

## **Appendix 2 : Data of EMI tests**

This section contains the following data.

|                                     |                         |
|-------------------------------------|-------------------------|
| Conducted interference              | : <u>A2-1 to A2-10</u>  |
| Radiated emission                   | : <u>A2-11 to A2-19</u> |
| Antenna terminal voltage            | : <u>A2-20 to A2-21</u> |
| RF output level / spurious emission | : <u>A2-22 to A2-36</u> |
| Picture sensitivity                 | : <u>A2-37</u>          |
| Noise figure                        | : <u>A2-38</u>          |

DATA OF CONDUCTIONA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

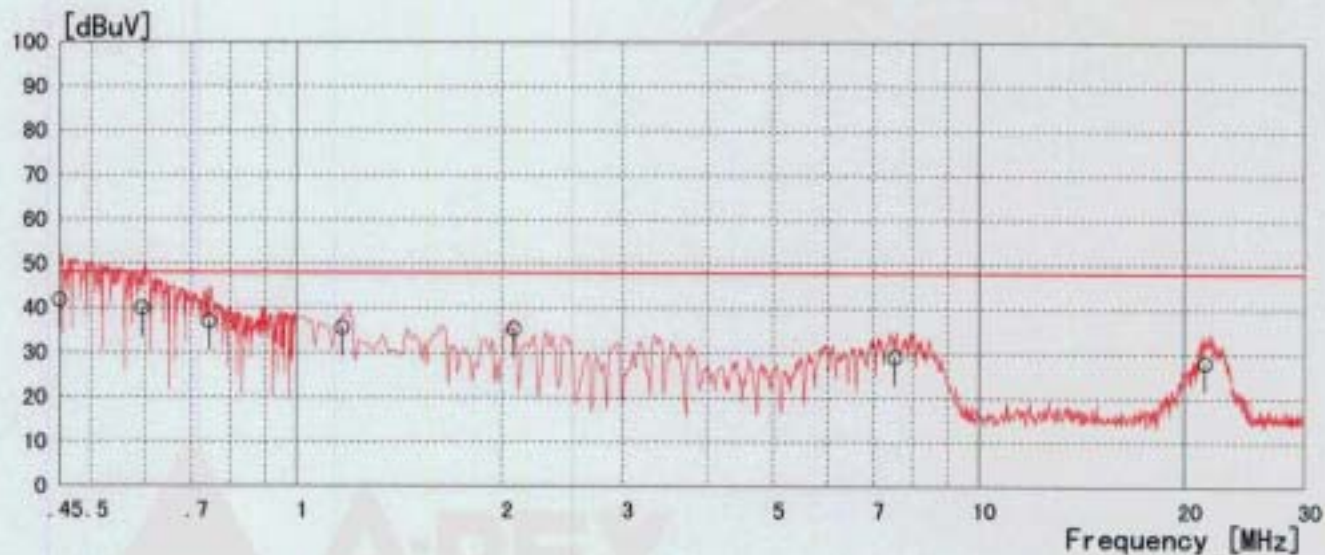
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPEMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : RECEIVE+REC  
 POWER : AC120V/60Hz  
 LINE : N  
 REMARKS : OdBmV INPUT

REPORT No. : 21KE0003-KT  
 DATE : JUNE 07, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 1

TEST ENGINEER: RITSUYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |     | C. FACTOR<br>[dB] | RESULT |     | LIMIT  |     | MARGIN |     |
|-----|---------------|---------|-----|-------------------|--------|-----|--------|-----|--------|-----|
|     |               | QP      | AV  |                   | QP     | AV  | QP     | AV  | QP     | AV  |
|     |               | [dBuV]  |     |                   | [dBuV] |     | [dBuV] |     | [dB]   |     |
| 1   | 0.450         | 41.4    | --- | 0.4               | 41.8   | --- | 48.0   | --- | 6.2    | --- |
| 2   | 0.594         | 39.6    | --- | 0.3               | 39.9   | --- | 48.0   | --- | 8.1    | --- |
| 3   | 0.745         | 36.7    | --- | 0.3               | 37.0   | --- | 48.0   | --- | 11.0   | --- |
| 4   | 1.166         | 35.4    | --- | 0.2               | 35.6   | --- | 48.0   | --- | 12.4   | --- |
| 5   | 2.083         | 35.1    | --- | 0.3               | 35.4   | --- | 48.0   | --- | 12.6   | --- |
| 6   | 7.534         | 28.6    | --- | 0.5               | 29.1   | --- | 48.0   | --- | 18.9   | --- |
| 7   | 21.460        | 27.1    | --- | 0.9               | 28.0   | --- | 48.0   | --- | 20.0   | --- |

RESULT=READING+CABLE LOSS+CLAMP FACTOR



DATA OF CONDUCTIONA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

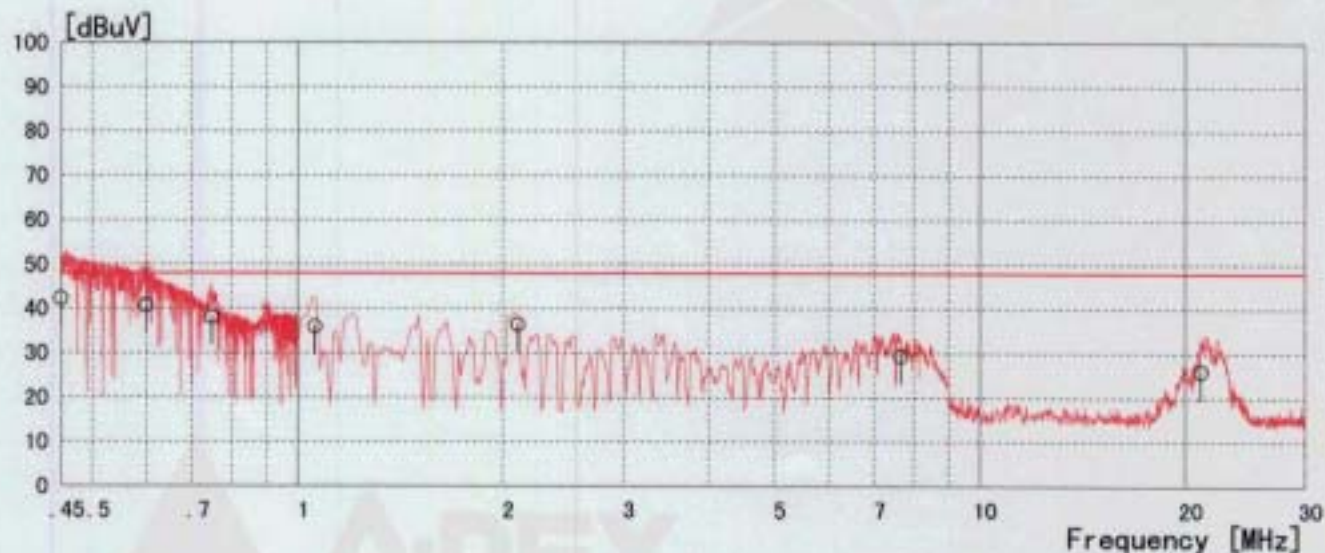
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE: RECEIVE+REC  
 POWER : AC120V/60Hz  
 LINE : L  
 REMARKS : 0dBmV INPUT  
 :

REPORT No. : 21KE0003-KT  
 DATE : JUNE 07, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 2

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 0.450         | 41.9    | —  | 0.4               | 42.3   | —  | 48.0   | —  | 5.7    | —  |
| 2   | 0.600         | 40.4    | —  | 0.3               | 40.7   | —  | 48.0   | —  | 7.3    | —  |
| 3   | 0.749         | 37.8    | —  | 0.3               | 38.1   | —  | 48.0   | —  | 9.9    | —  |
| 4   | 1.059         | 35.7    | —  | 0.2               | 35.9   | —  | 48.0   | —  | 12.1   | —  |
| 5   | 2.103         | 36.1    | —  | 0.3               | 36.4   | —  | 48.0   | —  | 11.6   | —  |
| 6   | 7.669         | 28.9    | —  | 0.5               | 29.4   | —  | 48.0   | —  | 18.6   | —  |
| 7   | 21.110        | 25.1    | —  | 0.8               | 25.9   | —  | 48.0   | —  | 22.1   | —  |

RESULT=READING+CABLE LOSS+CLAMP FACTOR





DATA OF CONDUCTIONA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

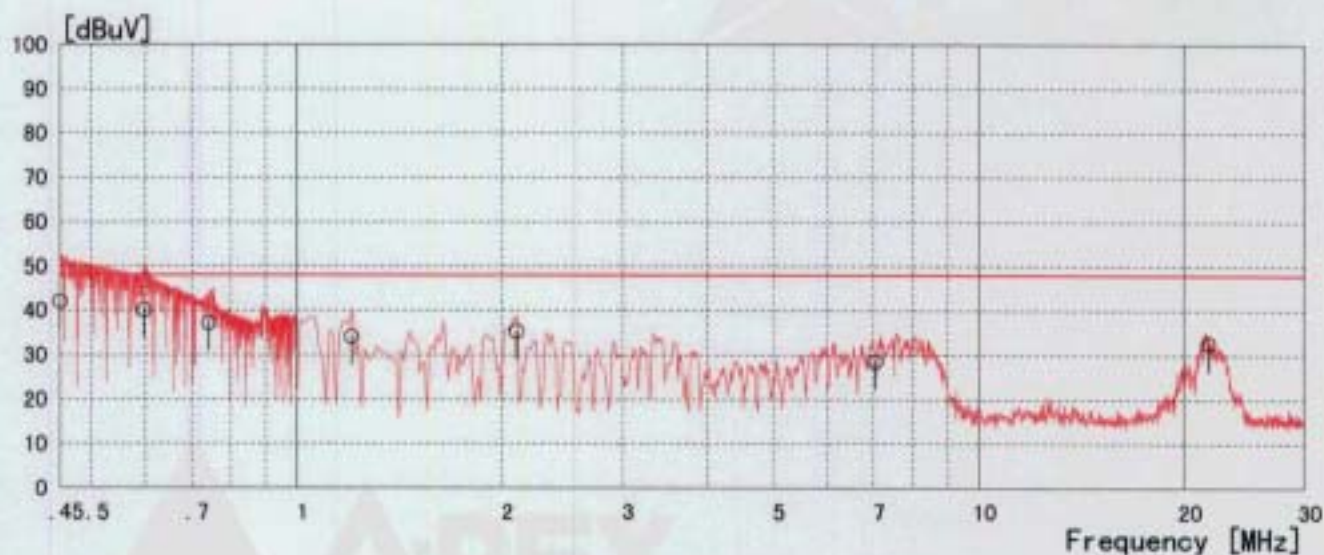
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPEMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : RECEIVE+REC  
 POWER : AC120V/60Hz  
 LINE : N  
 REMARKS : 25dBmV INPUT

REPORT No. : 21KE0003-KT  
 DATE : JUNE 07, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 3

TEST ENGINEER: HTSAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |      | C. FACTOR<br>[dB] | RESULT |      | LIMIT  |      | MARGIN |      |
|-----|---------------|---------|------|-------------------|--------|------|--------|------|--------|------|
|     |               | QP      | AV   |                   | QP     | AV   | QP     | AV   | QP     | AV   |
|     |               | [dBuV]  |      |                   | [dBuV] |      | [dBuV] |      | [dB]   |      |
| 1   | 0.450         | 41.7    | ---- | 0.4               | 42.1   | ---- | 48.0   | ---- | 5.9    | ---- |
| 2   | 0.597         | 39.8    | ---- | 0.3               | 40.1   | ---- | 48.0   | ---- | 7.9    | ---- |
| 3   | 0.743         | 36.9    | ---- | 0.3               | 37.2   | ---- | 48.0   | ---- | 10.8   | ---- |
| 4   | 1.203         | 33.9    | ---- | 0.2               | 34.1   | ---- | 48.0   | ---- | 13.9   | ---- |
| 5   | 2.100         | 35.0    | ---- | 0.3               | 35.3   | ---- | 48.0   | ---- | 12.7   | ---- |
| 6   | 7.060         | 28.0    | ---- | 0.5               | 28.5   | ---- | 48.0   | ---- | 19.5   | ---- |
| 7   | 21.736        | 31.7    | ---- | 0.9               | 32.6   | ---- | 48.0   | ---- | 15.4   | ---- |

RESULT=READING+CABLE LOSS+CLAMP FACTOR



DATA OF CONDUCTION

A-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

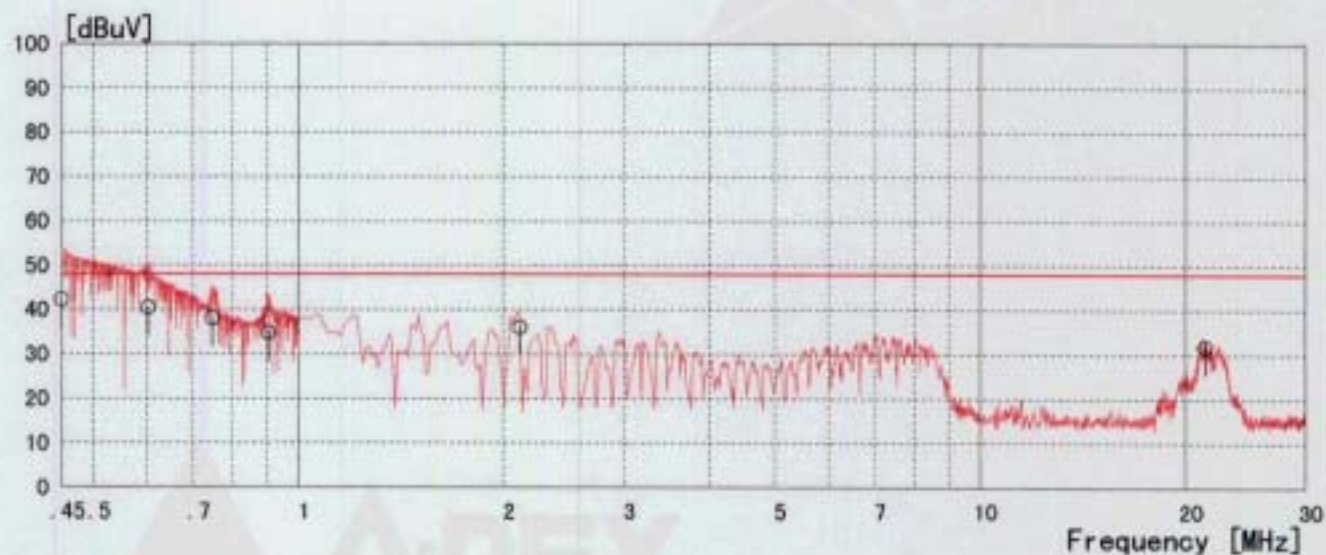
COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPEMENT : VIDEO CASSETTE RECORDER  
MODEL NAME : VCR45100  
OPERATION MODE : RECEIVE+REC  
POWER : AC120V/60Hz  
LINE : L  
REMARKS : 25dBmV INPUT

REPORT No. : 21KE0003-KT  
DATE : JUNE 07, 2001  
REGULATION : FCC PART15 SUBPART B  
TEST NO. : 4

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |              | C. FACTOR<br>[dB] | RESULT |              | LIMIT |              | MARGIN |            |
|-----|---------------|---------|--------------|-------------------|--------|--------------|-------|--------------|--------|------------|
|     |               | QP      | AV<br>[dBuV] |                   | QP     | AV<br>[dBuV] | QP    | AV<br>[dBuV] | QP     | AV<br>[dB] |
| 1   | 0.450         | 41.9    | ----         | 0.4               | 42.3   | ----         | 48.0  | ----         | 5.7    | ----       |
| 2   | 0.603         | 40.1    | ----         | 0.3               | 40.4   | ----         | 48.0  | ----         | 7.6    | ----       |
| 3   | 0.749         | 37.8    | ----         | 0.3               | 38.1   | ----         | 48.0  | ----         | 9.9    | ----       |
| 4   | 0.904         | 34.5    | ----         | 0.2               | 34.7   | ----         | 48.0  | ----         | 13.3   | ----       |
| 5   | 2.113         | 35.8    | ----         | 0.3               | 36.1   | ----         | 48.0  | ----         | 11.9   | ----       |
| 6   | 21.400        | 30.9    | ----         | 0.8               | 31.7   | ----         | 48.0  | ----         | 16.3   | ----       |

