

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.

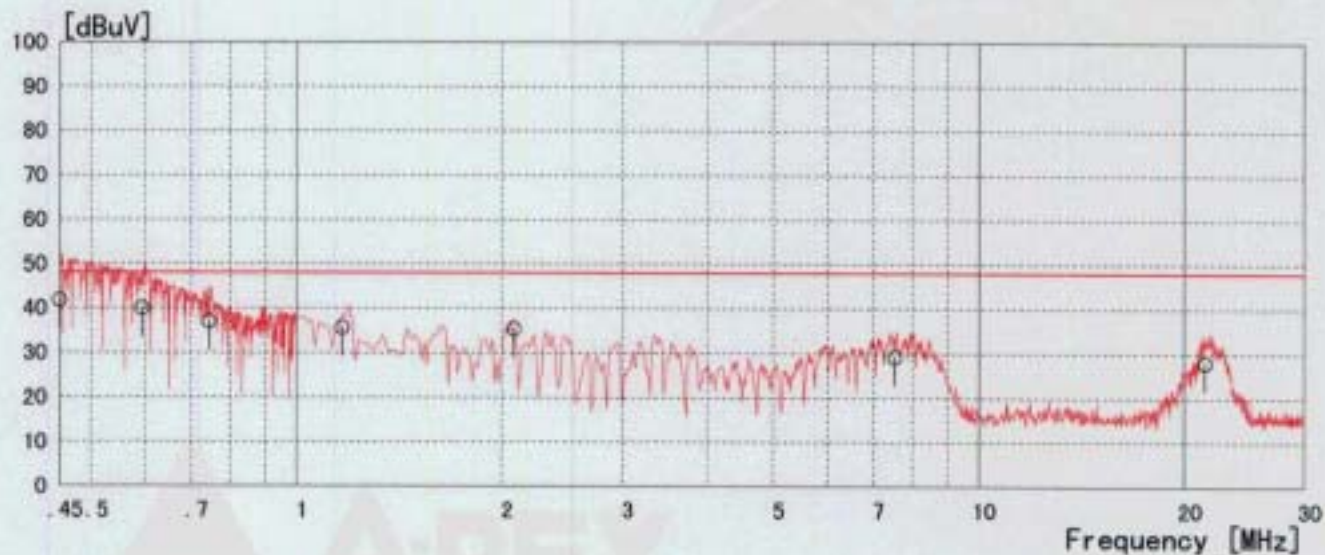
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPEMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE : RECEIVE+REC
 POWER : AC120V/60Hz
 LINE : N
 REMARKS : OdBmV INPUT

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

TEST ENGINEER: RITSUYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [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.

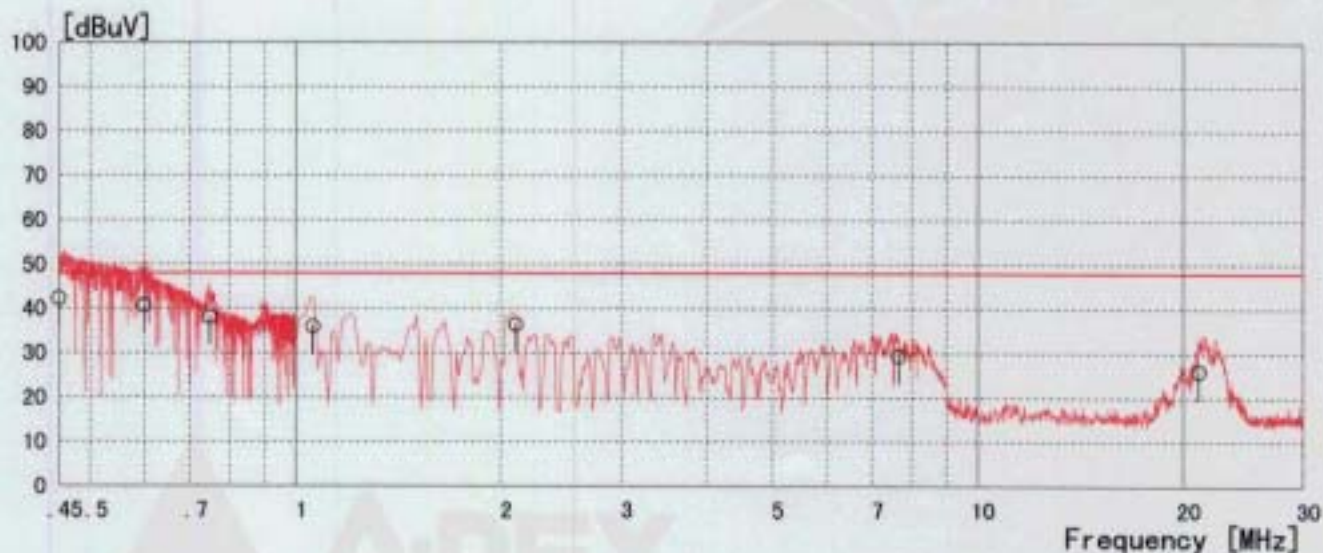
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE: RECEIVE+REC
 POWER : AC120V/60Hz
 LINE : L
 REMARKS : 0dBmV INPUT
 :

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

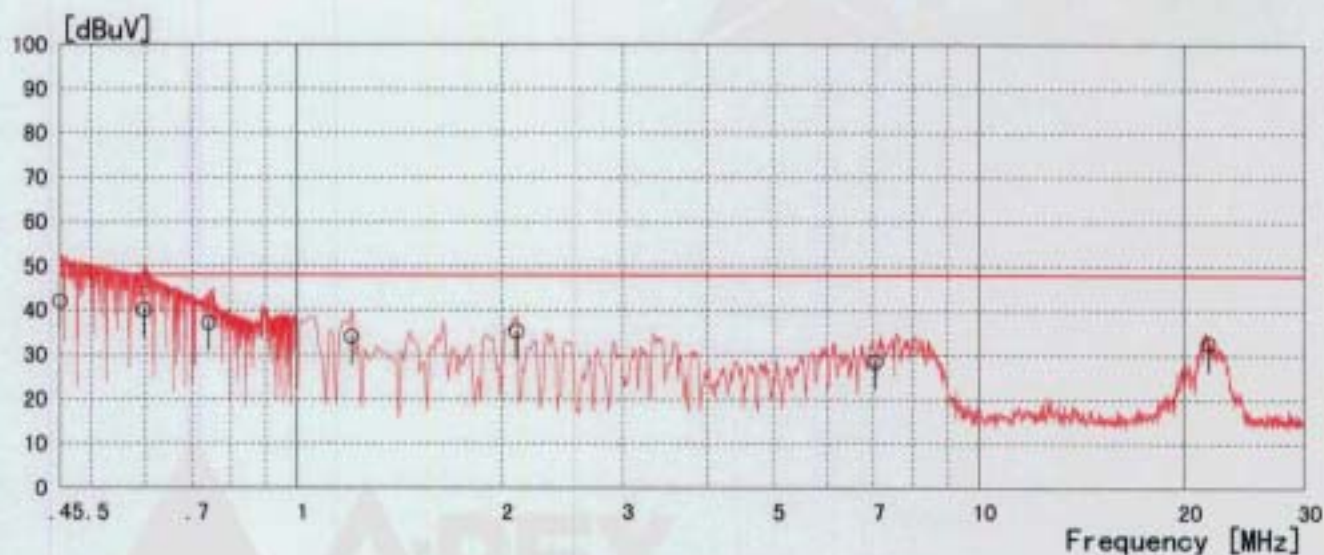
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPEMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE : RECEIVE+REC
 POWER : AC120V/60Hz
 LINE : N
 REMARKS : 25dBmV INPUT

