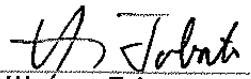


DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 0dBmV
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B(02-157)


Engineer : Hiroya Tabata

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dBuV]	CABLE LOSS [dBuV]	ATTEN. [dBuV]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]				QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]
1.	0.1500	60.0	42.9	59.8	40.6	0.1	0.0	0.0	60.1	43.0	66.0	56.0	5.9	13.0
2.	0.3088	45.6	-	45.3	-	0.1	0.1	0.0	45.8	-	60.0	50.0	14.2	-
3.	0.4611	39.8	-	39.7	-	0.1	0.1	0.0	40.0	-	56.7	46.7	16.7	-
4.	0.6188	36.4	-	36.6	-	0.1	0.1	0.0	36.8	-	56.0	46.0	19.2	-
5.	0.7689	31.2	-	31.5	-	0.1	0.2	0.0	31.8	-	56.0	46.0	24.2	-
6.	1.0667	29.9	-	30.0	-	0.1	0.2	0.0	30.3	-	56.0	46.0	25.7	-
7.	8.1218	25.9	-	22.7	-	0.3	0.4	0.0	26.6	-	60.0	50.0	33.4	-
8.	14.2163	30.8	-	29.8	-	0.5	0.5	0.0	31.8	-	60.0	50.0	28.2	-

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

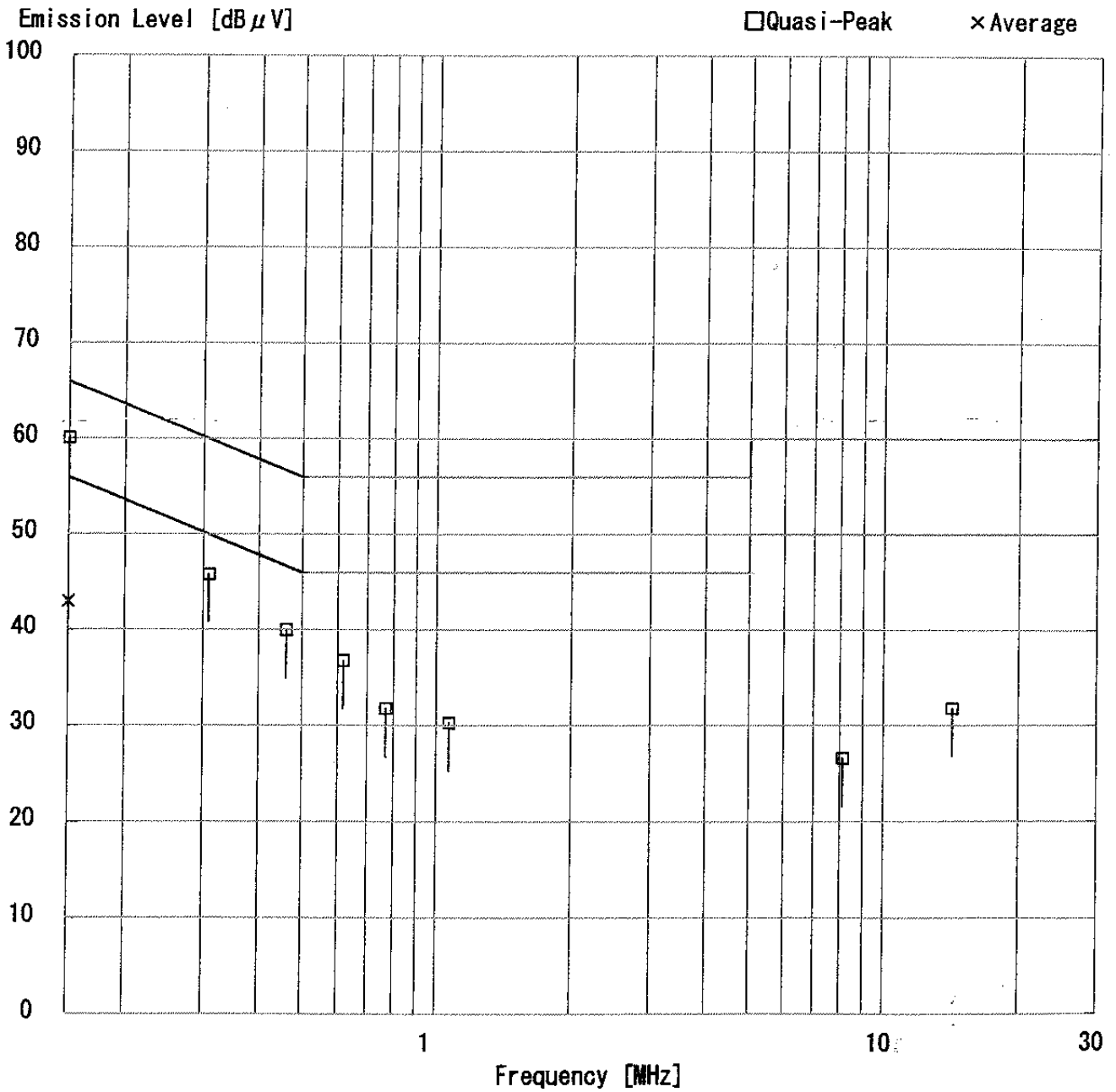
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 0dBmV
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B(02-157)