RESULT=READING+CABLE LOSS+CLAMP FACTOR





DATA OF CONDUCTION

A-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

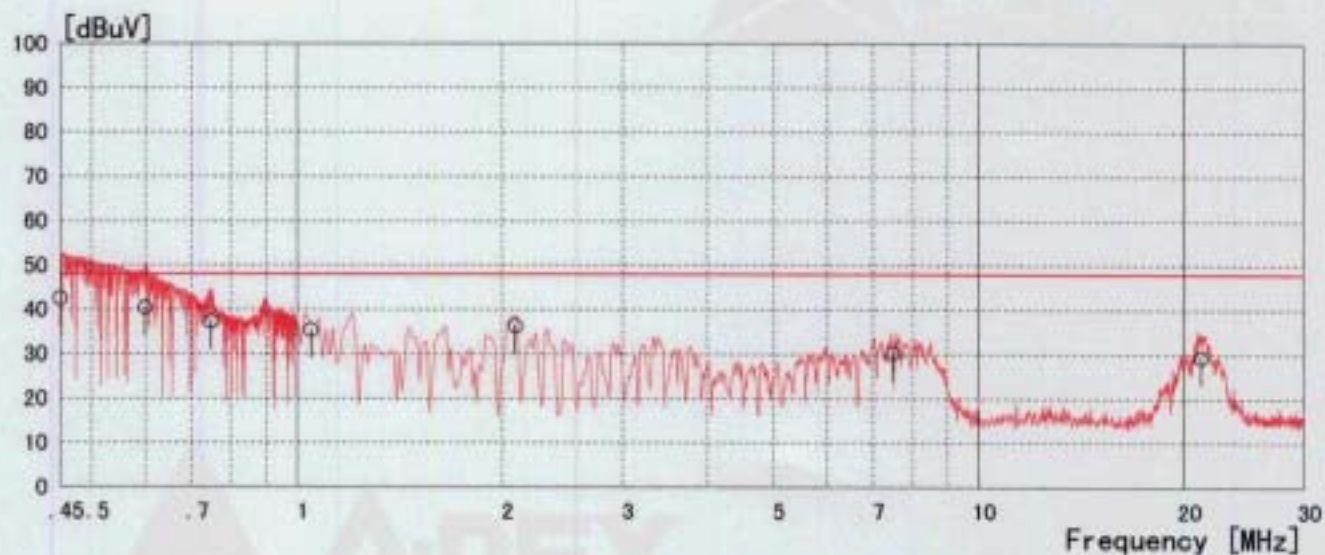
COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPMENT : VIDEO CASSETTE RECORDER  
MODEL NAME : VCR4510D  
OPERATION MODE : AV INPUT+REC  
POWER : AC120V/60Hz  
LINE : N  
REMARKS : 1Vp-p INPUT

REPORT No. : 21KE0003-KT  
DATE : JUNE 07, 2001  
REGULATION : FCC PART15 SUBPART B  
TEST NO. : 5

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |              | C. FACTOR<br>[dB] | RESULT |              | LIMIT |              | MARGIN |            |
|-----|---------------|---------|--------------|-------------------|--------|--------------|-------|--------------|--------|------------|
|     |               | QP      | AV<br>[dBuV] |                   | QP     | AV<br>[dBuV] | QP    | AV<br>[dBuV] | QP     | AV<br>[dB] |
| 1   | 0.450         | 42.1    | ---          | 0.4               | 42.5   | ---          | 48.0  | ---          | 5.5    | ---        |
| 2   | 0.599         | 40.1    | ---          | 0.3               | 40.4   | ---          | 48.0  | ---          | 7.6    | ---        |
| 3   | 0.748         | 37.0    | ---          | 0.3               | 37.3   | ---          | 48.0  | ---          | 10.7   | ---        |
| 4   | 1.049         | 35.1    | ---          | 0.2               | 35.3   | ---          | 48.0  | ---          | 12.7   | ---        |
| 5   | 2.091         | 36.0    | ---          | 0.3               | 36.3   | ---          | 48.0  | ---          | 11.7   | ---        |
| 6   | 7.486         | 29.7    | ---          | 0.5               | 30.2   | ---          | 48.0  | ---          | 17.8   | ---        |
| 7   | 21.210        | 28.5    | ---          | 0.8               | 29.3   | ---          | 48.0  | ---          | 18.7   | ---        |

RESULT=READING+CABLE LOSS+CLAMP FACTOR



DATA OF CONDUCTION

A-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

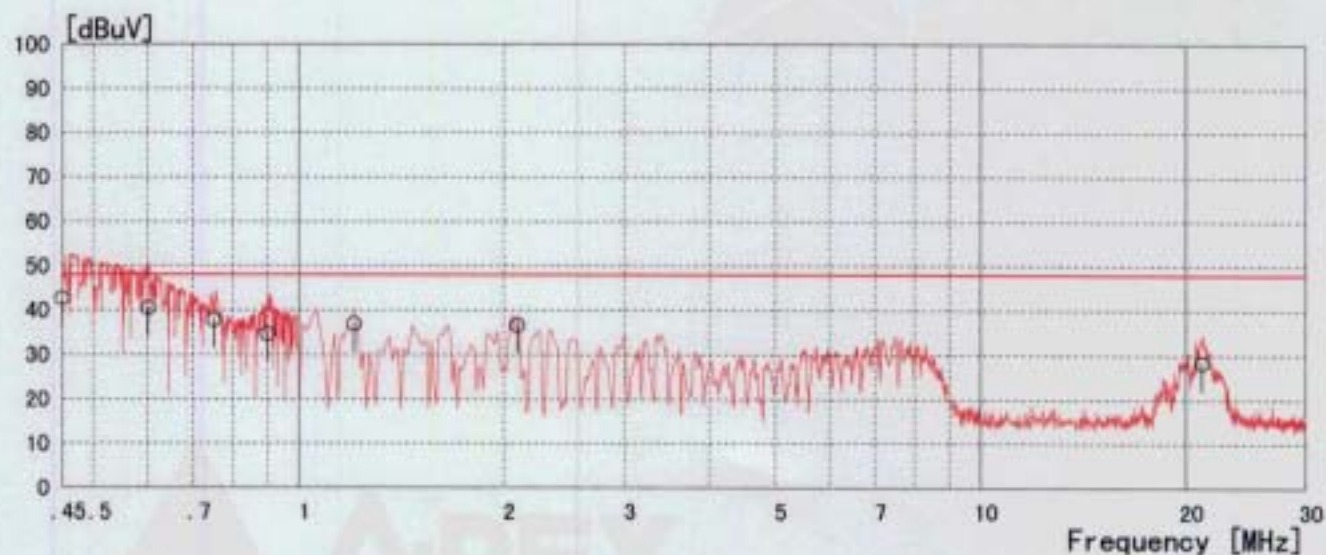
COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPMENT : VIDEO CASSETTE RECORDER  
MODEL NAME : VCR4510D  
OPERATION MODE : AV INPUT+REC  
POWER : AC120V/60Hz  
LINE : L  
REMARKS : 1Vp-p INPUT

REPORT No. : 21KE0003-KT  
DATE : JUNE 07, 2001  
REGULATION : FCC PART15 SUBPART B  
TEST NO. : 6

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 0.450         | 42.3    | —  | 0.4               | 42.7   | —  | 48.0   | —  | 5.3    | —  |
| 2   | 0.602         | 40.2    | —  | 0.3               | 40.5   | —  | 48.0   | —  | 7.5    | —  |
| 3   | 0.751         | 37.6    | —  | 0.3               | 37.9   | —  | 48.0   | —  | 10.1   | —  |
| 4   | 0.899         | 34.4    | —  | 0.2               | 34.6   | —  | 48.0   | —  | 13.4   | —  |
| 5   | 1.206         | 36.7    | —  | 0.2               | 36.9   | —  | 48.0   | —  | 11.1   | —  |
| 6   | 2.094         | 36.4    | —  | 0.3               | 36.7   | —  | 48.0   | —  | 11.3   | —  |
| 7   | 21.131        | 27.4    | —  | 0.8               | 28.2   | —  | 48.0   | —  | 19.8   | —  |

RESULT=READING+CABLE LOSS+CLAMP FACTOR





DATA OF CONDUCTIONA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

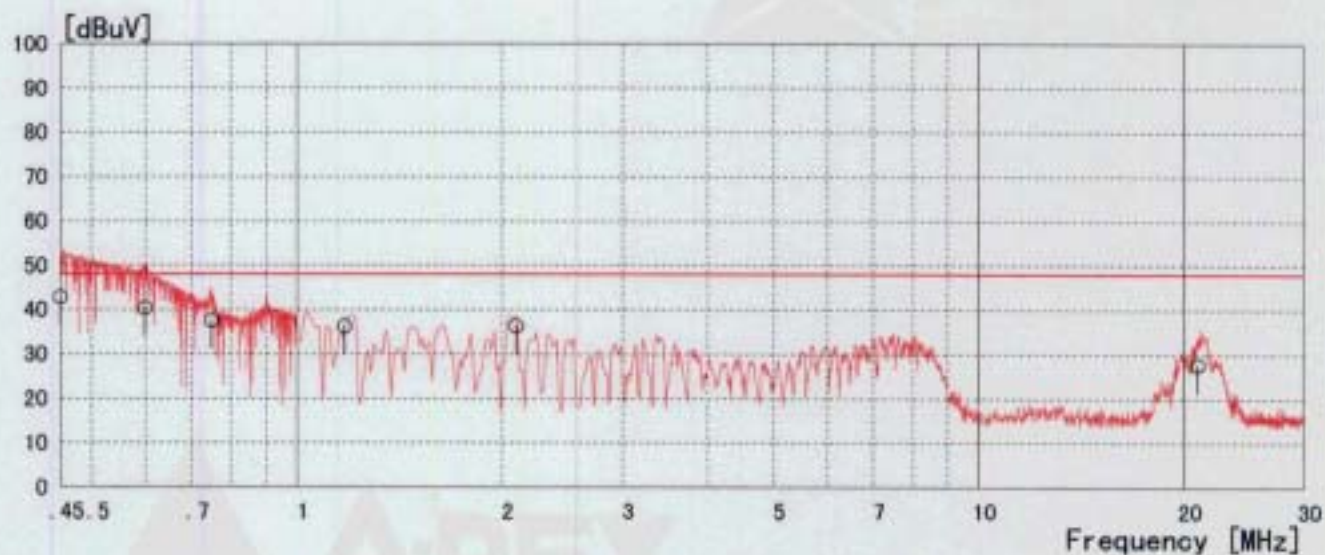
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPEMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : AV INPUT+REC  
 POWER : AC120V/60Hz  
 LINE : N  
 REMARKS : 5Vp-p INPUT  
 :

REPORT No. : 21KE0003-KT  
 DATE : JUNE 07, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 7

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |              | C. FACTOR<br>[dB] | RESULT |              | LIMIT |              | MARGIN |            |
|-----|---------------|---------|--------------|-------------------|--------|--------------|-------|--------------|--------|------------|
|     |               | QP      | AV<br>[dBuV] |                   | QP     | AV<br>[dBuV] | QP    | AV<br>[dBuV] | QP     | AV<br>[dB] |
| 1   | 0.450         | 42.4    | ----         | 0.4               | 42.8   | ----         | 48.0  | ----         | 5.2    | ----       |
| 2   | 0.598         | 40.0    | ----         | 0.3               | 40.3   | ----         | 48.0  | ----         | 7.7    | ----       |
| 3   | 0.749         | 37.2    | ----         | 0.3               | 37.5   | ----         | 48.0  | ----         | 10.5   | ----       |
| 4   | 1.174         | 36.0    | ----         | 0.2               | 36.2   | ----         | 48.0  | ----         | 11.8   | ----       |
| 5   | 2.097         | 36.0    | ----         | 0.3               | 36.3   | ----         | 48.0  | ----         | 11.7   | ----       |
| 6   | 20.963        | 26.8    | ----         | 0.8               | 27.6   | ----         | 48.0  | ----         | 20.4   | ----       |

RESULT=READING+CABLE LOSS+CLAMP FACTOR





DATA OF CONDUCTIONA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

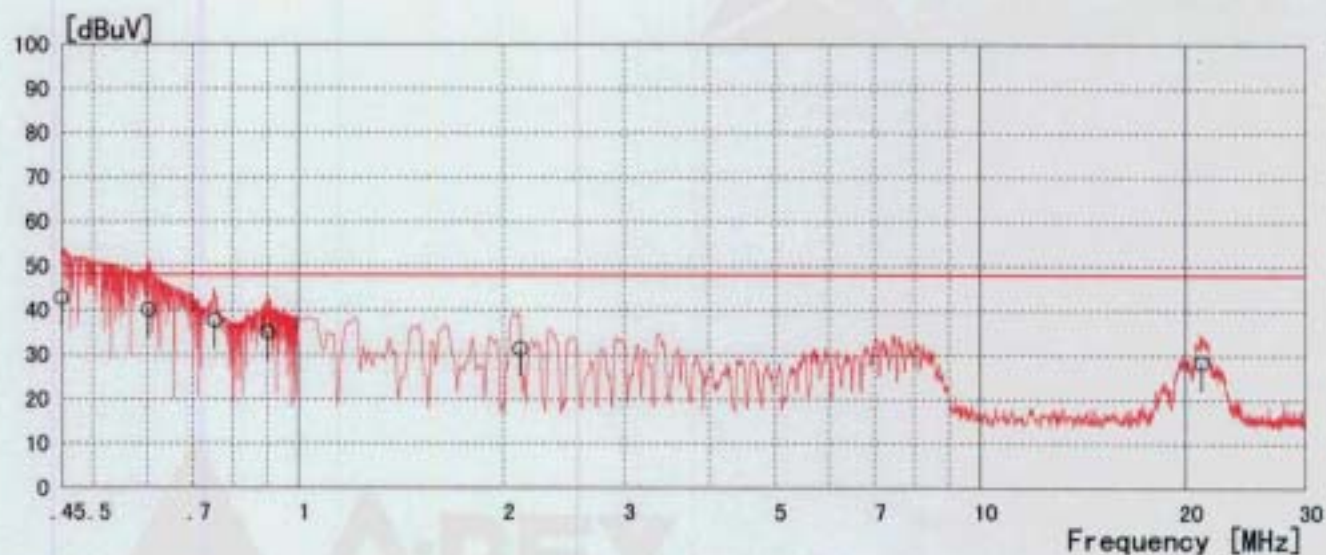
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : AV INPUT+REC  
 POWER : AC120V/60Hz  
 LINE : L  
 REMARKS : 5Vp-p INPUT

REPORT No. : 21KE0003-KT  
 DATE : JUNE 07, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 8

TEST ENGINEER: HIROYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |              | C. FACTOR<br>[dB] | RESULT |              | LIMIT |              | MARGIN |            |
|-----|---------------|---------|--------------|-------------------|--------|--------------|-------|--------------|--------|------------|
|     |               | QP      | AV<br>[dBuV] |                   | QP     | AV<br>[dBuV] | QP    | AV<br>[dBuV] | QP     | AV<br>[dB] |
| 1   | 0.450         | 42.4    | ---          | 0.4               | 42.8   | ---          | 48.0  | ---          | 5.2    | ---        |
| 2   | 0.604         | 39.8    | ---          | 0.3               | 40.1   | ---          | 48.0  | ---          | 7.9    | ---        |
| 3   | 0.754         | 37.4    | ---          | 0.3               | 37.7   | ---          | 48.0  | ---          | 10.3   | ---        |
| 4   | 0.900         | 34.8    | ---          | 0.2               | 35.0   | ---          | 48.0  | ---          | 13.0   | ---        |
| 5   | 2.116         | 31.1    | ---          | 0.3               | 31.4   | ---          | 48.0  | ---          | 16.6   | ---        |
| 6   | 21.140        | 27.5    | ---          | 0.8               | 28.3   | ---          | 48.0  | ---          | 19.7   | ---        |