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

TEST ENGINEER: HTSAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

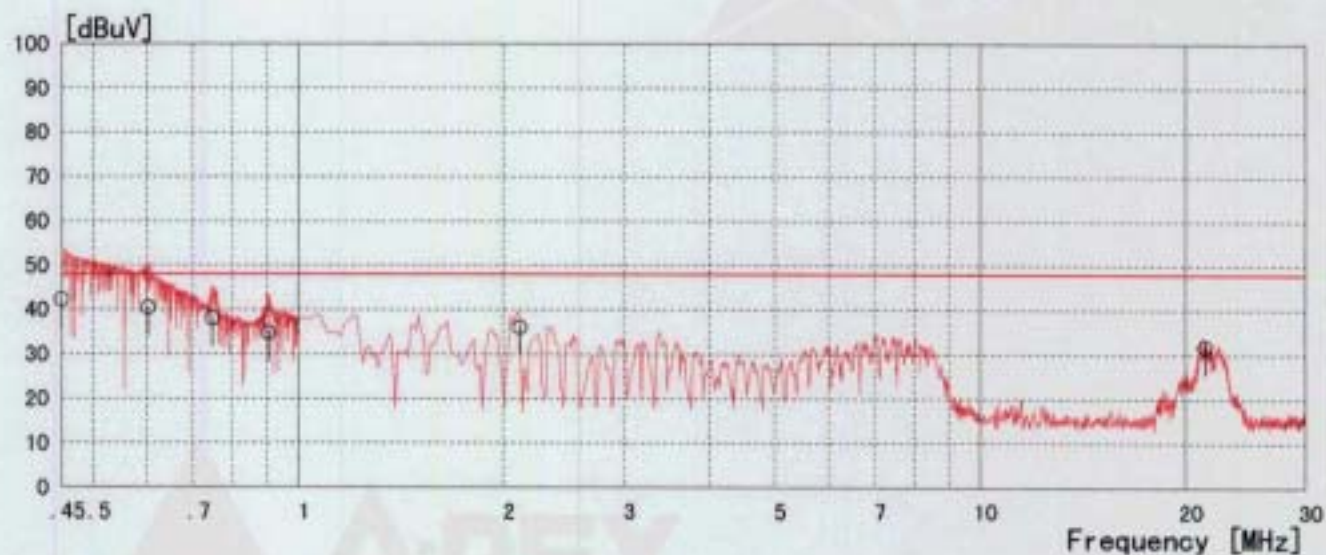
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : VIDEO CASSETTE RECORDER
MODEL NAME : VCR45100
OPERATION MODE : RECEIVE+REC
POWER : AC120V/60Hz
LINE : L
REMARKS : 25dBmV INPUT

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [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 CONDUCTIONA-PEX INTERNATIONAL CO., LTD.
KANTO OFFICE EMC LAB.

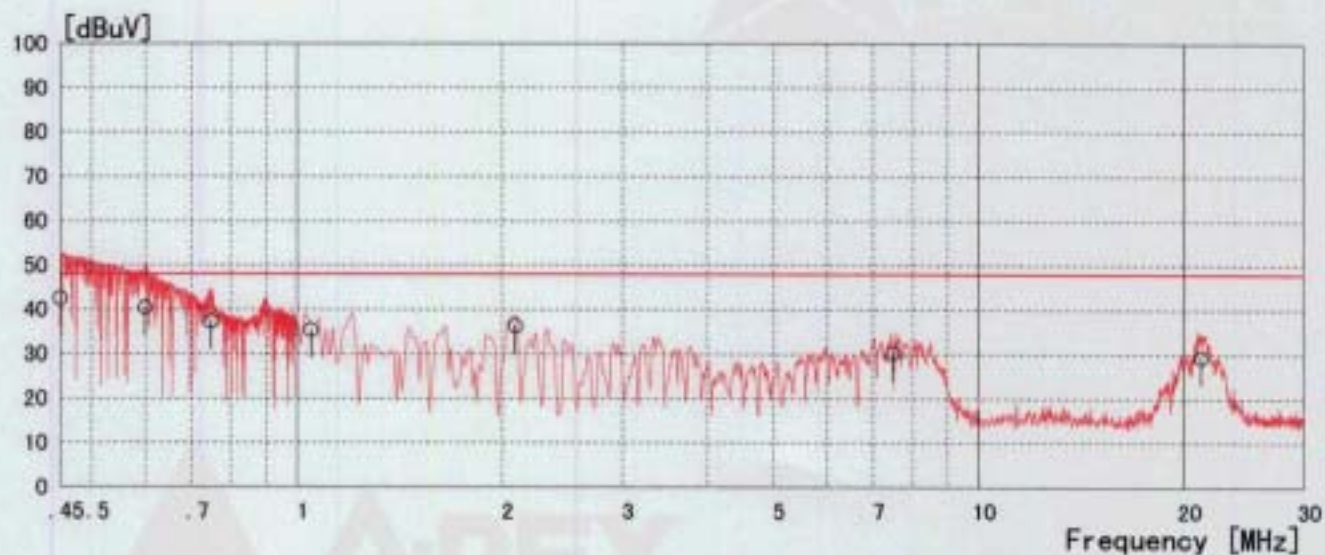
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE : AV INPUT+REC
 POWER : AC120V/60Hz
 LINE : N
 REMARKS : 1Vp-p INPUT

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [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.

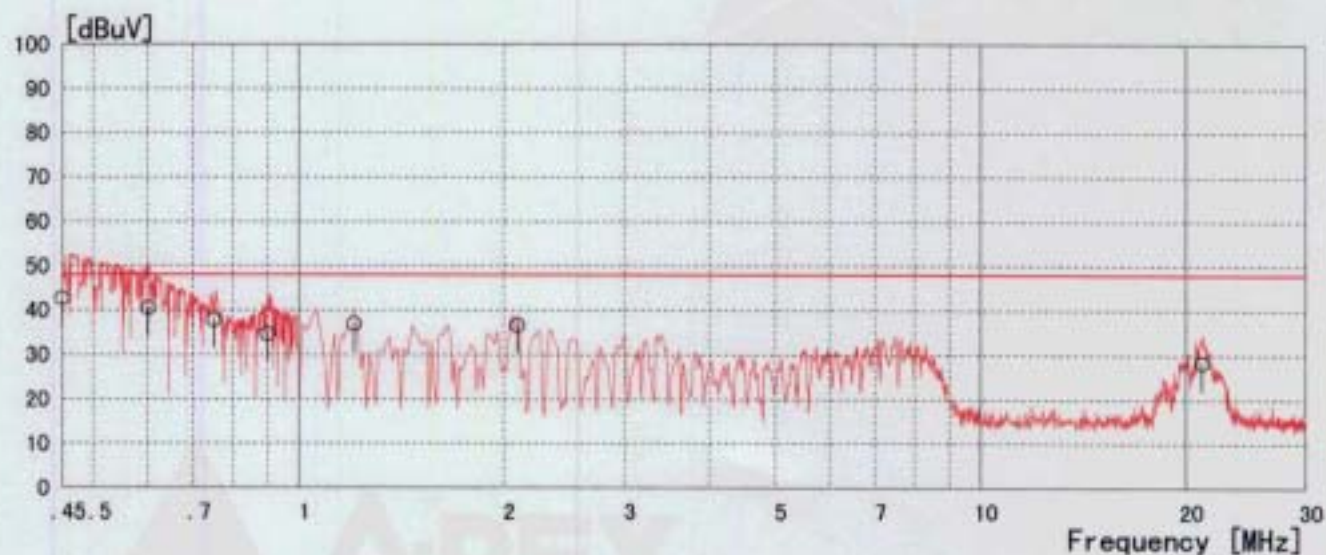
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : VIDEO CASSETTE RECORDER
MODEL NAME : VCR4510D
OPERATION MODE : AV INPUT+REC
POWER : AC120V/60Hz
LINE : L
REMARKS : 1Vp-p INPUT

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[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 CONDUCTION

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

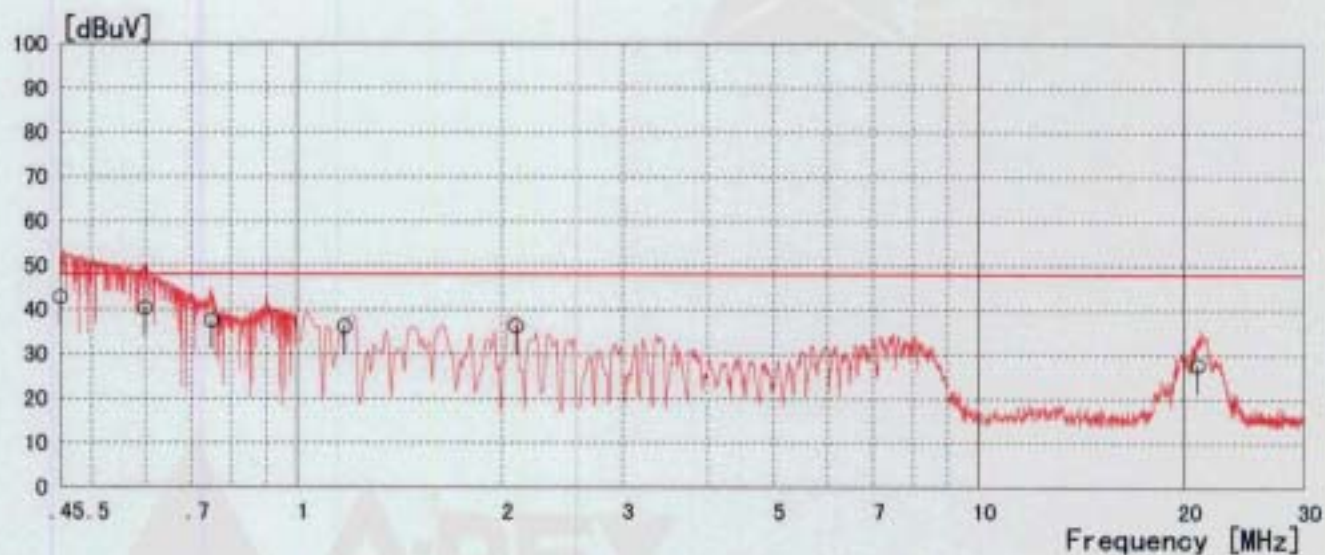
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : VIDEO CASSETTE RECORDER
MODEL NAME : VCR4510D
OPERATION MODE : AV INPUT+REC
POWER : AC120V/60Hz
LINE : N
REMARKS : 5Vp-p INPUT

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [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.