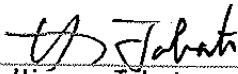
H. Tabata
Engineer : Hiroya Tabata

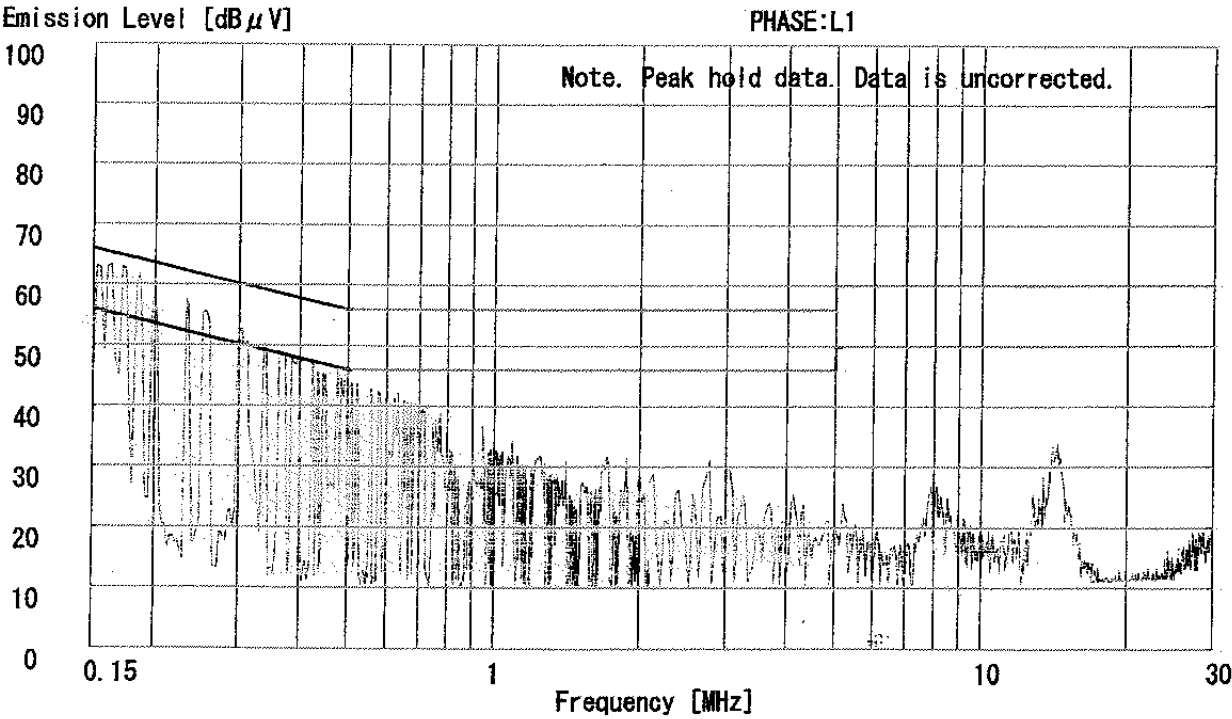
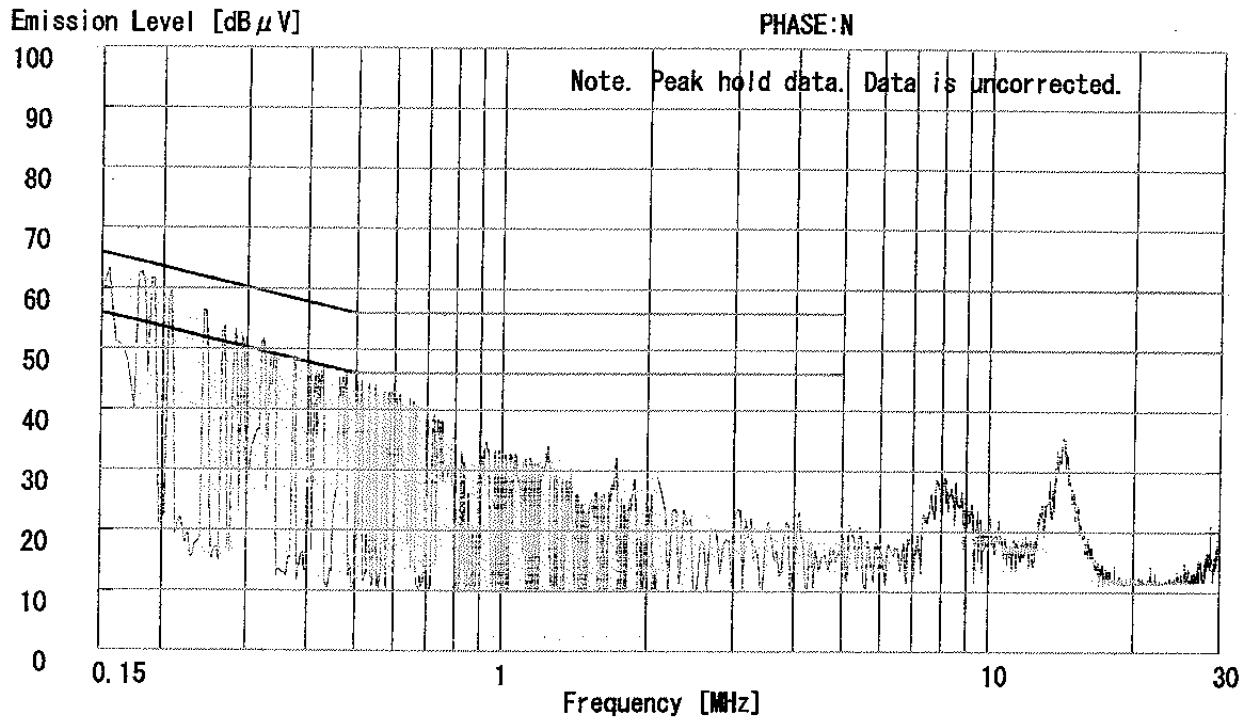


DATA OF CONDUCTION TEST CHART

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 0dBmV
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation 1 : FCC Part15 CLASS B(02-157)
Regulation 2 : None

Engineer :  Hiroya Tabata



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B(02-157)


Engineer : Hiroya Tabata

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dBuV]	CABLE LOSS [dBuV]	ATTEN. [dBuV]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]				QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]
1.	0.1500	60.0	40.7	59.9	40.5	0.1	0.0	0.0	60.1	40.8	66.0	56.0	5.9	15.2
2.	0.3151	45.6	-	45.1	-	0.1	0.1	0.0	45.8	-	59.8	49.8	14.0	-
3.	0.4657	39.8	-	39.6	-	0.1	0.1	0.0	40.0	-	56.6	46.6	16.6	-
4.	0.6199	36.3	-	37.3	-	0.1	0.1	0.0	37.5	-	56.0	46.0	18.5	-
5.	0.7698	31.2	-	31.5	-	0.1	0.2	0.0	31.8	-	56.0	46.0	24.2	-
6.	1.1259	24.7	-	24.3	-	0.1	0.2	0.0	25.0	-	56.0	46.0	31.0	-
7.	7.9558	26.8	-	21.8	-	0.3	0.4	0.0	27.5	-	60.0	50.0	32.5	-
8.	14.3115	31.8	-	30.2	-	0.5	0.5	0.0	32.8	-	60.0	50.0	27.2	-

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

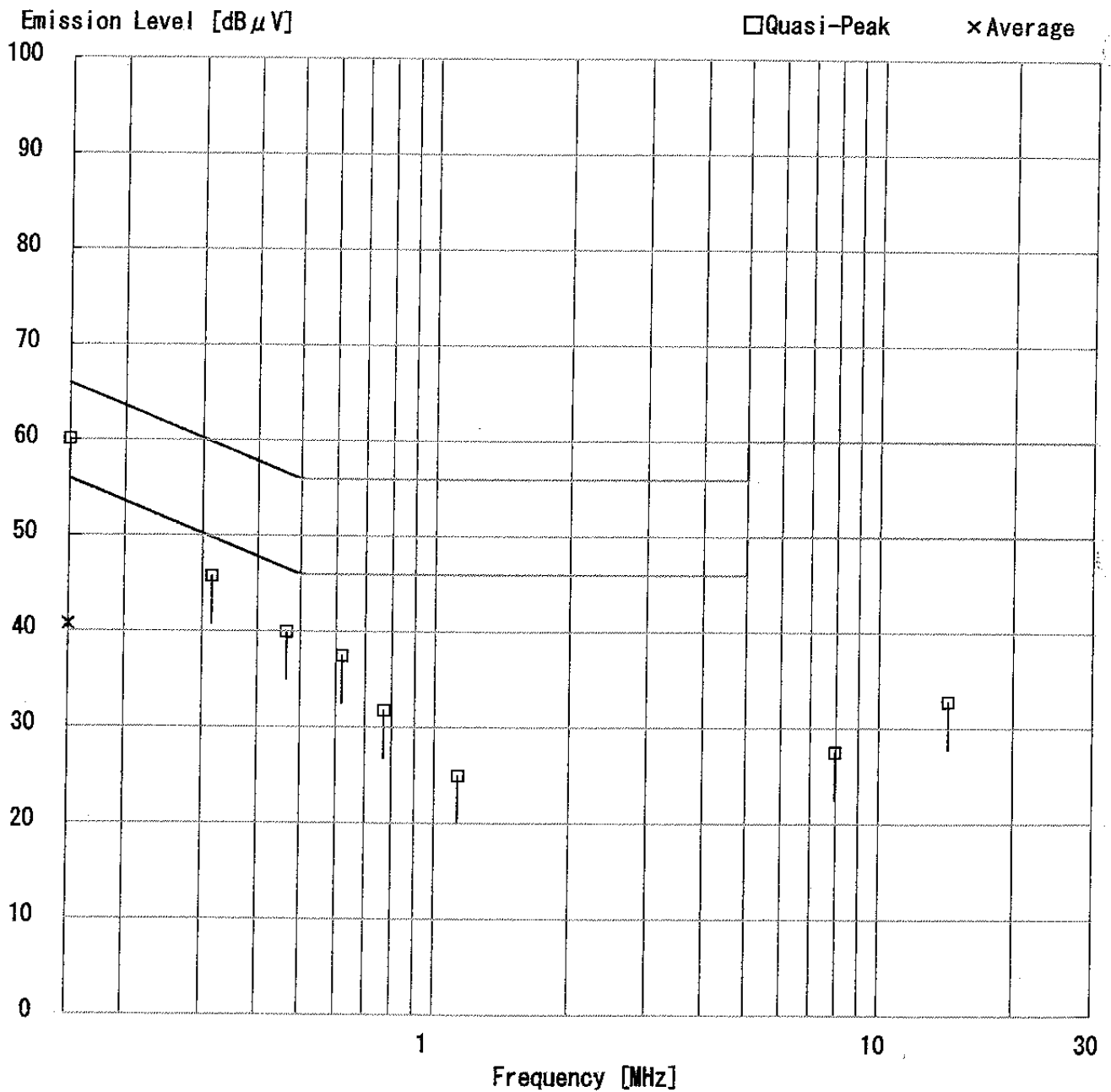
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B(02-157)

H. Tabata
Engineer : Hiroya Tabata



DATA OF CONDUCTION TEST CHART

UL Apex Co., Ltd.

