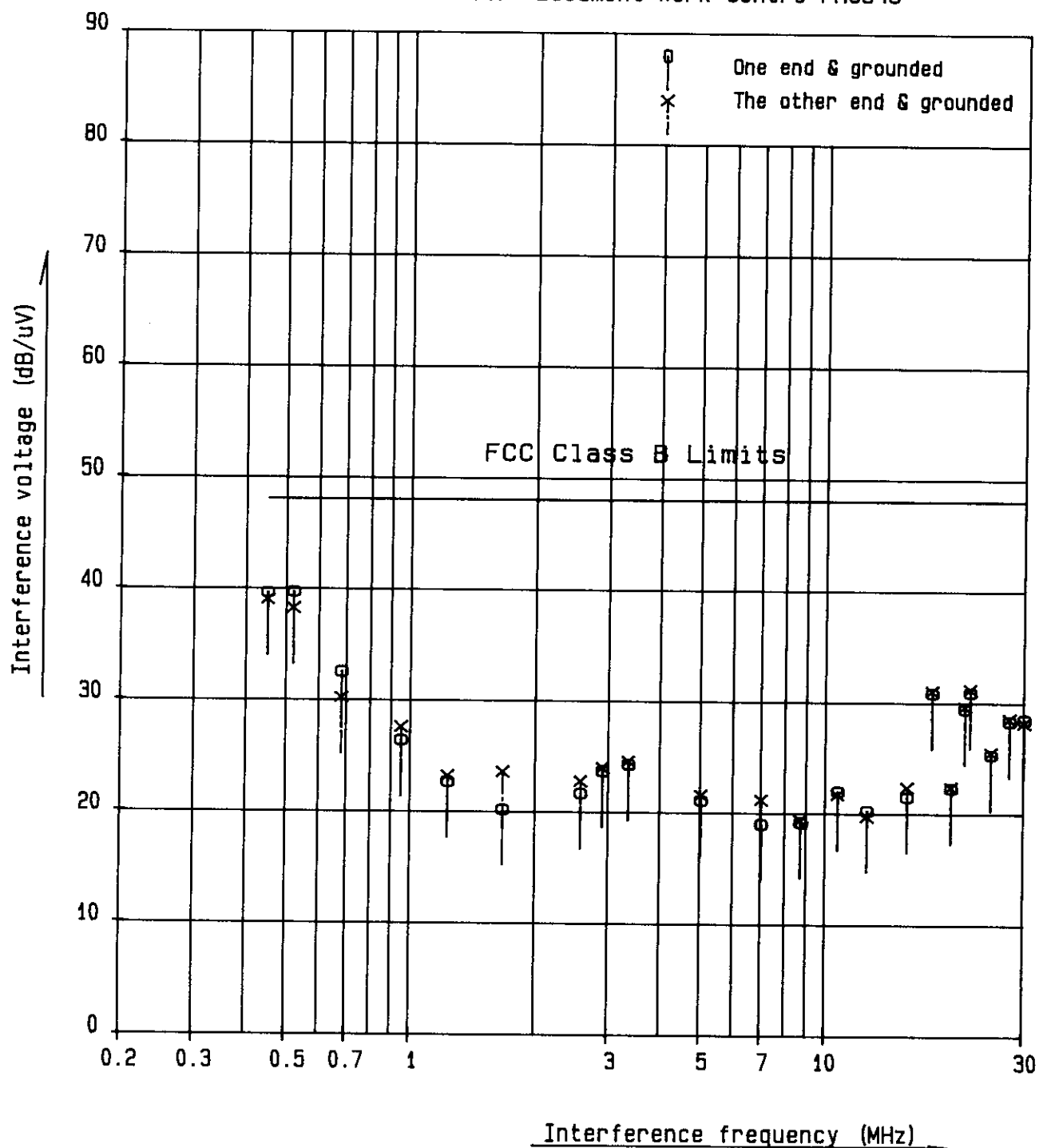
Lf : LISN Factor

Mr : Meter Reading

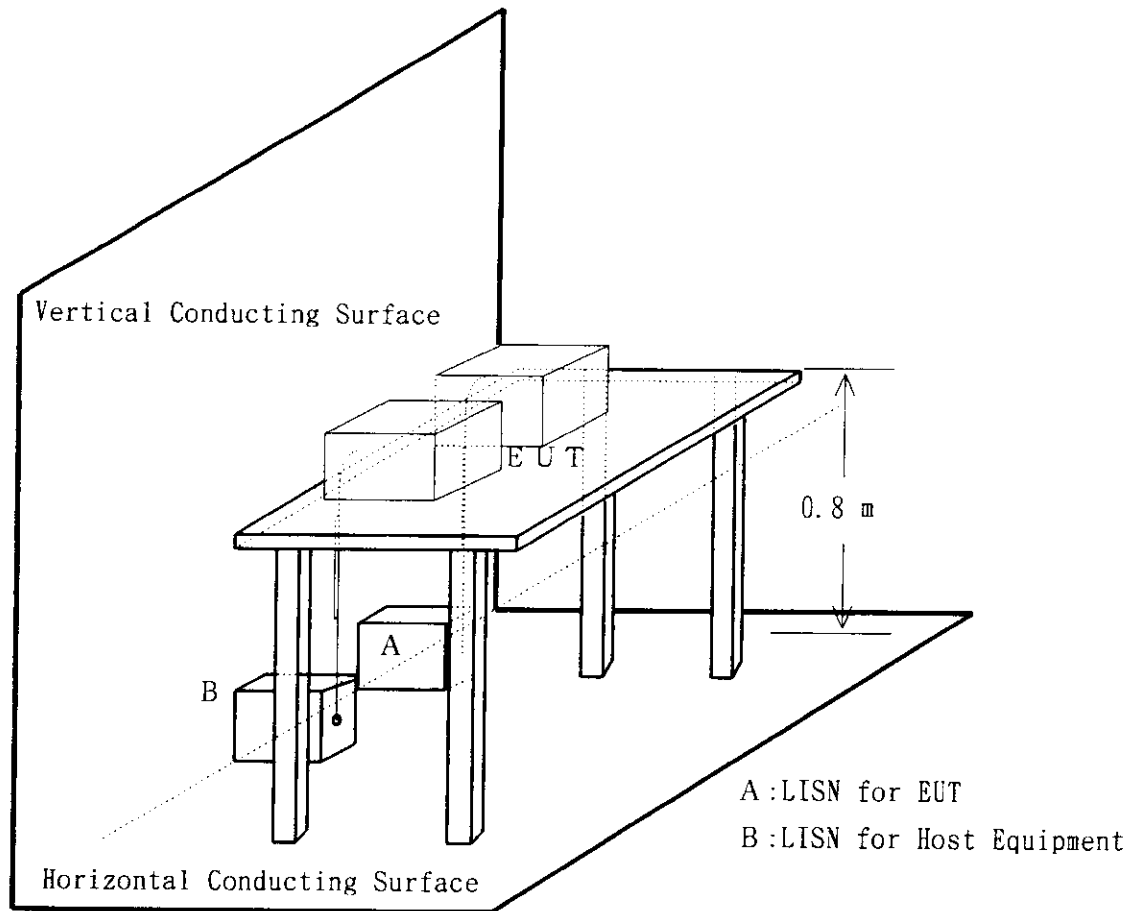
[Scanning Mode]

## AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545



TEST SET-UP SKETCH FOR AC POWER LINE CONDUCTED EMISSIONS MEASUREMENT



## [Ready Mode]

### RADIATED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.8.3.1.1, 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.

| Frequency<br>(MHz) | Antenna<br>Factor<br>(dB/m) | Meter Reading<br>at 3 m |                  | Limits<br>(dB/uV/m) | Emission Levels<br>at 3 m |                    | Margins        |               |
|--------------------|-----------------------------|-------------------------|------------------|---------------------|---------------------------|--------------------|----------------|---------------|
|                    |                             | Horiz.<br>(dB/uV)       | Vert.<br>(dB/uV) |                     | Horiz.<br>(dB/uV/m)       | Vert.<br>(dB/uV/m) | Horiz.<br>(dB) | Vert.<br>(dB) |
| 30.0               | -0.5                        | 19.8                    | 28.2             | 40.0                | 19.3                      | 27.7               | 20.7           | 12.3          |
| 38.0               | 1.6                         | 18.6                    | 27.0             | 40.0                | 20.2                      | 28.6               | 19.8           | 11.4          |
| 48.0               | 3.8                         | 24.2                    | 24.1             | 40.0                | 28.0                      | 27.9               | 12.0           | 12.1          |
| 55.3               | 5.1                         | 19.7                    | 25.4             | 40.0                | 24.8                      | 30.5               | 15.2           | 9.5           |
| 76.0               | 8.2                         | 20.0                    | 18.1             | 40.0                | 28.2                      | 26.3               | 11.8           | 13.7          |
| 96.0               | 10.5                        | 20.9                    | 14.9             | 43.5                | 31.4                      | 25.4               | 12.1           | 18.1          |
| 120.0              | 12.7                        | 16.4                    | 15.3             | 43.5                | 29.1                      | 28.0               | 14.4           | 15.5          |
| 137.7              | 14.1                        | 21.3                    | 24.8             | 43.5                | 35.4                      | 38.9               | 8.1            | 4.6           |
| 150.0              | 15.0                        | 22.8                    | 21.1             | 43.5                | 37.8                      | 36.1               | 5.7            | 7.4           |
| 176.0              | 16.7                        | 13.3                    | 16.5             | 43.5                | 30.0                      | 33.2               | 13.5           | 10.3          |
| 200.0              | 18.0                        | 20.0                    | 14.4             | 43.5                | 38.0                      | 32.4               | 5.5            | 11.1          |
| 228.0              | 19.4                        | 16.9                    | 13.0             | 46.0                | 36.3                      | 32.4               | 9.7            | 13.6          |
| 240.0              | 20.0                        | 15.0                    | 11.4             | 46.0                | 35.0                      | 31.4               | 11.0           | 14.6          |
| 288.0              | 22.0                        | 15.8                    | 12.0             | 46.0                | 37.8                      | 34.0               | 8.2            | 12.0          |
| 320.0              | 23.1                        | 9.6                     | 10.5             | 46.0                | 32.7                      | 33.6               | 13.3           | 12.4          |
| 384.1              | 25.2                        | 8.5                     | 10.0             | 46.0                | 33.7                      | 35.2               | 12.3           | 10.8          |
| 400.0              | 25.6                        | 12.7                    | 11.5             | 46.0                | 38.3                      | 37.1               | 7.7            | 8.9           |
| 432.1              | 26.5                        | 8.9                     | 7.2              | 46.0                | 35.4                      | 33.7               | 10.6           | 12.3          |
| 480.0              | 27.7                        | 1.0                     | 4.0              | 46.0                | 28.7                      | 31.7               | 17.3           | 14.3          |
| 504.1              | 28.3                        | 6.2                     | 6.5              | 46.0                | 34.5                      | 34.8               | 11.5           | 11.2          |
| 600.0              | 30.5                        | 5.2                     | 10.7             | 46.0                | 35.7                      | 41.2               | 10.3           | 4.8           |
| 768.1              | 33.8                        | 3.0                     | 4.4              | 46.0                | 36.8                      | 38.2               | 9.2            | 7.8           |
| 856.1              | 35.3                        | 4.0                     | 6.1              | 46.0                | 39.3                      | 41.4               | 6.7            | 4.6           |

- Notes: 1). The spectrum was checked from 30 MHz to 1000 MHz.  
2). The symbol of '<' means 'or less'.  
3). The symbol of '>' means 'or greater'.  
4). The cable( 14.0 m length) loss is included in the antenna factor.  
5). A sample calculation was made at 30.0 MHz.