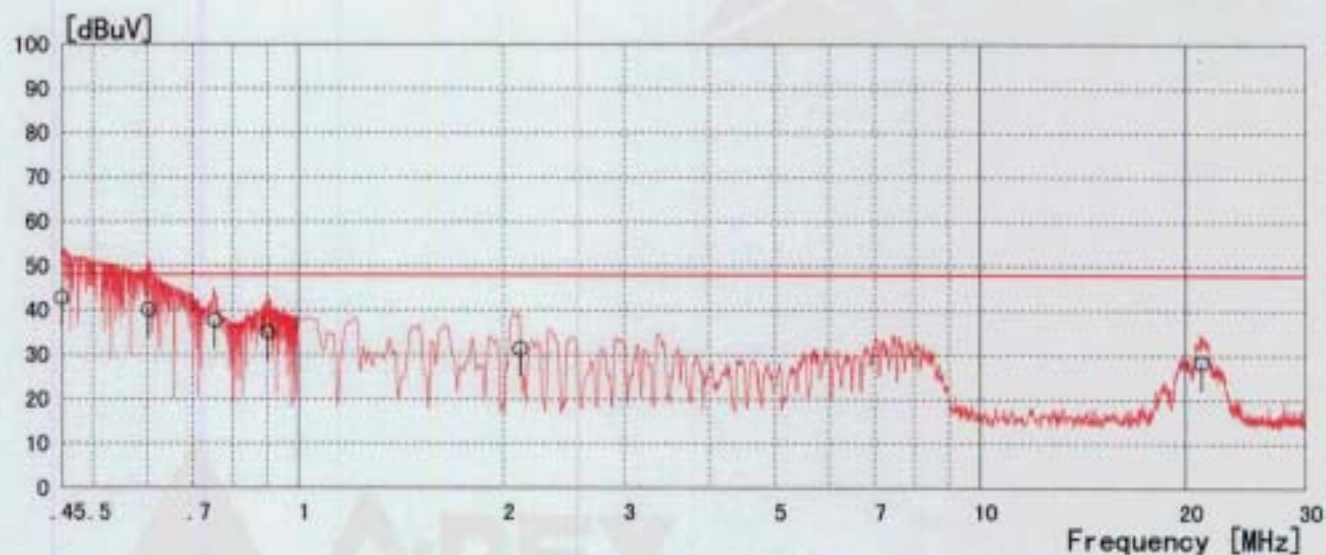
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : VIDEO CASSETTE RECORDER
MODEL NAME : VCR4510D
OPERATION MODE : AV INPUT+REC
POWER : AC120V/60Hz
LINE : L
REMARKS : 5Vp-p INPUT

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [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.

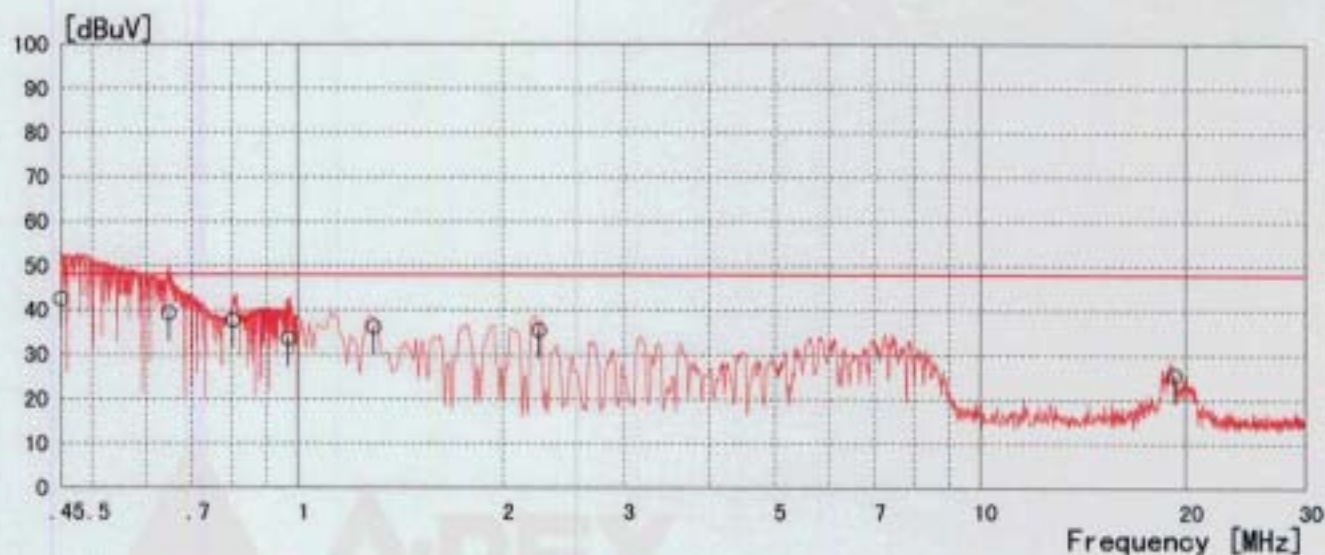
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE : PLAYBACK
 POWER : AC120V/60Hz
 LINE : N
 REMARKS : -

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

TEST ENGINEER: HIRAYUKI KITOKA

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[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 CONDUCTION

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

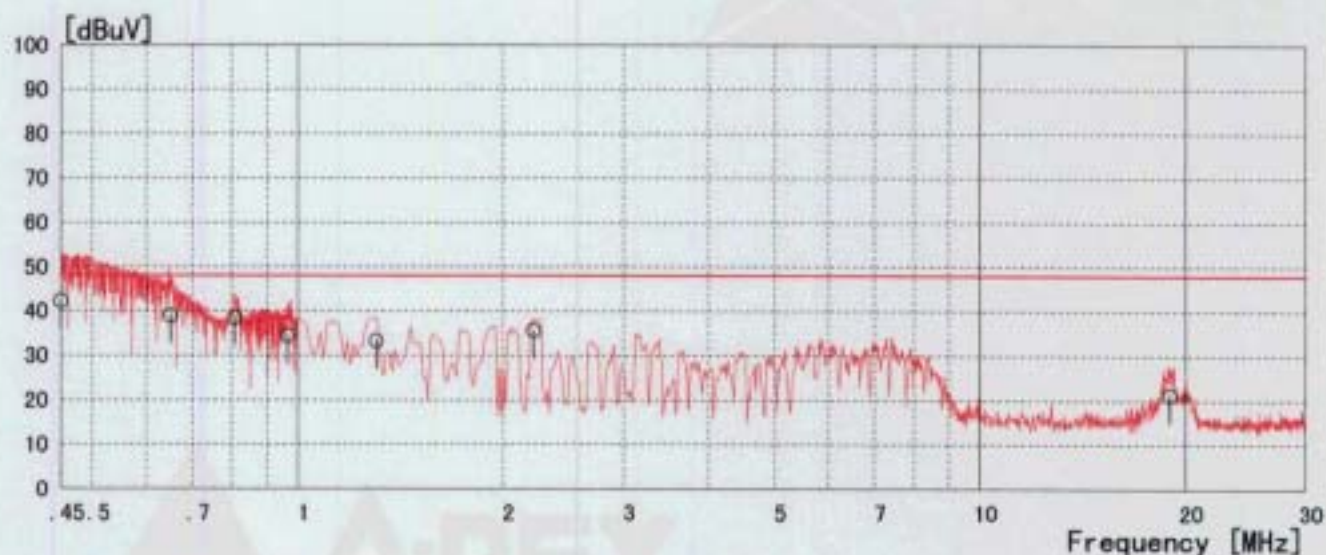
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : VIDEO CASSETTE RECORDER
MODEL NAME : VCR4510D
OPERATION MODE : PLAYBACK
POWER : AC120V/60Hz
LINE : L
REMARKS : -

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

TEST ENGINEER: HISAYUKI KIKKA

No.	FREQ [MHz]	READING		C. FACTOR [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	0.651	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	---

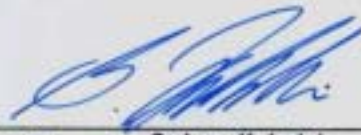
RESULT=READING+CABLE LOSS+CLAMP FACTOR



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. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [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.