RESULT=READING+CABLE LOSS+CLAMP FACTOR



DATA OF CONDUCTIONA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

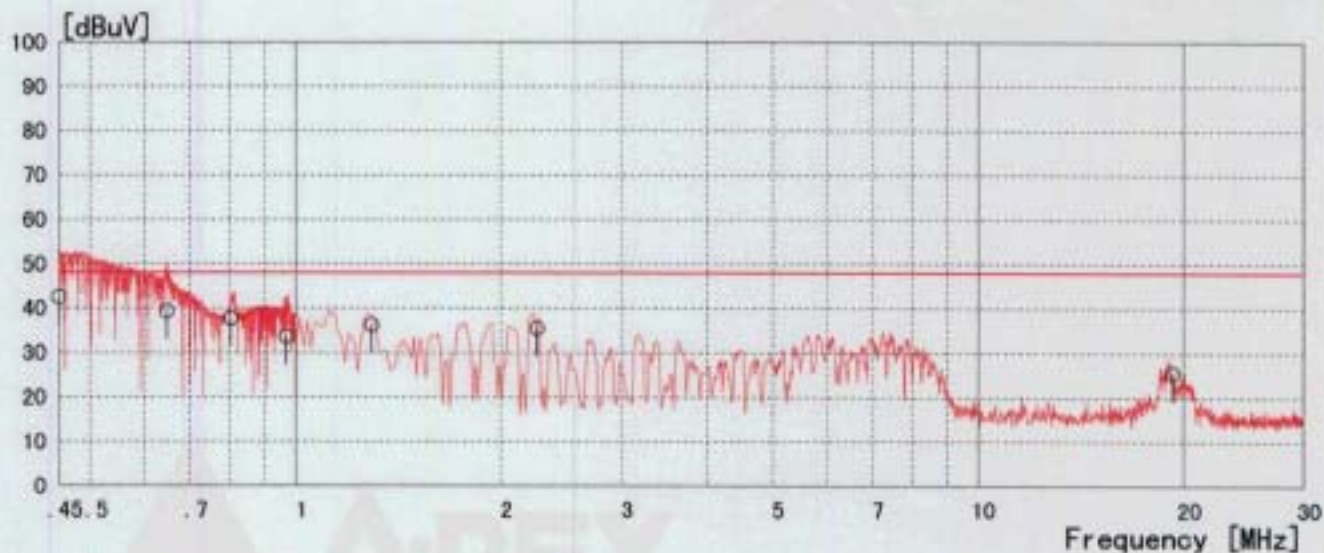
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : PLAYBACK  
 POWER : AC120V/60Hz  
 LINE : N  
 REMARKS : -

REPORT No. : 21KE0003-KT  
 DATE : JUNE 07, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 10

TEST ENGINEER: HIRAYUKI KITOKA

| No. | FREQ<br>[MHz] | READING |      | C. FACTOR<br>[dB] | RESULT |      | LIMIT  |      | MARGIN |      |
|-----|---------------|---------|------|-------------------|--------|------|--------|------|--------|------|
|     |               | QP      | AV   |                   | QP     | AV   | QP     | AV   | QP     | AV   |
|     |               | [dBuV]  | [dB] |                   | [dBuV] | [dB] | [dBuV] | [dB] | [dB]   | [dB] |
| 1   | 0.450         | 42.1    | ---  | 0.4               | 42.5   | ---  | 48.0   | ---  | 5.5    | ---  |
| 2   | 0.647         | 39.0    | ---  | 0.3               | 39.3   | ---  | 48.0   | ---  | 8.7    | ---  |
| 3   | 0.803         | 37.4    | ---  | 0.3               | 37.7   | ---  | 48.0   | ---  | 10.3   | ---  |
| 4   | 0.968         | 33.4    | ---  | 0.2               | 33.6   | ---  | 48.0   | ---  | 14.4   | ---  |
| 5   | 1.291         | 36.0    | ---  | 0.2               | 36.2   | ---  | 48.0   | ---  | 11.8   | ---  |
| 6   | 2.257         | 35.2    | ---  | 0.3               | 35.5   | ---  | 48.0   | ---  | 12.5   | ---  |
| 7   | 19.290        | 24.7    | ---  | 0.8               | 25.5   | ---  | 48.0   | ---  | 22.5   | ---  |

RESULT=READING+CABLE LOSS+CLAMP FACTOR





DATA OF CONDUCTIONA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

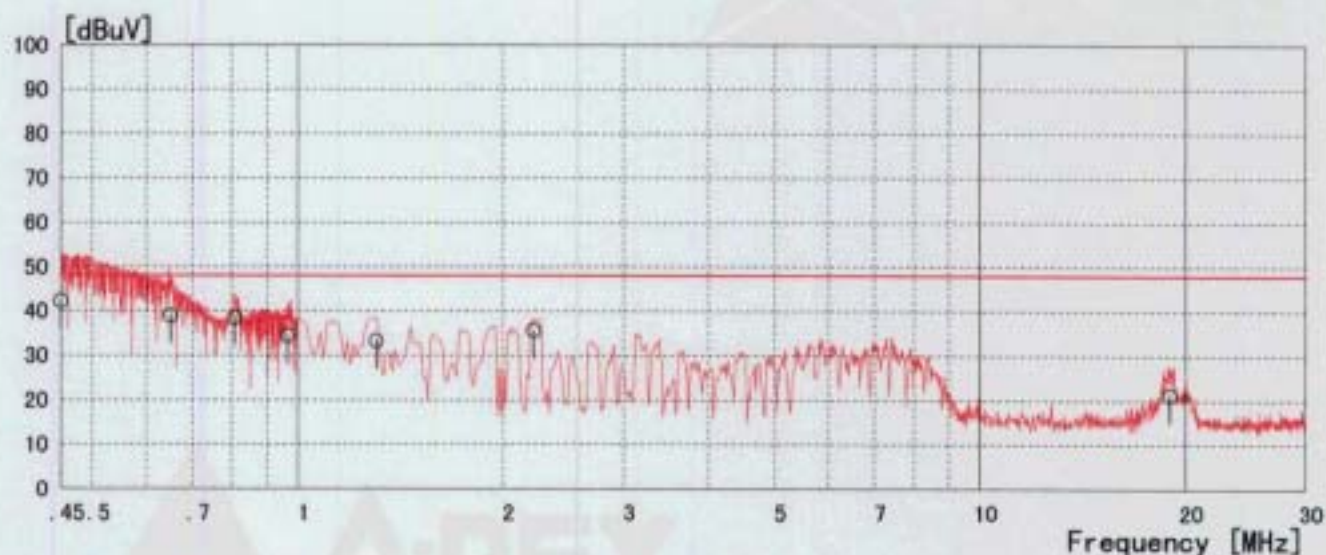
COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPEMENT : VIDEO CASSETTE RECORDER  
MODEL NAME : VCR4510D  
OPERATION MODE : PLAYBACK  
POWER : AC120V/60Hz  
LINE : L  
REMARKS : -

REPORT No. : 21KE0003-KT  
DATE : JUNE 07, 2001  
REGULATION : FCC PART15 SUBPART B  
TEST NO. : 9

TEST ENGINEER: HISAYUKI KIKKA

| No. | FREQ<br>[MHz] | READING |      | C. FACTOR<br>[dB] | RESULT |      | LIMIT  |      | MARGIN |      |
|-----|---------------|---------|------|-------------------|--------|------|--------|------|--------|------|
|     |               | QP      | AV   |                   | QP     | AV   | QP     | AV   | QP     | AV   |
|     |               | [dBuV]  | [dB] |                   | [dBuV] | [dB] | [dBuV] | [dB] | [dB]   | [dB] |
| 1   | 0.450         | 41.9    | ---  | 0.4               | 42.3   | ---  | 48.0   | ---  | 5.7    | ---  |
| 2   | 0.651         | 38.7    | ---  | 0.3               | 39.0   | ---  | 48.0   | ---  | 9.0    | ---  |
| 3   | 0.809         | 38.3    | ---  | 0.3               | 38.6   | ---  | 48.0   | ---  | 9.4    | ---  |
| 4   | 0.965         | 34.2    | ---  | 0.2               | 34.4   | ---  | 48.0   | ---  | 13.6   | ---  |
| 5   | 1.303         | 33.0    | ---  | 0.2               | 33.2   | ---  | 48.0   | ---  | 14.8   | ---  |
| 6   | 2.217         | 35.4    | ---  | 0.3               | 35.7   | ---  | 48.0   | ---  | 12.3   | ---  |
| 7   | 19.000        | 20.4    | ---  | 0.8               | 21.2   | ---  | 48.0   | ---  | 26.8   | ---  |

RESULT=READING+CABLE LOSS+CLAMP FACTOR

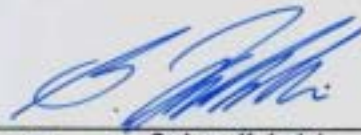




DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.  
 YOKOWA No.1 OPEN TEST SITE  
 Report No. : 21KE0003-KT

Applicant : ORION ELECTRIC CO., LTD.  
 Kind of Equipment : VIDEO CASSETTE RECORDER  
 Model No. : VCR4510D  
 Serial No. :  
 Power : AC120V/60Hz  
 Mode : MAXIMUM OPERATION  
 Remarks : TEST CHANNEL #3  
 Date : 6/15/2001  
 Test Distance : 3 m  
 Temperature : 20 °C  
 Humidity : 60 %  
 Regulation : FCC Part15B CLASS B

  
 Engineer : Seigo Kakehi

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING        |                | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT           |                  | LIMITS<br>[dB μV/m] | MARGIN      |             |
|-----|----------------|-------------|----------------|----------------|-------------------------|---------------------|-----------------------|----------------|------------------|------------------|---------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μV] | VER<br>[dB μV] |                         |                     |                       |                | HOR<br>[dB μV/m] | VER<br>[dB μV/m] |                     | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 61.25          | BB          | 28.0           | 28.6           | 7.3                     | 29.9                | 1.6                   | 5.7            | 12.7             | 13.3             | 40.0                | 27.3        | 26.7        |
| 2.  | 65.75          | BB          | 30.8           | 38.2           | 6.7                     | 29.9                | 1.7                   | 5.7            | 15.0             | 22.4             | 40.0                | 25.0        | 17.6        |
| 3.  | 122.50         | BB          | 24.5           | 24.9           | 13.2                    | 29.8                | 2.4                   | 5.7            | 16.0             | 16.4             | 43.5                | 27.5        | 27.1        |
| 4.  | 245.00         | BB          | 22.8           | 22.9           | 16.4                    | 29.9                | 3.7                   | 5.7            | 18.7             | 18.8             | 46.0                | 27.3        | 27.2        |

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

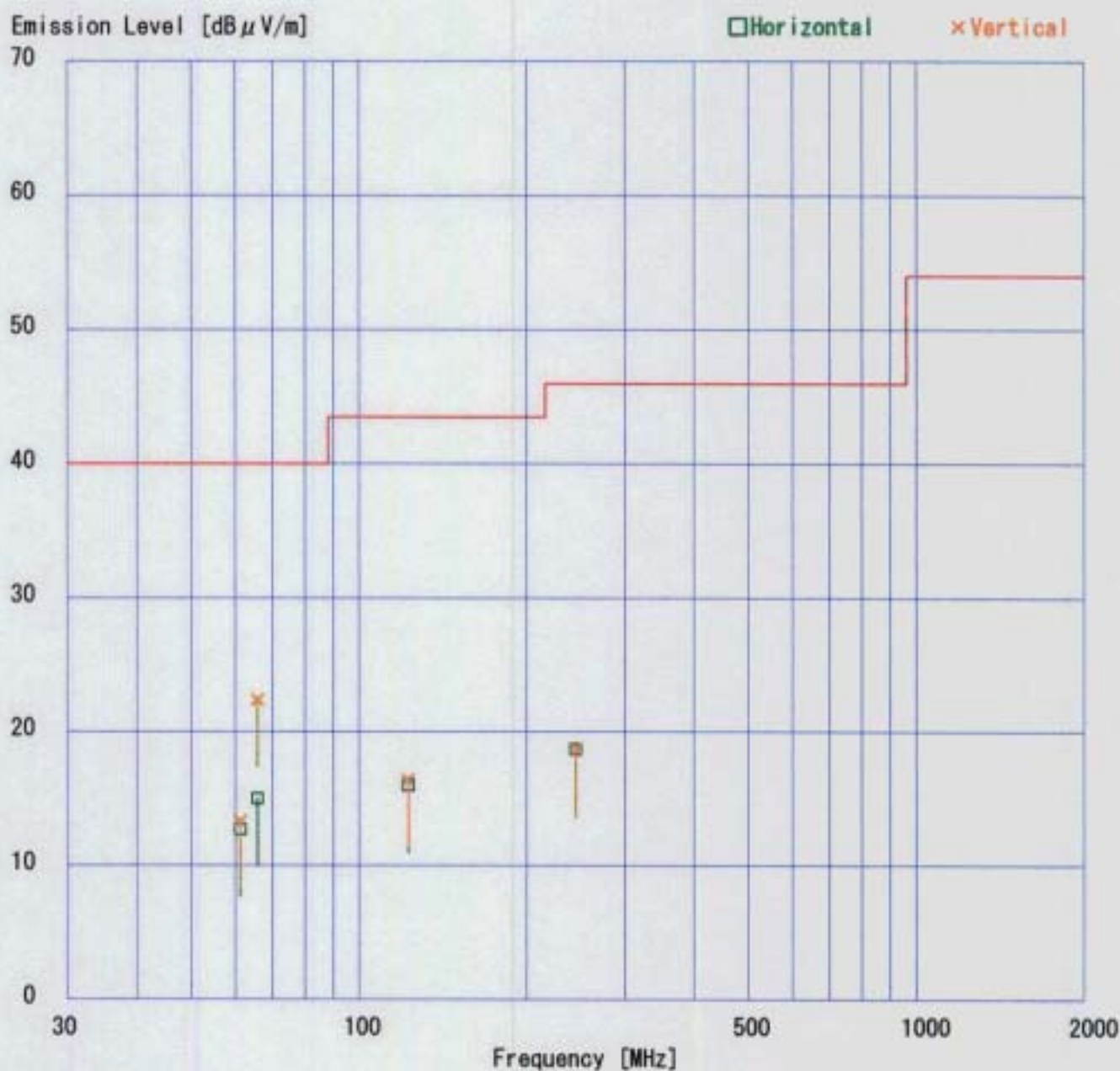
Except for the above table: adequate margin data below the limits.  
 ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-2GHz Horn

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.1 OPEN TEST SITE  
Report No. : 21KE0003-KT

Applicant : ORION ELECTRIC CO., LTD.  
Kind of Equipment : VIDEO CASSETTE RECORDER  
Model No. : VCR4510D  
Serial No. :  
Power : AC120V/60Hz  
Mode : MAXIMUM OPERATION  
Remarks : TEST CHANNEL #3  
Date : 6/15/2001  
Test Distance : 3 m  
Temperature : 20 °C  
Humidity : 60 %  
Regulation : FCC Part15B CLASS B

  
Engineer : Seigo Kakehi



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.  
 YOKOWA No.1 OPEN TEST SITE  
 Report No. : 21KE0003-KT

Applicant : ORION ELECTRIC CO., LTD.  
 Kind of Equipment : VIDEO CASSETTE RECORDER  
 Model No. : VCR4510D  
 Serial No. :  
 Power : AC120V/60Hz  
 Mode : MAXIMUM OPERATION  
 Remarks : TEST CHANNEL #4  
 Date : 6/15/2001  
 Test Distance : 3 m  
 Temperature : 20 °C  
 Humidity : 60 %  
 Regulation : FCC Part15B CLASS B