$$Af + Mr = -0.5 + 19.8 = 19.3 \text{ dB/uV/m}$$

Where,

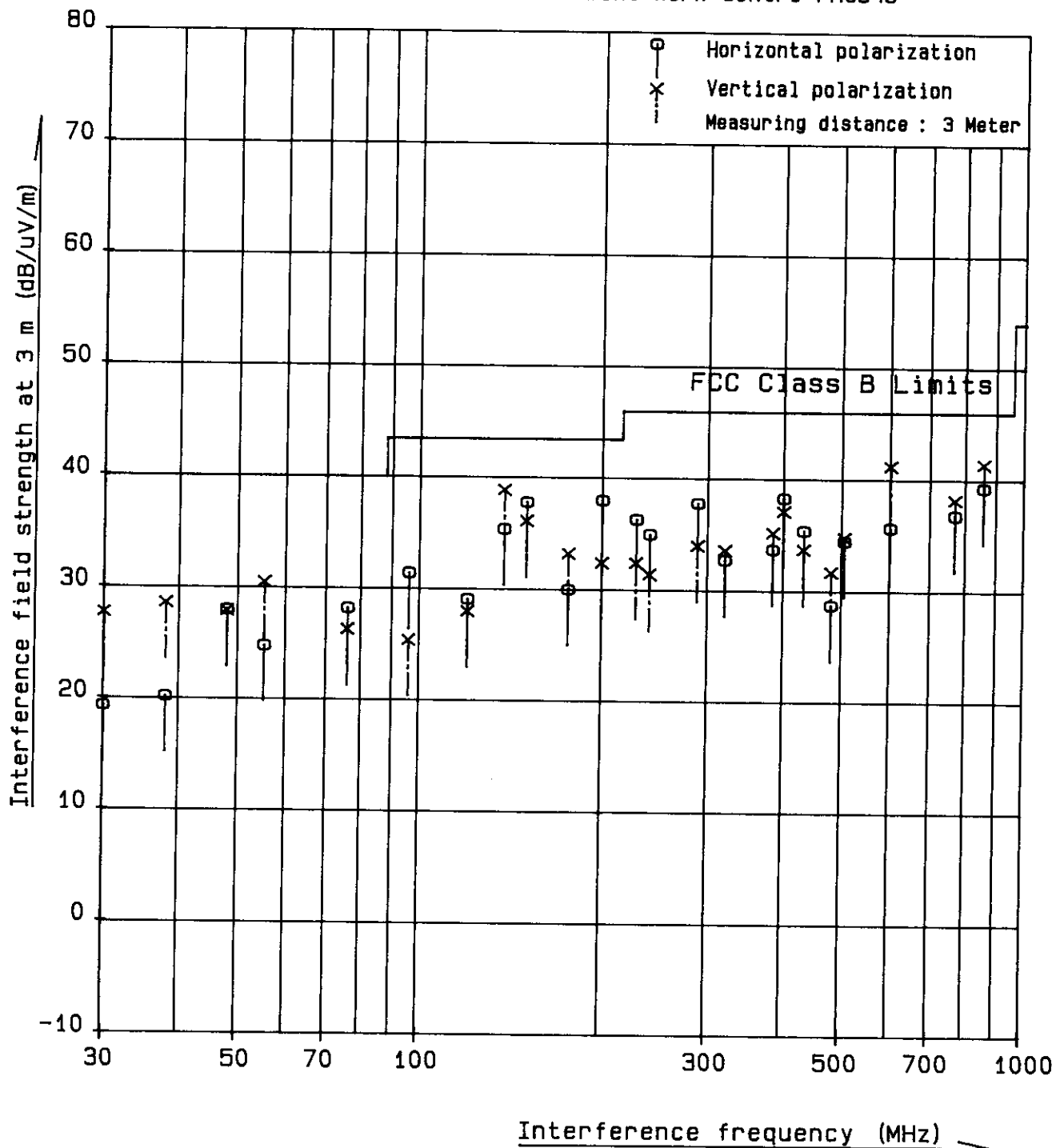
Af : Antenna Factor

Mr : Meter Reading

[Ready Mode]

## RADIATED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545



## [Copy Mode]

### RADIATED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.8.3.1.1, 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.

| Frequency<br>(MHz) | Antenna<br>Factor<br>(dB/m) | Meter Reading<br>at 3 m |                  | Limits<br>(dB/uV/m) | Emission Levels<br>at 3 m |                    | Margins        |               |
|--------------------|-----------------------------|-------------------------|------------------|---------------------|---------------------------|--------------------|----------------|---------------|
|                    |                             | Horiz.<br>(dB/uV)       | Vert.<br>(dB/uV) |                     | Horiz.<br>(dB/uV/m)       | Vert.<br>(dB/uV/m) | Horiz.<br>(dB) | Vert.<br>(dB) |
| 30.0               | -0.5                        | 23.0                    | 31.0             | 40.0                | 22.5                      | 30.5               | 17.5           | 9.5           |
| 38.0               | 1.6                         | 18.3                    | 25.4             | 40.0                | 19.9                      | 27.0               | 20.1           | 13.0          |
| 48.0               | 3.8                         | 22.7                    | 23.6             | 40.0                | 26.5                      | 27.4               | 13.5           | 12.6          |
| 55.3               | 5.1                         | 20.7                    | 16.1             | 40.0                | 25.8                      | 21.2               | 14.2           | 18.8          |
| 76.0               | 8.2                         | 21.3                    | 20.7             | 40.0                | 29.5                      | 28.9               | 10.5           | 11.1          |
| 96.0               | 10.5                        | 20.5                    | 14.6             | 43.5                | 31.0                      | 25.1               | 12.5           | 18.4          |
| 120.0              | 12.7                        | 16.9                    | 14.5             | 43.5                | 29.6                      | 27.2               | 13.9           | 16.3          |
| 137.7              | 14.1                        | 23.6                    | 26.0             | 43.5                | 37.7                      | 40.1               | 5.8            | 3.4           |
| 147.4              | 14.9                        | 19.1                    | 17.4             | 43.5                | 34.0                      | 32.3               | 9.5            | 11.2          |
| 175.1              | 16.6                        | 13.7                    | 14.4             | 43.5                | 30.3                      | 31.0               | 13.2           | 12.5          |
| 192.0              | 17.6                        | 14.7                    | 15.1             | 43.5                | 32.3                      | 32.7               | 11.2           | 10.8          |
| 221.2              | 19.1                        | 15.1                    | 11.5             | 46.0                | 34.2                      | 30.6               | 11.8           | 15.4          |
| 240.0              | 20.0                        | 14.3                    | 10.4             | 46.0                | 34.3                      | 30.4               | 11.7           | 15.6          |
| 288.0              | 22.0                        | 14.6                    | 10.7             | 46.0                | 36.6                      | 32.7               | 9.4            | 13.3          |
| 315.0              | 23.0                        | 10.2                    | 7.0              | 46.0                | 33.2                      | 30.0               | 12.8           | 16.0          |
| 352.0              | 24.2                        | 4.0                     | 7.8              | 46.0                | 28.2                      | 32.0               | 17.8           | 14.0          |
| 400.0              | 25.6                        | 11.4                    | 10.8             | 46.0                | 37.0                      | 36.4               | 9.0            | 9.6           |
| 480.0              | 27.7                        | 1.5                     | 3.0              | 46.0                | 29.2                      | 30.7               | 16.8           | 15.3          |
| 528.1              | 28.9                        | 4.5                     | 4.9              | 46.0                | 33.4                      | 33.8               | 12.6           | 12.2          |
| 600.0              | 30.5                        | 7.7                     | 11.4             | 46.0                | 38.2                      | 41.9               | 7.8            | 4.1           |
| 736.1              | 33.3                        | 3.7                     | 2.8              | 46.0                | 37.0                      | 36.1               | 9.0            | 9.9           |
| 900.1              | 36.0                        | < 0.0                   | 1.4              | 46.0                | < 36.0                    | 37.4               | > 10.0         | 8.6           |

- Notes: 1). The spectrum was checked from 30 MHz to 1000 MHz.  
2). The symbol of '<' means 'or less'.  
3). The symbol of '>' means 'or greater'.  
4). The cable( 14.0 m length) loss is included in the antenna factor.  
5). A sample calculation was made at 30.0 MHz.