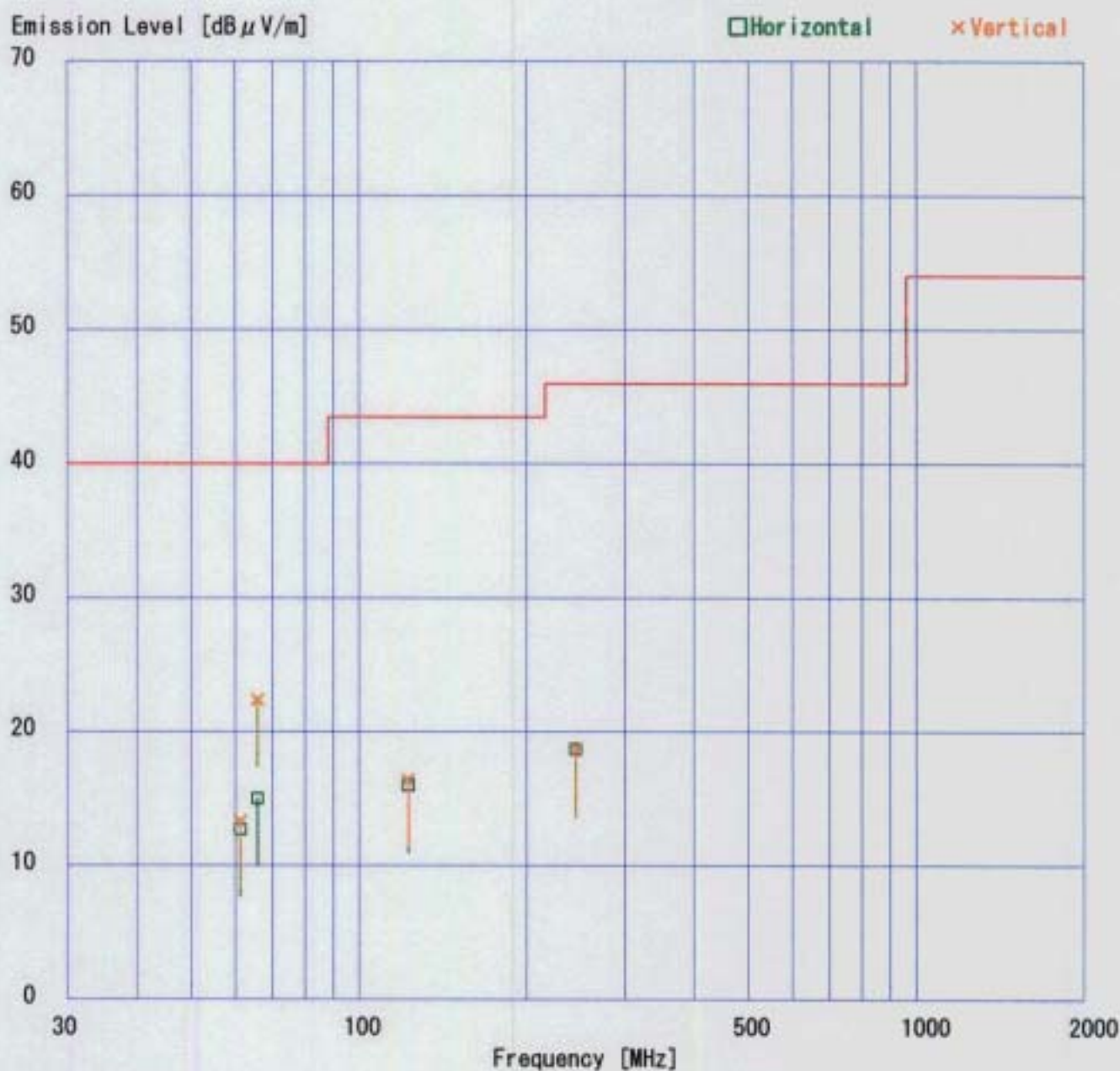
Except for the above table: adequate margin data below the limits.
 ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-2GHz Horn

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. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [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.

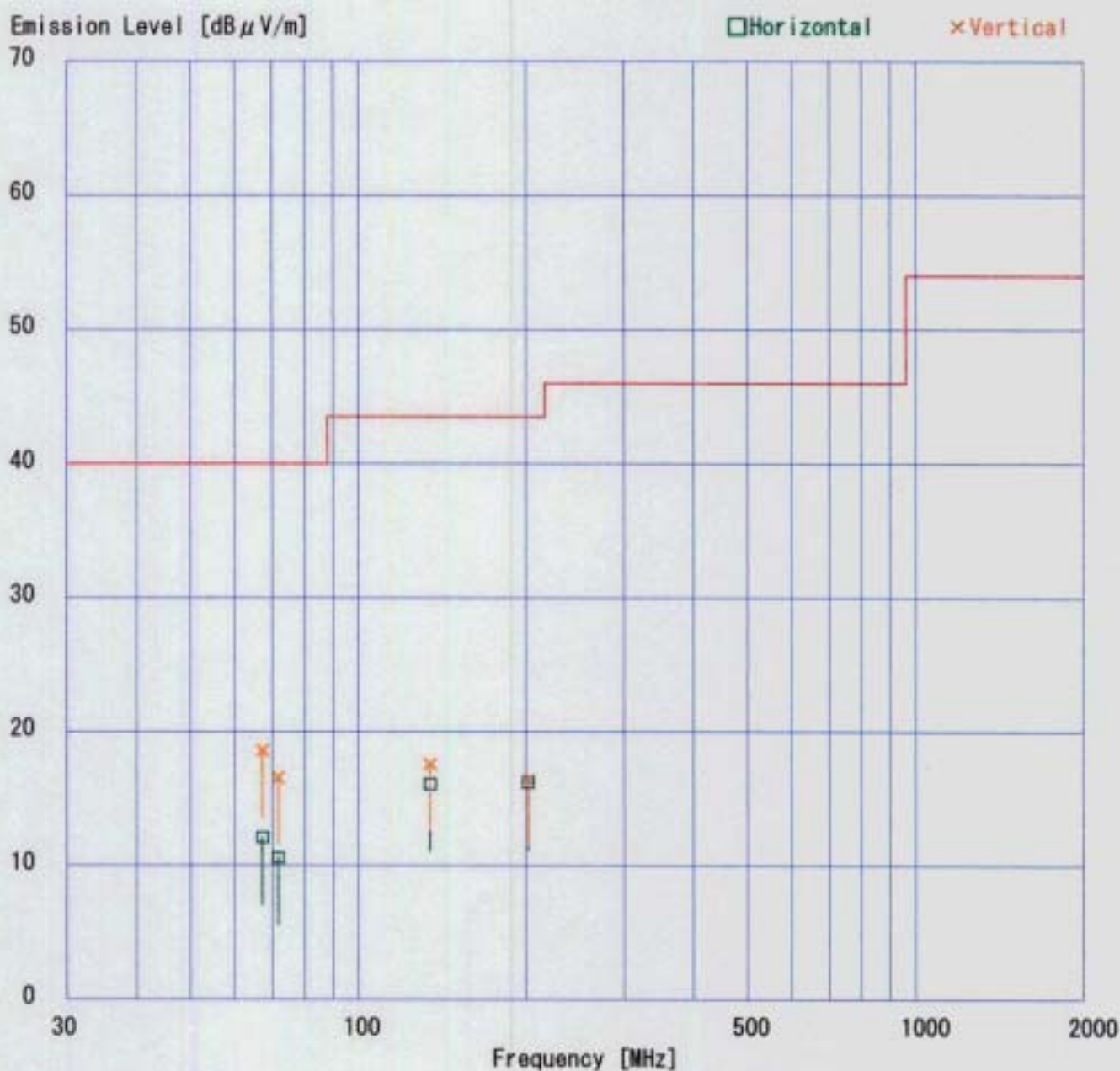
Except for the above table: adequate margin data below the limits.
 ANT.TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-2GHz Horn

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. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [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.