YOKOWA No.2 OPEN TEST SITE

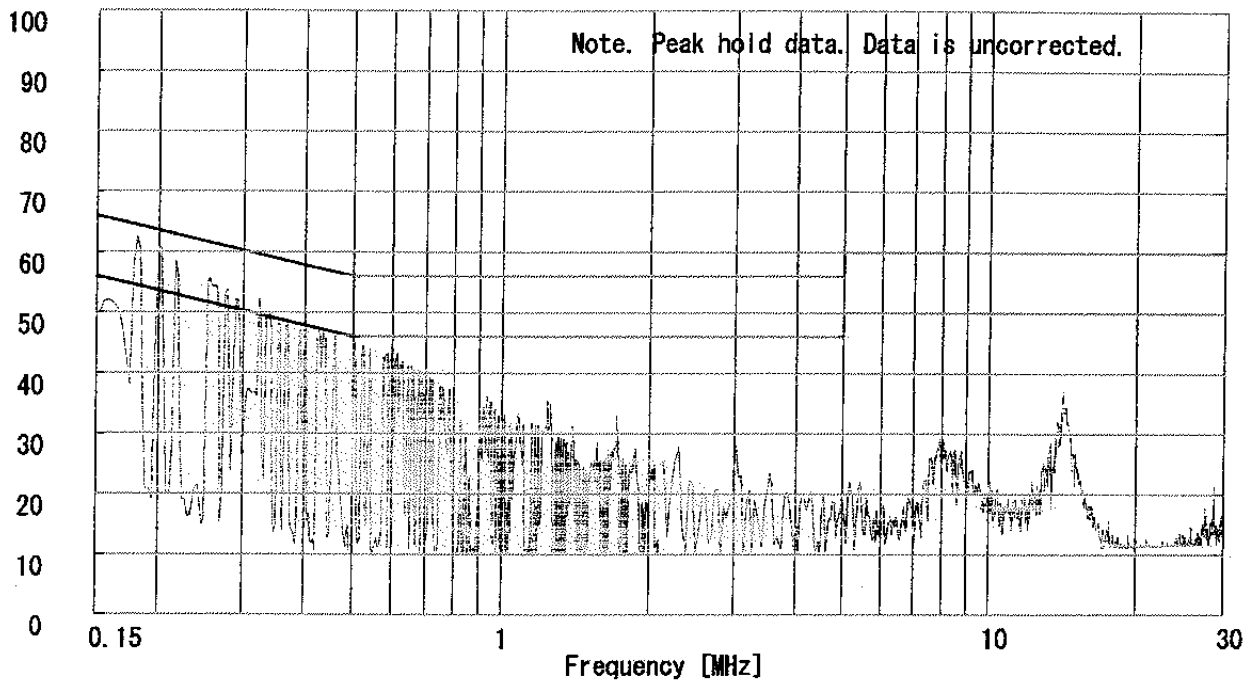
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation 1 : FCC Part15 CLASS B (02-157)
Regulation 2 : None

H. Tabata
Engineer : Hiroya Tabata

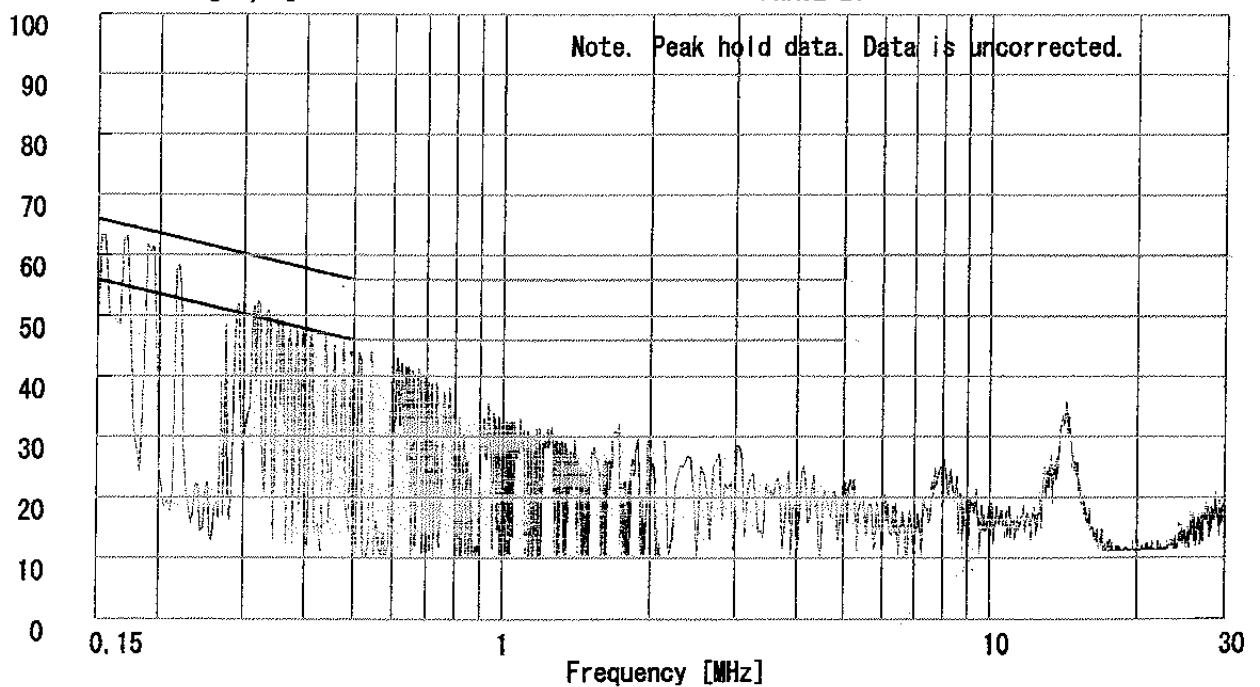
Emission Level [dBμV]

PHASE:N



Emission Level [dBμV]

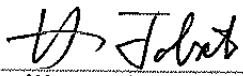
PHASE:L1



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec.
Remarks : 1Vp-p
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B(02-157)


Engineer : Hiroya Tabata

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dBuV]	CABLE LOSS [dBuV]	ATTEN. [dBuV]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]				QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]
1.	0.1500	60.1	39.0	59.8	39.1	0.1	0.0	0.0	60.2	39.2	66.0	56.0	5.8	16.0
2.	0.3093	45.5	-	45.3	-	0.1	0.1	0.0	45.7	-	60.0	50.0	14.3	-
3.	0.4636	39.8	-	39.7	-	0.1	0.1	0.0	40.0	-	56.6	46.6	16.6	-
4.	0.6135	36.1	-	35.9	-	0.1	0.1	0.0	36.3	-	56.0	46.0	19.7	-
5.	0.7781	31.3	-	33.3	-	0.1	0.2	0.0	33.6	-	56.0	46.0	22.4	-
6.	2.8941	40.4	-	40.7	-	0.2	0.3	0.0	41.2	-	56.0	46.0	14.8	-
7.	4.4379	35.1	-	35.1	-	0.2	0.3	0.0	35.6	-	56.0	46.0	20.4	-
8.	14.9663	26.9	-	26.5	-	0.5	0.5	0.0	27.9	-	60.0	50.0	32.1	-