$$Af + Mr = -0.5 + 23.0 = 22.5 \text{ dB/uV/m}$$

Where,

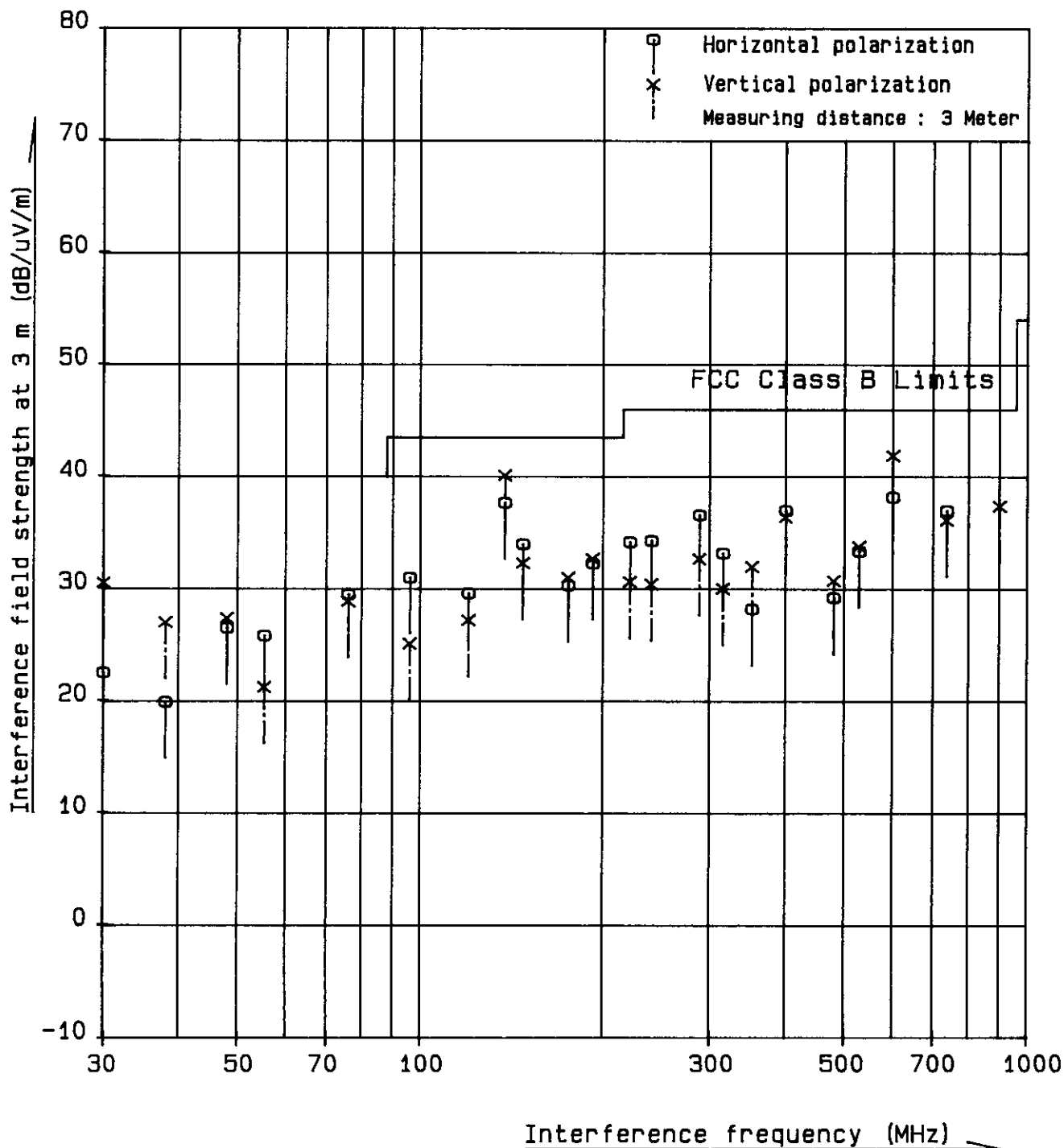
Af : Antenna Factor

Mr : Meter Reading

[Copy Mode]

## RADIATED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545



## [Transmitting Mode]

### RADIATED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.8.3.1.1, 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.

| Frequency<br>(MHz) | Antenna<br>Factor<br>(dB/m) | Meter Reading<br>at 3 m |                  | Limits<br>(dB/uV/m) | Emission Levels<br>at 3 m |                    | Margins        |               |
|--------------------|-----------------------------|-------------------------|------------------|---------------------|---------------------------|--------------------|----------------|---------------|
|                    |                             | Horiz.<br>(dB/uV)       | Vert.<br>(dB/uV) |                     | Horiz.<br>(dB/uV/m)       | Vert.<br>(dB/uV/m) | Horiz.<br>(dB) | Vert.<br>(dB) |
| 30.0               | -0.5                        | 18.6                    | 30.7             | 40.0                | 18.1                      | 30.2               | 21.9           | 9.8           |
| 38.0               | 1.6                         | 17.0                    | 26.4             | 40.0                | 18.6                      | 28.0               | 21.4           | 12.0          |
| 48.0               | 3.8                         | 24.0                    | 27.0             | 40.0                | 27.8                      | 30.8               | 12.2           | 9.2           |
| 55.3               | 5.1                         | 19.7                    | 15.4             | 40.0                | 24.8                      | 20.5               | 15.2           | 19.5          |
| 76.0               | 8.2                         | 21.7                    | 16.6             | 40.0                | 29.9                      | 24.8               | 10.1           | 15.2          |
| 96.0               | 10.5                        | 20.3                    | 14.8             | 43.5                | 30.8                      | 25.3               | 12.7           | 18.2          |
| 120.0              | 12.7                        | 16.3                    | 12.8             | 43.5                | 29.0                      | 25.5               | 14.5           | 18.0          |
| 137.7              | 14.1                        | 21.7                    | 21.4             | 43.5                | 35.8                      | 35.5               | 7.7            | 8.0           |
| 150.0              | 15.0                        | 21.9                    | 20.0             | 43.5                | 36.9                      | 35.0               | 6.6            | 8.5           |
| 176.0              | 16.7                        | 14.0                    | 16.2             | 43.5                | 30.7                      | 32.9               | 12.8           | 10.6          |
| 200.0              | 18.0                        | 15.8                    | 12.1             | 43.5                | 33.8                      | 30.1               | 9.7            | 13.4          |
| 228.0              | 19.4                        | 16.1                    | 11.4             | 46.0                | 35.5                      | 30.8               | 10.5           | 15.2          |
| 240.0              | 20.0                        | 15.0                    | 11.2             | 46.0                | 35.0                      | 31.2               | 11.0           | 14.8          |
| 288.0              | 22.0                        | 15.6                    | 11.4             | 46.0                | 37.6                      | 33.4               | 8.4            | 12.6          |
| 320.0              | 23.1                        | 9.0                     | 10.1             | 46.0                | 32.1                      | 33.2               | 13.9           | 12.8          |
| 384.1              | 25.2                        | 7.2                     | 9.8              | 46.0                | 32.4                      | 35.0               | 13.6           | 11.0          |
| 400.0              | 25.6                        | 13.3                    | 11.1             | 46.0                | 38.9                      | 36.7               | 7.1            | 9.3           |
| 480.0              | 27.7                        | 2.4                     | 3.6              | 46.0                | 30.1                      | 31.3               | 15.9           | 14.7          |
| 504.1              | 28.3                        | 6.8                     | 7.4              | 46.0                | 35.1                      | 35.7               | 10.9           | 10.3          |
| 600.0              | 30.5                        | 5.5                     | 10.2             | 46.0                | 36.0                      | 40.7               | 10.0           | 5.3           |
| 768.1              | 33.8                        | 2.8                     | 4.1              | 46.0                | 36.6                      | 37.9               | 9.4            | 8.1           |
| 856.1              | 35.3                        | 5.1                     | 5.8              | 46.0                | 40.4                      | 41.1               | 5.6            | 4.9           |