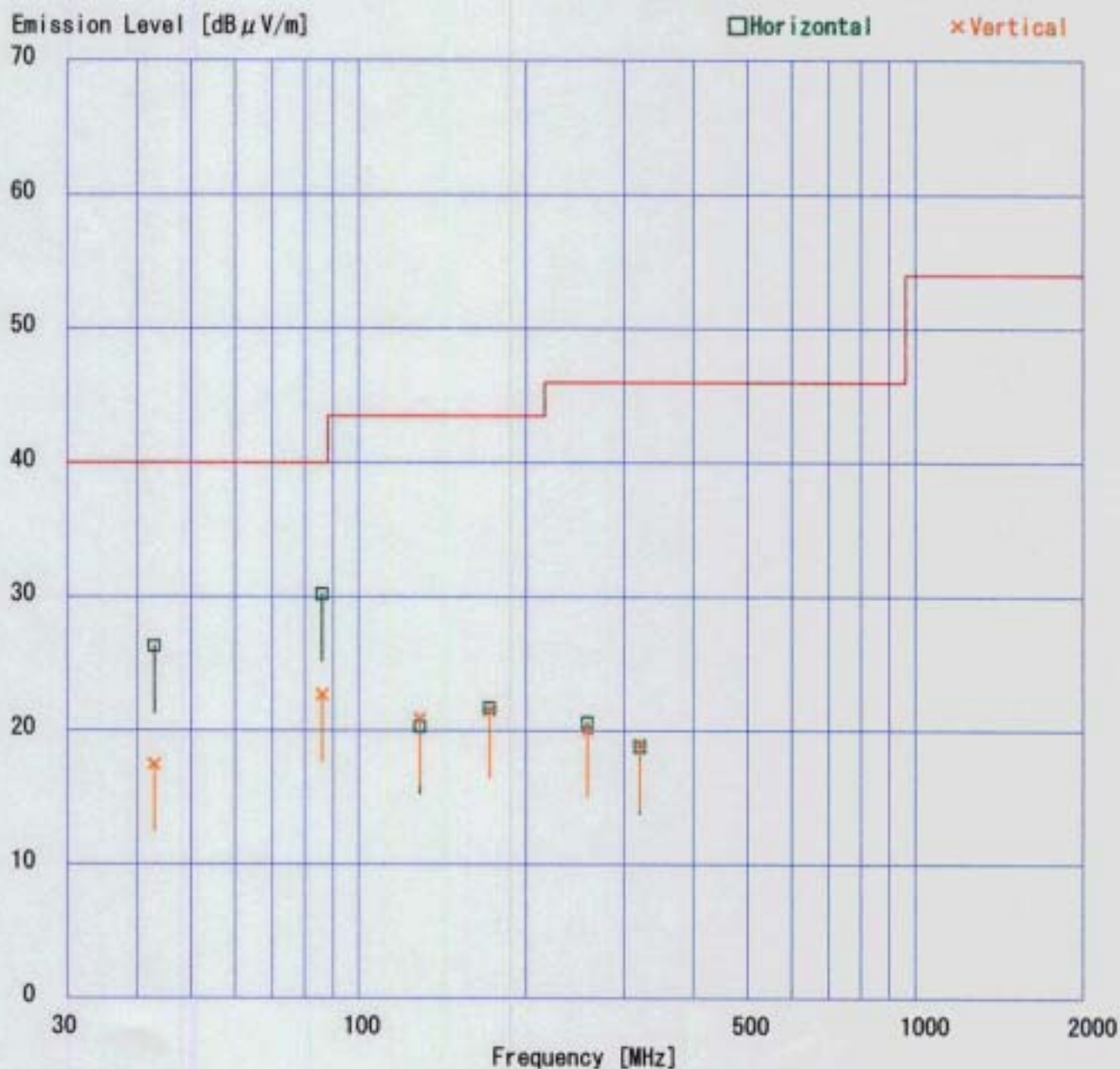
Except for the above table: adequate margin data below the limits.
 ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-2GHz Horn

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	READING		ANT TYPE	ANT. FAC.	CABLE LOSS	AMP GAIN	RESULTS		LIMIT	MARGIN	
	[MHz]	HOR.	VER.					HOR.	VER.		HOR.	VER.
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 TYPE	ANT. FAC.	CABLE LOSS	AMP 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 TYPE	ANT FAC.	CABLE LOSS	AMP GAIN	RESULTS		LIMIT	MARGIN	
	[MHz]	HOR.	VER.					HOR.	VER.		HOR.	VER.
[dBuV] [dB] [dB] [dBuV/m] [dBuV/m] [dB] [dB]												
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.

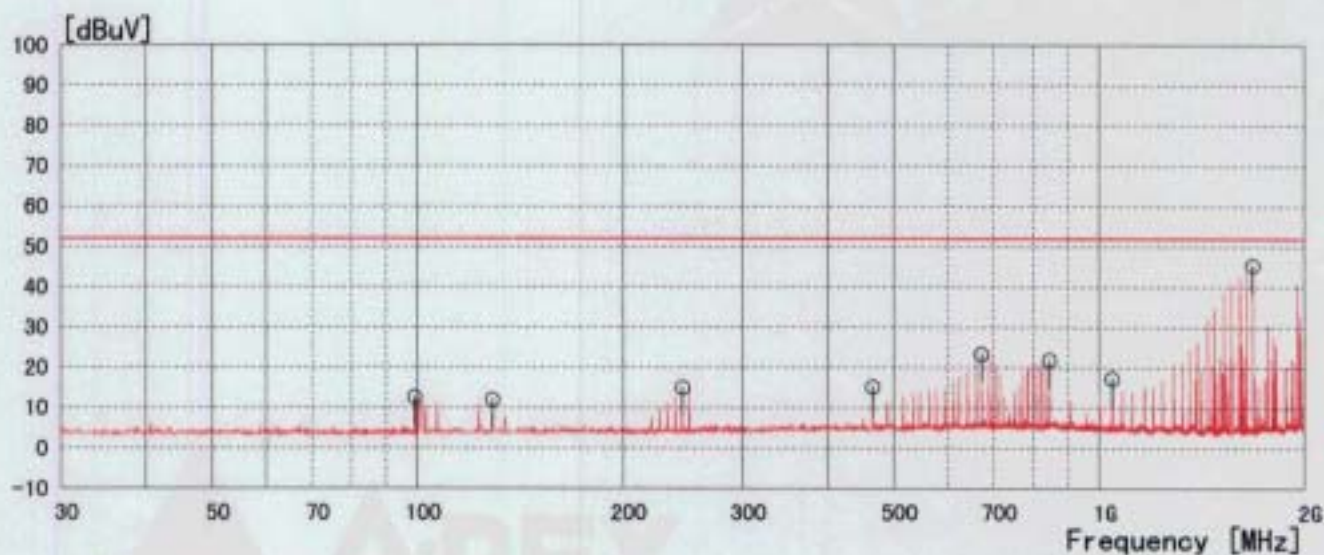
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : VIDEO CASSETTE RECORDER
MODEL NAME : VCR45100
OPERATION MODE : TUNING
PORT : ANTENNA TERMINAL
POWER : AC120V/60Hz
REMARKS : TV MODE

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

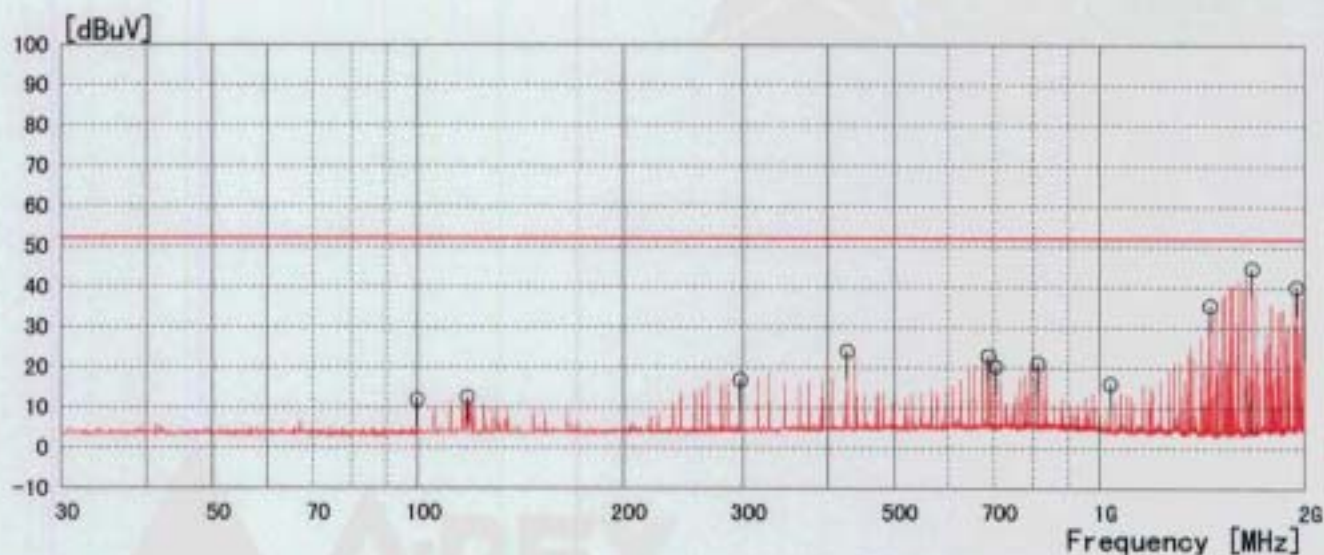
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : VIDEO CASSETTE RECORDER
MODEL NAME : VCR4510D
OPERATION MODE : TUNING
PORT : ANTENNA TERMINAL
POWER : AC120V/60Hz
REMARKS : CATV MODE