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

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

DATA OF CONDUCTION TEST

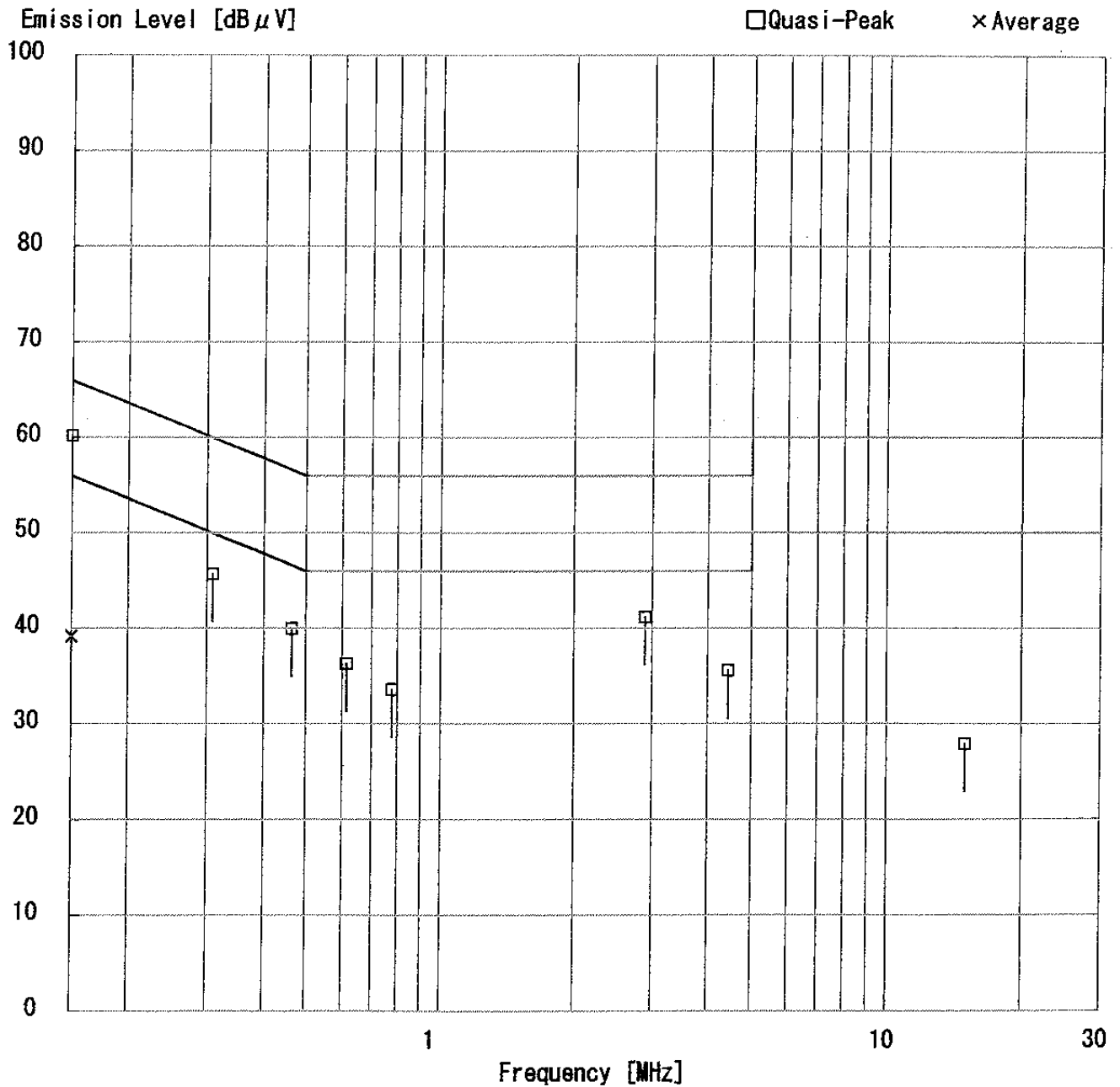
UL Apex Co., Ltd.

YOKOWA No.2 OPEN TEST SITE

Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec.
Remarks : 1Vp-p
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B (02-157)

Engineer :  Hiroya Tabata

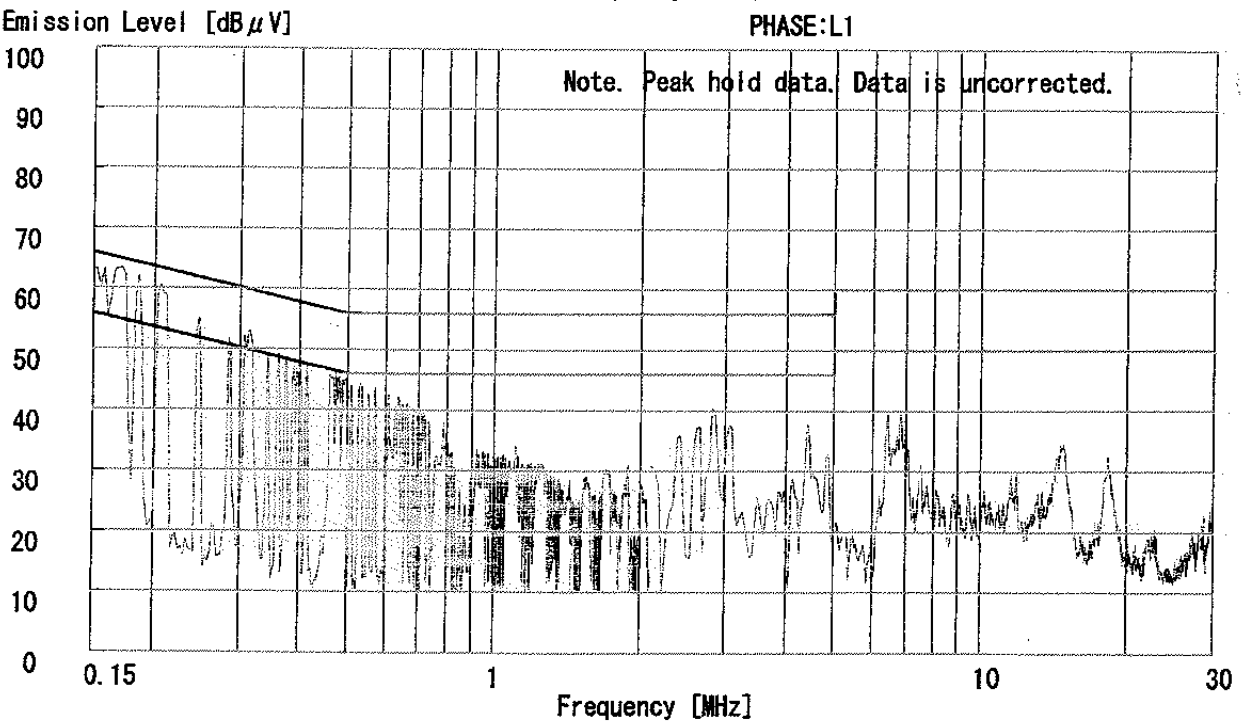
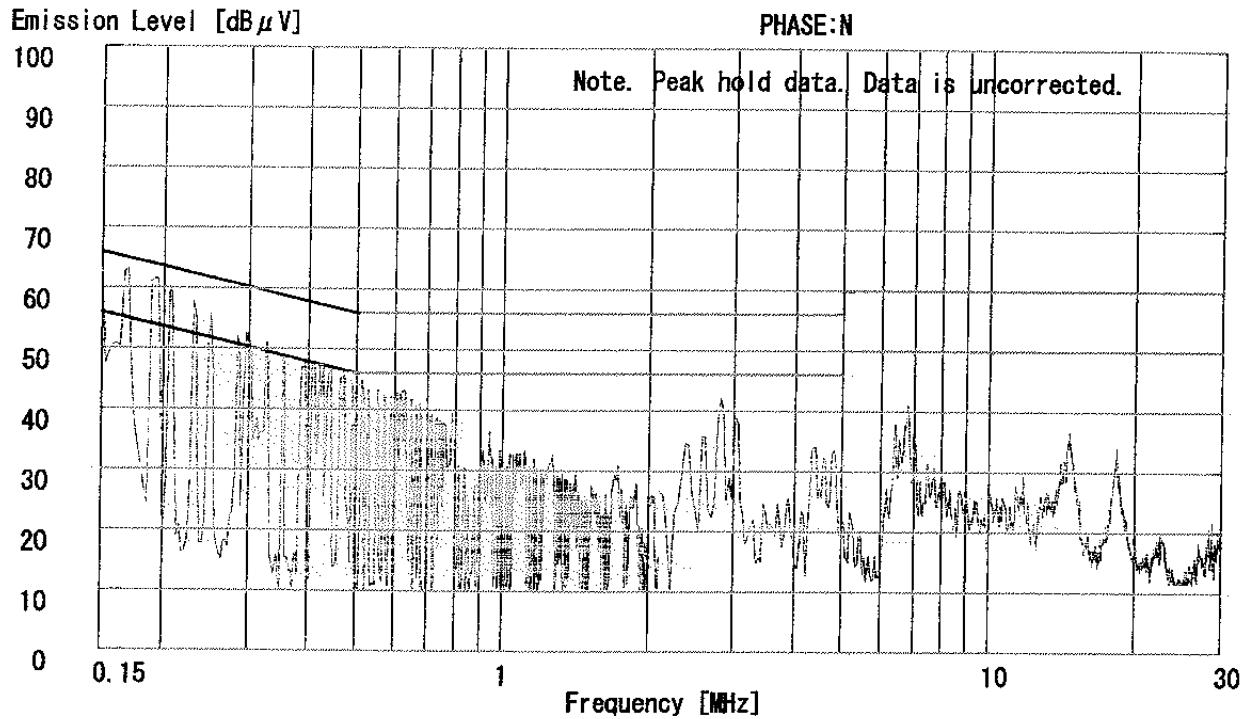


