

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+REC
Remarks : 0dBmV
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
Sadahiko Tanaka

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP	AV	QP	AV				QP	AV	QP	AV	QP	AV
		[dBuV]		[dBuV]					[dBuV]		[dBuV]		[dB]	
1.	0.4500	38.9	-	38.5	-	0.2	0.3	0.0	39.4	-	48.0	0.0	8.6	-
2.	0.5451	37.3	-	36.0	-	0.2	0.3	0.0	37.8	-	48.0	0.0	10.2	-
3.	0.7097	33.5	-	31.8	-	0.2	0.4	0.0	34.1	-	48.0	0.0	13.9	-
4.	0.8016	31.0	-	29.6	-	0.2	0.3	0.0	31.5	-	48.0	0.0	16.5	-
5.	0.9120	37.6	-	25.2	-	0.2	0.4	0.0	38.2	-	48.0	0.0	9.8	-
6.	1.3639	24.6	-	28.9	-	0.2	0.4	0.0	29.5	-	48.0	0.0	18.5	-
7.	16.9187	27.0	-	25.5	-	0.9	0.8	0.0	28.7	-	48.0	0.0	19.3	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

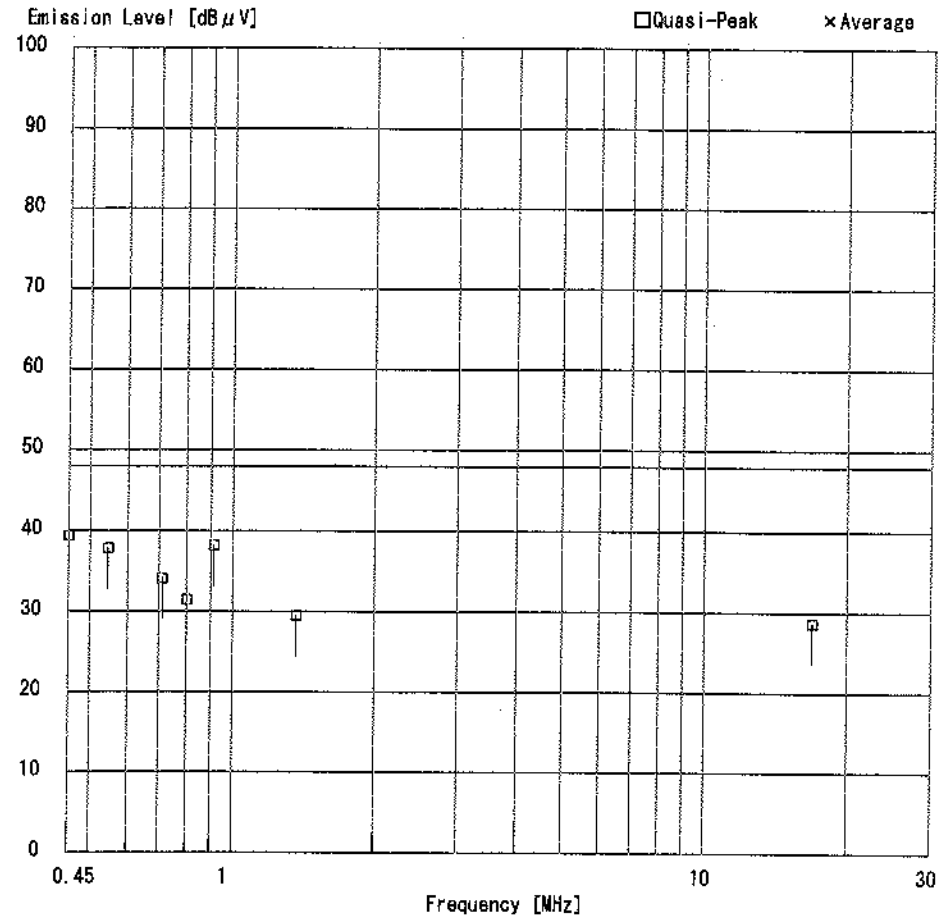
Except for the above table : adequate margin data below the limits.

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Remarks : 0dBmV
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
Sadahiko Tanaka

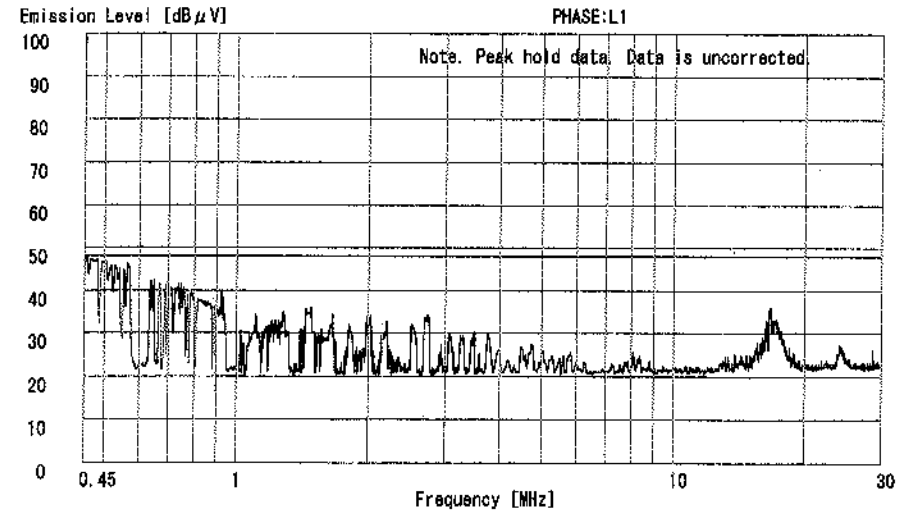
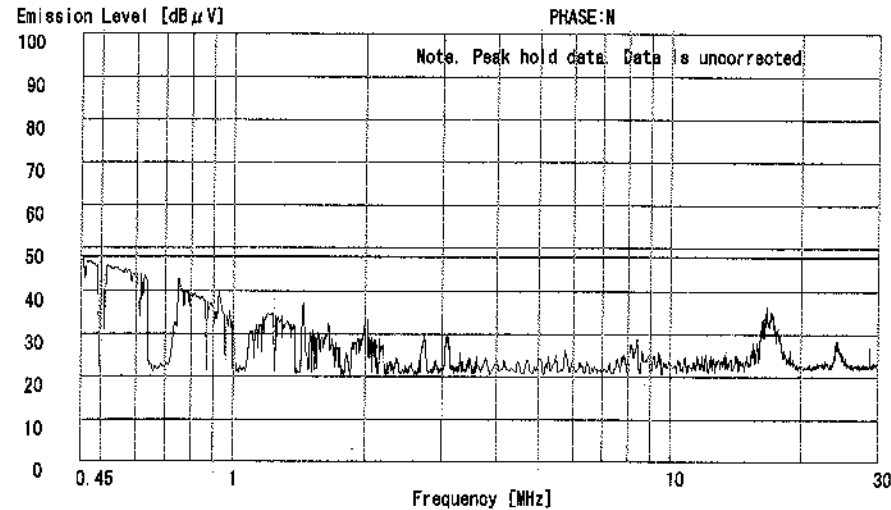


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No.: 23CE0052-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+REC
Remarks : 0dBmV
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : *S. Tanaka*
Sadahiko Tanaka



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No.: 23CE0052-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+REC
Remarks : 25dBmV
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
Sadahiko Tanaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]				QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]
1.	0.4500	39.3	-	40.0	-	0.2	0.3	0.0	40.5	-	48.0	0.0	7.5	-
2.	0.6024	36.5	-	35.9	-	0.2	0.4	0.0	37.1	-	48.0	0.0	10.9	-
3.	0.7848	32.3	-	33.9	-	0.2	0.3	0.0	34.4	-	48.0	0.0	13.6	-
4.	0.9246	28.8	-	29.3	-	0.2	0.4	0.0	29.9	-	48.0	0.0	18.1	-
5.	1.2402	30.5	-	32.4	-	0.2	0.4	0.0	33.0	-	48.0	0.0	15.0	-
6.	8.1418	26.9	-	20.8	-	0.5	0.6	0.0	28.0	-	48.0	0.0	20.0	-
7.	16.8165	25.2	-	24.2	-	0.9	0.8	0.0	26.9	-	48.0	0.0	21.1	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

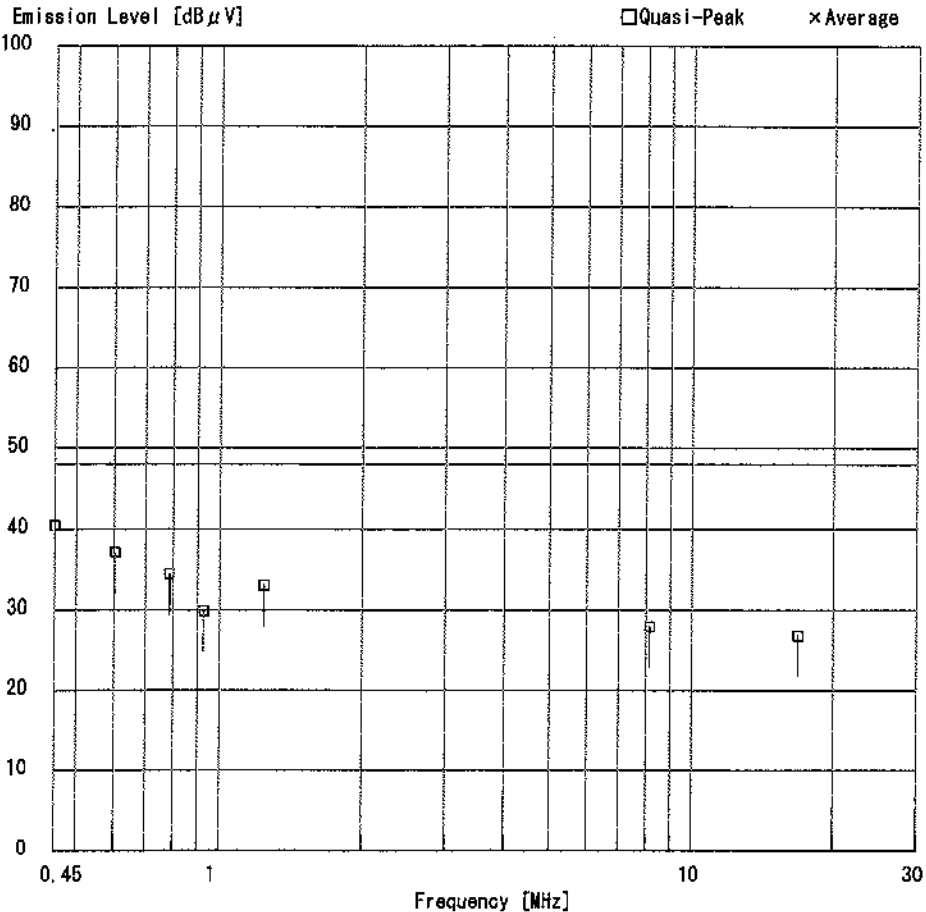
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Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+REC
Remarks : 25dBmV
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
S. Tanaka

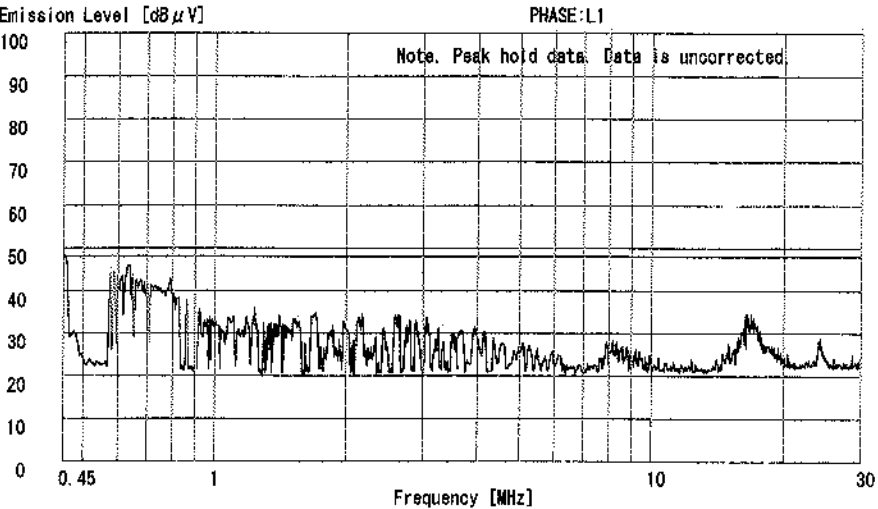
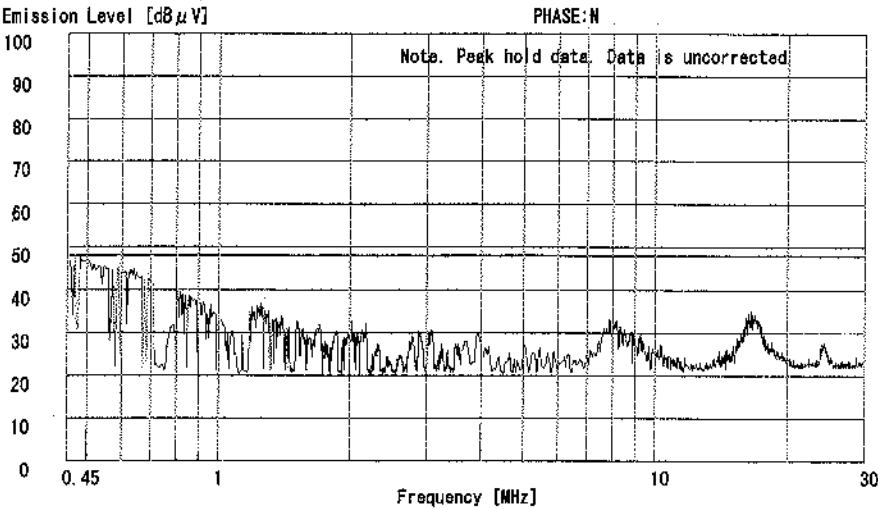


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

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Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+REC
Remarks : 25dBmV
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : *S. Tanaka*
S. Tanaka



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input+REC
Remarks : 1V p-p
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
Sadahiko Tanaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dBμV]	AV	QP [dBμV]	AV				QP [dBμV]	AV	QP [dBμV]	AV	QP [dB]	AV
1.	0.4500	39.2	-	39.1	-	0.2	0.3	0.0	39.7	-	48.0	0.0	8.3	-
2.	0.6076	35.9	-	36.4	-	0.2	0.4	0.0	37.0	-	48.0	0.0	11.0	-
3.	0.7564	32.7	-	32.3	-	0.2	0.3	0.0	33.2	-	48.0	0.0	14.8	-
4.	0.8999	27.2	-	27.4	-	0.2	0.4	0.0	28.0	-	48.0	0.0	20.0	-
5.	1.2159	30.1	-	32.1	-	0.2	0.4	0.0	32.7	-	48.0	0.0	15.3	-
6.	8.2200	27.5	-	24.7	-	0.5	0.6	0.0	28.6	-	48.0	0.0	19.4	-
7.	16.5089	21.4	-	20.6	-	0.8	0.8	0.0	23.0	-	48.0	0.0	25.0	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