- Notes: 1). The spectrum was checked from 30 MHz to 1000 MHz.  
2). The symbol of '<' means 'or less'.  
3). The symbol of '>' means 'or greater'.  
4). The cable( 14.0 m length) loss is included in the antenna factor.  
5). A sample calculation was made at 30.0 MHz.

$$Af + Mr = -0.5 + 18.6 = 18.1 \text{ dB/uV/m}$$

Where,

Af : Antenna Factor

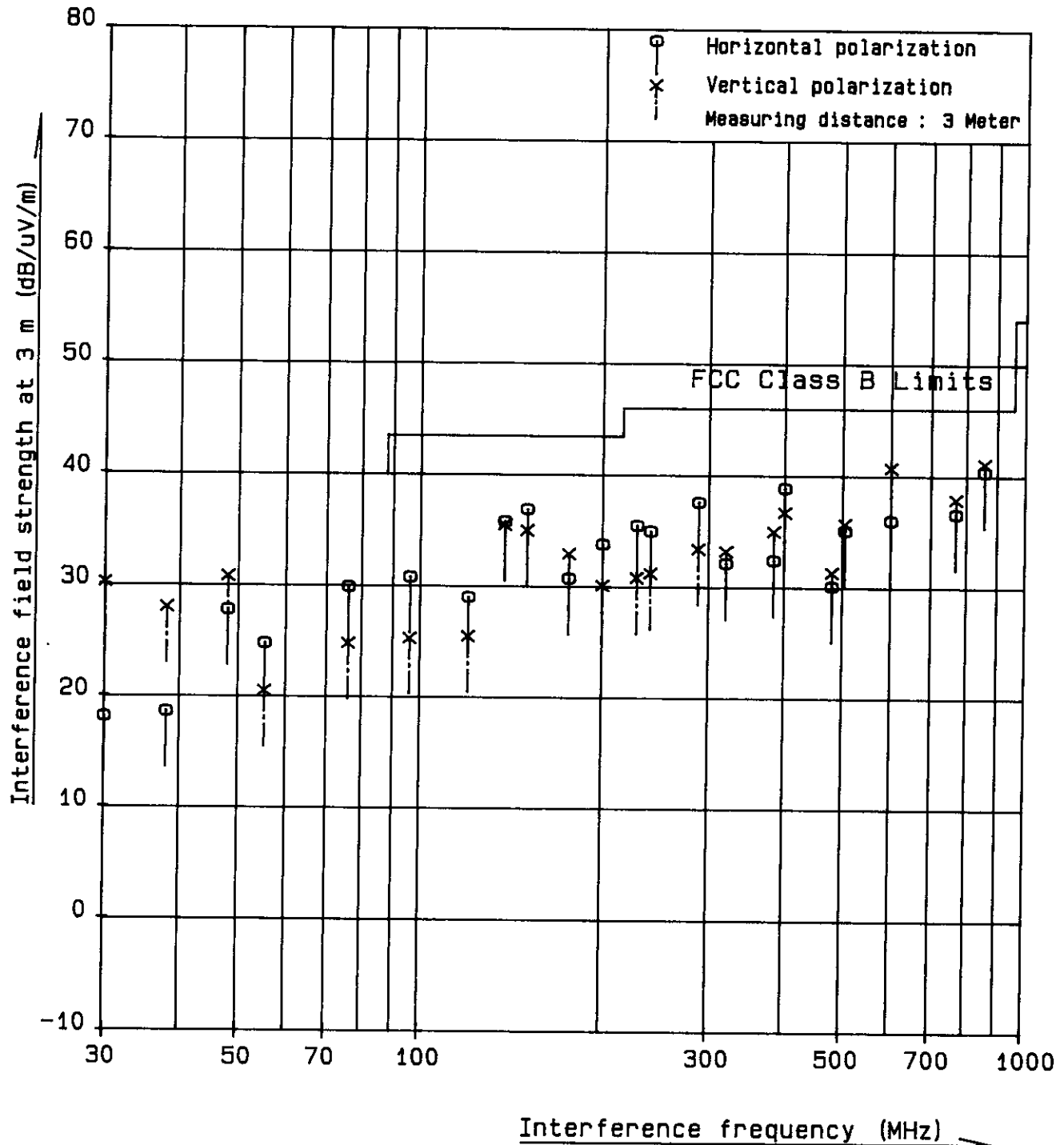
Mr : Meter Reading



[Transmitting Mode]

## RADIATED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545



## [Receiving Mode]

### RADIATED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.8.3.1.1, 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.

| Frequency<br>(MHz) | Antenna<br>Factor<br>(dB/m) | Meter Reading<br>at 3 m |                  | Limits<br>(dB/uV/m) | Emission Levels<br>at 3 m |                    | Margins        |               |
|--------------------|-----------------------------|-------------------------|------------------|---------------------|---------------------------|--------------------|----------------|---------------|
|                    |                             | Horiz.<br>(dB/uV)       | Vert.<br>(dB/uV) |                     | Horiz.<br>(dB/uV/m)       | Vert.<br>(dB/uV/m) | Horiz.<br>(dB) | Vert.<br>(dB) |
| 30.0               | -0.5                        | 19.4                    | 28.6             | 40.0                | 18.9                      | 28.1               | 21.1           | 11.9          |
| 38.0               | 1.6                         | 18.5                    | 25.7             | 40.0                | 20.1                      | 27.3               | 19.9           | 12.7          |
| 48.0               | 3.8                         | 25.5                    | 25.1             | 40.0                | 29.3                      | 28.9               | 10.7           | 11.1          |
| 55.3               | 5.1                         | 20.5                    | 16.3             | 40.0                | 25.6                      | 21.4               | 14.4           | 18.6          |
| 76.0               | 8.2                         | 22.6                    | 21.5             | 40.0                | 30.8                      | 29.7               | 9.2            | 10.3          |
| 96.0               | 10.5                        | 20.9                    | 14.8             | 43.5                | 31.4                      | 25.3               | 12.1           | 18.2          |
| 137.7              | 14.1                        | 21.8                    | 23.6             | 43.5                | 35.9                      | 37.7               | 7.6            | 5.8           |
| 150.0              | 15.0                        | 24.4                    | 21.1             | 43.5                | 39.4                      | 36.1               | 4.1            | 7.4           |
| 176.0              | 16.7                        | 12.5                    | 15.6             | 43.5                | 29.2                      | 32.3               | 14.3           | 11.2          |
| 192.0              | 17.6                        | 14.9                    | 14.7             | 43.5                | 32.5                      | 32.3               | 11.0           | 11.2          |
| 228.0              | 19.4                        | 15.5                    | 12.6             | 46.0                | 34.9                      | 32.0               | 11.1           | 14.0          |
| 240.0              | 20.0                        | 14.3                    | 10.3             | 46.0                | 34.3                      | 30.3               | 11.7           | 15.7          |
| 288.0              | 22.0                        | 13.2                    | 8.9              | 46.0                | 35.2                      | 30.9               | 10.8           | 15.1          |
| 315.0              | 23.0                        | 9.3                     | 5.8              | 46.0                | 32.3                      | 28.8               | 13.7           | 17.2          |
| 384.1              | 25.2                        | 8.7                     | 10.1             | 46.0                | 33.9                      | 35.3               | 12.1           | 10.7          |
| 400.0              | 25.6                        | 10.6                    | 10.9             | 46.0                | 36.2                      | 36.5               | 9.8            | 9.5           |
| 432.1              | 26.5                        | 9.2                     | 8.5              | 46.0                | 35.7                      | 35.0               | 10.3           | 11.0          |
| 480.0              | 27.7                        | 3.5                     | 4.3              | 46.0                | 31.2                      | 32.0               | 14.8           | 14.0          |
| 528.1              | 28.9                        | 4.9                     | 5.2              | 46.0                | 33.8                      | 34.1               | 12.2           | 11.9          |
| 600.0              | 30.5                        | 5.4                     | 11.7             | 46.0                | 35.9                      | 42.2               | 10.1           | 3.8           |
| 736.1              | 33.3                        | 3.6                     | 3.5              | 46.0                | 36.9                      | 36.8               | 9.1            | 9.2           |
| 856.1              | 35.3                        | 4.0                     | 5.9              | 46.0                | 39.3                      | 41.2               | 6.7            | 4.8           |
| 900.1              | 36.0                        | < 0.0                   | 1.0              | 46.0                | < 36.0                    | 37.0               | > 10.0         | 9.0           |