DATA OF CONDUCTION TEST CHART

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 1Vp-p
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation 1 : FCC Part15 CLASS B(02-157)
Regulation 2 : None

H. Tabata
Engineer : Hiroya Tabata



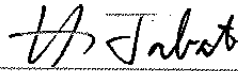
DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.2 OPEN TEST SITE

Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec.
Remarks : 5Vp-p
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B(02-157)


Engineer : Hiroya Tabata

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dBuV]	CABLE LOSS [dBuV]	ATTEN. [dBuV]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]				QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]
1.	0.1500	60.0	40.0	59.8	40.0	0.1	0.0	0.0	60.1	40.1	66.0	56.0	5.9	15.9
2.	0.3056	45.6	-	45.5	-	0.1	0.1	0.0	45.8	-	60.1	50.1	14.3	-
3.	0.4653	39.8	-	39.7	-	0.1	0.1	0.0	40.0	-	56.6	46.6	16.6	-
4.	0.6168	36.1	-	35.9	-	0.1	0.1	0.0	36.3	-	56.0	46.0	19.7	-
5.	0.7711	32.2	-	31.8	-	0.1	0.2	0.0	32.5	-	56.0	46.0	23.5	-
6.	2.6473	34.4	-	35.0	-	0.2	0.3	0.0	35.5	-	56.0	46.0	20.5	-
7.	4.5940	35.3	-	35.3	-	0.2	0.3	0.0	35.8	-	56.0	46.0	20.2	-
8.	6.7640	34.0	-	34.0	-	0.2	0.3	0.0	34.5	-	60.0	50.0	25.5	-
9.	14.6612	32.0	-	31.8	-	0.5	0.5	0.0	33.0	-	60.0	50.0	27.0	-

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

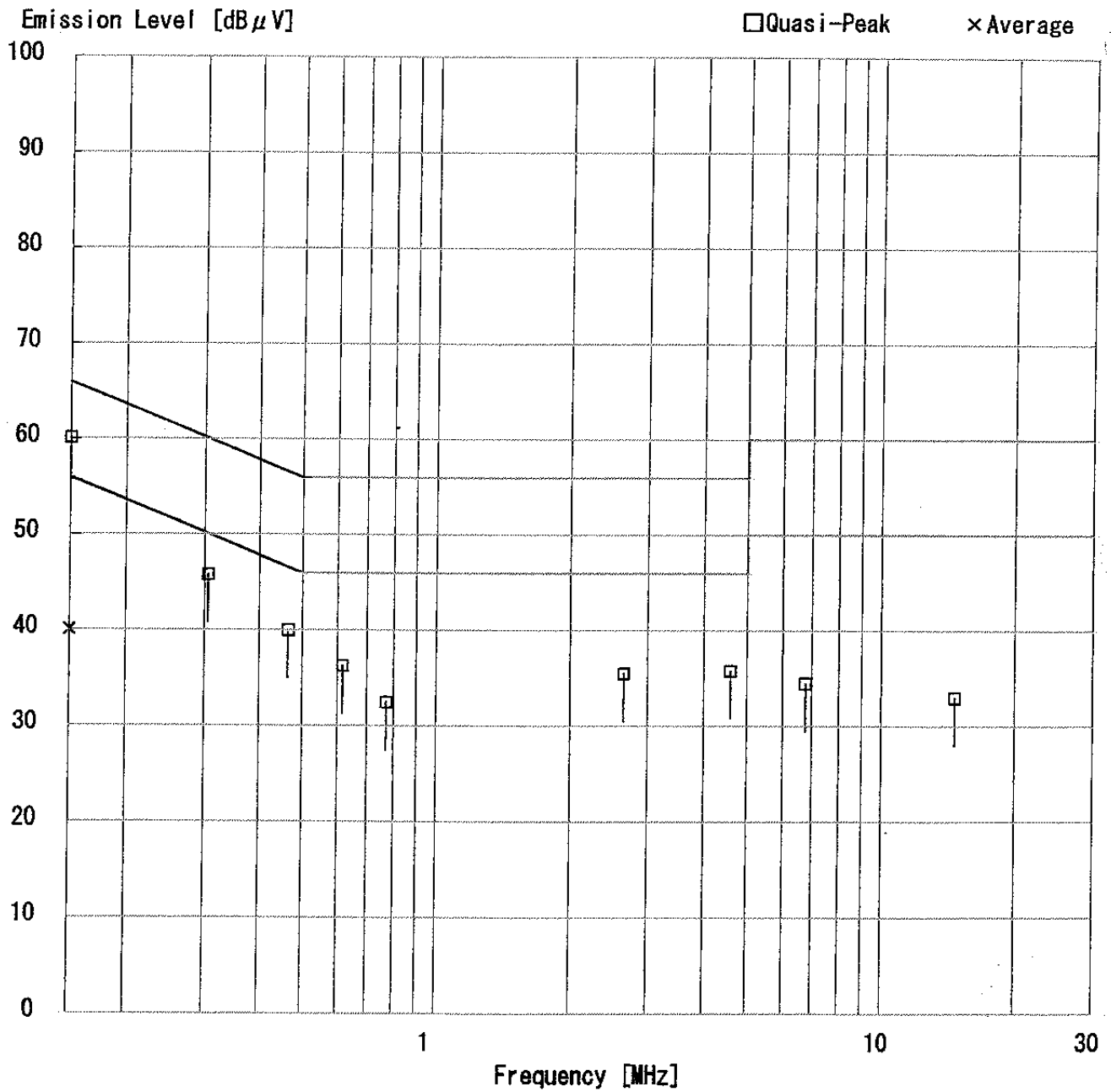
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 5Vp-p
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B(02-157)