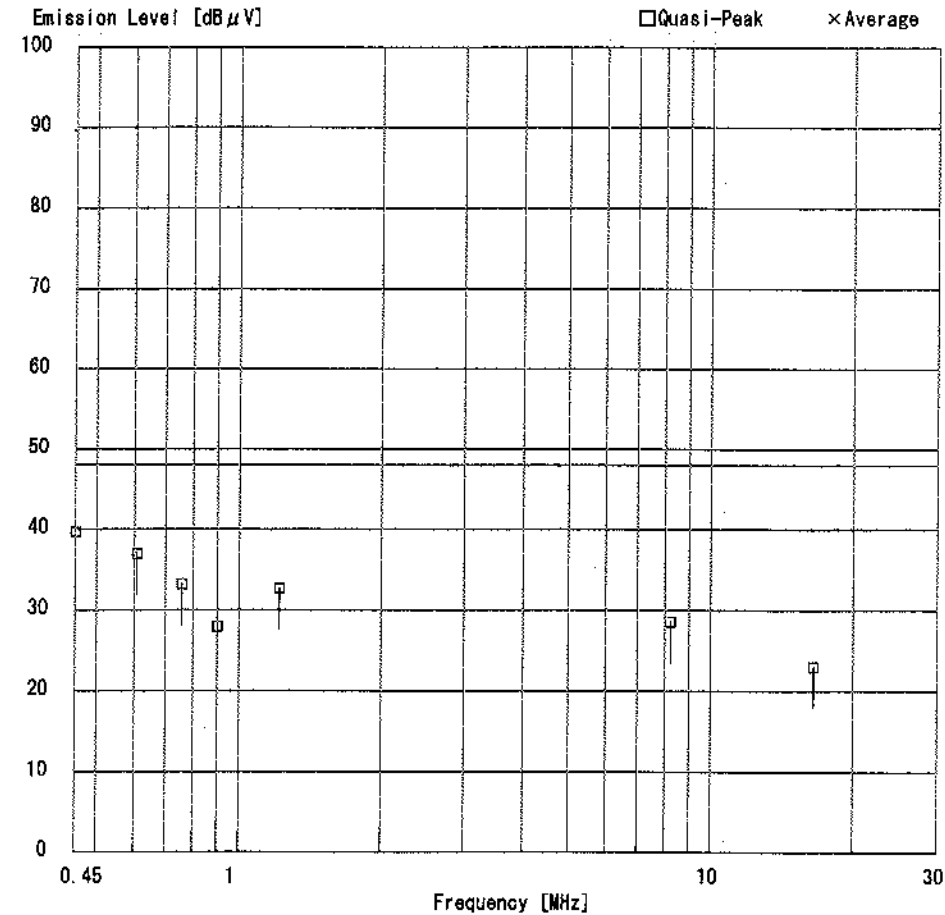
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Power : AC120V/60Hz
Mode : AV Input+REC
Remarks : 1V p-p
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
Sadahiko Tanaka

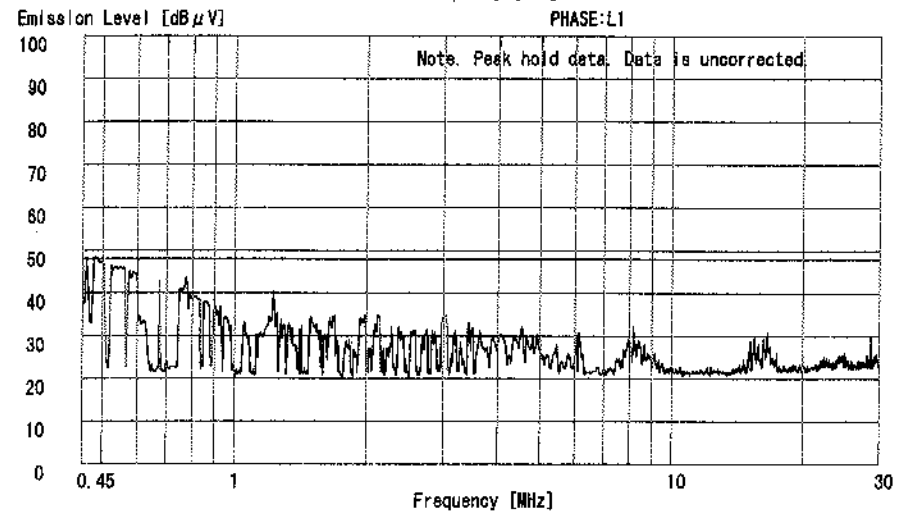
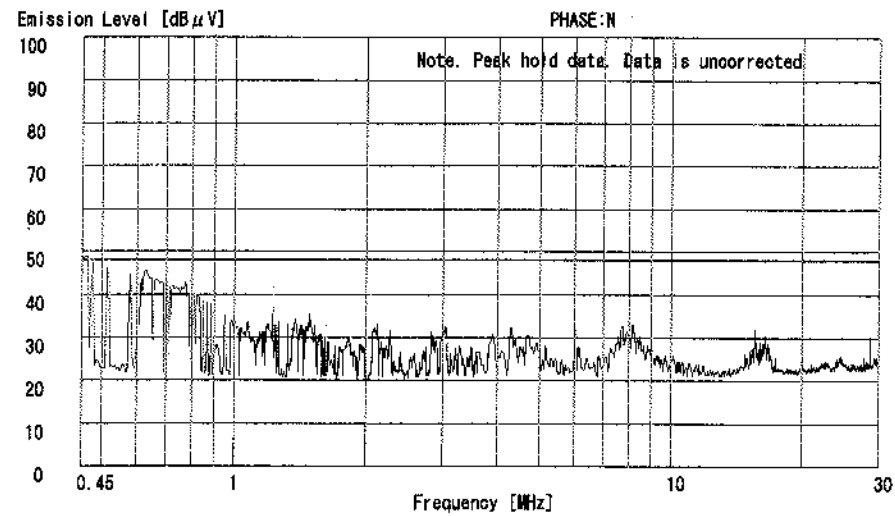


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Report No.: 23CE0052-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input+REC
Remarks : 1V p-p
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : *S. Tanaka*
Sadahiko Tanaka



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Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input+REC
Remarks : 5V p-p
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
Sadahiko Tanaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP	AV	QP	AV				QP	AV	QP	AV	QP	AV
		[dBμV]		[dBμV]					[dBμV]		[dBμV]		[dB]	
1.	0.4500	39.3	-	39.2	-	0.2	0.3	0.0	39.8	-	48.0	0.0	8.2	-
2.	0.6960	35.6	-	35.2	-	0.2	0.4	0.0	36.2	-	48.0	0.0	11.8	-
3.	0.7576	32.5	-	33.2	-	0.2	0.3	0.0	33.7	-	48.0	0.0	14.3	-
4.	0.8941	27.5	-	28.7	-	0.2	0.4	0.0	29.3	-	48.0	0.0	18.7	-
5.	1.2729	28.3	-	23.2	-	0.2	0.4	0.0	28.9	-	48.0	0.0	19.1	-
6.	8.1853	27.9	-	24.7	-	0.5	0.6	0.0	29.0	-	48.0	0.0	19.0	-
7.	16.4552	21.6	-	21.7	-	0.8	0.8	0.0	23.3	-	48.0	0.0	24.7	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

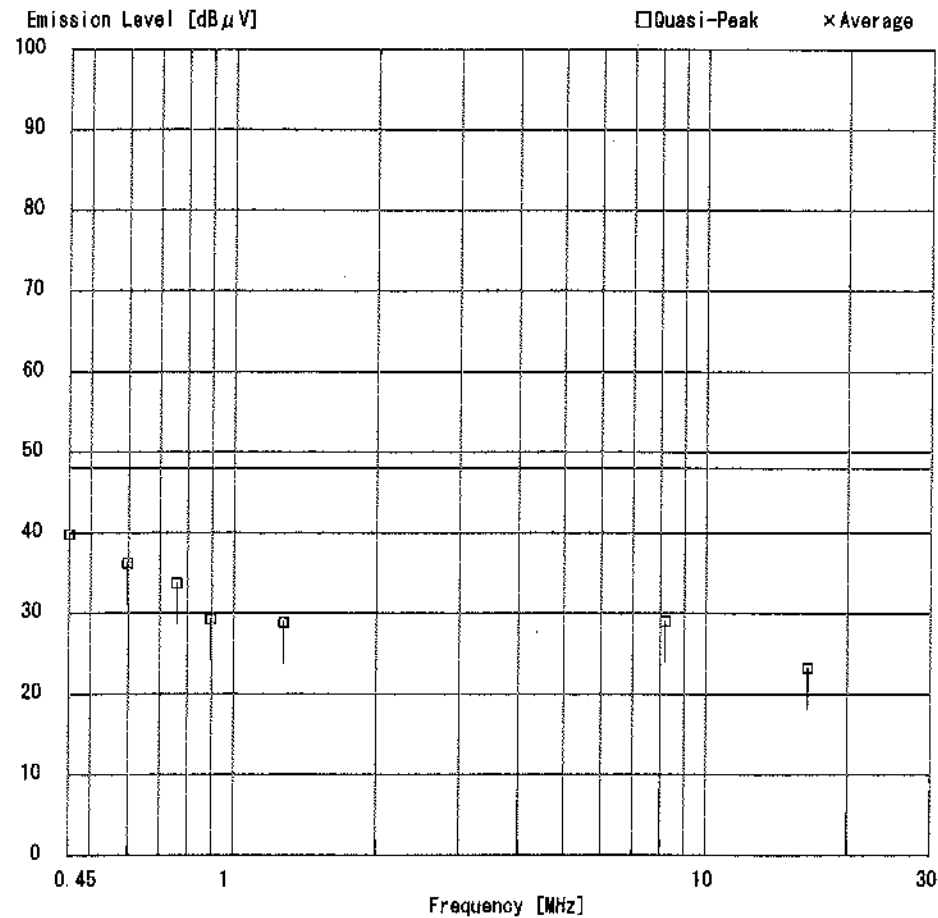
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Serial No. : -
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Mode : AV Input+REC
Remarks : 5V p-p
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
Sadahiko Tanaka

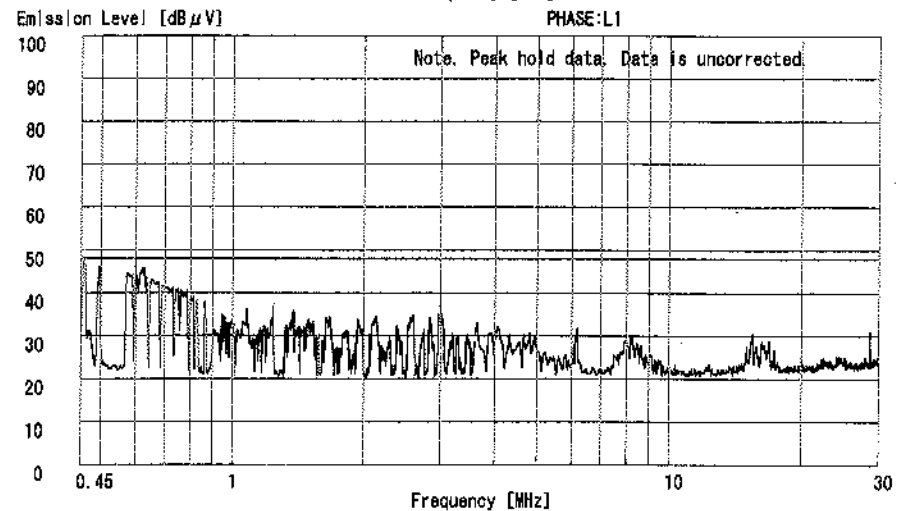
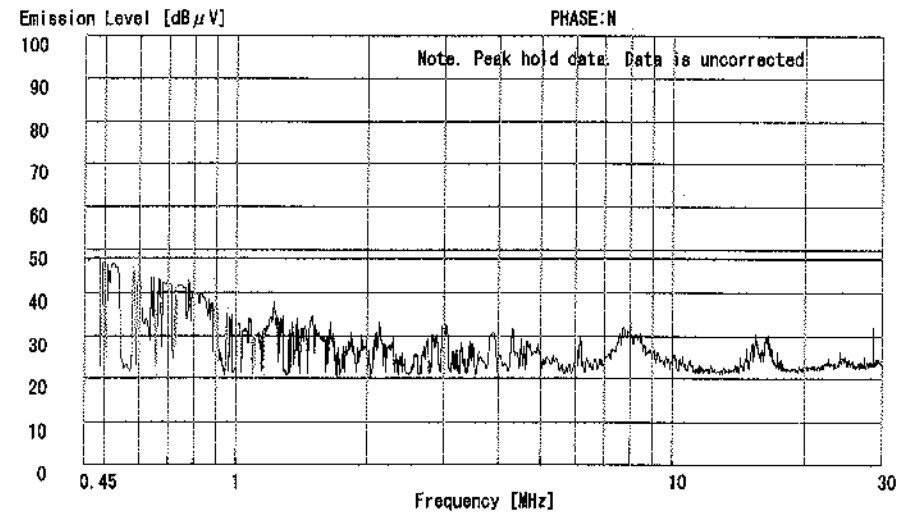


DATA OF CONDUCTION TEST CHART

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Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input+REC
Remarks : 5V p-p
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : *S. Tanaka*
Sadahiko Tanaka



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A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No.: 23CE0052-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : VCR Playback
Remarks :
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
Sadahiko Tanaka

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP	AV	QP	AV				QP	AV	QP	AV	QP	AV
		[dBuV]		[dBuV]					[dBuV]		[dBuV]		[dB]	
1.	0.4500	39.0	-	38.7	-	0.2	0.3	0.0	39.5	-	48.0	0.0	8.5	-
2.	0.4829	37.9	-	37.7	-	0.2	0.3	0.0	38.4	-	48.0	0.0	9.6	-
3.	0.6604	34.1	-	34.6	-	0.2	0.4	0.0	35.2	-	48.0	0.0	12.8	-
4.	0.8260	30.3	-	31.7	-	0.2	0.3	0.0	32.2	-	48.0	0.0	15.8	-
5.	0.9875	25.0	-	26.4	-	0.2	0.4	0.0	27.0	-	48.0	0.0	21.0	-
6.	1.8083	32.2	-	30.4	-	0.2	0.4	0.0	32.8	-	48.0	0.0	15.2	-
7.	8.2594	23.5	-	15.1	-	0.5	0.6	0.0	24.6	-	48.0	0.0	23.4	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