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

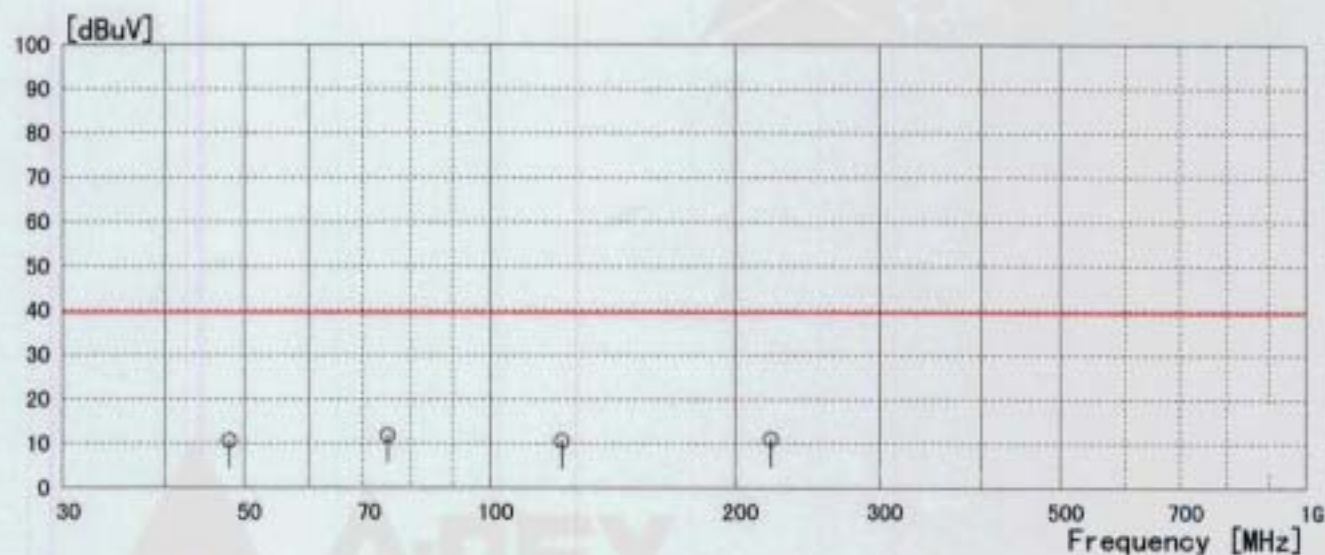
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR45100
 OPERATION MODE : RECEIVE+REC (3CH OUTPUT)
 PORT : RF OUTPUT TERMINAL
 POWER : AC120V/60Hz
 REMARKS : 0dBmV

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

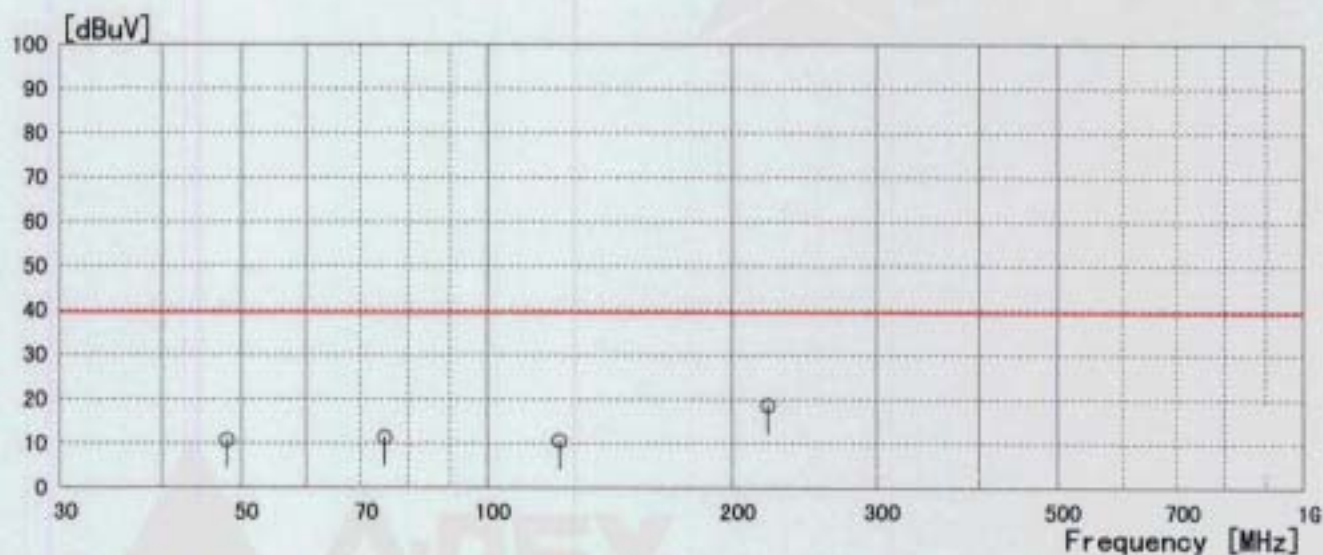
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : VIDEO CASSETTE RECORDER
MODEL NAME : VCR45100
OPERATION MODE: RECEIVE+REC (3CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 25dBmV
:

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

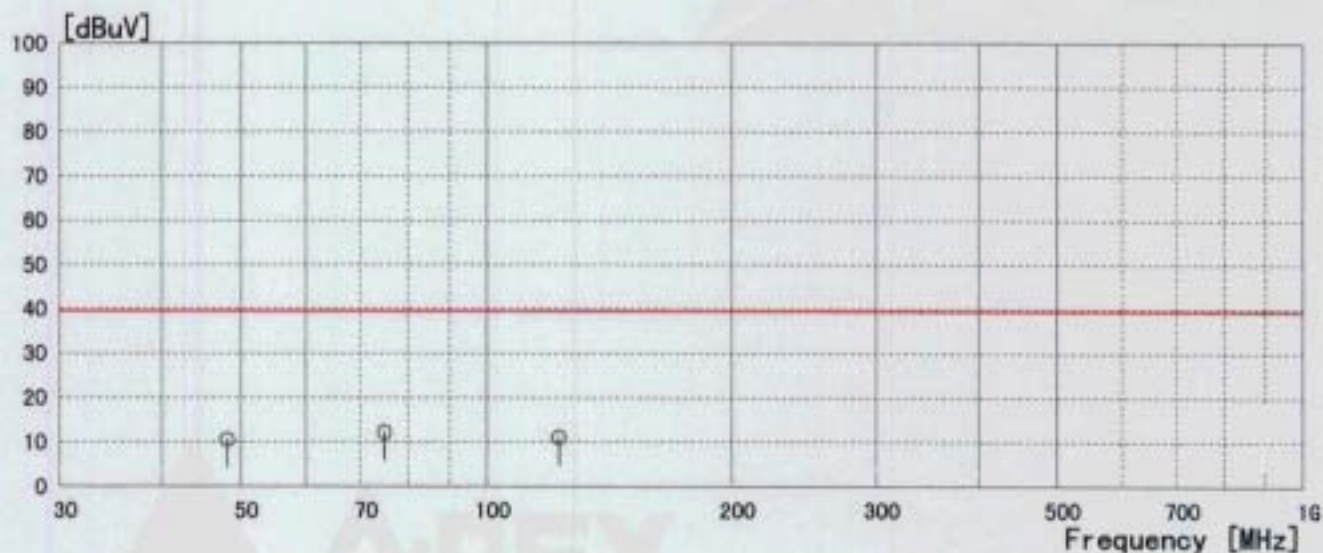
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE : AV INPUT+REC (3CH OUTPUT)
 PORT : RF OUTPUT TERMINAL
 POWER : AC120V/60Hz
 REMARKS : 1Vp-p
 :