Engineer : *H. Tabata*
Hiroya Tabata

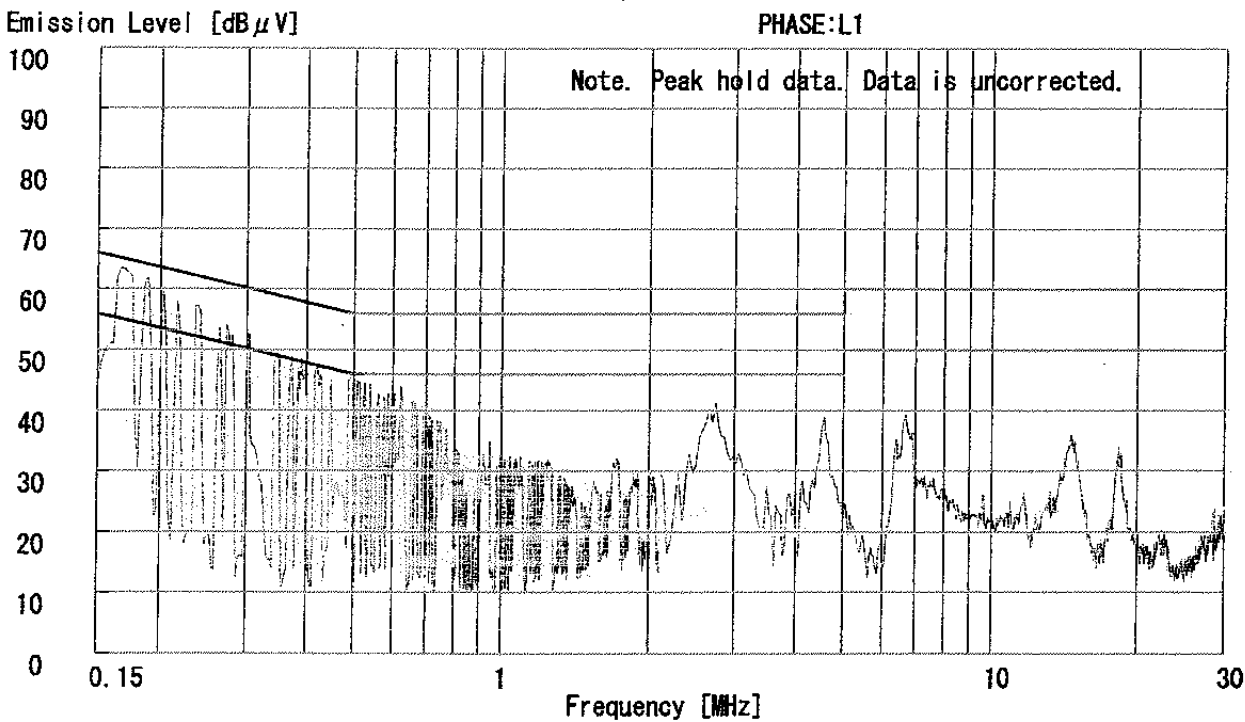
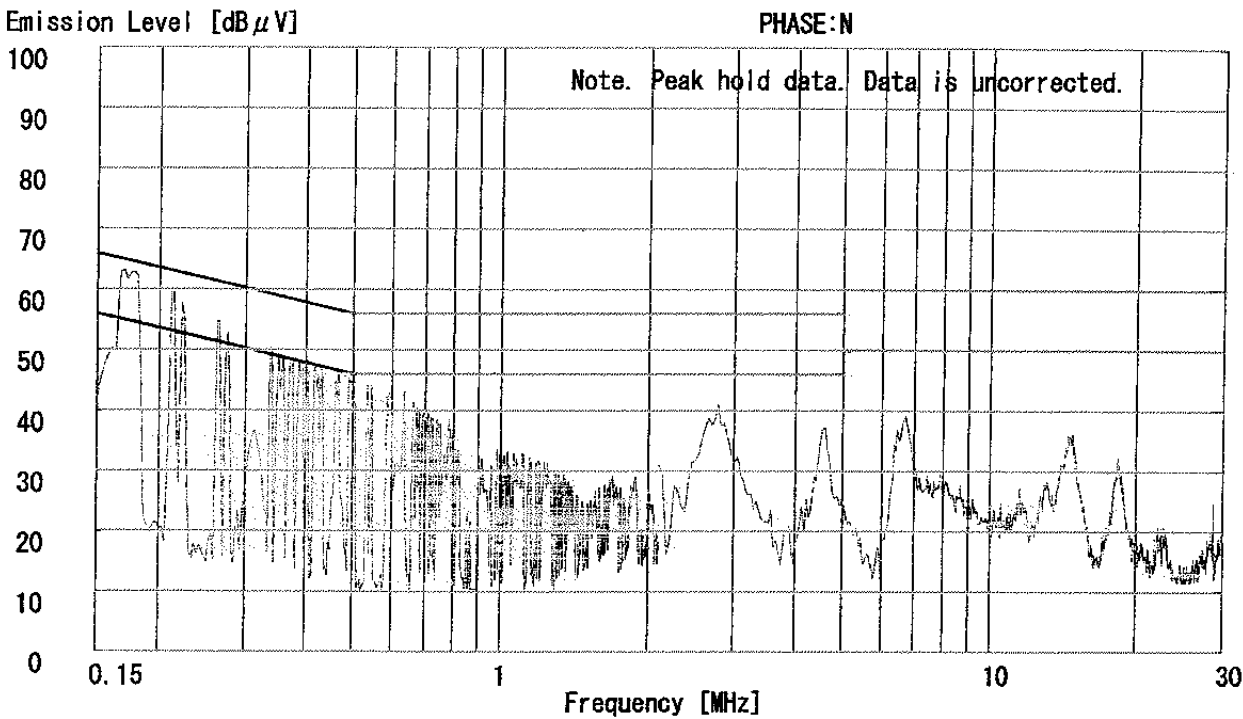


DATA OF CONDUCTION TEST CHART

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 5Vp-p
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation 1 : FCC Part15 CLASS B (02-157)
Regulation 2 : None

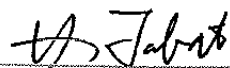
H. Tabata
Engineer : Hiroya Tabata



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : VCR Playback
Remarks :
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B(02-157)

Engineer :  Hiroya Tabata

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dBuV]	CABLE LOSS [dBuV]	ATTEN. [dBuV]	RESULT		LIMITS		MARGIN	
		QP	AV	QP	AV				QP	AV	QP	AV	QP	AV
		[dBuV]		[dBuV]					[dBuV]		[dBuV]		[dBuV]	
1.	0.1500	59.8	29.2	59.6	29.2	0.1	0.0	0.0	59.9	29.3	66.0	56.0	6.1	26.7
2.	0.3278	44.3	-	44.3	-	0.1	0.1	0.0	44.5	-	59.5	49.5	15.0	-
3.	0.6608	34.8	-	34.5	-	0.1	0.1	0.0	35.0	-	56.0	46.0	21.0	-
4.	0.8222	30.4	-	31.0	-	0.1	0.2	0.0	31.3	-	56.0	46.0	24.7	-
5.	0.9896	28.2	-	27.6	-	0.1	0.2	0.0	28.5	-	56.0	46.0	27.5	-
6.	1.3434	28.1	-	27.7	-	0.1	0.2	0.0	28.4	-	56.0	46.0	27.6	-
7.	5.3488	14.4	-	16.8	-	0.2	0.3	0.0	17.3	-	60.0	50.0	42.7	-
8.	28.7100	15.0	-	16.9	-	1.0	0.7	0.0	18.6	-	60.0	50.0	41.4	-

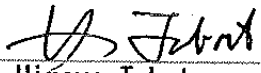
CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