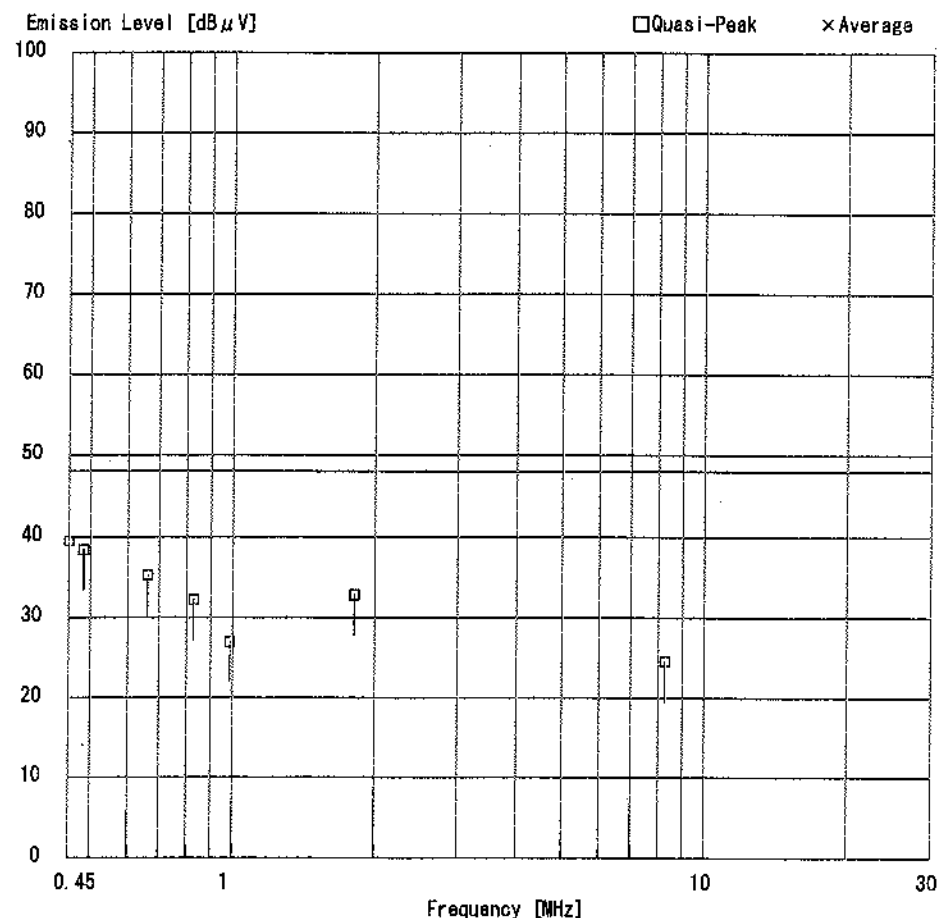
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Serial No. :
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Mode : VCR Playback
Remarks :
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka*
Sadahiko Tanaka

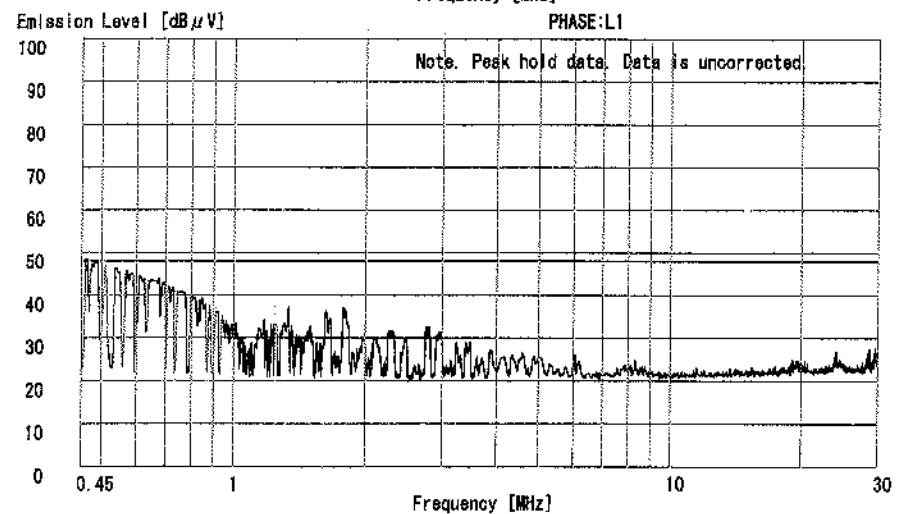
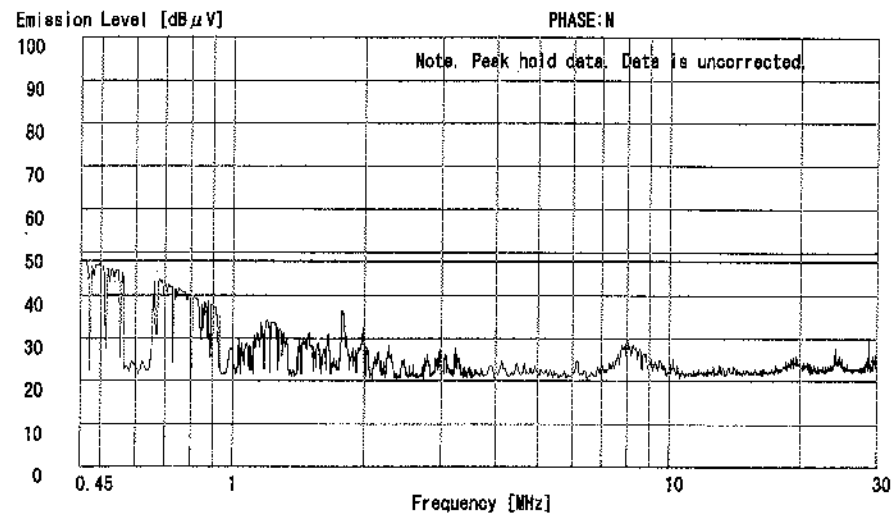


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No.: 23CE0052-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. : -
Power : AC120V/60Hz
Mode : VCR Playback
Remarks : -
Date : 10/31/2002
Phase : Single Phase
Temperature : 24 °C
Humidity : 43 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : *S. Tanaka*
Sadahiko Tanaka



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.2 OPEN TEST SITE

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : Video Cassette Recorder
MODEL No. : HR-A60U
POWER : AC120V/60Hz
DESCRIPTION : TV RECEPTION+REC

REPORT No. : 23CE0052-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : October 25, 2002

ENGINEER : Hisayuki Kioka

CH	FREQ	READING	VER.	ANT	ANT.	CABLE	AMP	RESULTS	LIMIT	MARGIN
	[MHz]	[dBuV]		TYPE	FAC.	LOSS	GAIN	HOR. VER.	[dBuV/m]	HOR. VER.
					[dB]	[dB]	[dB]			[dB]
VHF Fundamental										
2	101	28.7	32.7	BC	10.2	2.3	29.8	17.4	21.4	43.5
3	107	31.8	37.5	BC	11.2	2.6	29.8	21.8	27.5	43.5
4	113	33.2	40.0	BC	12.3	2.6	29.9	24.2	31.0	43.5
5	123	32.2	39.4	BC	13.7	2.6	29.8	24.7	31.9	43.5
6	129	29.2	36.4	BC	14.0	2.6	29.8	22.0	29.2	43.5
7	221	25.2	26.8	BC	16.6	3.4	29.7	21.5	23.1	46.0
8	227	24.4	29.1	BC	16.7	3.4	29.7	20.8	25.5	46.0
9	233	24.6	30.6	BC	16.7	3.5	29.8	21.0	27.0	46.0
10	239	25.2	31.0	BC	16.7	3.6	29.8	21.7	27.5	46.0
11	245	27.5	30.6	BC	16.8	3.7	29.8	24.2	27.3	46.0
12	251	26.4	31.2	BC	16.9	3.8	29.8	23.3	28.1	46.0
13	257	27.6	32.2	BC	17.2	3.8	29.8	24.8	29.4	46.0
VHF 2nd Harmonic										
2	202	22.7	23.0	BC	16.5	3.3	29.7	18.8	19.1	43.5
3	214	22.9	24.3	BC	16.6	3.3	29.7	19.1	20.5	43.5
4	226	22.8	23.3	BC	16.7	3.4	29.7	19.2	19.7	46.0
5	246	22.6	23.6	BC	16.8	3.7	29.8	19.3	20.3	46.0
6	258	22.7	22.9	BC	17.3	3.8	29.8	20.0	20.2	46.0
7	442	22.9	23.2	LP	16.5	5.2	30.2	20.4	20.7	46.0
8	454	22.8	23.0	LP	16.7	5.3	30.2	20.6	20.8	46.0
9	466	22.8	23.1	LP	17.0	5.4	30.2	21.0	21.3	46.0
10	478	22.9	24.0	LP	17.3	5.4	30.2	21.4	22.5	46.0
11	490	24.6	26.3	LP	17.6	5.4	30.2	23.4	25.1	46.0
12	502	23.6	23.8	LP	17.8	5.4	30.2	22.6	22.8	46.0
13	514	23.1	23.6	LP	18.0	5.5	30.2	22.4	22.9	46.0

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YOKOWA NO.2 OPEN TEST SITE

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : Video Cassette Recorder
MODEL No. : HR-A60U
POWER : AC120V/60Hz
DESCRIPTION : TV RECEPTION+REC

REPORT No. : 23CE0052-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : October 25, 2002

ENGINEER : Hisayuki Kioka

CH	FREQ	READING	VER.	ANT	ANT.	CABLE	AMP	RESULTS	LIMIT	MARGIN
	[MHz]	[dBuV]		TYPE	FAC.	LOSS	GAIN	HOR. VER.	[dBuV/m]	HOR. VER.
					[dB]	[dB]	[dB]			[dB]
CATV Fundamental										
1	119	31.7	35.1	BC	13.3	2.5	29.8	23.7	27.1	43.5
95	137	25.1	33.4	BC	14.4	2.9	29.8	18.6	26.9	43.5
97	149	25.7	34.5	BC	14.9	3.3	29.8	20.1	28.9	43.5
99	161	26.2	32.7	BC	15.3	2.8	29.8	20.5	27.0	43.5
14	167	29.0	36.9	BC	15.6	2.9	29.8	23.7	31.6	43.5
18	191	31.6	30.1	BC	16.3	3.2	29.8	27.3	25.8	43.5
22	215	28.2	29.7	BC	16.6	3.4	29.7	24.5	26.0	43.5
23	263	25.6	31.2	BC	17.6	3.8	29.8	23.2	28.8	46.0
29	299	27.2	27.6	BC	19.9	4.1	29.9	27.3	27.7	46.0
36	341	33.9	36.4	LP	14.3	4.4	30.1	28.5	31.0	46.0
37	347	32.6	35.4	LP	14.4	4.5	30.1	27.4	30.2	46.0
65	515	27.6	28.4	LP	18.0	5.5	30.2	26.9	27.7	46.0
94	689	28.8	29.5	LP	21.0	6.8	30.0	32.6	33.3	46.0
100	695	30.6	32.3	LP	21.1	6.8	30.1	34.4	36.1	46.0
113	773	28.3	31.6	LP	21.2	7.2	29.9	32.8	36.1	46.0
125	845	28.6	29.3	LP	21.6	7.7	29.5	34.4	35.1	46.0
CATV 2nd Harmonic										
1	238	22.8	23.7	BC	16.7	3.6	29.8	19.3	20.2	46.0
95	274	22.9	24.0	BC	18.3	3.9	29.8	21.3	22.4	46.0
97	298	23.0	24.6	BC	19.9	4.1	29.9	23.1	24.7	46.0
99	322	22.3	23.6	LP	13.9	4.3	30.0	16.5	17.8	46.0
14	334	22.8	23.5	LP	14.2	4.4	30.1	17.3	18.0	46.0
18	382	22.6	23.0	LP	15.1	4.8	30.2	18.3	18.7	46.0
22	430	22.8	22.6	LP	16.2	5.1	30.2	19.9	19.7	46.0
23	526	22.9	22.5	LP	18.1	5.6	30.1	22.5	22.1	46.0
29	598	22.4	22.6	LP	19.1	6.1	30.1	23.5	23.7	46.0
36	682	22.7	23.9	LP	20.8	6.7	30.0	26.2	27.4	46.0
37	694	22.6	23.8	LP	21.1	6.8	30.1	26.4	27.6	46.0
65	1030	42.8	46.8	HO	24.7	1.7	38.7	30.5	34.5	54.0
94	1378	38.7	39.5	HO	26.0	1.8	38.3	28.2	29.0	54.0
100	1390	38.4	39.9	HO	26.0	1.8	38.3	27.9	29.4	54.0
113	1546	37.6	39.8	HO	26.8	1.9	38.1	28.2	30.4	54.0
125	1690	38.0	38.2	HO	27.9	1.9	38.0	29.8	30.0	54.0

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.2 OPEN TEST SITE

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : Video Cassette Recorder
MODEL No. : HR-A60U
POWER : AC120V/60Hz
DESCRIPTION : TV RECEPTION+REC

REPORT No. : 23CE0052-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : October 25, 2002

ENGINEER : Hisayuki Kioka

CH.	FREQ	READING	ANT	ANT.	CABLE	AMP	RESULTS	LIMIT	MARGIN
	[MHz]	HOR. VER.	TYPE	FAC.	LOSS	GAIN	HOR. VER.	[dBuV/m]	HOR. VER.
		[dBuV]		[dB]	[dB]	[dB]			[dB] [dB]
UHF Fundamental									
14	517	26.1 30.4	LP	18.0	5.6	30.1	25.6 29.9	46.0	20.4 16.1
19	547	29.9 31.7	LP	18.4	5.8	30.0	30.1 31.9	46.0	15.9 14.1
28	601	31.9 31.6	LP	19.1	6.1	30.1	33.0 32.7	46.0	13.0 13.3
36	649	29.7 33.3	LP	20.1	6.6	30.1	32.3 35.9	46.0	13.7 10.1
44	697	29.1 32.7	LP	21.1	6.8	30.1	32.9 36.5	46.0	13.1 9.5
53	751	32.1 33.1	LP	21.2	7.2	30.5	36.0 37.0	46.0	10.0 9.0
61	799	33.5 32.4	LP	21.2	7.4	29.8	38.3 37.2	46.0	7.7 8.8
69	847	28.6 30.4	LP	21.6	7.7	29.5	34.4 36.2	46.0	11.6 9.8
UHF 2nd Harmonic									
14	1034	40.6 48.6	HO	24.7	1.7	38.7	28.3 36.3	54.0	25.8 17.7
19	1094	39.7 40.7	HO	24.9	1.7	38.6	27.7 28.7	54.0	26.3 25.3
28	1202	39.4 39.8	HO	25.4	1.7	38.5	28.0 28.4	54.0	26.0 25.6
36	1298	38.7 42.6	HO	25.9	1.8	38.4	28.0 31.9	54.0	26.0 22.1
44	1394	38.6 39.2	HO	26.3	1.8	38.3	28.4 29.0	54.0	25.6 25.0
53	1502	39.0 39.3	HO	26.8	1.8	38.1	29.5 29.8	54.0	24.5 24.2
61	1598	38.0 39.8	HO	27.5	1.9	38.1	29.3 31.1	54.0	24.7 22.9
69	1694	38.1 38.7	HO	28.2	1.9	38.0	30.2 30.8	54.0	23.8 23.2

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ.	ANT	READING	ANT	AMP	CABLE	ATTEN.	RESULT	LIMITS	MARGIN
	[MHz]	TYPE	HOR VER	FACTOR	GAIN	LOSS	[dB]	HOR VER	[dBuV/m] [dBuV/m]	HOR VER
			[dBuV] [dBuV]	[dB/m]	[dB]	[dB]				[dB] [dB]
1.	39.99	BB	27.8 33.7	14.8	29.7	1.4	6.0	20.3 26.2	40.0 19.7	13.8
2.	80.00	BB	38.1 37.8	6.5	29.7	2.0	6.1	23.0 22.7	40.0 17.0	17.3
3.	81.18	BB	38.8 33.8	6.6	29.7	2.0	6.1	23.8 18.6	40.0 16.2	21.4
4.	100.02	BB	33.8 40.4	10.0	29.8	2.3	6.0	22.3 28.9	43.5 21.2	14.6
5.	110.01	BB	28.1 36.8	11.8	29.8	2.9	6.0	19.0 27.7	43.5 24.5	15.8
6.	120.00	BB	34.9 38.8	13.5	29.8	2.5	6.0	27.1 31.0	43.5 16.4	12.5
7.	139.99	BB	36.6 38.5	14.6	29.8	3.2	6.0	30.6 32.5	43.5 12.9	11.0
8.	359.99	BB	35.7 38.9	14.7	30.1	4.6	6.1	31.0 34.2	46.0 15.0	11.8
9.	370.02	BB	34.1 31.6	14.9	30.2	4.7	6.1	29.6 27.1	46.0 16.4	18.9