- Notes: 1). The spectrum was checked from 30 MHz to 1000 MHz.  
2). The symbol of '<' means 'or less'.  
3). The symbol of '>' means 'or greater'.  
4). The cable( 14.0 m length) loss is included in the antenna factor.  
5). A sample calculation was made at 30.0 MHz.

$$Af + Mr = -0.5 + 19.4 = 18.9 \text{ dB/uV/m}$$

Where,

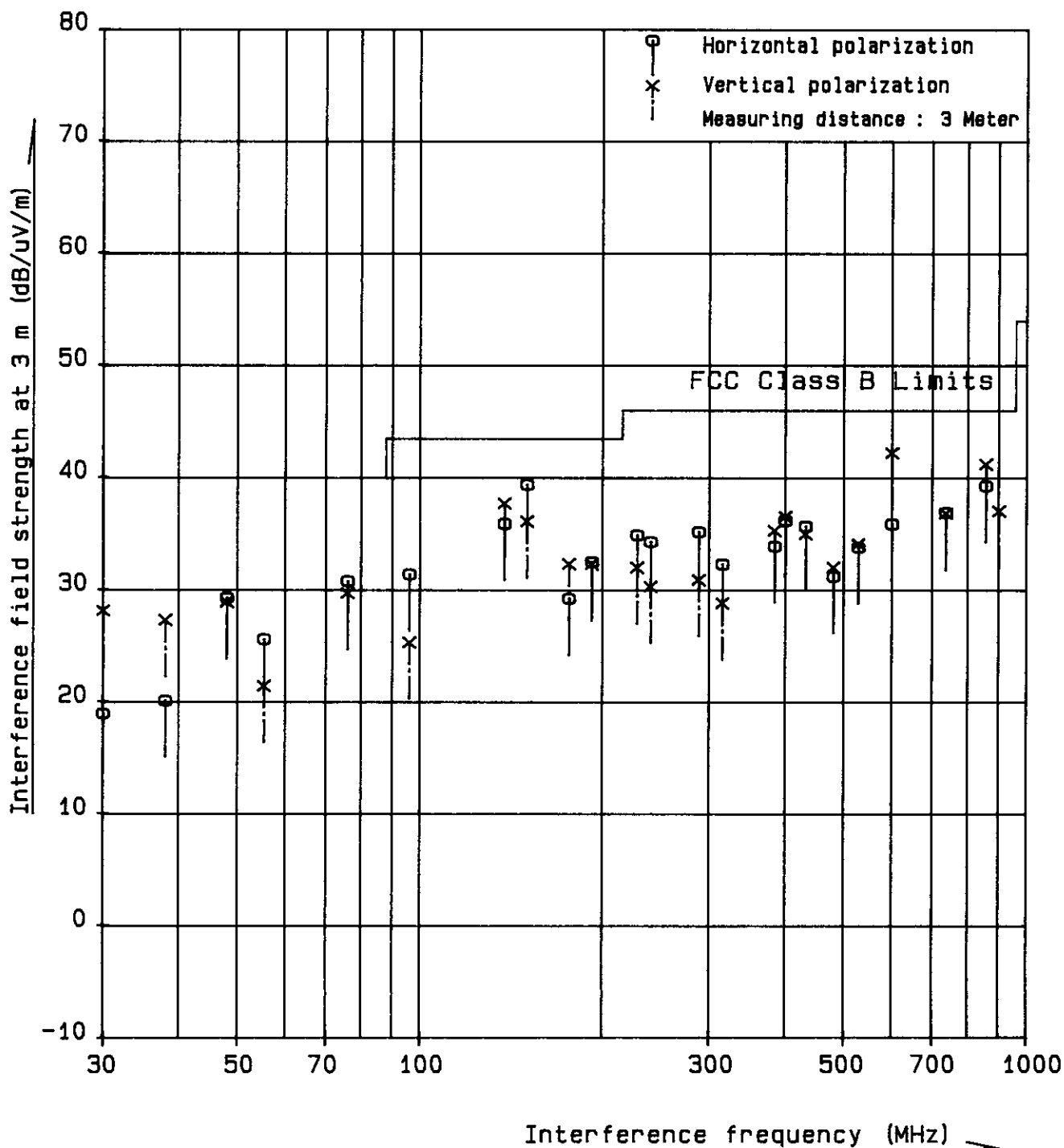
Af : Antenna Factor

Mr : Meter Reading

[Receiving Mode]

## RADIATED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545



## [Scanning Mode]

### RADIATED EMISSIONS MEASUREMENT :

According to description of ANSI C63.4-1992 sec.8.3.1.1, 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.