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

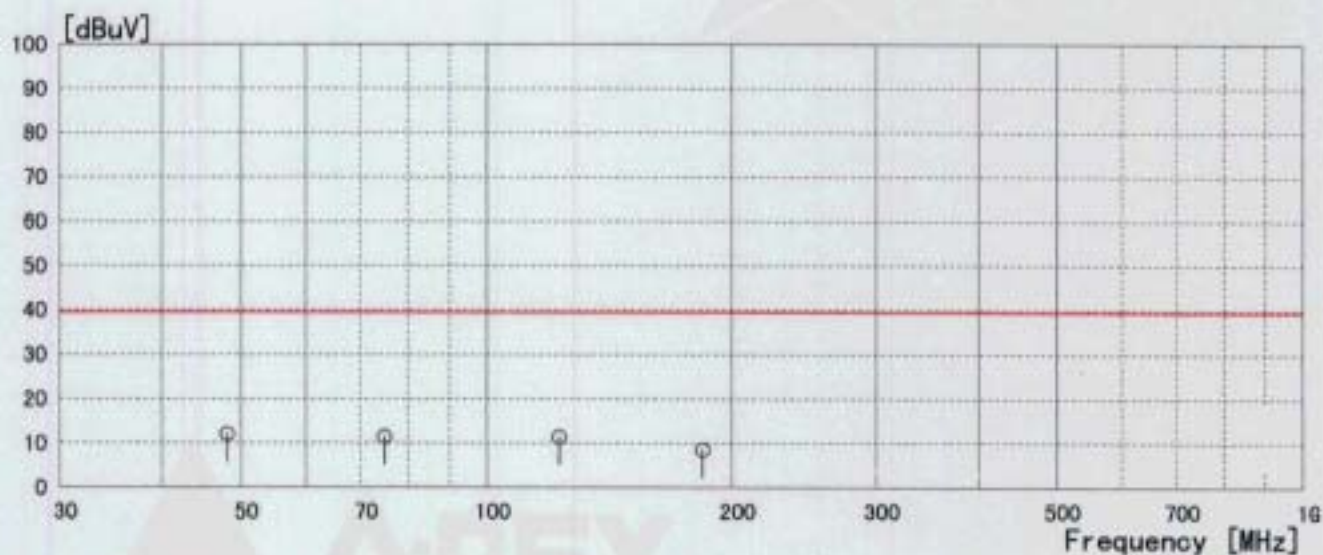
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE : AV INPUT+REC (3CH OUTPUT)
 PORT : RF OUTPUT TERMINAL
 POWER : AC120V/60Hz
 REMARKS : 5Vp-p
 :

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

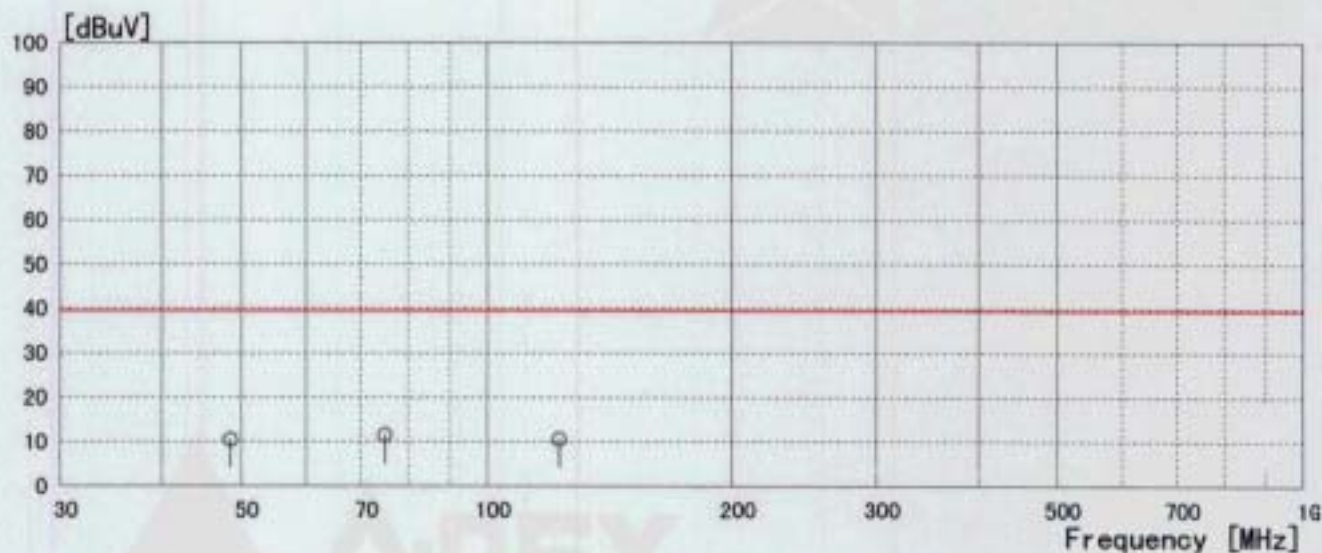
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE : PLAYBACK (3CH OUTPUT)
 PORT : RF OUTPUT TERMINAL
 POWER : AC120V/60Hz
 REMARKS : -
 :

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

TEST ENGINEER: HIRAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

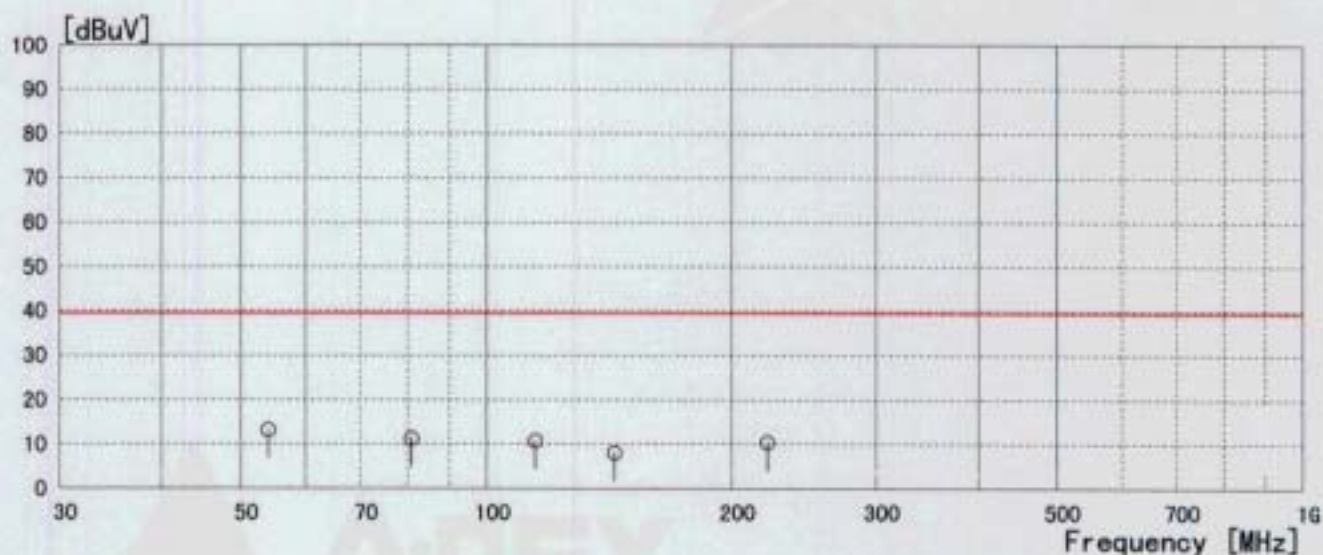
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPEMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE : RECEIVE+REC (4CH OUTPUT)
 PORT : RF OUTPUT TERMINAL
 POWER : AC120V/60Hz
 REMARKS : 0dBmV
 :

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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.

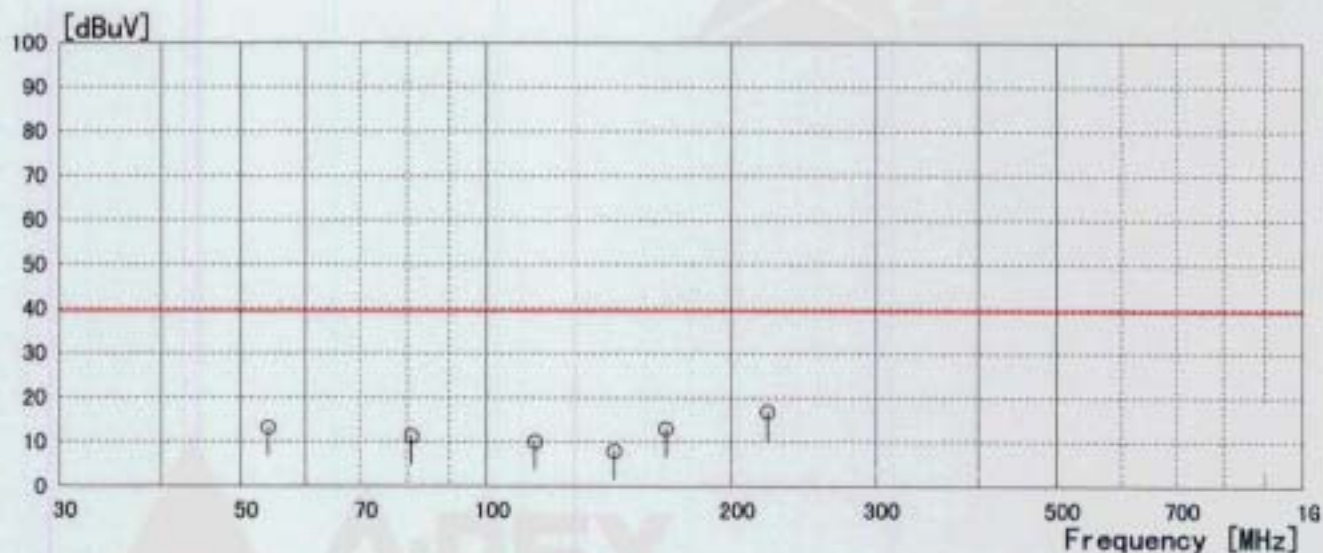
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : VIDEO CASSETTE RECORDER
 MODEL NAME : VCR4510D
 OPERATION MODE : RECEIVE+REC (4CH OUTPUT)
 PORT : RF OUTPUT TERMINAL
 POWER : AC120V/60Hz
 REMARKS : 25dBmV