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

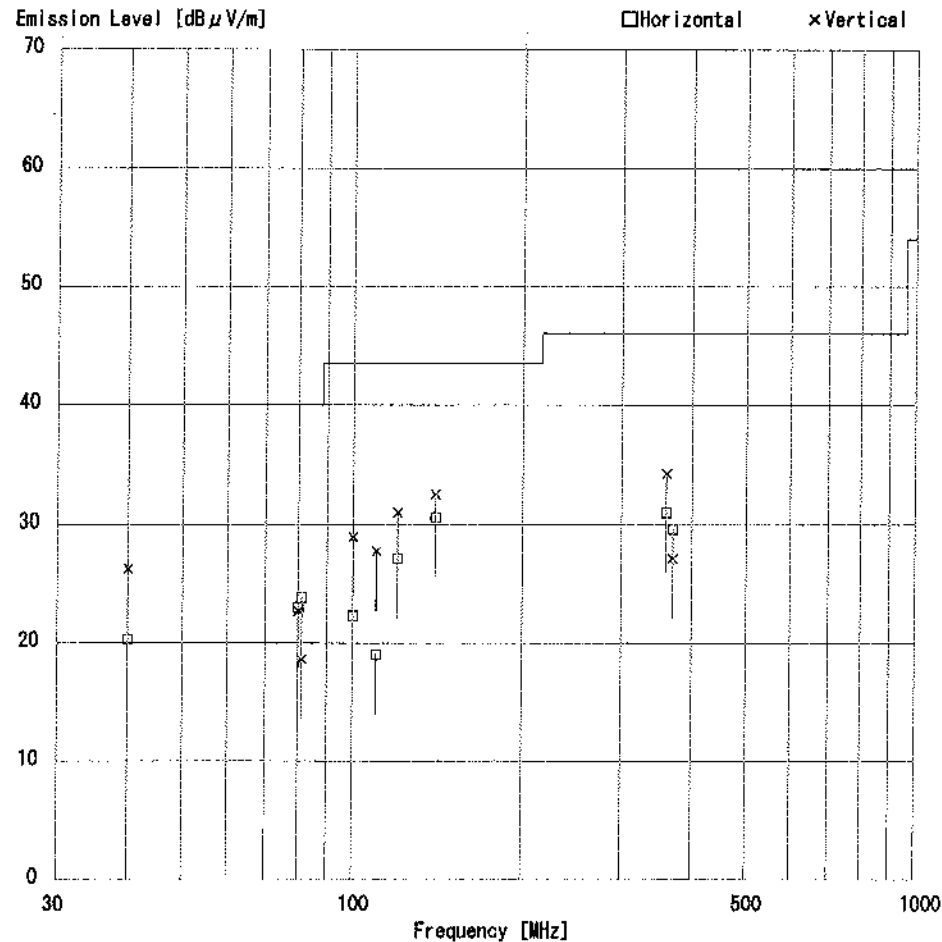
Except for the above table : adequate margin data below the limits.
ANT. TYPE:30-300MHz Biconical,300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 0dBmV
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dBμV]	VER [dBμV]					HOR [dBμV/m]	VER [dBμV/m]	HOR [dBμV/m]	VER [dBμV/m]	HOR [dB]	VER [dB]
1.	139.99	BB	36.0	38.3	14.6	29.8	3.2	6.0	30.0	32.3	43.5	13.5	11.2	

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

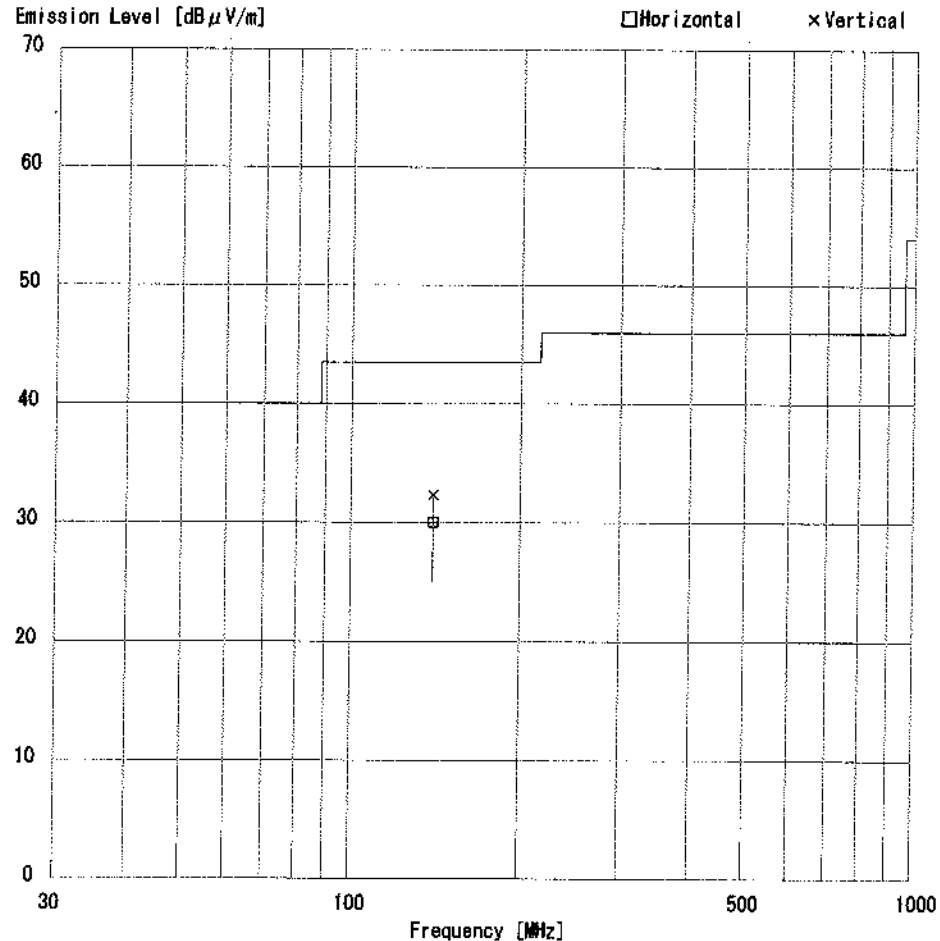
Except for the above table : adequate margin data below the limits.
ANT. TYPE:30-300MHz Biconical,300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 0dBmV
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 5V p-p
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS	MARGIN	
			HOR	VER					HOR	VER		HOR	VER
			[dBμV]	[dBμV]					[dBμV/m]	[dBμV/m]	[dBμV/m]	[dB]	[dB]
1.	79.98	BB	41.4	44.5	6.5	29.7	2.0	6.1	26.3	29.4	40.0	13.7	10.6
2.	84.01	BB	43.1	45.1	7.1	29.7	2.1	6.1	28.7	30.7	40.0	11.3	9.3
3.	86.79	BB	30.7	39.0	7.5	29.7	2.1	6.1	16.7	25.0	40.0	23.3	15.0
4.	100.02	BB	36.6	43.1	10.0	29.8	2.3	6.0	25.1	31.6	43.5	18.4	11.9
5.	130.00	BB	30.5	30.6	14.1	29.8	2.6	6.0	23.4	23.5	43.5	20.1	20.0
6.	120.00	BB	36.8	36.0	13.5	29.8	2.5	6.0	28.0	28.2	43.5	15.6	15.3
7.	139.99	BB	30.2	29.3	14.6	29.8	3.2	6.0	24.2	23.3	43.5	19.3	20.2
8.	360.02	BB	33.0	41.3	14.7	30.1	4.6	6.1	28.3	36.6	46.0	17.7	9.4
9.	370.02	BB	30.6	29.5	14.9	30.2	4.7	6.1	26.1	25.0	46.0	19.9	21.0
10.	630.02	BB	26.9	27.9	19.7	30.2	6.3	6.1	28.8	29.8	46.0	17.2	16.2

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

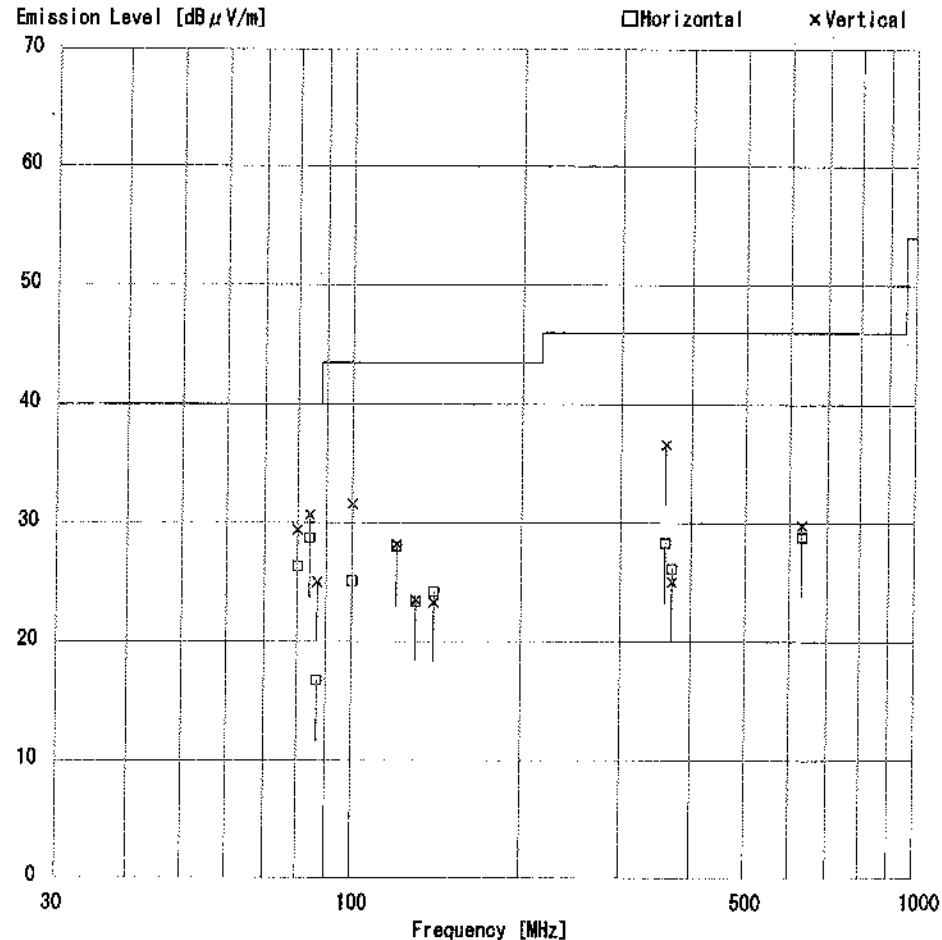
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 5V p-p
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hfsayuki Kioka



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 1V p-p
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hfsayuki Kioka

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]	VER [dB]
1.	84.01	BB	43.0	44.9	7.1	29.7	2.1	6.1	28.6	30.5	40.0	11.4	9.5	

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

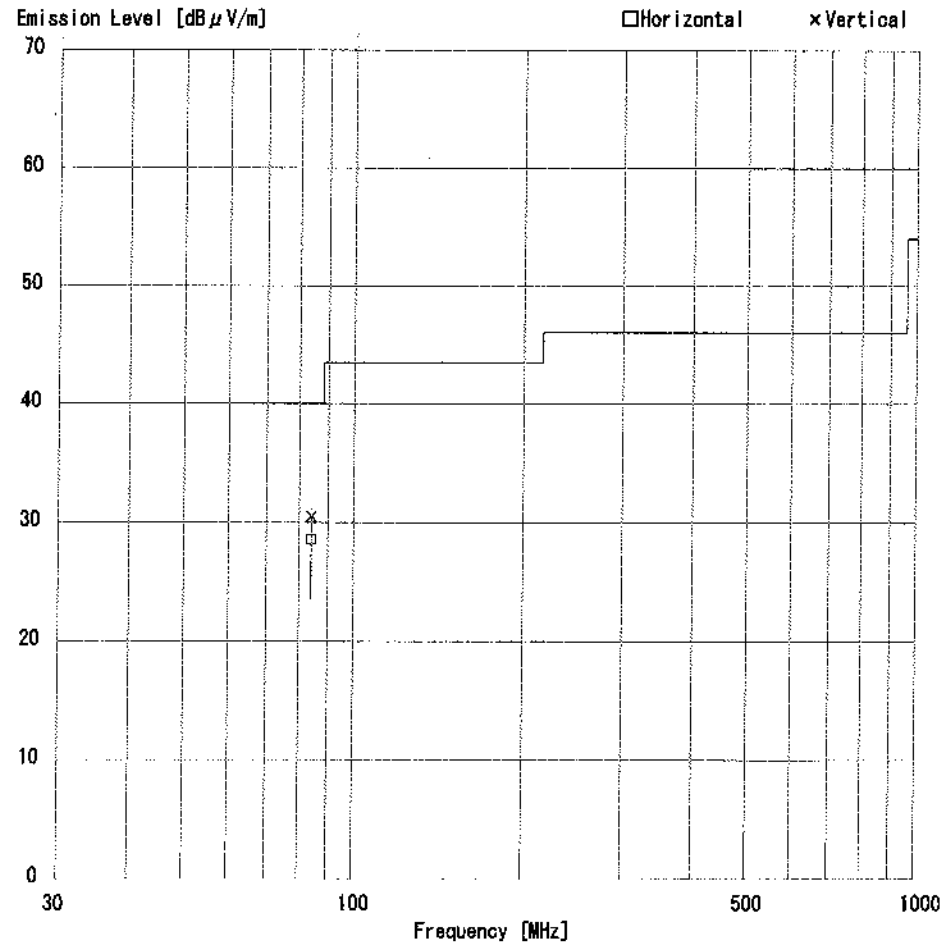
Except for the above table : adequate margin data below the limits.
ANT. TYPE:30-300MHz Biconical,300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23GE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 1V p-p
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23GE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : Playback
Remarks :
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS	MARGIN	
			HOR	VER					HOR	VER		HOR	VER
1.	79.99	BB	36.7	37.5	6.5	29.7	2.0	6.1	21.6	22.4	40.0	18.4	17.6
2.	100.03	BB	37.6	41.2	10.0	29.8	2.3	6.0	26.1	29.7	43.5	17.4	13.8
3.	120.00	BB	37.6	36.1	13.5	29.8	2.6	6.0	29.8	28.3	43.5	13.7	15.2
4.	140.27	BB	37.3	38.9	14.6	29.8	3.4	6.0	31.6	33.1	43.5	12.0	10.4
5.	200.01	BB	26.0	26.7	16.5	29.7	3.3	6.0	22.1	22.8	43.5	21.4	20.7
6.	220.03	BB	31.1	26.3	16.6	29.7	3.4	6.0	27.4	22.6	46.0	18.6	23.4
7.	360.02	BB	26.9	25.6	14.7	30.1	4.6	6.1	22.2	20.9	46.0	23.8	25.1
8.	370.02	BB	29.9	27.2	14.9	30.2	4.7	6.1	25.4	22.7	46.0	20.6	23.3
9.	390.02	BB	30.2	26.7	15.3	30.2	4.9	6.1	26.3	21.8	46.0	19.7	24.2
10.	690.00	BB	23.3	23.7	21.0	30.0	6.8	6.1	27.2	27.6	46.0	18.8	18.4