  
 Engineer : Seigo Kakehi

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING         |                 | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT            |                   | LIMITS<br>[dB μ V/m] | MARGIN      |             |
|-----|----------------|-------------|-----------------|-----------------|-------------------------|---------------------|-----------------------|----------------|-------------------|-------------------|----------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μ V] | VER<br>[dB μ V] |                         |                     |                       |                | HOR<br>[dB μ V/m] | VER<br>[dB μ V/m] |                      | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 67.25          | BB          | 28.1            | 34.6            | 6.5                     | 29.9                | 1.7                   | 5.7            | 12.1              | 18.6              | 40.0                 | 27.9        | 21.4        |
| 2.  | 71.75          | BB          | 26.9            | 32.9            | 6.1                     | 29.9                | 1.8                   | 5.7            | 10.6              | 16.6              | 40.0                 | 29.4        | 23.4        |
| 3.  | 134.50         | BB          | 23.9            | 25.4            | 13.7                    | 29.8                | 2.6                   | 5.7            | 16.1              | 17.6              | 43.5                 | 27.4        | 25.9        |
| 4.  | 201.75         | BB          | 21.2            | 21.4            | 15.9                    | 29.8                | 3.2                   | 5.7            | 16.2              | 16.4              | 43.5                 | 27.3        | 27.1        |

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

Except for the above table: adequate margin data below the limits.  
 ANT.TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-2GHz Horn

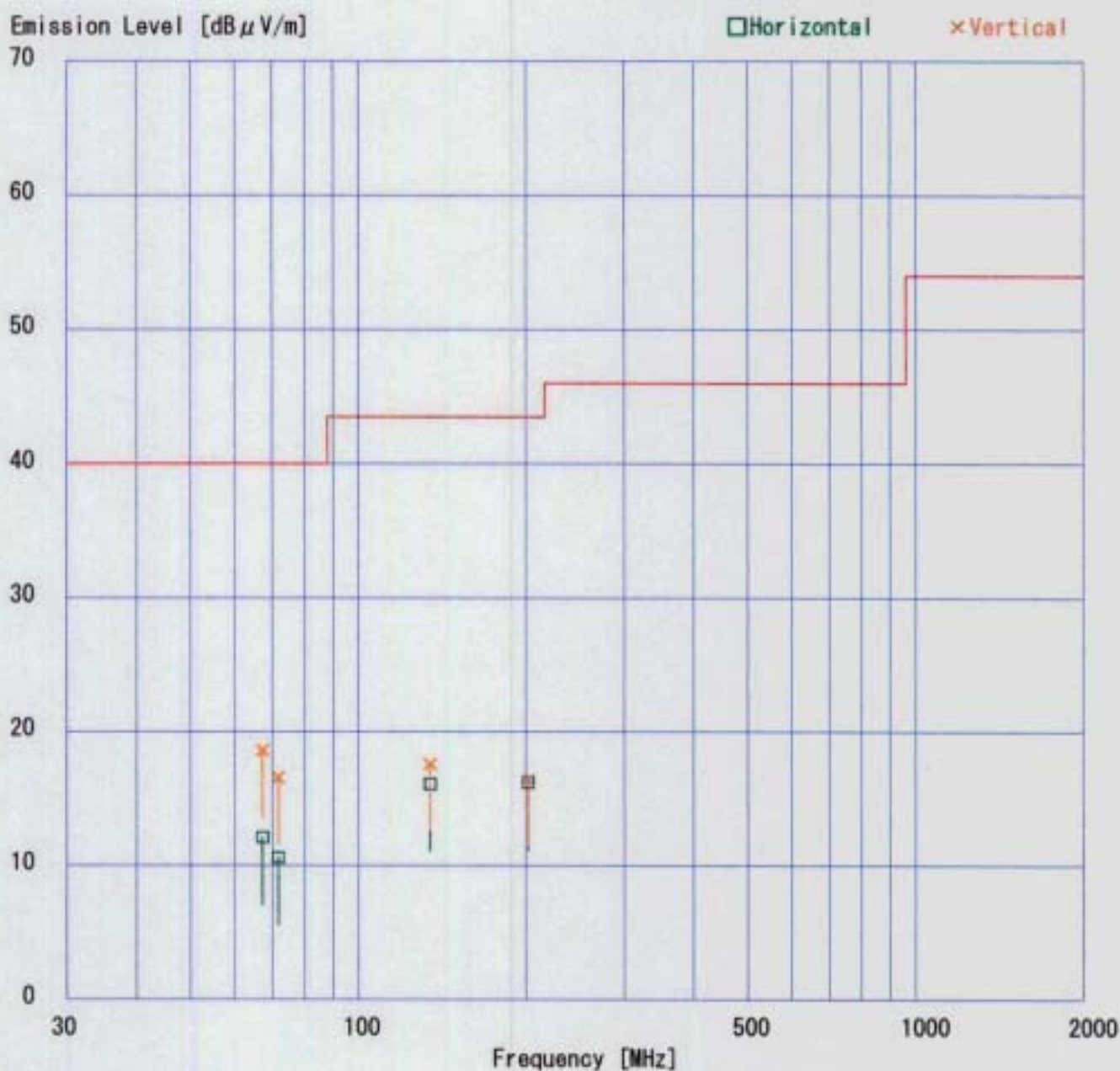


DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.1 OPEN TEST SITE  
Report No. : 21KE0003-KT

Applicant : ORION ELECTRIC CO., LTD.  
Kind of Equipment : VIDEO CASSETTE RECORDER  
Model No. : VCR4510D  
Serial No. :  
Power : AC120V/60Hz  
Mode : MAXIMUM OPERATION  
Remarks : TEST CHANNEL #4  
Date : 6/15/2001  
Test Distance : 3 m  
Temperature : 20 °C  
Humidity : 60 %  
Regulation : FCC Part15B CLASS B

  
Engineer : Seigo Kakehi



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.  
 YOKOWA No.1 OPEN TEST SITE  
 Report No. : 21KE0003-KT

Applicant : ORION ELECTRIC CO., LTD.  
 Kind of Equipment : VIDEO CASSETTE RECORDER  
 Model No. : VCR4510D  
 Serial No. :  
 Power : AC120V/60Hz  
 Mode : MAXIMUM OPERATION  
 Remarks : OTHER  
 Date : 6/15/2001  
 Test Distance : 3 m  
 Temperature : 20 °C  
 Humidity : 60 %  
 Regulation : FCC Part15B CLASS B

  
 Engineer : Seigo Kakehi

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING         |                 | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT            |                   | LIMITS<br>[dB μ V/m] | MARGIN      |             |
|-----|----------------|-------------|-----------------|-----------------|-------------------------|---------------------|-----------------------|----------------|-------------------|-------------------|----------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μ V] | VER<br>[dB μ V] |                         |                     |                       |                | HOR<br>[dB μ V/m] | VER<br>[dB μ V/m] |                      | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 42.97          | BB          | 35.7            | 26.9            | 13.5                    | 29.9                | 1.3                   | 5.7            | 26.3              | 17.5              | 40.0                 | 13.7        | 22.5        |
| 2.  | 85.92          | BB          | 45.3            | 37.8            | 7.1                     | 29.9                | 2.0                   | 5.7            | 30.2              | 22.7              | 40.0                 | 9.8         | 17.3        |
| 3.  | 128.87         | BB          | 28.4            | 29.0            | 13.5                    | 29.8                | 2.5                   | 5.7            | 20.3              | 20.9              | 43.5                 | 23.2        | 22.6        |
| 4.  | 171.81         | BB          | 27.6            | 27.4            | 15.4                    | 29.9                | 2.9                   | 5.7            | 21.7              | 21.5              | 43.5                 | 21.8        | 22.0        |
| 5.  | 257.74         | BB          | 24.1            | 23.6            | 16.9                    | 29.9                | 3.8                   | 5.7            | 20.6              | 20.1              | 46.0                 | 25.4        | 25.9        |
| 6.  | 320.00         | BB          | 22.5            | 22.7            | 16.5                    | 30.1                | 4.2                   | 5.7            | 18.8              | 19.0              | 46.0                 | 27.2        | 27.0        |

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

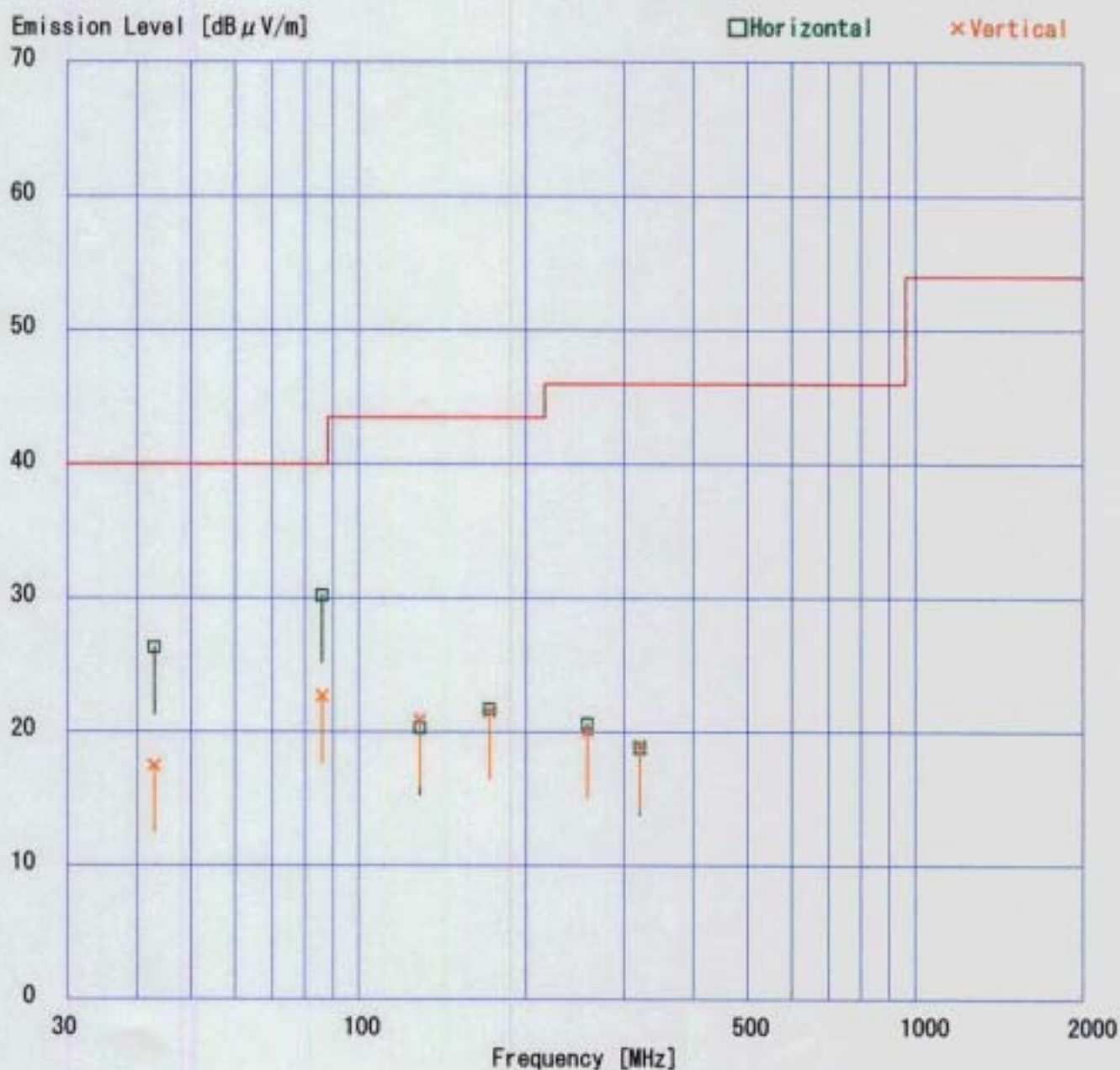
Except for the above table: adequate margin data below the limits.  
 ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-2GHz Horn

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.1 OPEN TEST SITE  
Report No. : 21KE0003-KT

Applicant : ORION ELECTRIC CO., LTD.  
Kind of Equipment : VIDEO CASSETTE RECORDER  
Model No. : VCR4510D  
Serial No. :  
Power : AC120V/60Hz  
Mode : MAXIMUM OPERATION  
Remarks : OTHER  
Date : 6/15/2001  
Test Distance : 3 m  
Temperature : 20 °C  
Humidity : 60 %  
Regulation : FCC Part15B CLASS B

  
Engineer : Seigo Kakehi





**DATA OF RADIATION TEST**

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA NO.1 OPEN TEST SITE

COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPMENT : VIDEO CASSETTE RECORDER  
MODEL No. : VCR4510D  
POWER : AC120V/60Hz  
DESCRIPTION : TV RECEPTION MODE

REPORT No. : 21KE0003-KT  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1034-1694MHz 0dB  
DATE : June 14, 2001

  
ENGINEER : Seigo Kakehi

| CH.              | FREQ<br>[MHz] | READING |      | ANT<br>TYPE | ANT.<br>FAC.<br>[dB] | CABLE<br>LOSS<br>[dB] | AMP<br>GAIN<br>[dB] | RESULTS  |      | LIMIT<br>[dBuV/m] | MARGIN |      |
|------------------|---------------|---------|------|-------------|----------------------|-----------------------|---------------------|----------|------|-------------------|--------|------|
|                  |               | HOR.    | VER. |             |                      |                       |                     | HOR.     | VER. |                   | HOR.   | VER. |
|                  |               | [dBuV]  |      |             |                      |                       |                     | [dBuV/m] |      |                   | [dB]   | [dB] |
| VHF Fundamental  |               |         |      |             |                      |                       |                     |          |      |                   |        |      |
| 2                | 101           | 21.7    | 28.0 | BC          | 10.1                 | 2.2                   | 29.9                | 10.1     | 16.4 | 43.5              | 33.4   | 27.1 |
| 3                | 107           | 25.4    | 29.2 | BC          | 11.0                 | 2.3                   | 29.9                | 14.8     | 18.6 | 43.5              | 28.7   | 24.9 |
| 4                | 113           | 26.6    | 29.9 | BC          | 12.0                 | 2.3                   | 29.9                | 17.0     | 20.3 | 43.5              | 26.5   | 23.2 |
| 5                | 123           | 24.8    | 27.4 | BC          | 13.2                 | 2.5                   | 29.8                | 16.7     | 19.3 | 43.5              | 26.8   | 24.2 |
| 6                | 129           | 24.1    | 24.8 | BC          | 13.5                 | 2.5                   | 29.8                | 16.3     | 17.0 | 43.5              | 27.2   | 26.5 |
| 7                | 221           | 22.4    | 22.4 | BC          | 16.2                 | 3.4                   | 29.8                | 18.2     | 18.2 | 46.0              | 27.8   | 27.8 |
| 8                | 227           | 22.2    | 22.1 | BC          | 16.2                 | 3.5                   | 29.8                | 18.1     | 18.0 | 46.0              | 27.9   | 28.0 |
| 9                | 233           | 21.9    | 21.8 | BC          | 16.3                 | 3.5                   | 29.9                | 17.8     | 17.7 | 46.0              | 28.2   | 28.3 |
| 10               | 239           | 23.0    | 22.7 | BC          | 16.4                 | 3.6                   | 29.9                | 19.1     | 18.8 | 46.0              | 26.9   | 27.2 |
| 11               | 245           | 22.9    | 22.9 | BC          | 16.4                 | 3.7                   | 29.9                | 19.1     | 19.1 | 46.0              | 26.9   | 26.9 |
| 12               | 251           | 23.0    | 22.8 | BC          | 16.5                 | 3.7                   | 29.9                | 19.3     | 19.1 | 46.0              | 26.7   | 26.9 |
| 13               | 257           | 23.5    | 23.9 | BC          | 16.8                 | 3.8                   | 29.9                | 20.2     | 20.6 | 46.0              | 25.8   | 25.4 |
| VHF 2nd Harmonic |               |         |      |             |                      |                       |                     |          |      |                   |        |      |
| 2                | 202           | 22.0    | 22.0 | BC          | 15.9                 | 3.2                   | 29.8                | 17.3     | 17.3 | 43.5              | 26.2   | 26.2 |
| 3                | 214           | 22.7    | 22.1 | BC          | 16.1                 | 3.3                   | 29.8                | 18.3     | 17.7 | 43.5              | 25.2   | 25.8 |
| 4                | 226           | 24.3    | 22.9 | BC          | 16.2                 | 3.4                   | 29.8                | 20.1     | 18.7 | 46.0              | 25.9   | 27.3 |
| 5                | 246           | 22.3    | 22.2 | BC          | 16.5                 | 3.7                   | 29.9                | 18.6     | 18.5 | 46.0              | 27.4   | 27.5 |
| 6                | 258           | 22.3    | 22.3 | BC          | 16.9                 | 3.8                   | 29.9                | 19.1     | 19.1 | 46.0              | 26.9   | 26.9 |
| 7                | 442           | 22.6    | 22.6 | LP          | 18.4                 | 5.1                   | 30.1                | 22.0     | 22.0 | 46.0              | 24.0   | 24.0 |
| 8                | 454           | 22.4    | 22.4 | LP          | 18.6                 | 5.1                   | 30.2                | 21.9     | 21.9 | 46.0              | 24.1   | 24.1 |
| 9                | 466           | 22.5    | 22.5 | LP          | 18.9                 | 5.2                   | 30.2                | 22.4     | 22.4 | 46.0              | 23.6   | 23.6 |
| 10               | 478           | 22.1    | 22.2 | LP          | 19.1                 | 5.3                   | 30.2                | 22.3     | 22.4 | 46.0              | 23.7   | 23.6 |
| 11               | 490           | 22.5    | 22.6 | LP          | 19.3                 | 5.4                   | 30.2                | 23.0     | 23.1 | 46.0              | 23.0   | 22.9 |
| 12               | 502           | 22.2    | 22.3 | LP          | 19.5                 | 5.5                   | 30.1                | 23.1     | 23.2 | 46.0              | 22.9   | 22.8 |
| 13               | 514           | 22.4    | 22.5 | LP          | 19.6                 | 5.6                   | 30.1                | 23.5     | 23.6 | 46.0              | 22.5   | 22.4 |