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

TEST ENGINEER: HISAYUKI KIOKA

No.	FREQ [MHz]	READING		C. FACTOR [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



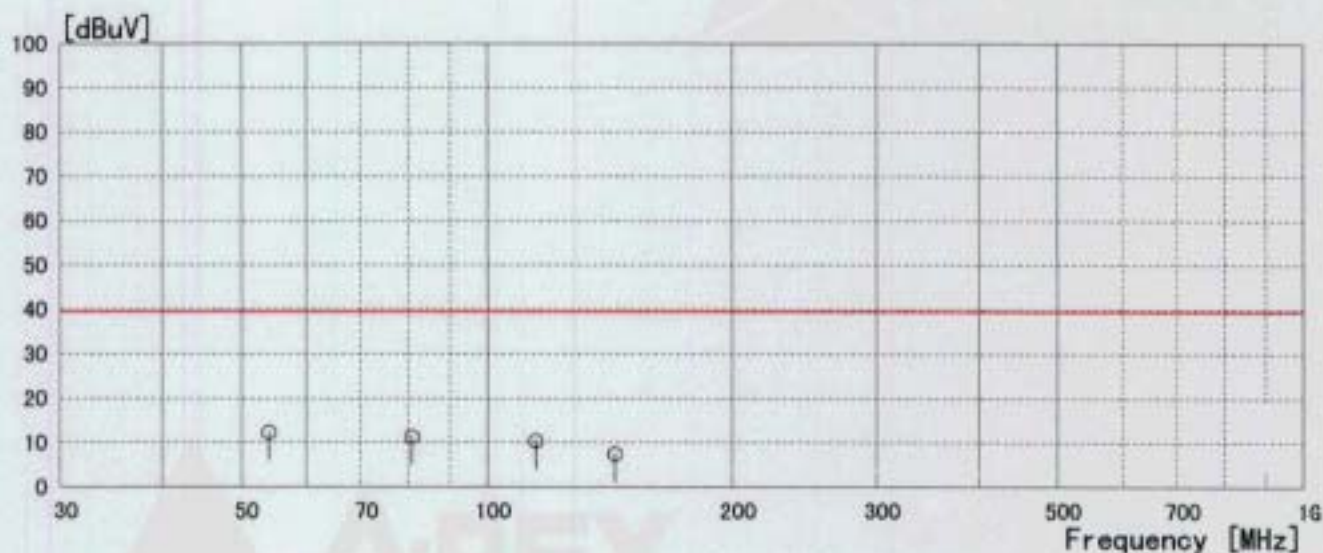
SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.
KANTO OFFICE EMC LAB.

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 [MHz]	READING		C. FACTOR [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


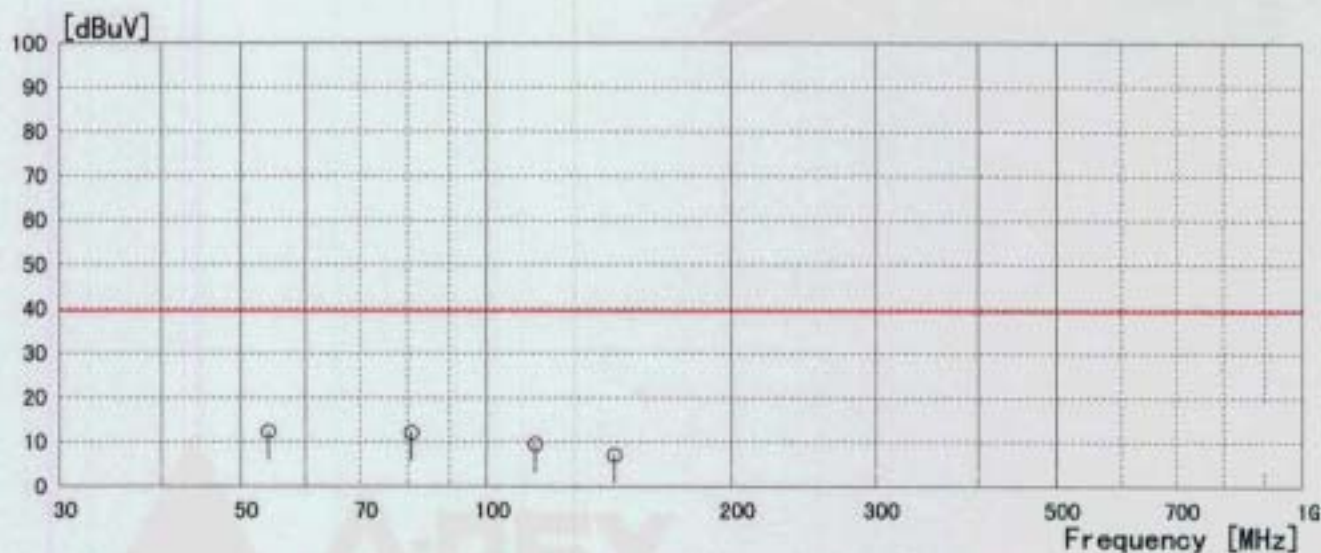
SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.
KANTO OFFICE EMC LAB.

COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPEMENT : 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 [MHz]	READING		C. FACTOR [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

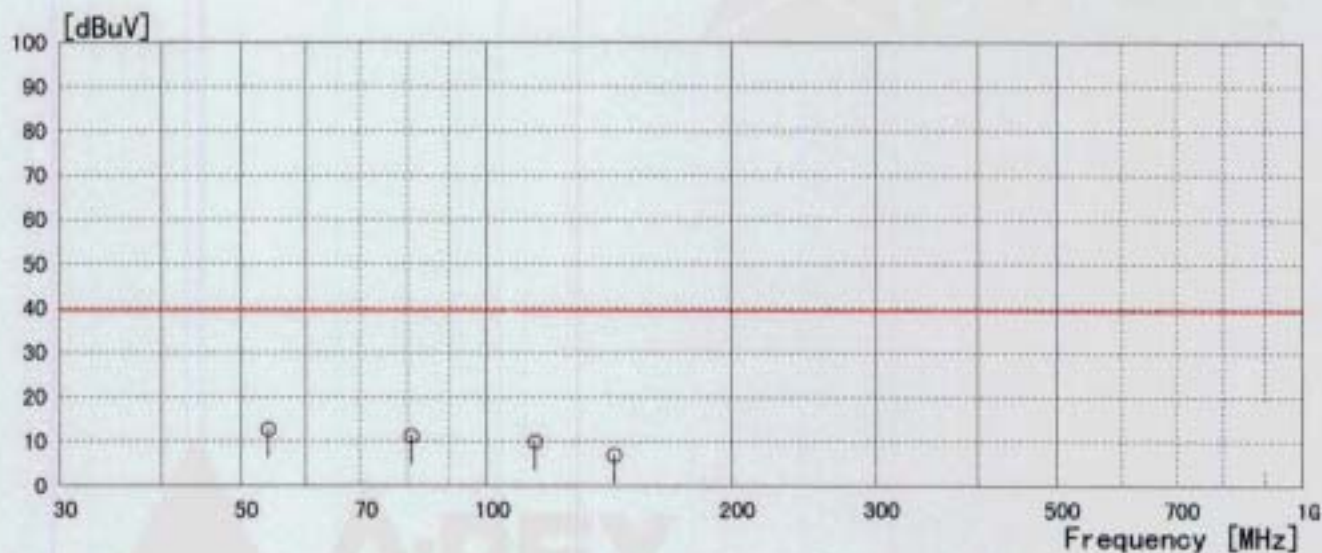
SRURIOUS FROM RF OUTPUT TERMINALA-PEX INTERNATIONAL CO., LTD.
KANTO OFFICE EMC LAB.

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 [MHz]	READING		C. FACTOR [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	---

 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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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

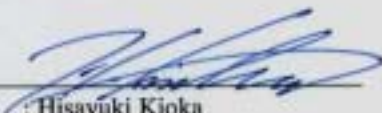
A-PEX INTERNATIONAL CO., LTD.

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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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 [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [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 [MHz]	Meter reading [dB]	Correction factor [dB]	Noise figure [dB]	Limits [dB]	Margin [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