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

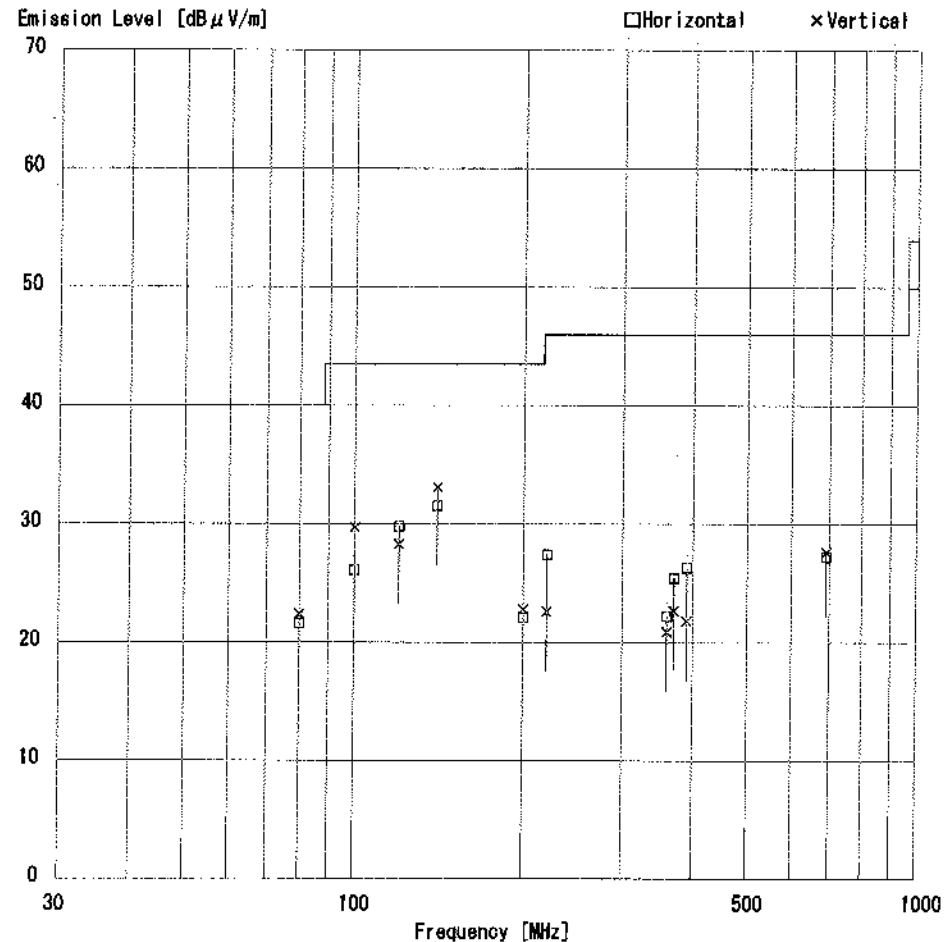
Except for the above table : adequate margin data below the limits.
ANT. TYPE:30-300MHz Biconical,300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. : -
Power : AC120V/60Hz
Mode : Playback
Remarks : -
Date : 10/25/2002
Test Distance : 3 m
Temperature : 23 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec(5Vp-p)
Remarks : Test Channel #3
Date : 10/27/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 51 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]	HOR [dB μV/m]	VER [dB μV/m]	HOR [dB]	VER [dB]
1.	61.25	BB	28.3	30.1	8.2	29.4	1.8	6.0	14.9	16.7	40.0	25.1	23.3	
2.	65.75	BB	26.3	33.5	7.4	29.8	1.8	6.0	11.7	18.9	40.0	28.3	21.1	
3.	122.50	BB	26.1	28.6	13.6	29.8	2.6	6.0	17.6	21.0	43.5	26.0	22.5	
4.	245.00	BB	22.5	22.9	16.8	29.8	3.7	6.0	19.2	19.6	46.0	26.8	26.4	

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

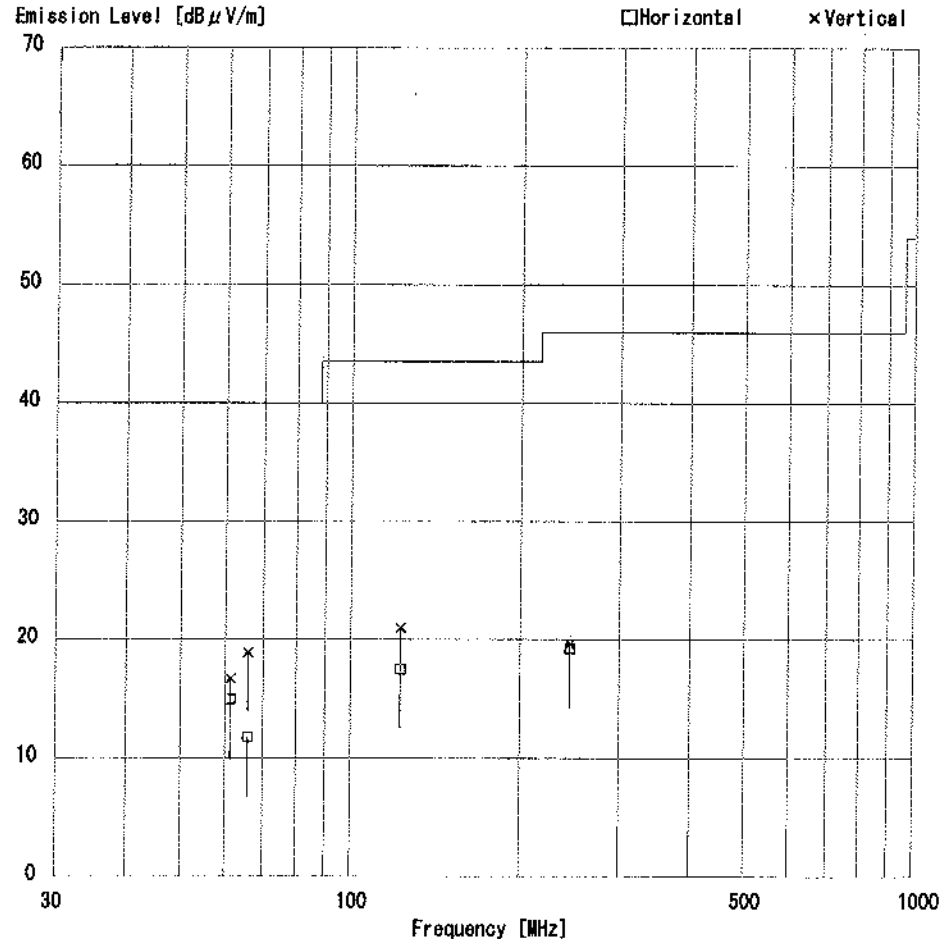
Except for the above table : adequate margin data below the limits.
ANT. TYPE:30-300MHz Biconical,300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input + Rec (5Vp-p)
Remarks : Test Channel #3
Date : 10/27/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 51 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input + Rec (5Vp-p)
Remarks : Test Channel #4
Date : 10/27/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 51 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		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	27.2	29.6	7.2	29.8	1.9	6.1	12.6	15.0	40.0	27.4	25.0	
2.	71.75	BB	28.1	28.4	6.7	29.7	1.9	8.1	13.1	13.4	40.0	26.9	26.6	
3.	134.50	BB	25.5	25.1	14.3	29.7	2.7	6.0	18.8	18.4	43.5	24.7	25.1	
4.	201.75	BB	22.7	22.5	16.5	29.7	3.3	6.0	18.8	18.6	43.5	24.7	24.9	

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

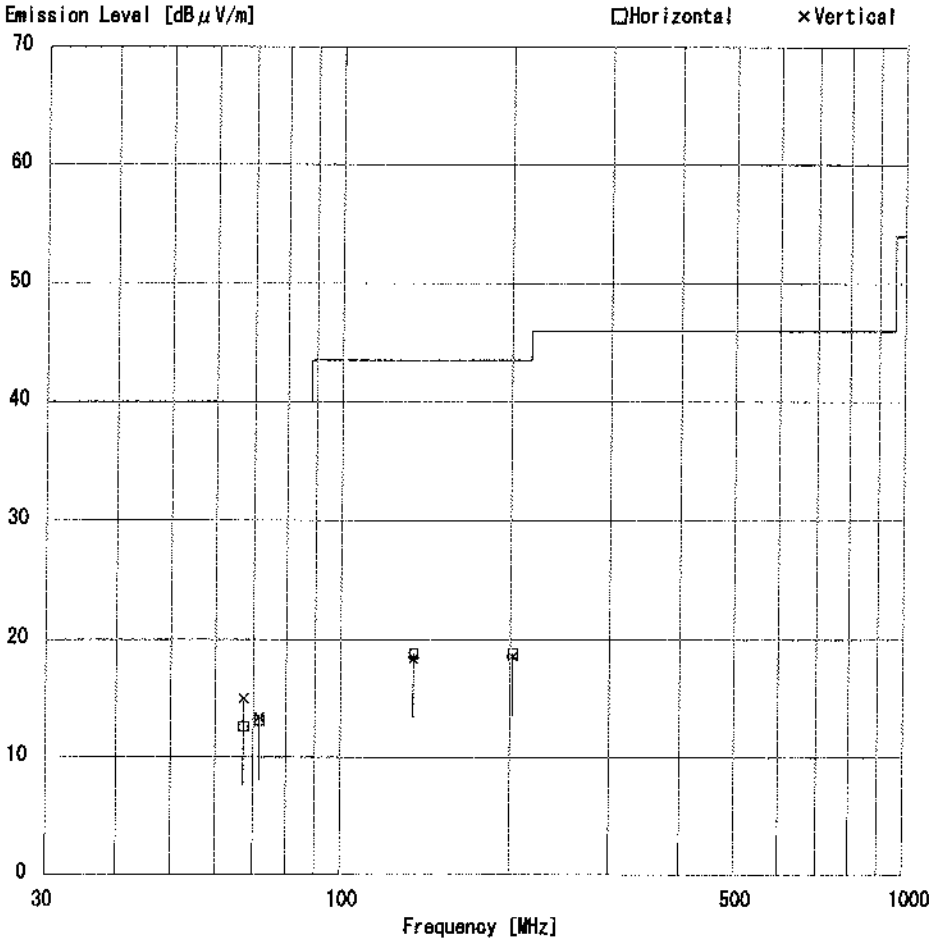
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23CE0052-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : Video Cassette Recorder
Model No. : HR-A60U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input + Rec(5Vp-p)
Remarks : Test Channel #4
Data : 10/27/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 51 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



DATA OF ANTENNA TERMINAL TEST

A-PEX INTERNATIONAL CO., LTD.
Date : 2002/10/31 00:01:19

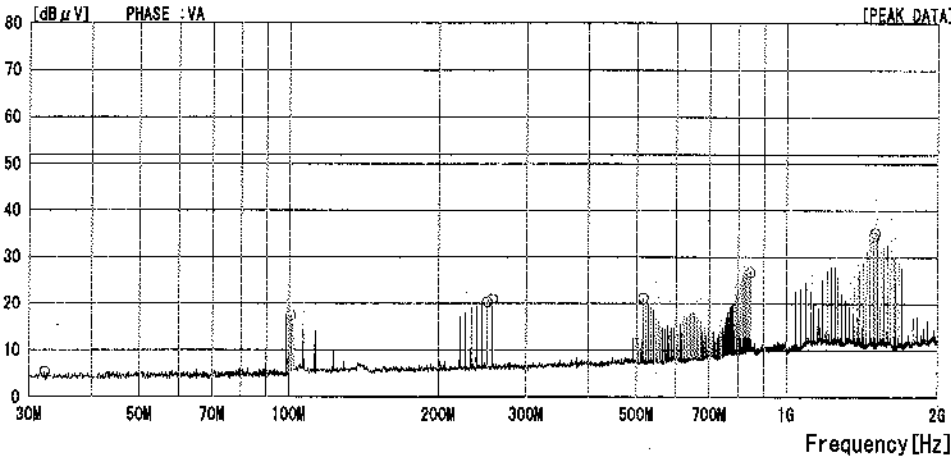
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
MODEL : HR-A60U
OPERATION MODE : TUNING

REPORT NO : 23CE0052-YW-1
DATE : October 29, 2002
REGULATION : FCC PART15 SUBPART B
TEST ENGINEER : Sadahiko Tanaka

REMARKS : TV MODE

LIMIT : FCC 15B ANTENNA TERMINAL

S. Tanaka



NO	FREQ [MHz]	READING (PK) [dB μV]	G. F [dB]	RESULT [dB μV]	LIMIT		MARGIN		PHASE
					QP [dB μV]	AV [dB μV]	QP [dB]	AV [dB]	
1	32.30000	36.0	-30.6	5.4	52.0	-----	46.6	-----	VA
2	100.85700	47.0	-29.7	17.3	52.0	-----	34.7	-----	VA
3	250.86000	49.0	-28.7	20.3	52.0	-----	31.7	-----	VA
4	256.85999	49.6	-28.7	20.9	52.0	-----	31.1	-----	VA
5	516.87899	49.2	-28.0	21.2	52.0	-----	30.8	-----	VA
6	847.00598	51.6	-24.9	26.7	52.0	-----	25.3	-----	VA
7	1489.96594	63.4	-29.1	34.3	52.0	-----	17.7	-----	VA
8	1501.42798	64.2	-29.1	35.1	52.0	-----	16.9	-----	VA

CALCULATION: READING+MATCHING PAD LOSS+CABLE LOSS-AMP. GAIN

DATA OF ANTENNA TERMINAL TEST

A-PEX INTERNATIONAL CO., LTD.
Date : 2002/10/30 23:28:12

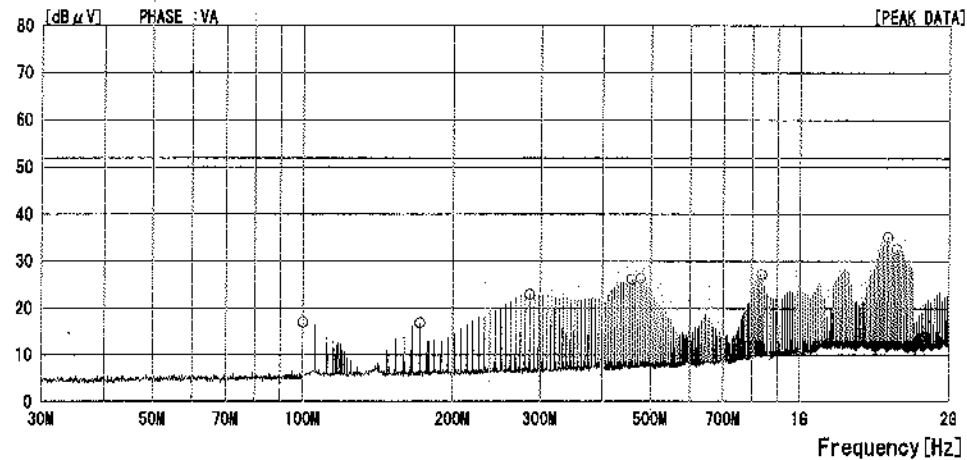
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
MODEL : HR-A60U
OPERATION MODE : TUNING

REPORT NO : 23CE0052-YW-1
DATE : October 29, 2002
REGULATION : FCC PART15 SUBPART B
TEST ENGINEER : Sadahiko Tanaka

REMARKS : CATV MODE

LIMIT : FCC 15B ANTENNA TERMINAL

S. Tanaka



NO	FREQ [MHz]	READING (PK) [dB μV]	C. F [dB]	RESULT [dB μV]	LIMIT QP [dB μV] AV [dB μV]	MARGIN QP [dB] AV [dB]	PHASE
1	99.89900	46.8	-29.8	17.0	52.0	35.0	VA
2	171.71500	46.2	-29.3	16.9	52.0	35.1	VA
3	285.71600	51.6	-28.7	22.9	52.0	29.1	VA
4	459.43201	54.0	-27.9	26.1	52.0	25.9	VA
5	477.14700	54.2	-27.9	26.3	52.0	25.7	VA
6	837.57703	52.2	-25.1	27.1	52.0	24.9	VA
7	1507.14197	64.2	-29.1	35.1	52.0	16.9	VA
8	1567.13794	61.4	-28.8	32.6	52.0	19.4	VA

CALCULATION: READING+MATCHING PAD LOSS+CABLE LOSS-AMP. GAIN



RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company : Orion Electric Co., Ltd.