**DATA OF RADIATION TEST**

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA NO.1 OPEN TEST SITE

COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPMENT : VIDEO CASSETTE RECORDER  
MODEL No. : VCR4510D  
POWER : AC120V/60Hz  
DESCRIPTION : TV RECEPTION MODE

REPORT No. : 21KE0003-KT  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1034-1694MHz 0dB  
DATE : June 14, 2001

  
ENGINEER : Seigo Kakehi

| CH.               | FREQ  | READING |      | ANT<br>TYPE | ANT.<br>FAC. | CABLE<br>LOSS | AMP<br>GAIN | RESULTS |      | LIMIT | MARGIN |          |
|-------------------|-------|---------|------|-------------|--------------|---------------|-------------|---------|------|-------|--------|----------|
|                   | [MHz] | HOR.    | VER. |             |              |               |             | [dBuV]  | HOR. |       | VER.   | [dBuV/m] |
|                   |       |         |      |             |              |               |             |         |      |       |        |          |
| CATV Fundamental  |       |         |      |             |              |               |             |         |      |       |        |          |
| 1                 | 119   | 22.0    | 31.9 | BC          | 12.9         | 2.4           | 29.8        | 13.5    | 23.4 | 43.5  | 30.0   | 20.1     |
| 95                | 137   | 24.2    | 23.9 | BC          | 13.8         | 2.6           | 29.8        | 16.8    | 16.5 | 43.5  | 26.7   | 27.0     |
| 97                | 149   | 22.5    | 22.7 | BC          | 14.4         | 2.7           | 29.8        | 15.8    | 16.0 | 43.5  | 27.7   | 27.5     |
| 99                | 161   | 22.8    | 22.9 | BC          | 14.9         | 2.8           | 29.8        | 16.7    | 16.8 | 43.5  | 26.8   | 26.7     |
| 14                | 167   | 22.5    | 22.8 | BC          | 15.2         | 2.9           | 29.9        | 16.7    | 17.0 | 43.5  | 26.8   | 26.5     |
| 18                | 191   | 22.7    | 22.7 | BC          | 15.9         | 3.1           | 29.8        | 17.9    | 17.9 | 43.5  | 25.6   | 25.6     |
| 22                | 215   | 22.4    | 22.6 | BC          | 16.1         | 3.3           | 29.8        | 18.0    | 18.2 | 43.5  | 25.5   | 25.3     |
| 23                | 263   | 22.3    | 22.4 | BC          | 17.1         | 3.8           | 29.9        | 19.3    | 19.4 | 46.0  | 26.7   | 26.6     |
| 29                | 299   | 22.1    | 22.5 | BC          | 18.8         | 4.1           | 30.0        | 21.0    | 21.4 | 46.0  | 25.0   | 24.6     |
| 36                | 341   | 22.5    | 22.4 | LP          | 16.8         | 4.5           | 30.1        | 19.7    | 19.6 | 46.0  | 26.3   | 26.4     |
| 37                | 347   | 22.5    | 22.4 | LP          | 16.9         | 4.6           | 30.1        | 19.9    | 19.8 | 46.0  | 26.1   | 26.2     |
| 65                | 515   | 22.8    | 23.0 | LP          | 19.6         | 5.6           | 30.1        | 23.9    | 24.1 | 46.0  | 22.1   | 21.9     |
| 94                | 689   | 21.9    | 21.9 | LP          | 21.9         | 6.7           | 30.3        | 26.2    | 26.2 | 46.0  | 19.8   | 19.8     |
| 100               | 695   | 21.5    | 21.5 | LP          | 22.0         | 6.7           | 30.2        | 26.0    | 26.0 | 46.0  | 20.0   | 20.0     |
| 113               | 773   | 21.6    | 21.6 | LP          | 23.3         | 7.2           | 29.8        | 28.3    | 28.3 | 46.0  | 17.7   | 17.7     |
| 125               | 845   | 21.6    | 21.6 | LP          | 24.0         | 7.5           | 29.6        | 29.5    | 29.5 | 46.0  | 16.5   | 16.5     |
| CATV 2nd Harmonic |       |         |      |             |              |               |             |         |      |       |        |          |
| 1                 | 238   | 22.0    | 22.1 | BC          | 16.4         | 3.6           | 29.9        | 18.1    | 18.2 | 46.0  | 27.9   | 27.8     |
| 95                | 274   | 21.9    | 22.0 | BC          | 17.6         | 3.9           | 29.9        | 19.5    | 19.6 | 46.0  | 26.5   | 26.4     |
| 97                | 298   | 22.0    | 22.0 | BC          | 18.7         | 4.1           | 30.0        | 20.8    | 20.8 | 46.0  | 25.2   | 25.2     |
| 99                | 322   | 22.3    | 22.3 | LP          | 16.5         | 4.2           | 30.1        | 18.9    | 18.9 | 46.0  | 27.1   | 27.1     |
| 14                | 334   | 22.2    | 22.2 | LP          | 16.7         | 4.4           | 30.1        | 19.2    | 19.2 | 46.0  | 26.8   | 26.8     |
| 18                | 382   | 22.1    | 22.1 | LP          | 17.3         | 4.8           | 30.1        | 20.1    | 20.1 | 46.0  | 25.9   | 25.9     |
| 22                | 430   | 22.4    | 22.4 | LP          | 18.2         | 5.1           | 30.1        | 21.6    | 21.6 | 46.0  | 24.4   | 24.4     |
| 23                | 526   | 21.8    | 21.8 | LP          | 19.7         | 5.6           | 30.2        | 22.9    | 22.9 | 46.0  | 23.1   | 23.1     |
| 29                | 598   | 21.9    | 21.9 | LP          | 20.1         | 6.1           | 30.3        | 23.8    | 23.8 | 46.0  | 22.2   | 22.2     |
| 36                | 682   | 22.2    | 22.2 | LP          | 21.7         | 6.6           | 30.3        | 26.2    | 26.2 | 46.0  | 19.8   | 19.8     |
| 37                | 694   | 21.5    | 21.8 | LP          | 22.0         | 6.7           | 30.2        | 26.0    | 26.3 | 46.0  | 20.0   | 19.7     |
| 65                | 1030  | 30.9    | 30.8 | HO          | 23.7         | 4.4           | 35.4        | 23.6    | 23.5 | 54.0  | 30.4   | 30.5     |
| 94                | 1378  | 30.4    | 30.3 | HO          | 24.8         | 5.1           | 34.9        | 25.4    | 25.3 | 54.0  | 28.6   | 28.7     |
| 100               | 1390  | 30.3    | 30.2 | HO          | 24.8         | 5.1           | 34.9        | 25.3    | 25.2 | 54.0  | 28.7   | 28.8     |
| 113               | 1546  | 30.2    | 30.1 | HO          | 25.4         | 5.4           | 34.7        | 26.3    | 26.2 | 54.0  | 27.7   | 27.8     |
| 125               | 1690  | 30.0    | 30.2 | HO          | 26.2         | 5.7           | 34.6        | 27.3    | 27.5 | 54.0  | 26.7   | 26.5     |

**DATA OF RADIATION TEST**

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA NO.1 OPEN TEST SITE

COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPMENT : VIDEO CASSETTE RECORDER  
MODEL No. : VCR4510D  
POWER : AC120V/60Hz  
DESCRIPTION : TV RECEPTION MODE

REPORT No. : 21KE0003-KT  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1034-1694MHz 0dB  
DATE : June 14, 2001

  
ENGINEER : Seigo Kakehi

| CH.              | FREQ  | READING |      | ANT<br>TYPE | ANT<br>FAC. | CABLE<br>LOSS | AMP<br>GAIN | RESULTS |      | LIMIT | MARGIN |          |
|------------------|-------|---------|------|-------------|-------------|---------------|-------------|---------|------|-------|--------|----------|
|                  | [MHz] | HOR.    | VER. |             |             |               |             | [dBuV]  | HOR. |       | VER.   | [dBuV/m] |
|                  |       |         |      |             |             |               |             |         |      |       |        |          |
| UHF Fundamental  |       |         |      |             |             |               |             |         |      |       |        |          |
| 14               | 517   | 24.8    | 26.2 | LP          | 19.6        | 5.6           | 30.1        | 25.9    | 27.3 | 46.0  | 20.1   | 18.7     |
| 19               | 547   | 25.4    | 26.8 | LP          | 19.8        | 5.8           | 30.2        | 26.8    | 28.2 | 46.0  | 19.2   | 17.8     |
| 28               | 601   | 23.8    | 25.1 | LP          | 20.1        | 6.1           | 30.3        | 25.7    | 27.0 | 46.0  | 20.3   | 19.0     |
| 36               | 649   | 24.8    | 25.2 | LP          | 21.1        | 6.5           | 30.3        | 28.1    | 28.5 | 46.0  | 17.9   | 17.5     |
| 44               | 697   | 24.3    | 24.5 | LP          | 22.0        | 6.7           | 30.2        | 28.8    | 29.0 | 46.0  | 17.2   | 17.0     |
| 53               | 751   | 25.7    | 24.9 | LP          | 22.9        | 7.0           | 29.9        | 31.7    | 30.9 | 46.0  | 14.3   | 15.1     |
| 61               | 799   | 27.9    | 27.5 | LP          | 23.7        | 7.2           | 29.6        | 35.2    | 34.8 | 46.0  | 10.8   | 11.2     |
| 69               | 847   | 25.3    | 26.5 | LP          | 24.0        | 7.6           | 29.6        | 33.3    | 34.5 | 46.0  | 12.7   | 11.5     |
| UHF 2nd Harmonic |       |         |      |             |             |               |             |         |      |       |        |          |
| 14               | 1034  | 31.3    | 31.5 | HO          | 23.7        | 4.5           | 35.4        | 24.1    | 24.3 | 54.0  | 29.9   | 29.7     |
| 19               | 1094  | 30.6    | 30.7 | HO          | 23.9        | 4.6           | 35.3        | 23.8    | 23.9 | 54.0  | 30.2   | 30.1     |
| 28               | 1202  | 33.0    | 32.6 | HO          | 24.2        | 4.8           | 35.1        | 26.9    | 26.5 | 54.0  | 27.1   | 27.5     |
| 36               | 1298  | 31.3    | 32.9 | HO          | 24.6        | 4.9           | 35.0        | 25.8    | 27.4 | 54.0  | 28.2   | 26.6     |
| 44               | 1394  | 31.4    | 35.0 | HO          | 24.9        | 5.1           | 34.9        | 26.5    | 30.1 | 54.0  | 27.5   | 23.9     |
| 53               | 1502  | 31.3    | 37.8 | HO          | 25.2        | 5.3           | 34.7        | 27.1    | 33.6 | 54.0  | 26.9   | 20.4     |
| 61               | 1598  | 34.1    | 34.4 | HO          | 25.7        | 5.5           | 34.6        | 30.7    | 31.0 | 54.0  | 23.3   | 23.0     |
| 69               | 1694  | 36.9    | 36.0 | HO          | 26.2        | 5.7           | 34.6        | 34.2    | 33.3 | 54.0  | 19.8   | 20.7     |



# DATA OF ANTENNA TERMINAL TEST

A-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

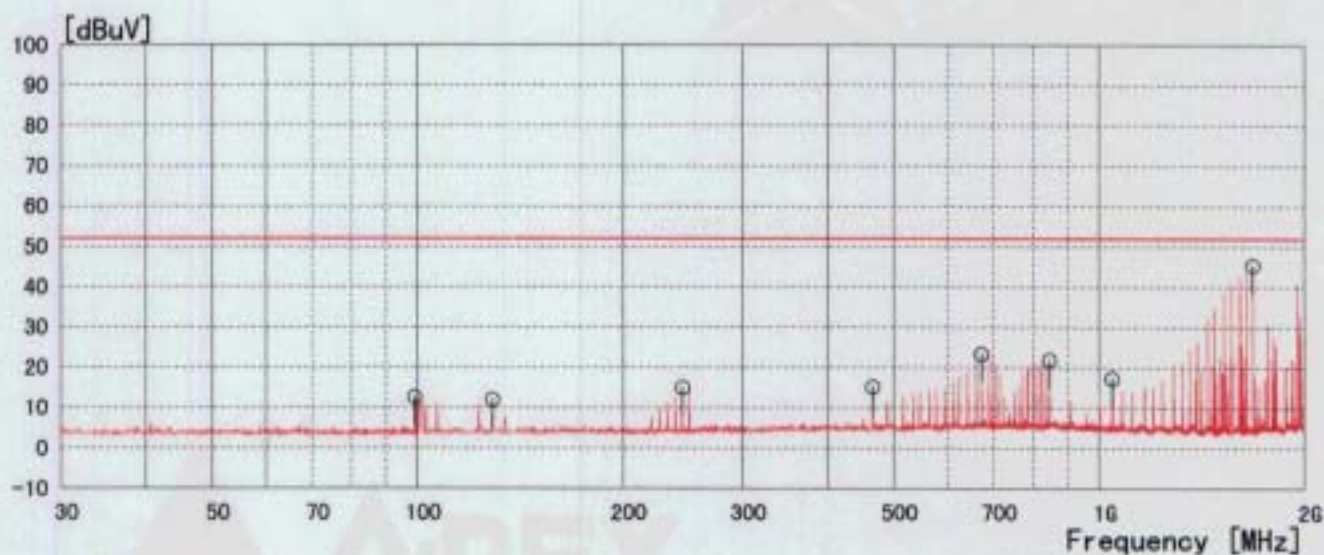
COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPMENT : VIDEO CASSETTE RECORDER  
MODEL NAME : VCR45100  
OPERATION MODE : TUNING  
PORT : ANTENNA TERMINAL  
POWER : AC120V/60Hz  
REMARKS : TV MODE