| Frequency<br>(MHz) | Antenna<br>Factor<br>(dB/m) | Meter Reading<br>at 3 m |                  | Limits<br>(dB/uV/m) | Emission Levels<br>at 3 m |                    | Margins        |               |
|--------------------|-----------------------------|-------------------------|------------------|---------------------|---------------------------|--------------------|----------------|---------------|
|                    |                             | Horiz.<br>(dB/uV)       | Vert.<br>(dB/uV) |                     | Horiz.<br>(dB/uV/m)       | Vert.<br>(dB/uV/m) | Horiz.<br>(dB) | Vert.<br>(dB) |
| 30.0               | -0.5                        | 18.7                    | 27.5             | 40.0                | 18.2                      | 27.0               | 21.8           | 13.0          |
| 38.0               | 1.6                         | 18.6                    | 25.5             | 40.0                | 20.2                      | 27.1               | 19.8           | 12.9          |
| 48.0               | 3.8                         | 24.0                    | 25.5             | 40.0                | 27.8                      | 29.3               | 12.2           | 10.7          |
| 55.3               | 5.1                         | 18.4                    | 12.1             | 40.0                | 23.5                      | 17.2               | 16.5           | 22.8          |
| 76.0               | 8.2                         | 20.0                    | 20.0             | 40.0                | 28.2                      | 28.2               | 11.8           | 11.8          |
| 96.0               | 10.5                        | 22.0                    | 14.4             | 43.5                | 32.5                      | 24.9               | 11.0           | 18.6          |
| 120.0              | 12.7                        | 16.2                    | 16.0             | 43.5                | 28.9                      | 28.7               | 14.6           | 14.8          |
| 137.7              | 14.1                        | 22.4                    | 21.4             | 43.5                | 36.5                      | 35.5               | 7.0            | 8.0           |
| 147.4              | 14.9                        | 21.3                    | 20.5             | 43.5                | 36.2                      | 35.4               | 7.3            | 8.1           |
| 175.1              | 16.6                        | 13.3                    | 12.9             | 43.5                | 29.9                      | 29.5               | 13.6           | 14.0          |
| 192.0              | 17.6                        | 16.3                    | 15.1             | 43.5                | 33.9                      | 32.7               | 9.6            | 10.8          |
| 221.2              | 19.1                        | 15.0                    | 12.7             | 46.0                | 34.1                      | 31.8               | 11.9           | 14.2          |
| 240.0              | 20.0                        | 14.3                    | 10.4             | 46.0                | 34.3                      | 30.4               | 11.7           | 15.6          |
| 288.0              | 22.0                        | 14.6                    | 10.8             | 46.0                | 36.6                      | 32.8               | 9.4            | 13.2          |
| 320.0              | 23.1                        | 7.0                     | 9.1              | 46.0                | 30.1                      | 32.2               | 15.9           | 13.8          |
| 352.1              | 24.2                        | 6.6                     | 7.7              | 46.0                | 30.8                      | 31.9               | 15.2           | 14.1          |
| 400.1              | 25.6                        | 10.9                    | 12.3             | 46.0                | 36.5                      | 37.9               | 9.5            | 8.1           |
| 480.0              | 27.7                        | 1.4                     | 2.9              | 46.0                | 29.1                      | 30.6               | 16.9           | 15.4          |
| 528.1              | 28.9                        | 3.8                     | 5.4              | 46.0                | 32.7                      | 34.3               | 13.3           | 11.7          |
| 600.0              | 30.5                        | 6.0                     | 11.0             | 46.0                | 36.5                      | 41.5               | 9.5            | 4.5           |
| 736.1              | 33.3                        | 3.4                     | 3.3              | 46.0                | 36.7                      | 36.6               | 9.3            | 9.4           |
| 900.1              | 36.0                        | < 0.0                   | 1.2              | 46.0                | < 36.0                    | 37.2               | > 10.0         | 8.8           |

- Notes: 1). The spectrum was checked from 30 MHz to 1000 MHz.  
2). The symbol of '<' means 'or less'.  
3). The symbol of '>' means 'or greater'.  
4). The cable( 14.0 m length) loss is included in the antenna factor.  
5). A sample calculation was made at 30.0 MHz.