Equipment : Video Cassette Recorder

Model number : HR-A60U

Power : AC 120 V / 60 Hz

Description : TV reception + Rec mode (0 dBmV)

Report Number : 23CE0052-YW-1

Regulation : FCC Part 15 Subpart B

Date : October 28, 2002

Engineer : *S. Tanaka*
Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	85.7	20.4	65.3	69.5	4.2
4	67.25	85.6	20.4	65.2	69.5	4.3

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.3	20.4	51.9	56.5	4.6
	65.75	71.2	20.4	50.8	56.5	5.7
4	62.75	71.9	20.4	51.5	56.5	5.0
	71.75	70.1	20.4	49.7	56.5	6.8



RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company : Orion Electric Co., Ltd. Report Number : 23CE0052-YW-1
Equipment : Video Cassette Recorder Regulation : FCC Part 15 Subpart B
Model number : HR-A60U Date : October 28, 2002
Power : AC 120 V / 60 Hz
Description : TV reception + Rec mode (25 dBmV)

S. Tanaka
Engineer : Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	85.1	20.4	64.7	69.5	4.8
4	67.25	85.5	20.4	65.1	69.5	4.4

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.2	20.4	51.8	56.5	4.7
	65.75	71.4	20.4	51.0	56.5	5.5
4	62.75	72.1	20.4	51.7	56.5	4.8
	71.75	71.0	20.4	50.6	56.5	5.9



RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company : Orion Electric Co., Ltd. Report Number : 23CE0052-YW-1
Equipment : Video Cassette Recorder Regulation : FCC Part 15 Subpart B
Model number : HR-A60U Date : October 28, 2002
Power : AC 120 V / 60 Hz
Description : AV Input + Rec mode (1Vp-p)

S. Tanaka
Engineer : Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	87.2	20.4	66.8	69.5	2.7
4	67.25	85.6	20.4	65.2	69.5	4.3

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.3	20.4	51.9	56.5	4.6
	65.75	71.5	20.4	51.1	56.5	5.4
4	62.75	71.9	20.4	51.5	56.5	5.0
	71.75	70.8	20.4	50.4	56.5	6.1



RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company : Orion Electric Co., Ltd. Report Number : 23CE0052-YW-1
Equipment : Video Cassette Recorder Regulation : FCC Part 15 Subpart B
Model number : HR-A60U Date : October 28, 2002
Power : AC 120 V / 60 Hz
Description : AV Input + Rec mode (5Vp-p)

S. Tanaka
Engineer : Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	85.7	20.4	65.3	69.5	4.2
4	67.25	87.2	20.4	66.8	69.5	2.7

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.3	20.4	51.9	56.5	4.6
	65.75	71.3	20.4	50.9	56.5	5.6
4	62.75	72.9	20.4	52.5	56.5	4.0
	71.75	73.0	20.4	52.6	56.5	3.9



RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company : Orion Electric Co., Ltd. Report Number : 23CE0052-YW-1
Equipment : Video Cassette Recorder Regulation : FCC Part 15 Subpart B
Model number : HR-A60U Date : October 28, 2002
Power : AC 120 V / 60 Hz
Description : VCR Playback

S. Tanaka
Engineer : Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	85.5	20.4	65.1	69.5	4.4
4	67.25	85.3	20.4	64.9	69.5	4.6

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.3	20.4	51.9	56.5	4.6
	65.75	71.3	20.4	50.9	56.5	5.6
4	62.75	71.7	20.4	51.3	56.5	5.2
	71.75	70.7	20.4	50.3	56.5	6.2

DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

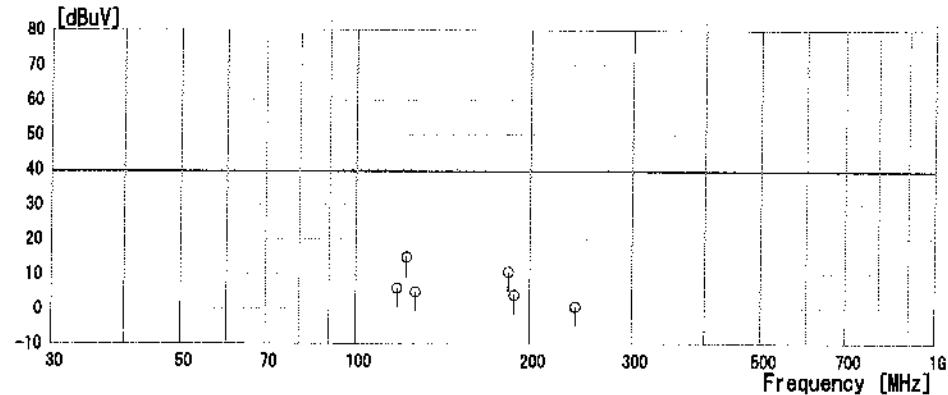
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : TV reception
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 : 0dBmV Input
REMARKS 2 : 3CH Output

REPORT NO. : 23CED052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: *S. Tanaka*
Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	AV [dB]	C. FACTOR [dB]	RESULT QP [dBuV]	AV [dB]	LIMIT QP [dBuV]	AV [dB]	MARGIN QP [dB]	AV [dB]
1	118.000	27.8	---	-21.9	6.0	---	39.5	---	33.5	---
2	122.500	36.7	---	-21.9	14.8	---	39.5	---	24.7	---
3	127.000	26.8	---	-21.9	4.9	---	39.5	---	34.6	---
4	183.750	32.6	---	-22.0	10.6	---	39.5	---	28.9	---
5	188.250	26.0	---	-22.0	4.0	---	39.5	---	35.5	---
6	240.070	22.6	---	-22.0	0.6	---	39.5	---	38.9	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

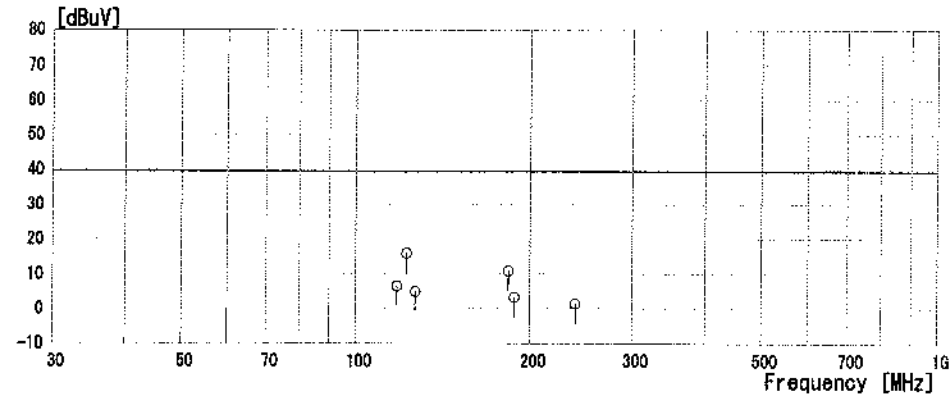
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : TV reception
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 : 25dBmV Input
REMARKS 2 : 3CH Output

REPORT NO. : 23CED052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: *S. Tanaka*
Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	AV [dB]	C. FACTOR [dB]	RESULT QP [dBuV]	AV [dB]	LIMIT QP [dBuV]	AV [dB]	MARGIN QP [dB]	AV [dB]
1	118.000	28.4	---	-21.9	6.5	---	39.5	---	33.0	---
2	122.500	37.8	---	-21.9	15.9	---	39.5	---	23.6	---
3	127.000	26.9	---	-21.9	5.0	---	39.5	---	34.5	---
4	183.750	32.9	---	-22.0	10.8	---	39.5	---	28.7	---
5	188.250	26.3	---	-22.0	3.3	---	39.5	---	36.2	---
6	240.070	23.3	---	-22.0	1.3	---	39.5	---	38.2	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO.,LTD.
YOKOWA ENG LABORATORY

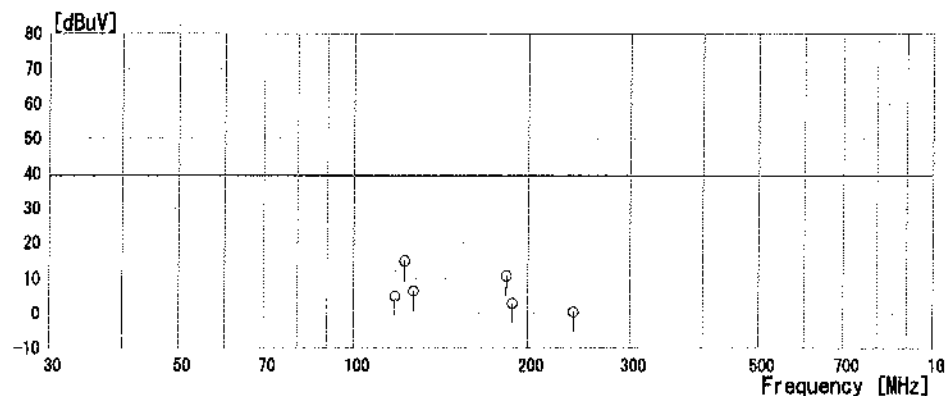
COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : AV Input
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p Input
REMARKS 2 : 3CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	118.000	26.9	---	-21.9	6.1	---	39.5	---	34.4	---
2	122.500	36.9	---	-21.9	15.0	---	39.5	---	24.6	---
3	127.000	28.4	---	-21.9	6.5	---	39.5	---	33.0	---
4	183.750	32.9	---	-22.0	10.9	---	39.5	---	28.6	---
5	188.250	25.0	---	-22.0	3.0	---	39.5	---	36.5	---
6	240.070	22.5	---	-22.0	0.5	---	39.5	---	39.0	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO.,LTD.
YOKOWA ENG LABORATORY

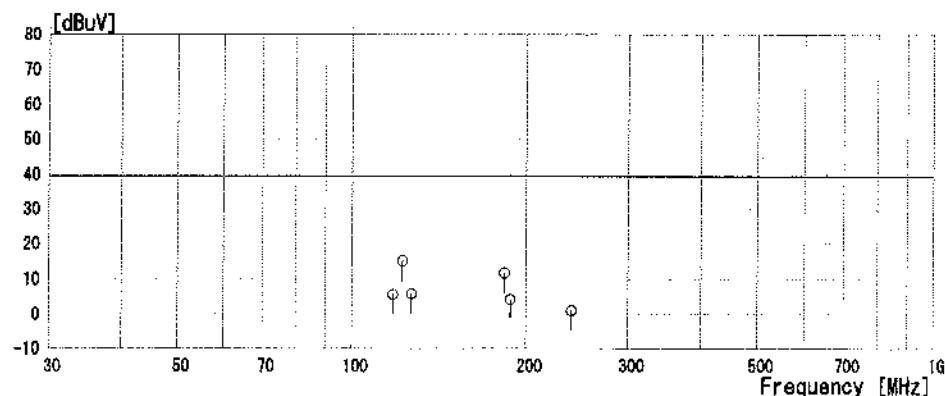
COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : AV Input
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 : 5Vp-p Input
REMARKS 2 : 3CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	118.000	27.6	---	-21.9	5.7	---	39.5	---	33.8	---
2	122.500	37.0	---	-21.9	15.1	---	39.5	---	24.4	---
3	127.000	27.8	---	-21.9	5.9	---	39.5	---	33.6	---
4	183.750	33.8	---	-22.0	11.7	---	39.5	---	27.8	---
5	188.250	26.3	---	-22.0	4.2	---	39.5	---	35.3	---
6	240.070	22.9	---	-22.0	0.9	---	39.5	---	38.6	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

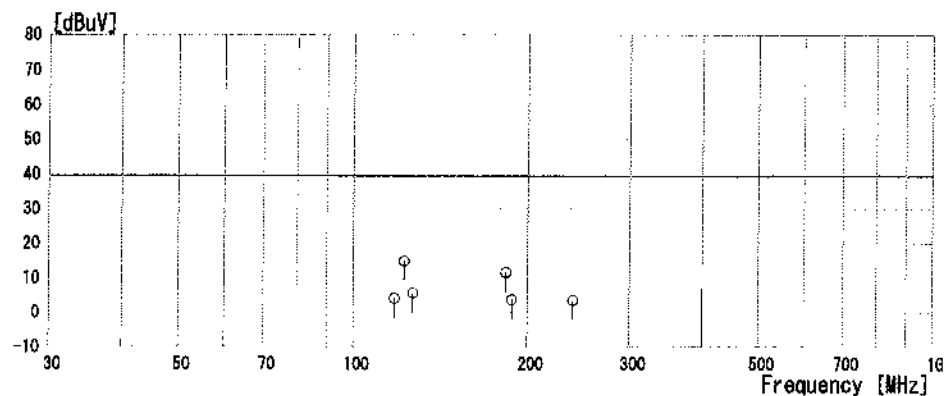
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : VCR Playback
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 :
REMARKS 2 : 3CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	AV [dB]	C. FACTOR [dB]	RESULT QP [dBuV]	AV [dB]	LIMIT QP [dBuV]	AV [dB]	MARGIN QP [dB]	AV [dB]
1	118.000	25.9	---	-21.9	4.1	---	39.5	---	35.4	---
2	122.500	36.7	---	-21.9	14.8	---	39.5	---	24.7	---
3	127.000	27.4	---	-21.9	5.5	---	39.5	---	34.0	---
4	183.750	33.6	---	-22.0	11.6	---	39.5	---	27.9	---
5	188.250	25.7	---	-22.0	3.7	---	39.5	---	35.8	---
6	240.070	25.4	---	-22.0	3.4	---	39.5	---	36.1	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dB μ V]
+ CABLE LOSS[dB μ V] - AMPLIFIER GAIN[dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