REPORT No. : 21KE0003-KT  
DATE : JUNE 08, 2001  
REGULATION : FCC PART15 SUBPART B  
TEST NO. : 1

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 99.100        | 32.5    | —  | -19.9             | 12.6   | —  | 52.0   | —  | 39.4   | —  |
| 2   | 128.900       | 31.7    | —  | -19.7             | 11.9   | —  | 52.0   | —  | 40.1   | —  |
| 3   | 244.900       | 34.3    | —  | -19.4             | 14.9   | —  | 52.0   | —  | 37.1   | —  |
| 4   | 465.700       | 34.2    | —  | -19.1             | 15.1   | —  | 52.0   | —  | 36.9   | —  |
| 5   | 672.600       | 42.1    | —  | -18.7             | 23.3   | —  | 52.0   | —  | 28.7   | —  |
| 6   | 846.600       | 40.4    | —  | -18.5             | 21.8   | —  | 52.0   | —  | 30.2   | —  |
| 7   | 1045.700      | 44.1    | —  | -26.8             | 17.3   | —  | 52.0   | —  | 34.7   | —  |
| 8   | 1681.400      | 71.4    | —  | -26.0             | 45.3   | —  | 52.0   | —  | 6.7    | —  |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN



# DATA OF ANTENNA TERMINAL TEST

A-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

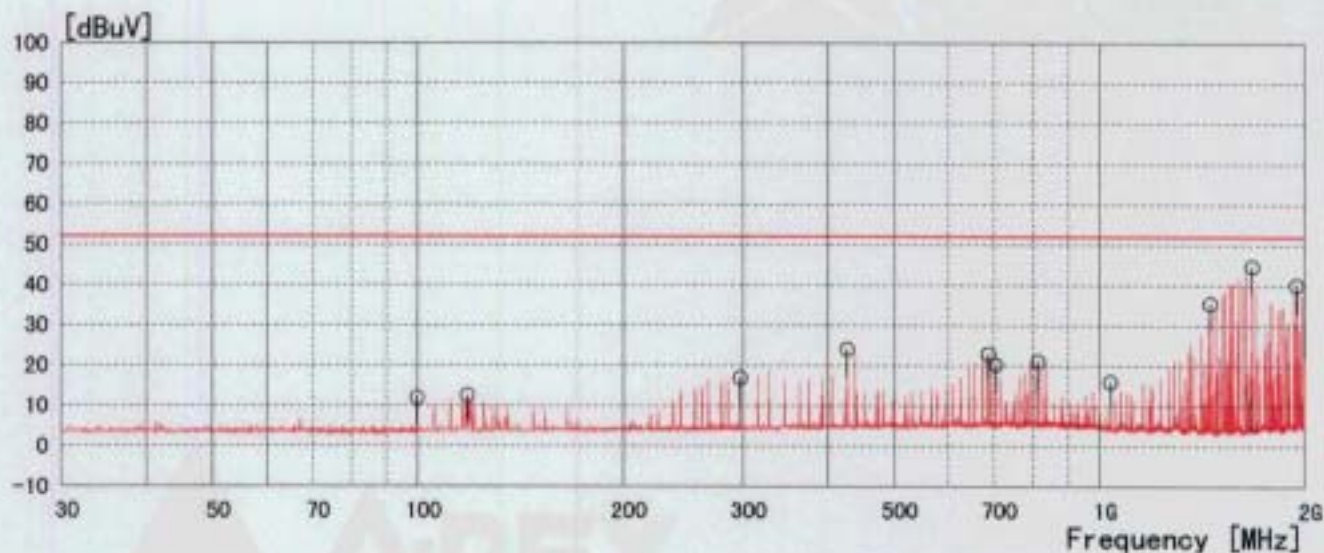
COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPMENT : VIDEO CASSETTE RECORDER  
MODEL NAME : VCR4510D  
OPERATION MODE : TUNING  
PORT : ANTENNA TERMINAL  
POWER : AC120V/60Hz  
REMARKS : CATV MODE

REPORT No. : 21KE0003-KT  
DATE : JUNE 08, 2001  
REGULATION : FCC PART15 SUBPART B  
TEST NO. : 2

*[Signature]*  
TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |     | C. FACTOR<br>[dB] | RESULT |     | LIMIT  |     | MARGIN |     |
|-----|---------------|---------|-----|-------------------|--------|-----|--------|-----|--------|-----|
|     |               | QP      | AV  |                   | QP     | AV  | QP     | AV  | QP     | AV  |
|     |               | [dBuV]  |     |                   | [dBuV] |     | [dBuV] |     | [dB]   |     |
| 1   | 99.800        | 31.8    | --- | -19.9             | 11.9   | --- | 52.0   | --- | 40.1   | --- |
| 2   | 118.300       | 32.3    | --- | -19.8             | 12.5   | --- | 52.0   | --- | 39.5   | --- |
| 3   | 297.400       | 36.2    | --- | -19.3             | 16.8   | --- | 52.0   | --- | 35.2   | --- |
| 4   | 426.900       | 43.2    | --- | -19.1             | 24.1   | --- | 52.0   | --- | 27.9   | --- |
| 5   | 687.400       | 41.6    | --- | -18.7             | 22.9   | --- | 52.0   | --- | 29.1   | --- |
| 6   | 705.600       | 38.9    | --- | -18.7             | 20.2   | --- | 52.0   | --- | 31.8   | --- |
| 7   | 813.600       | 39.6    | --- | -18.6             | 21.1   | --- | 52.0   | --- | 30.9   | --- |
| 8   | 1039.300      | 42.8    | --- | -26.8             | 15.9   | --- | 52.0   | --- | 36.1   | --- |
| 9   | 1455.000      | 61.8    | --- | -26.3             | 35.5   | --- | 52.0   | --- | 16.5   | --- |
| 10  | 1675.000      | 70.7    | --- | -26.0             | 44.6   | --- | 52.0   | --- | 7.4    | --- |
| 11  | 1950.000      | 65.2    | --- | -25.2             | 40.0   | --- | 52.0   | --- | 12.0   | --- |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN





SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

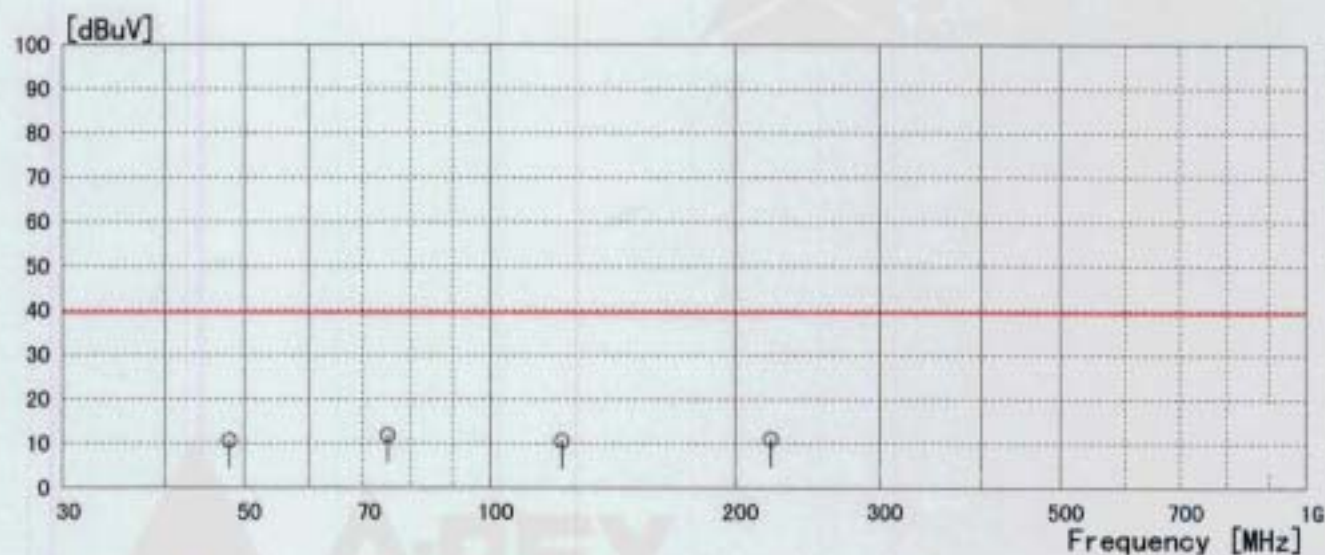
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR45100  
 OPERATION MODE : RECEIVE+REC (3CH OUTPUT)  
 PORT : RF OUTPUT TERMINAL  
 POWER : AC120V/60Hz  
 REMARKS : 0dBmV

REPORT No. : 21KE0003-KT  
 DATE : JUNE 08, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 1

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 47.980        | 31.0    | —  | -20.4             | 10.6   | —  | 39.5   | —  | 28.9   | —  |
| 2   | 74.980        | 32.3    | —  | -20.4             | 11.9   | —  | 39.5   | —  | 27.6   | —  |
| 3   | 122.620       | 31.0    | —  | -20.4             | 10.6   | —  | 39.5   | —  | 28.9   | —  |
| 4   | 221.180       | 31.4    | —  | -20.3             | 11.0   | —  | 39.5   | —  | 28.5   | —  |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN





SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

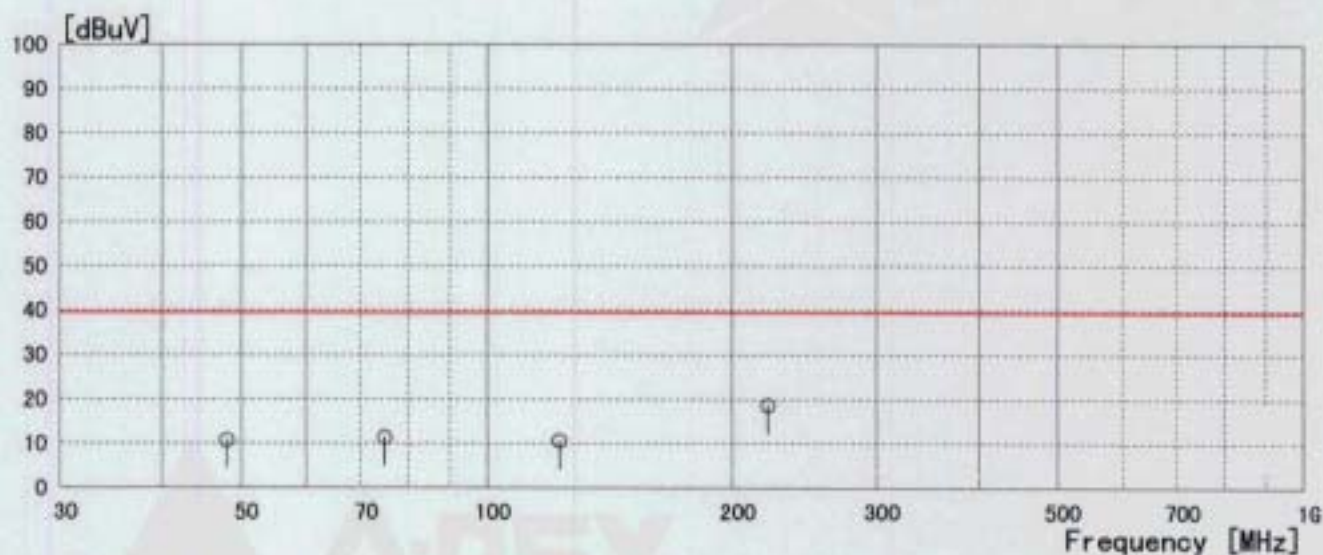
COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPEMENT : VIDEO CASSETTE RECORDER  
MODEL NAME : VCR4510D  
OPERATION MODE: RECEIVE+REC (3CH OUTPUT)  
PORT : RF OUTPUT TERMINAL  
POWER : AC120V/60Hz  
REMARKS : 25dBmV  
:

REPORT No. : 21KE0003-KT  
DATE : JUNE 08, 2001  
REGULATION : FCC PART15 SUBPART B  
TEST NO. : 2

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |     | C. FACTOR<br>[dB] | RESULT |     | LIMIT  |     | MARGIN |     |
|-----|---------------|---------|-----|-------------------|--------|-----|--------|-----|--------|-----|
|     |               | QP      | AV  |                   | QP     | AV  | QP     | AV  | QP     | AV  |
|     |               | [dBuV]  |     |                   | [dBuV] |     | [dBuV] |     | [dB]   |     |
| 1   | 48.070        | 31.1    | --- | -20.4             | 10.7   | --- | 39.5   | --- | 28.8   | --- |
| 2   | 74.960        | 31.7    | --- | -20.4             | 11.4   | --- | 39.5   | --- | 28.2   | --- |
| 3   | 122.710       | 30.9    | --- | -20.4             | 10.6   | --- | 39.5   | --- | 28.9   | --- |
| 4   | 221.290       | 39.0    | --- | -20.3             | 18.6   | --- | 39.5   | --- | 20.9   | --- |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN



SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

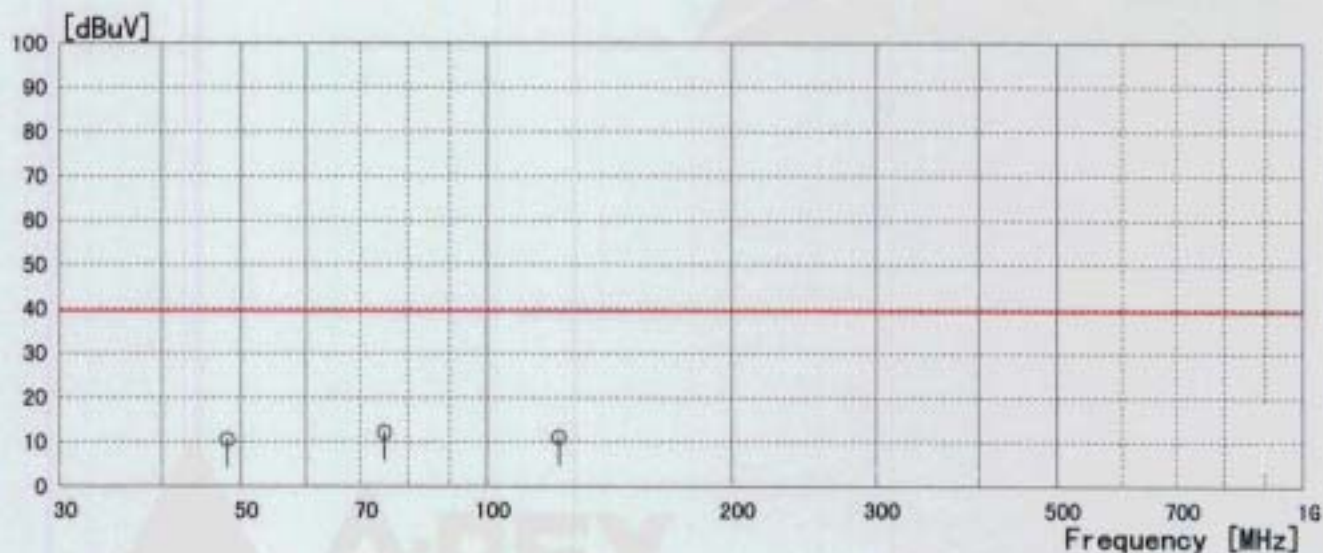
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : AV INPUT+REC (3CH OUTPUT)  
 PORT : RF OUTPUT TERMINAL  
 POWER : AC120V/60Hz  
 REMARKS : 1Vp-p  
 :

REPORT No. : 21KE0003-KT  
 DATE : JUNE 08, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 5

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 48.090        | 30.8    | —  | -20.4             | 10.5   | —  | 39.5   | —  | 29.0   | —  |
| 2   | 74.960        | 32.6    | —  | -20.4             | 12.2   | —  | 39.5   | —  | 27.3   | —  |
| 3   | 122.680       | 31.4    | —  | -20.4             | 11.1   | —  | 39.5   | —  | 28.4   | —  |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN



SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

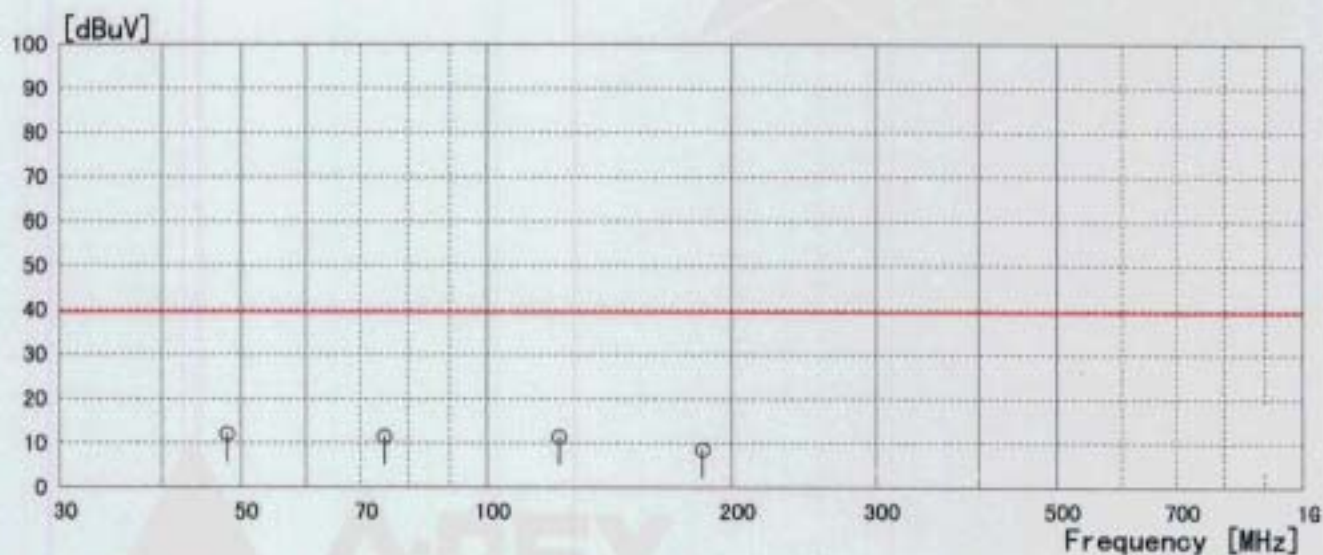
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : AV INPUT+REC (3CH OUTPUT)  
 PORT : RF OUTPUT TERMINAL  
 POWER : AC120V/60Hz  
 REMARKS : 5Vp-p  
 :

REPORT No. : 21KE0003-KT  
 DATE : JUNE 08, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 6

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 48.090        | 32.3    | —  | -20.4             | 12.0   | —  | 39.5   | —  | 27.5   | —  |
| 2   | 75.000        | 31.8    | —  | -20.4             | 11.4   | —  | 39.5   | —  | 28.1   | —  |
| 3   | 122.710       | 31.8    | —  | -20.4             | 11.4   | —  | 39.5   | —  | 28.1   | —  |
| 4   | 184.070       | 28.8    | —  | -20.4             | 8.5    | —  | 39.5   | —  | 31.0   | —  |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN





SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

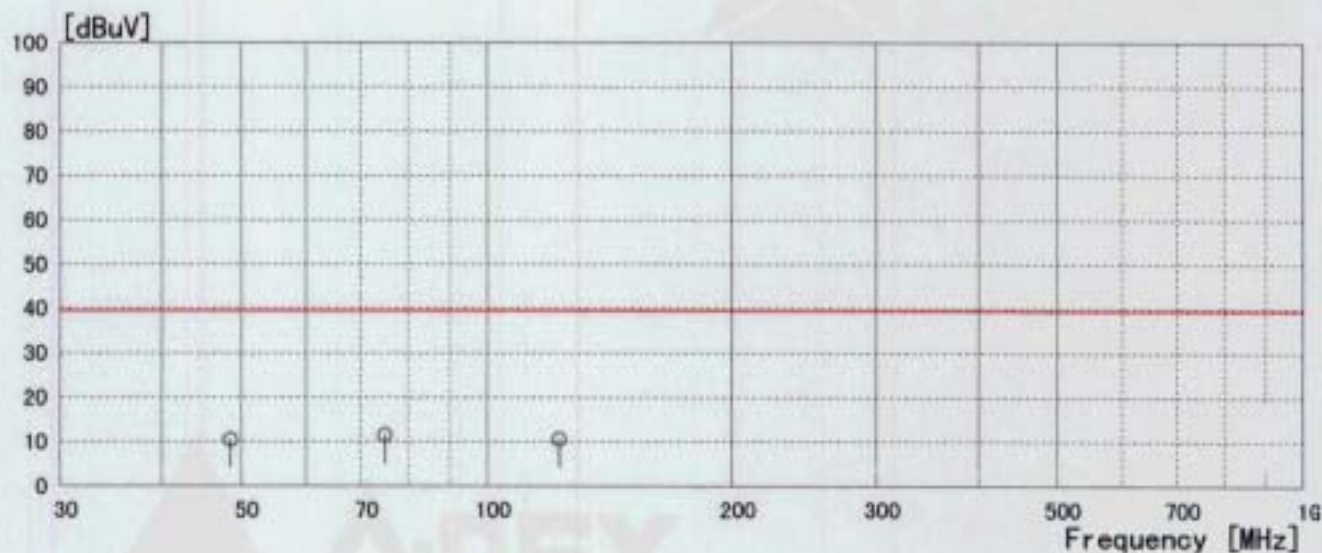
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : PLAYBACK (3CH OUTPUT)  
 PORT : RF OUTPUT TERMINAL  
 POWER : AC120V/60Hz  
 REMARKS : -

REPORT No. : 21KE0003-KT  
 DATE : JUNE 08, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 9

TEST ENGINEER: HIRAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 48.500        | 30.8    | —  | -20.4             | 10.4   | —  | 39.5   | —  | 29.1   | —  |
| 2   | 74.980        | 31.9    | —  | -20.4             | 11.5   | —  | 39.5   | —  | 28.0   | —  |
| 3   | 122.680       | 30.9    | —  | -20.4             | 10.6   | —  | 39.5   | —  | 28.9   | —  |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN



SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

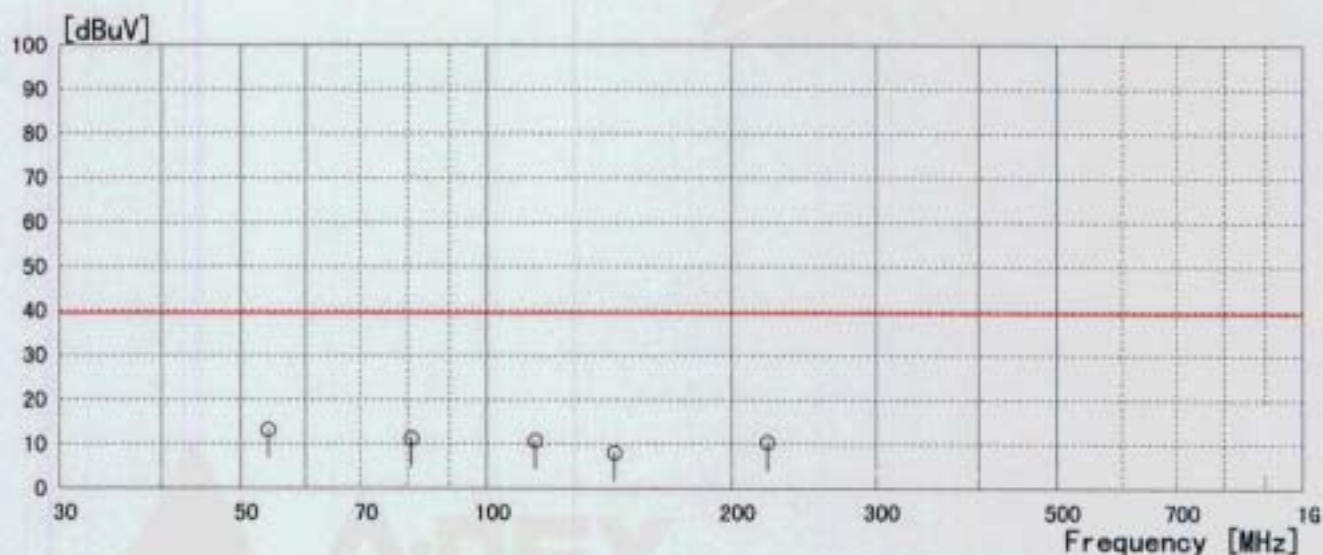
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : RECEIVE+REC (4CH OUTPUT)  
 PORT : RF OUTPUT TERMINAL  
 POWER : AC120V/60Hz  
 REMARKS : 0dBmV  
 :

REPORT No. : 21KE0003-KT  
 DATE : JUNE 08, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 3

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 54.070        | 33.4    | —  | -20.4             | 13.1   | —  | 39.5   | —  | 26.4   | —  |
| 2   | 80.980        | 31.6    | —  | -20.4             | 11.2   | —  | 39.5   | —  | 28.3   | —  |
| 3   | 114.860       | 31.1    | —  | -20.4             | 10.7   | —  | 39.5   | —  | 28.8   | —  |
| 4   | 143.540       | 28.3    | —  | -20.4             | 8.0    | —  | 39.5   | —  | 31.5   | —  |
| 5   | 221.180       | 30.7    | —  | -20.3             | 10.4   | —  | 39.5   | —  | 29.1   | —  |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN



SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

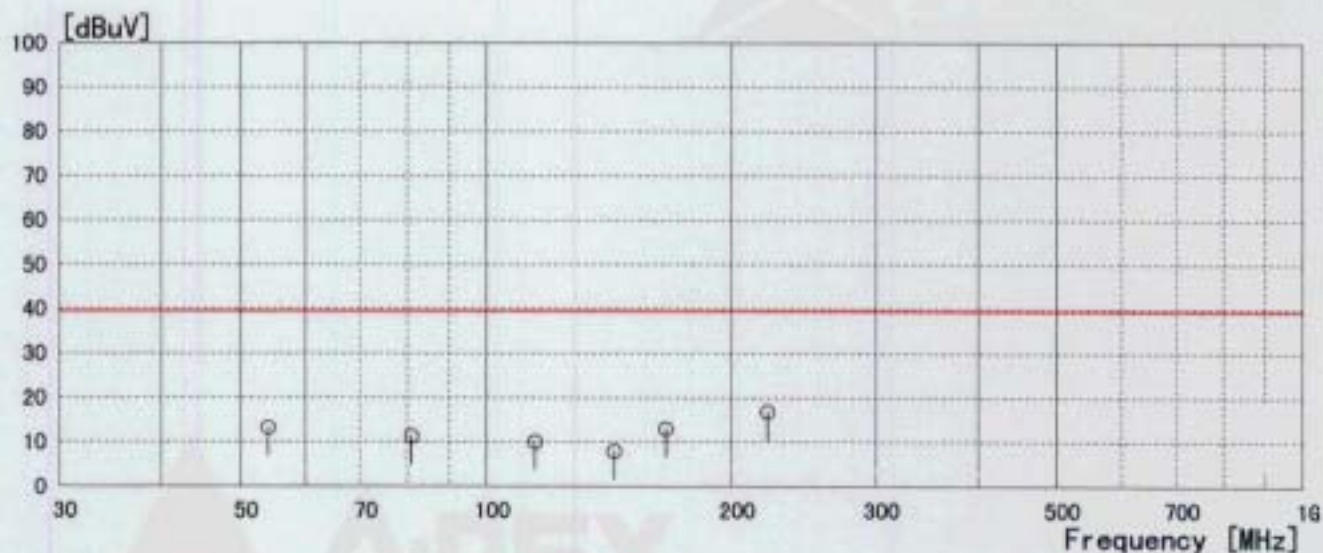
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : RECEIVE+REC (4CH OUTPUT)  
 PORT : RF OUTPUT TERMINAL  
 POWER : AC120V/60Hz  
 REMARKS : 25dBmV

REPORT No. : 21KE0003-KT  
 DATE : JUNE 08, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 4

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 54.040        | 33.5    | —  | -20.4             | 13.2   | —  | 39.5   | —  | 26.3   | —  |
| 2   | 81.000        | 31.6    | —  | -20.4             | 11.2   | —  | 39.5   | —  | 28.3   | —  |
| 3   | 114.860       | 30.4    | —  | -20.4             | 10.0   | —  | 39.5   | —  | 29.5   | —  |
| 4   | 143.540       | 28.2    | —  | -20.4             | 7.8    | —  | 39.5   | —  | 31.7   | —  |
| 5   | 166.070       | 33.3    | —  | -20.4             | 12.9   | —  | 39.5   | —  | 26.6   | —  |
| 6   | 221.360       | 37.1    | —  | -20.3             | 16.8   | —  | 39.5   | —  | 22.7   | —  |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN





SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

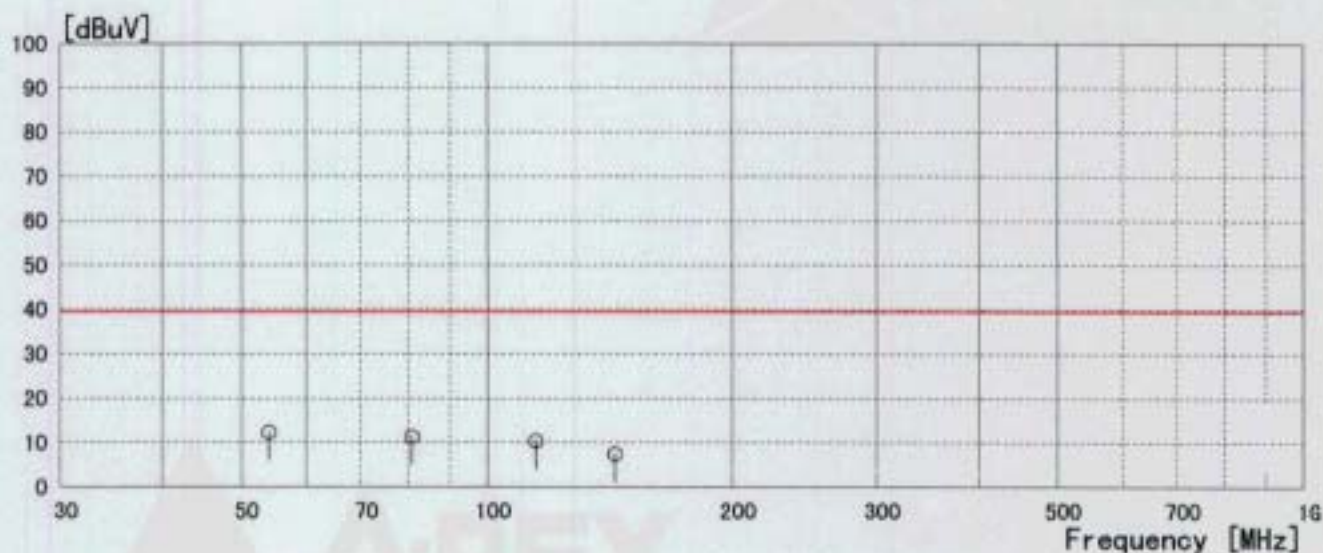
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPEMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : AV INPUT+REC (4CH OUTPUT)  
 PORT : RF OUTPUT TERMINAL  
 POWER : AC120V/60Hz  
 REMARKS : 1Vp-p  
 :

REPORT No. : 21KE0003-KT  
 DATE : JUNE 08, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 7

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 54.050        | 32.7    | —  | -20.4             | 12.3   | —  | 39.5   | —  | 27.2   | —  |
| 2   | 80.960        | 31.7    | —  | -20.4             | 11.3   | —  | 39.5   | —  | 28.2   | —  |
| 3   | 114.860       | 30.7    | —  | -20.4             | 10.4   | —  | 39.5   | —  | 29.1   | —  |
| 4   | 143.540       | 27.7    | —  | -20.4             | 7.4    | —  | 39.5   | —  | 32.1   | —  |