$$Af + Mr = -0.5 + 18.7 = 18.2 \text{ dB/uV/m}$$

Where,

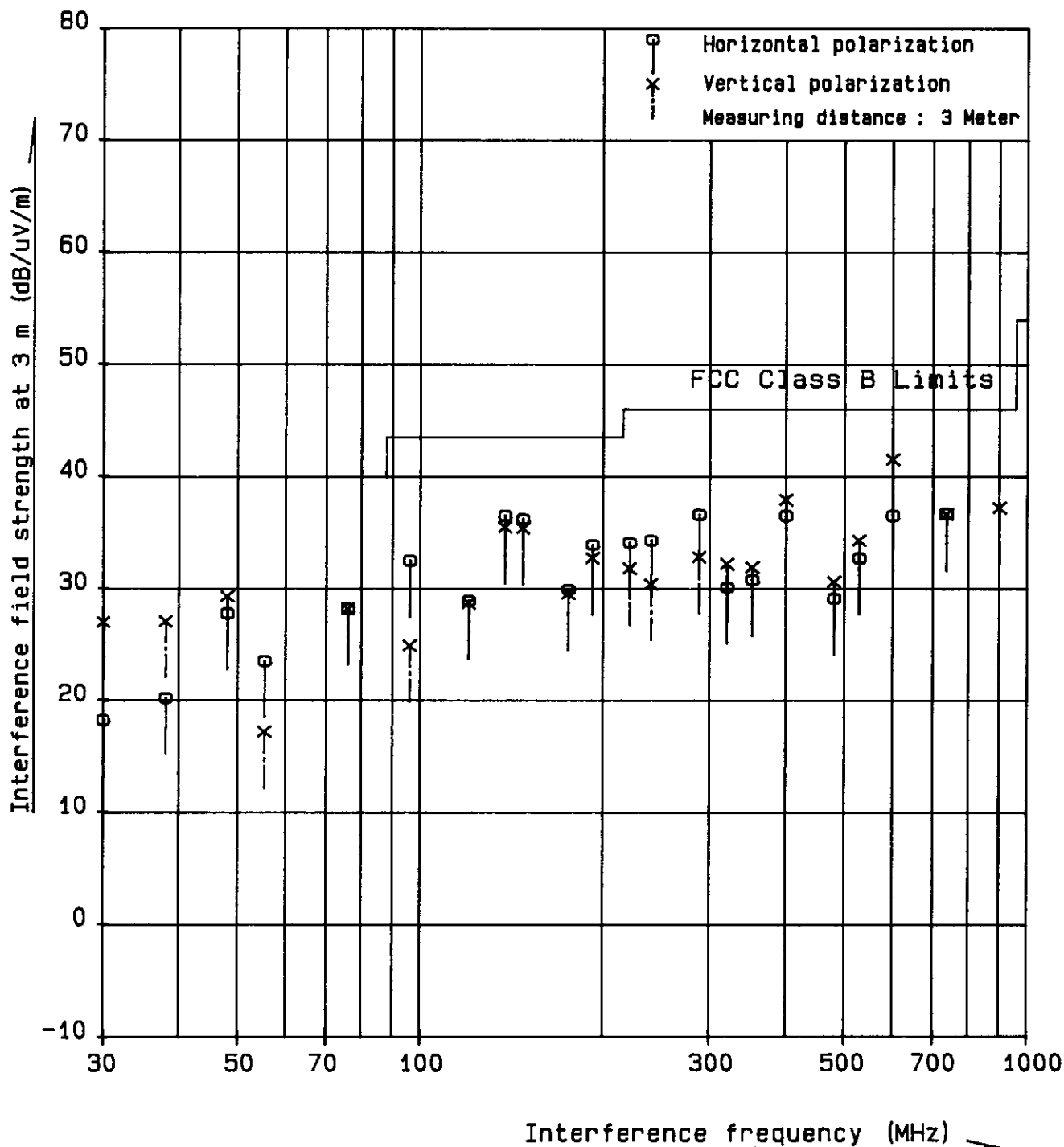
Af : Antenna Factor

Mr : Meter Reading

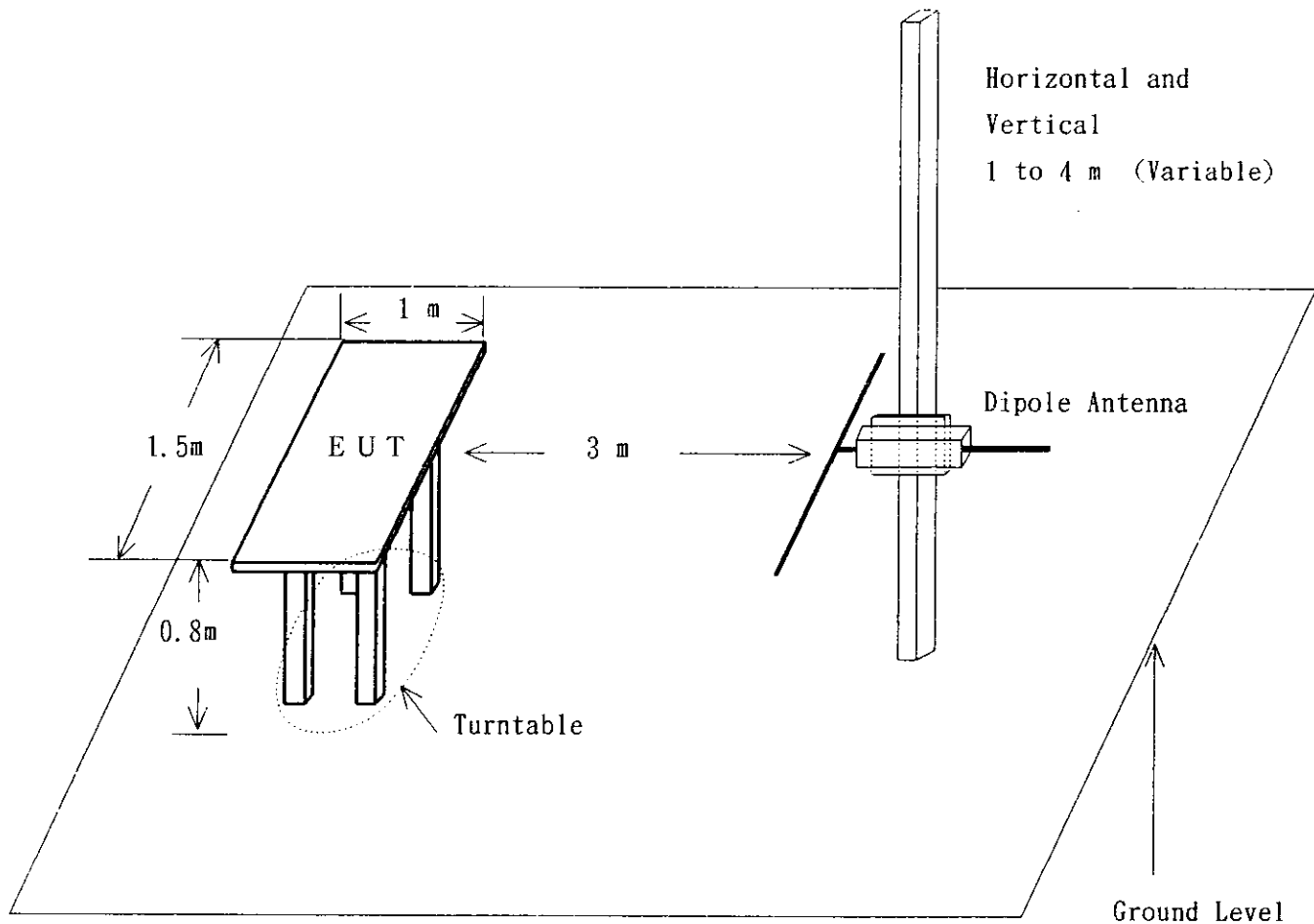
[Scanning Mode]

## RADIATED EMISSIONS MEASUREMENT

MODEL NO.: Document Work Centre-PR0545



### TEST SET-UP SKETCH FOR RADIATED EMISSIONS MEASUREMENT



## Test Instrumentation Used, AC Power Line Conducted Emissions Measurement:

| Type             | Manufacturer<br>Model No.      | Serial No. | Last Cal. | Cal. Interval |
|------------------|--------------------------------|------------|-----------|---------------|
| Receiver(*)      | Rohde & Schwarz<br>ESH 2       | 880370/016 | May 1997  | 1 year        |
| LISN             | Kyoritsu Electrical<br>KNW 407 | 8 855-2    | Apr 1997  | 1 year        |
| Shield Enclosure | TDK Co., Ltd.                  | 7S         | Sep 1997  | 1 year        |
| RF CABLE         | Fujikura<br>3D-2W              | 155-21-005 | May 1997  | 1 year        |

(\*) Setting of measuring instrument:

a) Quasi-Peak Mode

Detector Function : CISPR Quasi Peak

IF Bandwidth : 9 kHz (0.15 MHz - 30 MHz)

b) Average Mode

Detector Function : Average

10 kHz (0.15 MHz - 30 MHz)

**Test Instrumentation Used, Radiated Emissions Measurement:**

| Type        | Manufacturer<br>Model No.         | Serial No. | Last Cal. | Cal. Interval |
|-------------|-----------------------------------|------------|-----------|---------------|
| Receiver(*) | Rohde & Schwarz<br>ESVP           | 881487/005 | May 1997  | 1 year        |
| Antenna     | Kyoritsu Electrical<br>KBA-511A   | 0-170-1    | Nov 1997  | 1 year        |
| Antenna     | Kyoritsu Electrical<br>KBA 611    | 0-147-14   | Nov 1997  | 1 year        |
| Site        | TDK Co., Ltd.<br>Anechoic Chamber | NO. 2      | May 1997  | 1 year        |
| RF Cable    | Fujikura<br>5D2W                  | 155-21-001 | May 1997  | 1 year        |

(\*) Setting of measuring instrument:

Detector Function : CISPR Quasi-Peak

IF Bandwidth : 120 kHz (30 MHz ~ 1000 MHz)



EXHIBIT E

(FCC Ref. 2.1033(b)(7))

"Photographs"