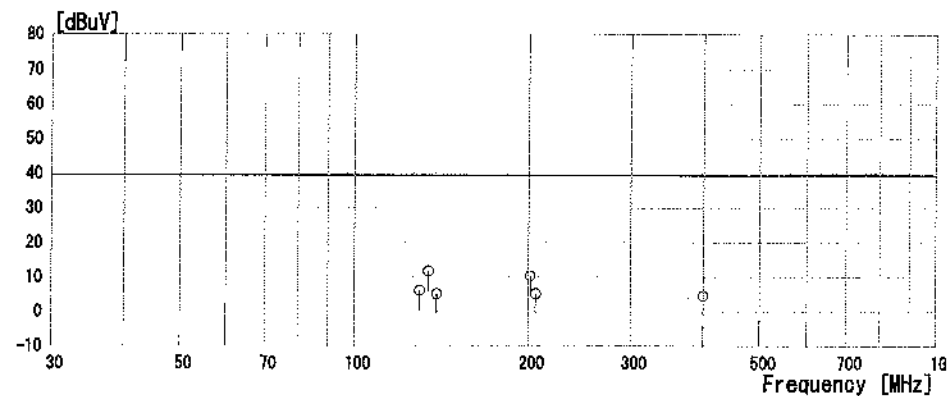
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : TV reception
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 : 0dBm Input
REMARKS 2 : 4CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	AV [dB]	C. FACTOR [dB]	RESULT QP [dBuV]	AV [dB]	LIMIT QP [dBuV]	AV [dB]	MARGIN QP [dB]	AV [dB]
1	130.000	28.0	---	-21.9	6.1	---	39.5	---	33.4	---
2	134.500	33.5	---	-21.8	11.7	---	39.5	---	27.8	---
3	139.000	26.9	---	-21.8	5.1	---	39.5	---	34.4	---
4	201.750	32.1	---	-21.8	10.3	---	39.5	---	29.2	---
5	206.250	27.0	---	-21.8	5.2	---	39.5	---	34.3	---
6	400.000	26.9	---	-22.3	4.6	---	39.5	---	34.9	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dB μ V]
+ CABLE LOSS[dB μ V] - AMPLIFIER GAIN[dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO.,LTD.
YOKOHAMA EMC LABORATORY

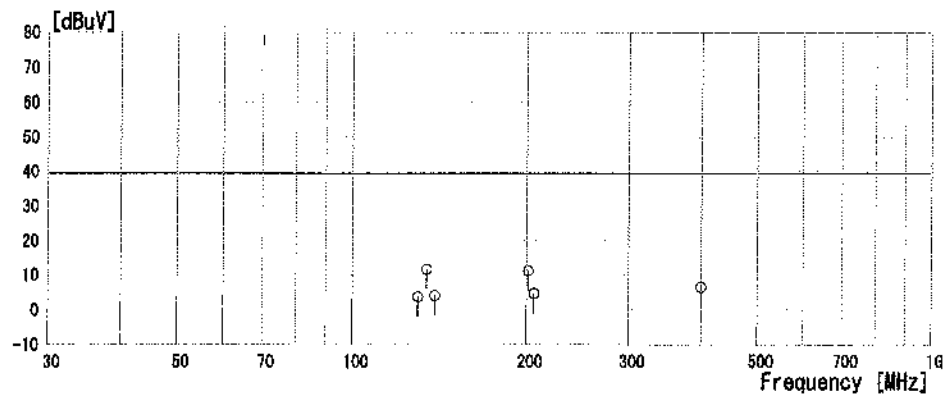
COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : TV reception
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 : 25dBmV input
REMARKS 2 : 4CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: *S. Tanaka*
Sadaiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	AV [dB]	C. FACTOR [dB]	RESULT QP [dBuV]	AV [dB]	LIMIT QP [dBuV]	AV [dB]	MARGIN QP [dB]	AV [dB]
1	130.000	25.7	---	-21.9	3.8	---	39.5	---	35.7	---
2	134.500	33.5	---	-21.8	11.7	---	39.5	---	27.8	---
3	139.000	25.9	---	-21.8	4.1	---	39.5	---	35.4	---
4	201.750	33.0	---	-21.8	11.2	---	39.5	---	28.3	---
5	206.250	26.5	---	-21.8	4.7	---	39.5	---	34.8	---
6	400.060	28.8	---	-22.3	6.5	---	39.5	---	33.0	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO.,LTD.
YOKOHAMA EMC LABORATORY

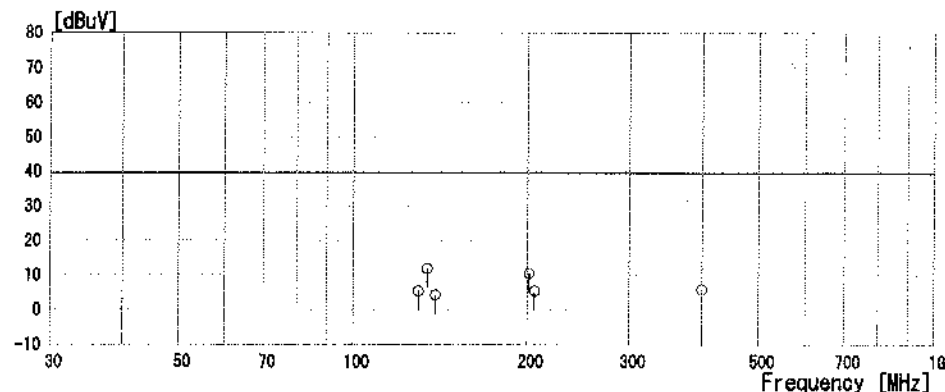
COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : AV Input
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p input
REMARKS 2 : 4CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: *S. Tanaka*
Sadaiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	AV [dB]	C. FACTOR [dB]	RESULT QP [dBuV]	AV [dB]	LIMIT QP [dBuV]	AV [dB]	MARGIN QP [dB]	AV [dB]
1	130.000	27.3	---	-21.9	5.4	---	39.5	---	34.1	---
2	134.500	33.6	---	-21.8	11.8	---	39.5	---	27.7	---
3	139.000	26.0	---	-21.8	4.2	---	39.5	---	35.3	---
4	201.750	32.2	---	-21.8	10.4	---	39.5	---	29.1	---
5	206.250	27.2	---	-21.8	5.4	---	39.5	---	34.1	---
6	400.000	28.1	---	-22.3	5.8	---	39.5	---	33.7	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA ENG. LABORATORY

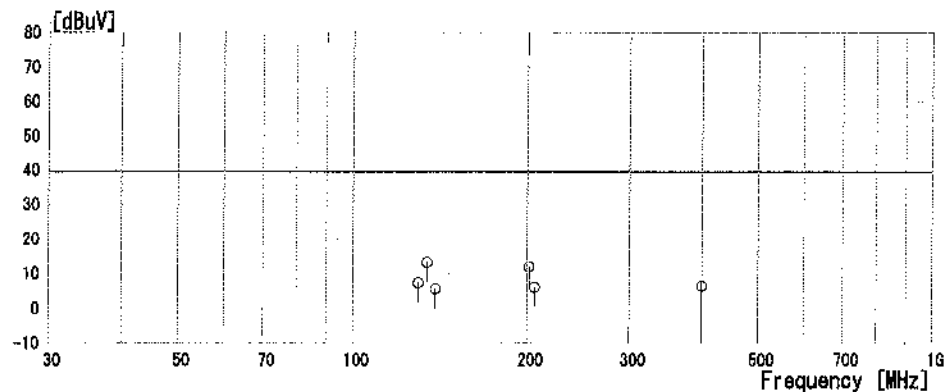
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : AV Input
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 : 5Vp-p Input
REMARKS 2 : 4CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	C. FACTOR [dB]	RESULT QP [dBuV]	LIMIT QP [dBuV]	MARGIN QP [dB]
1	130.000	29.2	-21.9	7.3	39.5	32.2
2	134.500	35.0	-21.8	13.2	39.5	26.3
3	139.000	27.4	-21.8	5.6	39.5	33.9
4	201.750	33.7	-21.8	11.9	39.5	27.6
5	206.250	27.9	-21.8	6.1	39.5	33.4
6	400.000	28.7	-22.3	6.4	39.5	33.0

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA ENG. LABORATORY

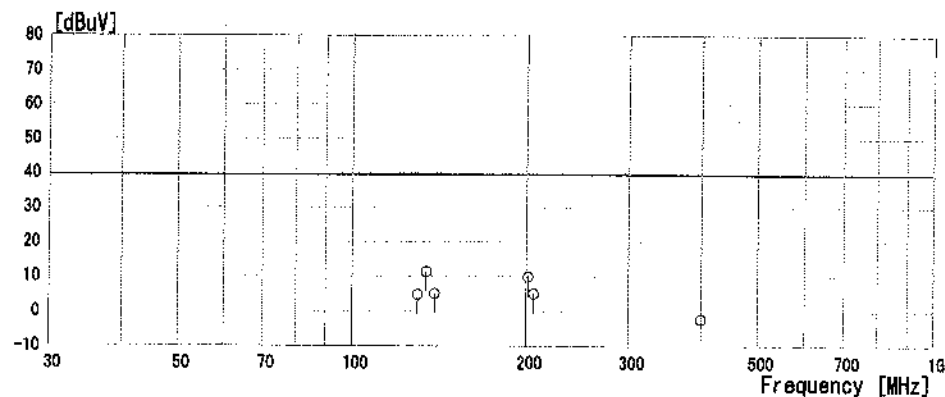
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : VCR Playback
PORT : RF Output Terminal
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 4CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	C. FACTOR [dB]	RESULT QP [dBuV]	LIMIT QP [dBuV]	MARGIN QP [dB]
1	130.000	28.7	-21.9	4.8	39.5	34.7
2	134.500	33.1	-21.8	11.3	39.5	28.2
3	139.000	26.9	-21.8	5.1	39.5	34.4
4	201.750	31.6	-21.8	9.9	39.5	29.6
5	206.250	26.8	-21.8	5.0	39.5	34.5
6	400.000	20.1	-22.3	-2.2	39.5	41.7

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

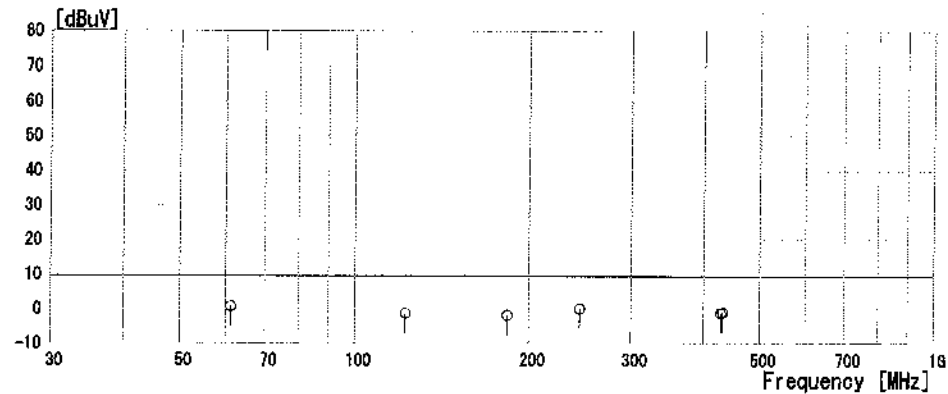
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : AV Input
PORT : RF Input Terminal
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p Input
REMARKS 2 : 3CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	C. FACTOR AV [dB]	RESULT QP [dBuV]	LIMIT QP [dBuV]	MARGIN QP [dB]
1	61.250	22.4	-21.7	0.7	9.5	8.8
2	122.500	20.5	-21.9	-1.4	9.5	10.9
3	183.750	20.1	-22.0	-2.0	9.5	11.5
4	245.000	22.0	-22.0	0.0	9.5	9.5
5	428.750	20.5	-21.7	-1.3	9.5	10.8
6	432.260	20.8	-21.8	-1.1	9.5	10.6

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

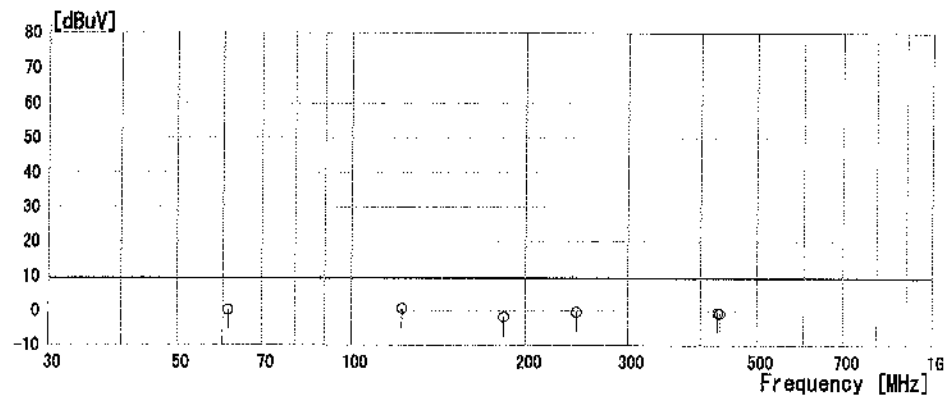
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : AV Input
PORT : RF Input Terminal
POWER : AC120V/60Hz
REMARKS 1 : 5Vp-p Input
REMARKS 2 : 3CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	C. FACTOR AV [dB]	RESULT QP [dBuV]	LIMIT QP [dBuV]	MARGIN QP [dB]
1	61.250	22.0	-21.7	0.3	9.5	9.2
2	122.500	22.5	-21.9	0.6	9.5	8.9
3	183.750	20.2	-22.0	-1.8	9.5	11.3
4	245.000	21.8	-22.0	-0.4	9.5	9.9
5	428.750	21.2	-21.7	-0.5	9.5	10.0
6	432.260	21.0	-21.8	-0.8	9.5	10.3

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO.,LTD.
YOKOWA EMC LABORATORY

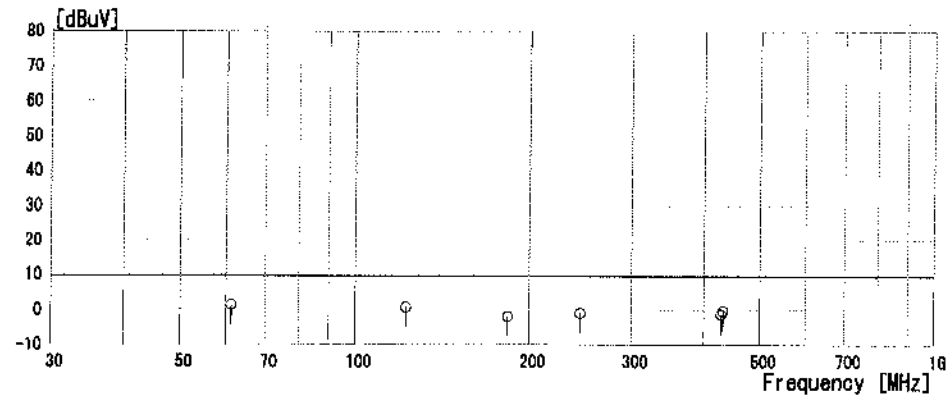
COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : VCR Playback
PORT : RF Input Terminal
POWER : AC120V/60Hz
REMARKS 1 :
REMARKS 2 : 3CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	AV [dB]	C. FACTOR [dB]	RESULT QP [dBuV]	AV [dB]	LIMIT QP [dBuV]	AV [dB]	MARGIN QP [dB]	AV [dB]
1	61.250	23.2	---	-21.7	1.4	---	9.5	---	8.1	---
2	122.500	22.7	---	-21.9	0.8	---	9.5	---	8.7	---
3	183.750	20.1	---	-22.0	-1.9	---	9.5	---	11.4	---
4	245.000	21.1	---	-22.0	-0.9	---	9.5	---	10.4	---
5	428.750	20.5	---	-21.7	-1.3	---	9.5	---	10.8	---
6	432.260	21.5	---	-21.8	-0.3	---	9.5	---	9.8	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO.,LTD.
YOKOWA EMC LABORATORY