---

 RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN


SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

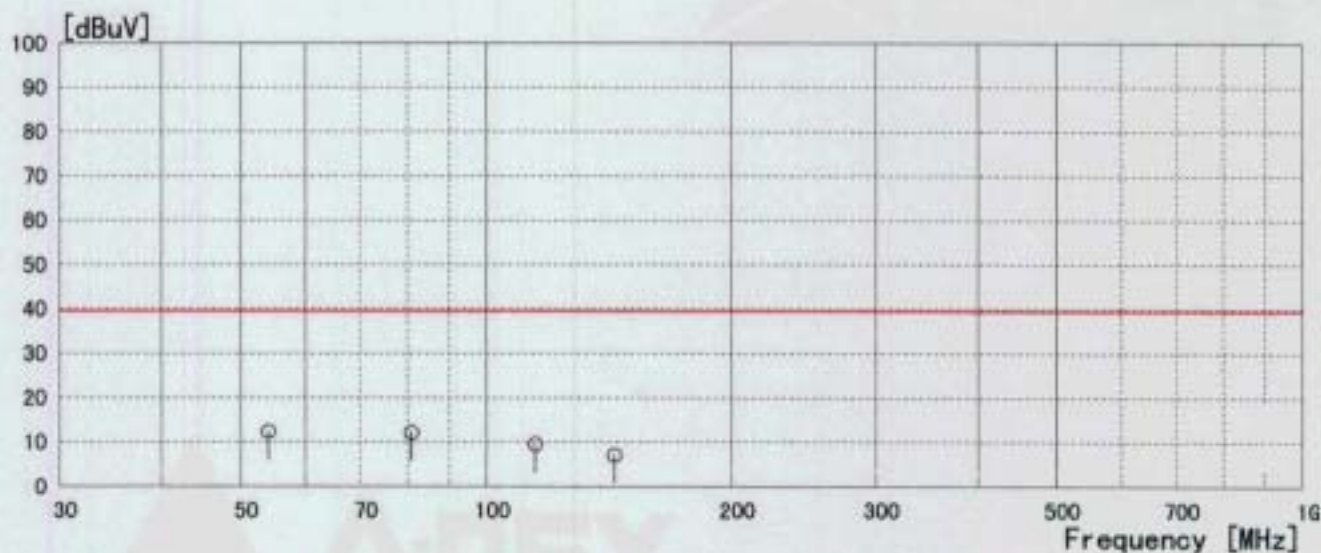
COMPANY : ORION ELECTRIC CO., LTD.  
EQUIPMENT : VIDEO CASSETTE RECORDER  
MODEL NAME : VCR4510D  
OPERATION MODE : AV INPUT+REC (4CH OUTPUT)  
PORT : RF OUTPUT TERMINAL  
POWER : AC120V/60Hz  
REMARKS : 5Vp-p  
:

REPORT No. : 21KE0003-KT  
DATE : JUNE 08, 2001  
REGULATION : FCC PART15 SUBPART B  
TEST NO. : 8

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |    | C. FACTOR<br>[dB] | RESULT |    | LIMIT  |    | MARGIN |    |
|-----|---------------|---------|----|-------------------|--------|----|--------|----|--------|----|
|     |               | QP      | AV |                   | QP     | AV | QP     | AV | QP     | AV |
|     |               | [dBuV]  |    |                   | [dBuV] |    | [dBuV] |    | [dB]   |    |
| 1   | 54.070        | 32.7    | —  | -20.4             | 12.3   | —  | 39.5   | —  | 27.2   | —  |
| 2   | 80.930        | 32.4    | —  | -20.4             | 12.0   | —  | 39.5   | —  | 27.5   | —  |
| 3   | 114.820       | 29.8    | —  | -20.4             | 9.4    | —  | 39.5   | —  | 30.1   | —  |
| 4   | 143.500       | 27.4    | —  | -20.4             | 7.1    | —  | 39.5   | —  | 32.4   | —  |

RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN



A2-31

SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.  
KANTO OFFICE EMC LAB.

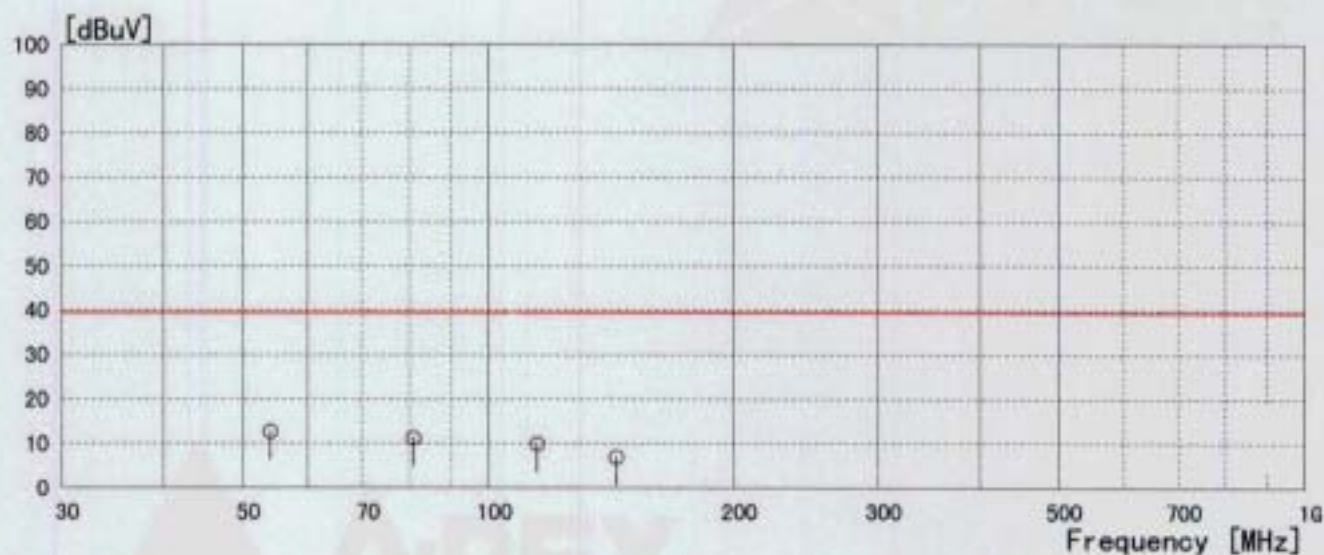
COMPANY : ORION ELECTRIC CO., LTD.  
 EQUIPEMENT : VIDEO CASSETTE RECORDER  
 MODEL NAME : VCR4510D  
 OPERATION MODE : PLAYBACK (4CH OUTPUT)  
 PORT : RF OUTPUT TERMINAL  
 POWER : AC120V/60Hz  
 REMARKS : -

REPORT No. : 21KE0003-KT  
 DATE : JUNE 08, 2001  
 REGULATION : FCC PART15 SUBPART B  
 TEST NO. : 10

TEST ENGINEER: HISAYUKI KIOKA

| No. | FREQ<br>[MHz] | READING |     | C. FACTOR<br>[dB] | RESULT |     | LIMIT  |     | MARGIN |     |
|-----|---------------|---------|-----|-------------------|--------|-----|--------|-----|--------|-----|
|     |               | QP      | AV  |                   | QP     | AV  | QP     | AV  | QP     | AV  |
|     |               | [dBuV]  |     |                   | [dBuV] |     | [dBuV] |     | [dB]   |     |
| 1   | 54.070        | 33.0    | --- | -20.4             | 12.6   | --- | 39.5   | --- | 26.9   | --- |
| 2   | 80.930        | 31.6    | --- | -20.4             | 11.2   | --- | 39.5   | --- | 28.3   | --- |
| 3   | 114.860       | 30.2    | --- | -20.4             | 9.9    | --- | 39.5   | --- | 29.6   | --- |
| 4   | 143.540       | 27.2    | --- | -20.4             | 6.9    | --- | 39.5   | --- | 32.6   | --- |

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 RESULT=READING+CABLE LOSS+PAD LOSS-AMP. GAIN




## RF output level

A-PEX INTERNATIONAL CO., LTD.

Kanto office EMC Lab.

Company : ORION ELECTRIC CO.,LTD.  
 Equipment : Video Cassette Recorder  
 Model number : VCR4510D  
 Power : AC 120 V / 60 Hz  
 Description : Receive + Rec. mode (0 dBmV)

Report Number : 21KE0003-KT

Regulation : FCC Part 15 Subpart B

Date : June 08, 2001

Engineer

Hisayuki Kioka

### Video signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 61.25              | 85.6                    | 20.4                         | 65.2           | 69.5             | 4.3            |
| 4   | 67.25              | 84.2                    | 20.4                         | 63.8           | 69.5             | 5.7            |

### Audio signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 56.75              | 71.1                    | 20.4                         | 50.7           | 56.5             | 5.8            |
|     | 65.75              | 71.1                    | 20.4                         | 50.7           | 56.5             | 5.8            |
| 4   | 62.75              | 71.3                    | 20.4                         | 50.9           | 56.5             | 5.6            |
|     | 71.75              | 70.2                    | 20.4                         | 49.8           | 56.5             | 6.7            |

## RF output level

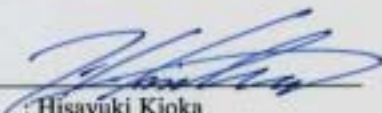
A-PEX INTERNATIONAL CO., LTD.

Kanto office EMC Lab.

Company : ORION ELECTRIC CO.,LTD.  
 Equipment : Video Cassette Recorder  
 Model number : VCR4510D  
 Power : AC 120 V / 60 Hz  
 Description : Receive + Rec. mode (25 dBmV)

Report Number : 21KE0003-KT  
 Regulation : FCC Part 15 Subpart B  
 Date : June 08, 2001

Engineer

  
 : Hisayuki Kioka

### Video signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 61.25              | 85.6                    | 20.4                         | 65.2           | 69.5             | 4.3            |
| 4   | 67.25              | 85.1                    | 20.4                         | 64.7           | 69.5             | 4.8            |

### Audio signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 56.75              | 71.0                    | 20.4                         | 50.6           | 56.5             | 5.9            |
|     | 65.75              | 71.0                    | 20.4                         | 50.6           | 56.5             | 5.9            |
| 4   | 62.75              | 71.3                    | 20.4                         | 50.9           | 56.5             | 5.6            |
|     | 71.75              | 70.4                    | 20.4                         | 50.0           | 56.5             | 6.5            |

## RF output level

A-PEX INTERNATIONAL CO., LTD.

Kanto office EMC Lab.

Company : ORION ELECTRIC CO.,LTD.  
 Equipment : Video Cassette Recorder  
 Model number : VCR4510D  
 Power : AC 120 V / 60 Hz  
 Description : AV Input + Rec. mode (1 Vp-p)

Report Number : 21KE0003-KT  
 Regulation : FCC Part 15 Subpart B  
 Date : June 08, 2001

Engineer

  
 Hisayuki Kioka

## Video signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 61.25              | 85.4                    | 20.4                         | 65.0           | 69.5             | 4.5            |
| 4   | 67.25              | 83.7                    | 20.4                         | 63.3           | 69.5             | 6.2            |

## Audio signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 56.75              | 70.9                    | 20.4                         | 50.5           | 56.5             | 6.0            |
|     | 65.75              | 70.9                    | 20.4                         | 50.5           | 56.5             | 6.0            |
| 4   | 62.75              | 71.3                    | 20.4                         | 50.9           | 56.5             | 5.6            |
|     | 71.75              | 70.3                    | 20.4                         | 49.9           | 56.5             | 6.6            |



## RF output level

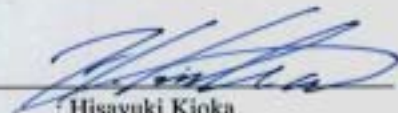
A-PEX INTERNATIONAL CO., LTD.

Kanto office EMC Lab.

Company : ORION ELECTRIC CO.,LTD.  
 Equipment : Video Cassette Recorder  
 Model number : VCR4510D  
 Power : AC 120 V / 60 Hz  
 Description : AV Input + Rec. mode (5 Vp-p)

Report Number : 21KE0003-KT  
 Regulation : FCC Part 15 Subpart B  
 Date : June 08, 2001

 \_\_\_\_\_  
 Engineer

  
 : Hisayuki Kioka

### Video signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 61.25              | 85.4                    | 20.4                         | 65.0           | 69.5             | 4.5            |
| 4   | 67.25              | 85.0                    | 20.4                         | 64.6           | 69.5             | 4.9            |

### Audio signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 56.75              | 70.9                    | 20.4                         | 50.5           | 56.5             | 6.0            |
|     | 65.75              | 71.0                    | 20.4                         | 50.6           | 56.5             | 5.9            |
| 4   | 62.75              | 71.3                    | 20.4                         | 50.9           | 56.5             | 5.6            |
|     | 71.75              | 70.1                    | 20.4                         | 49.7           | 56.5             | 6.8            |

## RF output level

A-PEX INTERNATIONAL CO., LTD.

Kanto office EMC Lab.

Company : ORION ELECTRIC CO.,LTD.

Equipment : Video Cassette Recorder

Model number : VCR4510D

Power : AC 120 V / 60 Hz

Description : Playback mode

Report Number : 21KE0003-KT

Regulation : FCC Part 15 Subpart B

Date : June 08, 2001

Engineer

  
 : Hisayuki Kioka

### Video signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 61.25              | 84.0                    | 20.4                         | 63.6           | 69.5             | 5.9            |
| 4   | 67.25              | 85.4                    | 20.4                         | 65.0           | 69.5             | 4.5            |

### Audio signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 56.75              | 70.9                    | 20.4                         | 50.5           | 56.5             | 6.0            |
|     | 65.75              | 71.1                    | 20.4                         | 50.7           | 56.5             | 5.8            |
| 4   | 62.75              | 70.9                    | 20.4                         | 50.5           | 56.5             | 6.0            |
|     | 71.75              | 69.8                    | 20.4                         | 49.4           | 56.5             | 7.1            |





## Noise figure test

A-PEX INTERNATIONAL CO., LTD.

Kanto office EMC Lab.

Company : ORION ELECTRIC CO.,LTD.  
 Equipment : Video Cassette Recorder  
 Model number : VCR4510D  
 Power : AC 120 V / 60 Hz  
 Description : Receive mode

Report Number : 21KE0003-KT

Regulation : FCC Part 15 Subpart B

Date : June 11, 2001

Engineer

  
 Hisayuki Kioka

| Ch.                | Frequency<br>[MHz] | Meter reading<br>[dB] | Correction<br>factor<br>[dB] | Noise figure<br>[dB] | Limits<br>[dB] | Margin<br>[dB] |
|--------------------|--------------------|-----------------------|------------------------------|----------------------|----------------|----------------|
| TV UHF Fundamental |                    |                       |                              |                      |                |                |
| 14                 | 471.25             | 6.1                   | 0.8                          | 5.3                  | 14.0           | 8.7            |
| 20                 | 507.25             | 6.8                   | 0.8                          | 6.0                  | 14.0           | 8.0            |
| 26                 | 543.25             | 7.6                   | 0.8                          | 6.8                  | 14.0           | 7.2            |
| 32                 | 576.25             | 7.8                   | 0.9                          | 6.9                  | 14.0           | 7.1            |
| 28                 | 615.25             | 7.6                   | 0.9                          | 6.7                  | 14.0           | 7.3            |
| 44                 | 651.25             | 8.3                   | 0.9                          | 7.4                  | 14.0           | 6.6            |
| 50                 | 687.25             | 8.5                   | 1.0                          | 7.5                  | 14.0           | 6.5            |
| 56                 | 723.25             | 8.7                   | 1.0                          | 7.7                  | 14.0           | 6.3            |
| 62                 | 759.25             | 8.8                   | 1.1                          | 7.7                  | 14.0           | 6.3            |
| 69                 | 801.25             | 8.9                   | 1.1                          | 7.8                  | 14.0           | 6.2            |