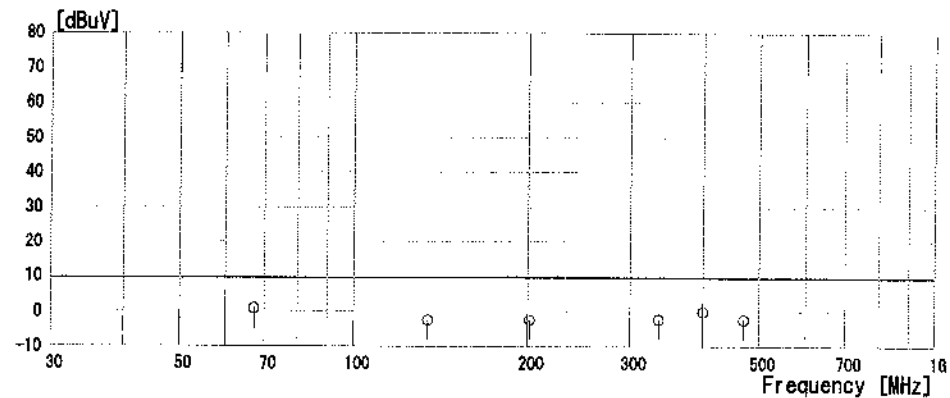
COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : AV Input
PORT : RF Input Terminal
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p Input
REMARKS 2 : 4CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	AV [dB]	C. FACTOR [dB]	RESULT QP [dBuV]	AV [dB]	LIMIT QP [dBuV]	AV [dB]	MARGIN QP [dB]	AV [dB]
1	87.250	22.5	---	-21.7	0.9	---	9.5	---	8.6	---
2	134.500	19.4	---	-21.8	-2.4	---	9.5	---	11.9	---
3	201.750	19.3	---	-21.8	-2.5	---	9.5	---	12.0	---
4	338.250	19.9	---	-22.1	-2.2	---	9.5	---	11.7	---
5	400.330	22.2	---	-22.3	0.0	---	9.5	---	9.5	---
6	470.750	19.8	---	-22.1	-2.3	---	9.5	---	11.8	---

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOHAMA EMC LABORATORY

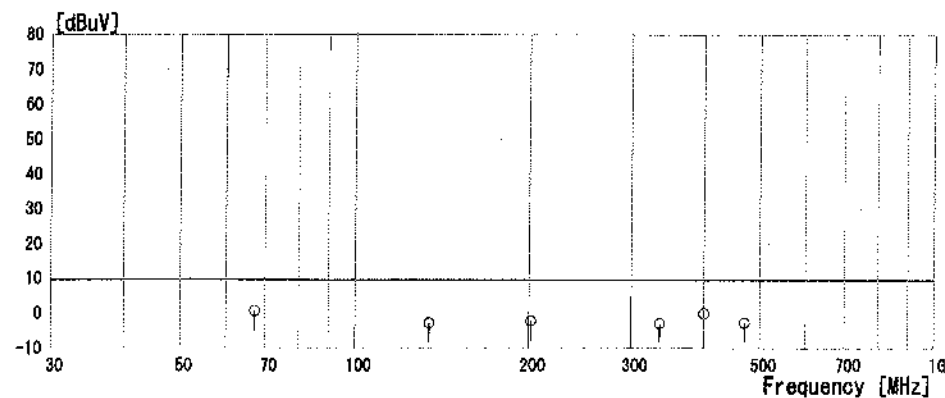
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : AV Input
PORT : RF Input Terminal
POWER : AC120V/60Hz
REMARKS 1 : 5Vp-p Input
REMARKS 2 : 4CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	C. FACTOR [dB]	RESULT QP [dBuV]	LIMIT QP [dBuV]	MARGIN QP [dB]
1	67.250	22.4	-21.7	0.7	9.5	8.8
2	134.500	19.0	-21.8	-2.7	9.5	12.2
3	201.750	19.6	-21.8	-2.1	9.5	11.6
4	336.250	19.3	-22.1	-2.8	9.5	12.3
5	400.330	22.2	-22.3	-0.1	9.5	9.6
6	470.750	19.5	-22.1	-2.6	9.5	12.1

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOHAMA EMC LABORATORY

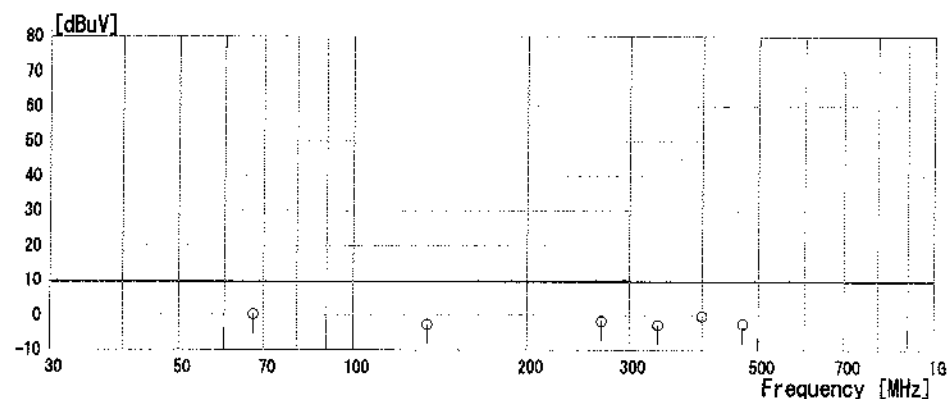
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : Video Cassette Recorder
Model Name : HR-A60U
OPERATION MODE : VCR Playback
PORT : RF Input Terminal
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 4CH Output

REPORT NO. : 23CE0052-YW-1
DATE : October 28, 2002
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING QP [dBuV]	C. FACTOR [dB]	RESULT QP [dBuV]	LIMIT QP [dBuV]	MARGIN QP [dB]
1	67.250	21.9	-21.7	0.2	9.5	9.3
2	134.500	19.2	-21.8	-2.6	9.5	12.1
3	201.750	20.2	-22.0	-1.8	9.5	11.3
4	336.250	19.3	-22.1	-2.8	9.5	12.3
5	400.330	21.9	-22.3	-0.4	9.5	9.9
6	470.750	19.6	-22.1	-2.5	9.5	12.0

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



Picture sensitivity test

A-PEX INTERNATIONAL CO., LTD.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : Video Cassette Recorder
Model number : HR-A60U
Power : AC 120 V / 60 Hz
Description : TV Reception mode

Report Number : 23CE0052-YW-1
Regulation : FCC Part 15B Subpart B
Date : October 29, 2002

Engineer : *S. Tanaka*
: Sadahiko Tanaka

Ch.	Frequency	Sensitivity		Ch.	Frequency	Sensitivity	
[VHF]	[MHz]	[dBuV]	[uV]	[UHF]	[MHz]	[dBuV]	[uV]
2	55.25	20.0	10.0	14	471.25	19.8	9.8
3	61.25	17.3	7.3	20	507.25	20.6	10.7
4	67.25	17.2	7.2	26	543.25	21.2	11.5
5	77.25	17.9	7.9	32	579.25	22.1	12.7
6	83.25	18.3	8.2	38	615.25	22.9	14.0
7	175.25	18.9	8.8	44	651.25	23.8	15.5
8	181.25	19.4	9.3	50	687.25	24.5	16.8
9	187.25	19.3	9.2	56	723.25	23.2	14.5
10	193.25	19.1	9.0	62	759.25	22.3	13.0
11	199.25	19.1	9.0	69	801.25	19.8	9.8
12	205.25	19.2	9.1	-	-	-	-
13	211.25	19.5	9.4	-	-	-	-
Average VHF		8.7		Average UHF		12.8	
Average UHF/VHF : 20 log UHF[uV]/VHF[uV] =				3.4	dB		
[Limit : 8.0 dB]							

Noise figure test

A-PEX INTERNATIONAL CO., LTD.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : Video Cassette Recorder
Model number : HR-A60U
Power : AC 120 V / 60 Hz
Description : TV reception mode

Report Number : 23CE0052-YW-1
Regulation : FCC Part 15B Subpart B
Date : October 31, 2002

Engineer : *S. Tanaka*
: Sadahiko Tanaka

Ch.	Frequency [MHz]	Meter reading [dB]	Correction factor [dB]	Noise figure [dB]	Limits [dB]	Margin [dB]
TV VHF Fundamental						
2	55.25	4.7	0.2	4.5	14.0	9.5
3	61.25	3.9	0.2	3.7	14.0	10.3
4	67.25	3.4	0.2	3.2	14.0	10.8
5	77.25	3.0	0.2	2.8	14.0	11.2
6	83.25	3.4	0.2	3.2	14.0	10.8
7	175.25	5.0	0.2	4.8	14.0	9.2
8	181.25	5.1	0.2	4.9	14.0	9.1
9	187.25	5.0	0.2	4.8	14.0	9.2
10	193.25	4.9	0.2	4.7	14.0	9.3
11	199.25	4.9	0.2	4.7	14.0	9.3
12	205.25	4.8	0.2	4.6	14.0	9.4
13	211.25	4.9	0.2	4.7	14.0	9.3
TV UHF Fundamental						
14	471.25	6.2	0.3	5.9	14.0	8.1
20	507.25	6.8	0.3	6.5	14.0	7.5
26	543.25	6.8	0.3	6.5	14.0	7.5
32	579.25	6.6	0.3	6.3	14.0	7.7
38	615.25	6.4	0.3	6.1	14.0	7.9
44	651.25	6.8	0.3	6.5	14.0	7.5
50	687.25	6.7	0.3	6.4	14.0	7.6
56	723.25	6.3	0.4	5.9	14.0	8.1
62	759.25	6.0	0.4	5.6	14.0	8.4
69	801.25	6.5	0.4	6.1	14.0	7.9
Mid-band						
14	121.25	4.0	0.2	3.8	14.0	10.2
16	133.25	6.5	0.2	6.3	14.0	7.7
18	145.25	5.7	0.2	5.5	14.0	8.5
20	157.25	5.3	0.2	5.1	14.0	8.9
22	169.25	5.0	0.2	4.8	14.0	9.2
Super-band						
23	217.25	5.0	0.2	4.8	14.0	9.2
26	235.25	5.0	0.2	4.8	14.0	9.2
28	253.25	5.2	0.2	5.0	14.0	9.0
32	271.25	5.3	0.2	5.1	14.0	8.9
36	295.25	5.4	0.2	5.2	14.0	8.8

Test Report No.: 23CE0052-YW-1

APPENDIX 3

Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model	Calibration	Due Date
AF-03	Pre Amplifier	Anritsu	MP848A	RE, AT	2002/04/01 * 12
AF-07	Pre Amplifier	Agilent	HP8449B	RE, AT	2001/12/21 * 12
AT-04	Attenuator	Anritsu	MP721B	RE	2002/04/04 * 12
BA-04	Biconical Antenna	Schwarzbeck	BBA9108	RE	2002/04/27 * 12
LA-05	Logperiodic Antenna	Schwarzbeck	UHALP9108-A	RE	2001/11/17 * 12
SA-08	Spectrum Analyzer	Advantest	R3272	RE, CE, AT	2002/04/11 * 12
TR-04	Test Receiver	Rohde & Schwarz	ESVS10	RE	2002/05/01 * 12
OS-10	Digital Humidity Indicator	SATO	PC-8000TRH	RE	2002/05/09 * 12
OS-15	Digital Humidity Indicator	SATO	PC-8000TRH	CE, AT, NF, P, S, TS, RF	2002/05/16 * 12
CC-20RC	Yokawa No.2 open coaxial(0.01-1000MHz)	A-PEX	CC-21,CC-22,C C-23,CC-24,CC -25,CC-26,CC-2 7,SW-21,SW-22	RE	2002/03/30 * 12
AT-03	Attenuator	Anritsu	MP721B	RE	2002/04/04 * 12
YOATS-02	Open Test Site	JSE	3m, 10m	RE	2002/03/17 * 12
AF-02	Pre Amplifier	Anritsu	MP848A	RE	2002/04/01 * 12
LS-01	LISN	Schwarzbeck	NSLK8128	CE (EUT)	2002/11/01 * 12
BA-10	Biconical Antenna	Schwarzbeck	BBA9108	RE	2002/10/16 * 12
LA-06	Logperiodic Antenna	Schwarzbeck	UHALP9108-A	RE	2002/05/02 * 12
SA-07	Spectrum Analyzer	Advantest	R3273	RE	2001/12/05 * 12
TR-03	Test Receiver	Rohde & Schwarz	ESHS30	CE	2002/05/30 * 12
TR-02	Test Receiver	Rohde & Schwarz	ESVS30	RE	2002/04/17 * 12
OS-06	Digital Humidity Indicator	SATO	PC-8000TRH	RE	2002/04/10 * 12
LS-03	LISN	Schwarzbeck	NSLK8127	CE	2002/11/01 * 12
CC-10RC	Yokawa No.1 open coaxial(0.01-1000MHz)	A-PEX	CC-11,CC-12,C C-14,CC-15,CC -16,SW-11,SW- 12	RE	2002/03/31 * 12
CC-2S	Yokawa No.2 shield coaxial(0.01MHz-1000MHz)	A-PEX	CC-24,CC-25,C C-26,CC-28,CC -29,SW-21,SW-2 2	CE	2002/03/30 * 12
CC-C10	Microwave Cable	Storm	421-014(7m)	RE	2001/12/22 * 12
CC-C13	Microwave Cable	Suhner	SUCOFLEX	RE	2002/01/13 * 12
YOATS-01	Open Test Site	JSE	3m, 10m	RE	2002/03/17 * 12
HA-01	Horn Antenna	A.H.Systems	SAS-200/571	RE	2002/05/07 * 12
SS-05	Digitizing Oscilloscope	Sony Tektronix	2221	PS	2002/01/10 * 12
AV17-01	Pattern Generator	Leader	408NPS	RE, CE, TS, RF	2002/07/20 * 12
APNF-M01	Noise Figure Indicator	Elsna	ENF-2005	NF	2002/09/26 * 24
SP-01	75 Ω Coaxial Cable(TV Type)	A-PEX	75-F-N-SP	AT	2002/04/28 * 12
SP-04	50 Ω Coaxial Cable(Antenna Terminal)	A-PEX	50-N-N-SP	AT	2002/04/28 * 12
SP-05	50 Ω Coaxial Cable(Antenna Terminal)	A-PEX	50-N-N-SP	AT	2002/04/28 * 12
AV14-02	Matching Pad	TME	ZT-102	AT, NF, PS	2002/09/06 * 12
APSSG04	Signal Generator	Rohde & Schwarz	SMY01	PS	2002/05/07 * 12
APBPF01	Band pass filter	Erika Fiedler	BP	PS	Pre Check

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Test Item:

- CE: Conducted emission
- RE: Radiated emission
- AT: Antenna terminal disturbance voltage
- PS: Picture sensitivity
- NF: Noise figure
- TS: Antenna transfer switch
- RF: RF output level/ spurious emission