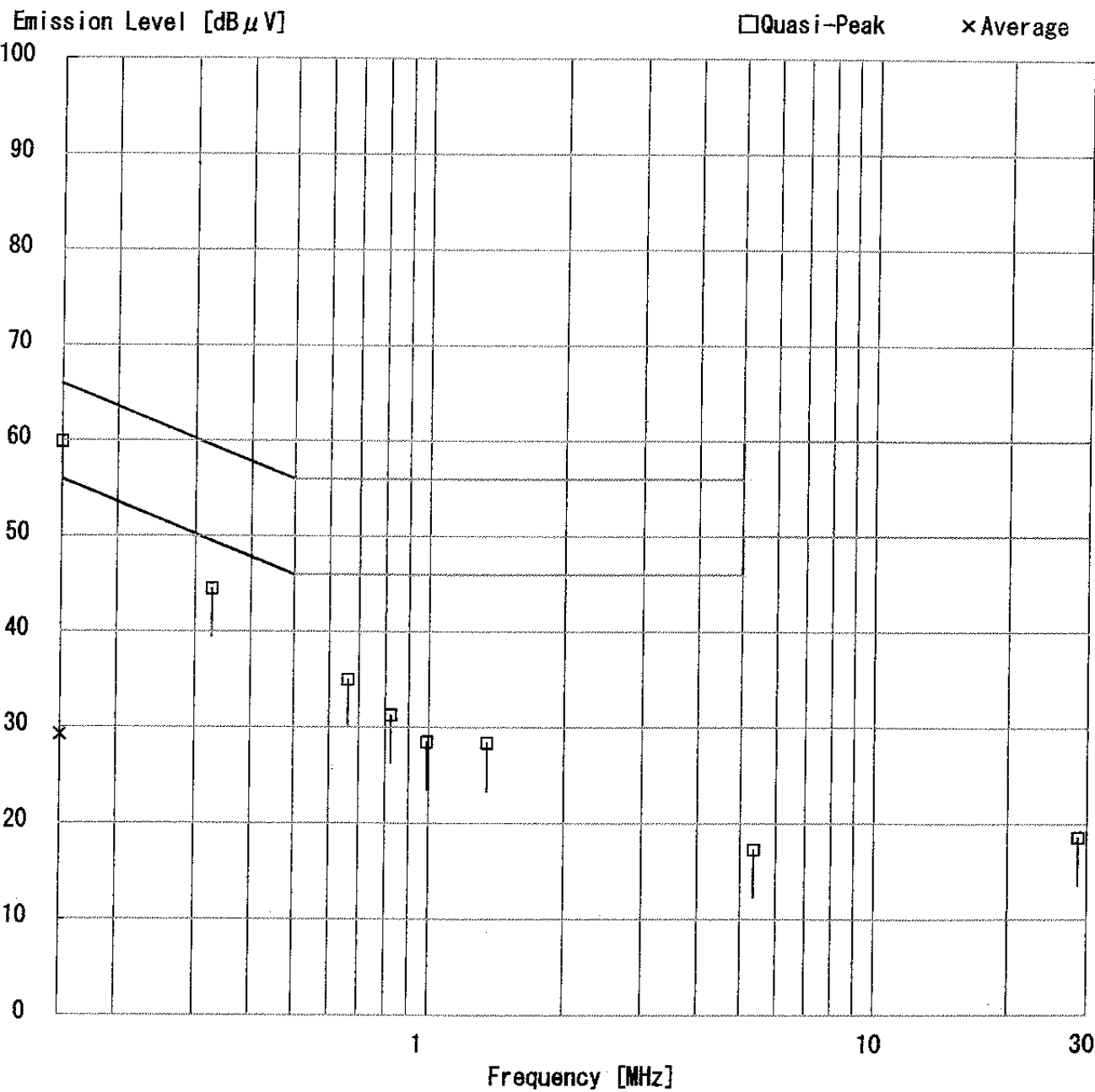
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : VCR Playback
Remarks :
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation : FCC Part15 CLASS B (02-157)

Engineer :  Hiroya Tabata



DATA OF CONDUCTION TEST CHART

UL Apex Co., Ltd.

YOKOWA No.2 OPEN TEST SITE

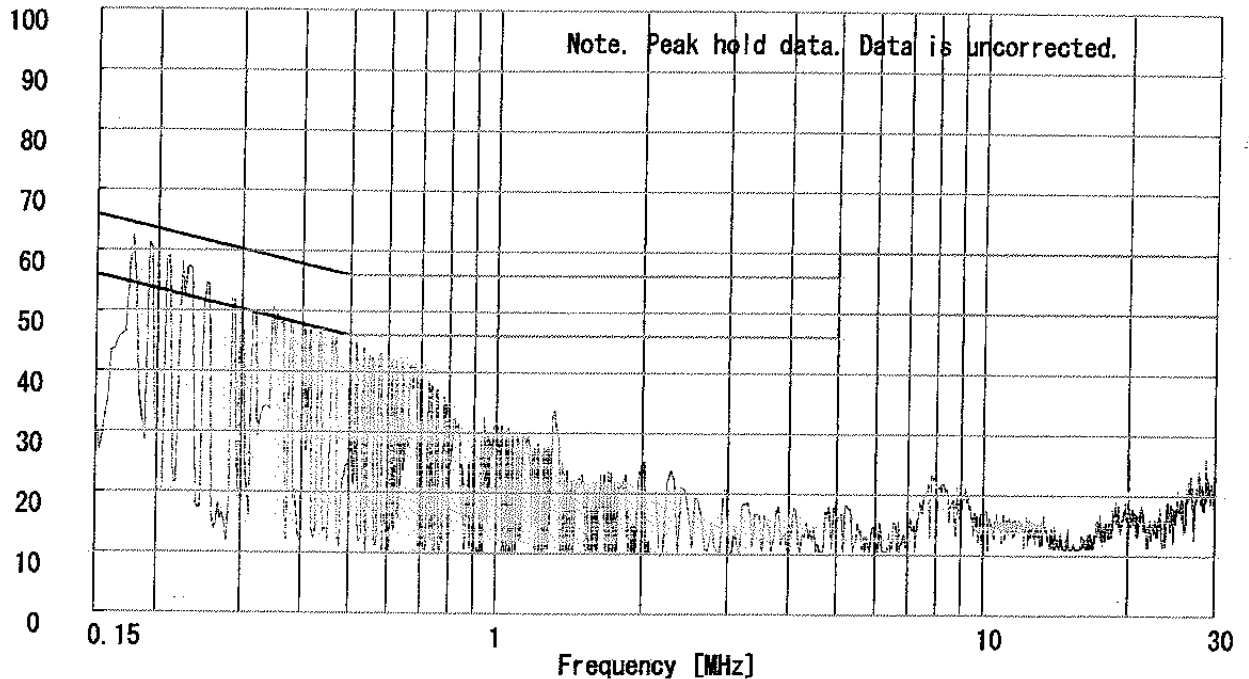
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : VCR Playback
Remarks :
Date : 7/28/2003
Phase : Single Phase
Temperature : 26 °C
Humidity : 51 %
Regulation 1 : FCC Part15 CLASS B(02-157)
Regulation 2 : None

Engineer :  Hiroya Tabata

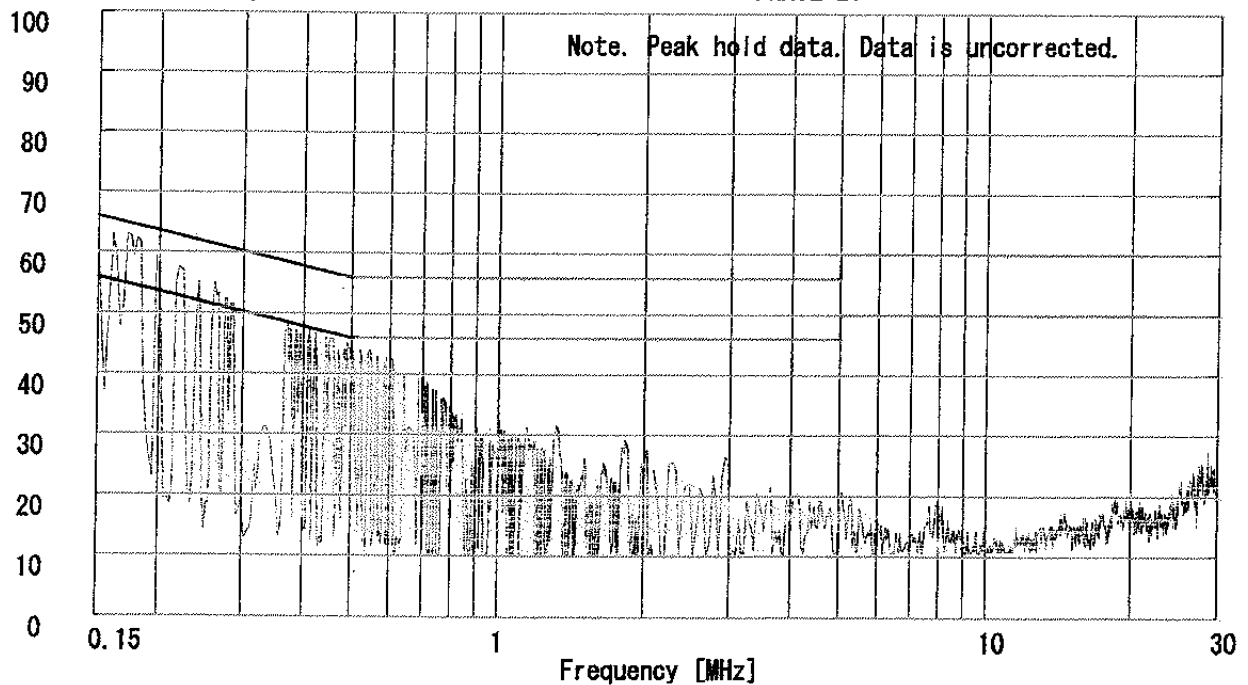
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1



DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA NO.3 OPEN TEST SITE

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : Video Cassette Recorder
MODEL No. : VR313A
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 23LE0121-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : July 26, 2003
TEMP. : 27deg.C.
HUMI. : 59%

ENGINEER : Tsubasa Takayama

CH.	FREQ	READING		ANT TYPE	ANT. FAC.	CABLE LOSS	AMP GAIN	RESULTS		LIMIT	MARGIN	
	[MHz]	HOR.	VER.					[dBuV]	HOR.		VER.	[dBuV/m]
VHF Fundamental												
2	101	27.3	37.1	BC	10.1	1.9	28.6	16.7	26.5	43.5	26.8	17.0
3	107	24.5	34.6	BC	11.1	2.0	28.7	14.9	25.0	43.5	28.6	18.5
4	113	23.9	31.9	BC	12.2	2.0	28.9	15.2	23.2	43.5	28.3	20.3
5	123	24.0	28.7	BC	13.5	2.1	28.7	16.9	21.6	43.5	26.6	21.9
6	129	23.7	28.1	BC	13.8	2.2	28.9	16.8	21.2	43.5	26.7	22.3
7	221	28.9	25.3	BC	16.4	3.1	28.8	25.6	22.0	46.0	20.4	24.0
8	227	27.1	26.0	BC	16.4	3.1	28.9	23.7	22.6	46.0	22.3	23.4
9	233	25.6	26.7	BC	16.5	3.1	28.9	22.3	23.4	46.0	23.7	22.6
10	239	30.6	31.5	BC	16.5	3.2	28.9	27.4	28.3	46.0	18.6	17.7
11	245	32.3	28.4	BC	16.6	3.2	28.9	29.2	25.3	46.0	16.8	20.7
12	251	31.5	26.3	BC	16.7	3.3	28.9	28.6	23.4	46.0	17.4	22.6
13	257	31.6	26.9	BC	17.0	3.3	28.9	29.0	24.3	46.0	17.0	21.7
VHF 2nd Harmonic												
2	202	22.0	22.2	BC	16.2	2.9	28.8	18.3	18.5	43.5	25.2	25.0
3	214	21.9	22.0	BC	16.3	3.0	28.8	18.4	18.5	43.5	25.1	25.0
4	226	21.8	21.9	BC	16.4	3.1	28.9	18.4	18.5	46.0	27.6	27.5
5	246	21.7	21.7	BC	16.6	3.2	28.9	18.6	18.6	46.0	27.4	27.4
6	258	21.8	21.8	BC	17.1	3.3	28.9	19.3	19.3	46.0	26.7	26.7
7	442	22.5	22.6	LP	18.4	5.0	28.9	23.0	23.1	46.0	23.0	22.9
8	454	22.8	22.7	LP	18.6	5.0	28.9	23.5	23.4	46.0	22.5	22.6
9	466	23.1	23.3	LP	18.8	5.1	28.8	24.2	24.4	46.0	21.8	21.6
10	478	23.5	23.6	LP	19.0	5.2	28.8	24.9	25.0	46.0	21.1	21.0
11	490	22.1	23.7	LP	19.2	5.2	28.9	23.6	25.2	46.0	22.4	20.8
12	502	21.8	24.5	LP	19.3	5.4	28.9	23.6	26.3	46.0	22.4	19.7
13	514	22.7	25.1	LP	19.4	5.4	28.9	24.6	27.0	46.0	21.4	19.0

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA NO.3 OPEN TEST SITE

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : Video Cassette Recorder
MODEL No. : VR313A
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 23LE0121-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : July 26, 2003
TEMP. : 27deg.C.
HUMI. : 59%

ENGINEER : Tsubasa Takayama

CH.	FREQ [MHz]	READINGG		ANT TYPE	ANT. FAC. [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULTS		LIMIT [dBuV/m]	MARGIN	
		HOR.	VER.					HOR.	VER.		HOR.	VER.
		[dBuV]						[dBuV/m]			[dB]	[dB]
UHF Fundamental												
14	517	34.5	31.5	LP	19.4	5.4	28.9	36.4	33.4	46.0	9.6	12.6
19	547	33.1	34.7	LP	19.7	5.5	29.0	35.3	36.9	46.0	10.7	9.1
28	601	27.4	33.4	LP	20.1	5.8	28.9	30.4	36.4	46.0	15.6	9.6
36	649	29.1	31.6	LP	20.9	6.1	29.0	33.1	35.6	46.0	12.9	10.4
44	697	30.1	29.1	LP	21.7	6.4	28.9	35.3	34.3	46.0	10.7	11.7
53	751	30.4	29.0	LP	22.5	6.7	28.9	36.7	35.3	46.0	9.3	10.7
61	799	27.1	24.2	LP	23.1	6.8	28.9	34.1	31.2	46.0	11.9	14.8
69	847	23.7	26.1	LP	23.5	7.1	28.9	31.4	33.8	46.0	14.6	12.2
UHF 2nd Harmonic												
14	1034	54.9	52.6	HO	25.8	2.1	39.0	43.8	41.5	54.0	10.2	12.5
19	1094	52.7	51.4	HO	26.1	2.2	39.0	42.0	40.7	54.0	12.0	13.3
28	1202	48.3	49.4	HO	26.6	2.3	38.9	38.3	39.4	54.0	15.7	14.6
36	1298	51.7	51.8	HO	27.1	2.3	38.8	42.3	42.4	54.0	11.7	11.6
44	1394	49.0	49.2	HO	27.6	2.4	38.7	40.3	40.5	54.0	13.7	13.5
53	1502	49.0	49.0	HO	28.1	2.5	38.6	41.0	41.0	54.0	13.0	13.0
61	1598	47.1	47.0	HO	28.8	2.6	38.6	39.9	39.8	54.0	14.1	14.2
69	1694	47.8	48.2	HO	29.5	2.6	38.5	41.4	41.8	54.0	12.6	12.2

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA NO.3 OPEN TEST SITE

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : Video Cassette Recorder
MODEL No. : VR313A
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 23LE0121-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : July 26, 2003
TEMP. : 27deg.C.
HUMI. : 59%

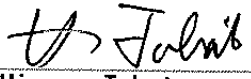
ENGINEER : Tsubasa Takayama

CH.	FREQ [MHz]	READING		ANT TYPE	ANT. FAC. [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULTS		LIMIT [dBuV/m]	MARGIN	
		HOR.	VER.					HOR.	VER.		HOR.	VER.
		[dBuV]						[dBuV/m]			[dB]	[dB]
CATV Fundamental												
1	119	23.3	30.7	BC	13.2	2.1	27.9	16.7	24.1	43.5	26.8	19.4
95	137	23.4	28.7	BC	14.1	2.3	27.9	17.9	23.2	43.5	25.6	20.3
97	149	24.5	28.2	BC	14.5	2.4	27.7	19.7	23.4	43.5	23.8	20.1
99	161	26.0	28.8	BC	14.9	2.5	27.8	21.6	24.4	43.5	21.9	19.1
14	167	29.1	29.4	BC	15.2	2.6	27.8	25.1	25.4	43.5	18.4	18.1
18	191	27.8	28.3	BC	16.0	2.8	27.8	24.8	25.3	43.5	18.7	18.2
22	215	31.2	27.9	BC	16.3	3.0	27.8	28.7	25.4	43.5	14.8	18.1
23	263	31.3	27.9	BC	17.4	3.4	27.5	30.6	27.2	46.0	15.4	18.8
29	299	28.7	29.8	BC	19.7	3.8	27.8	30.4	31.5	46.0	15.6	14.5
36	341	33.6	28.1	LP	16.7	4.2	27.9	32.6	27.1	46.0	13.4	18.9
37	347	34.7	30.4	LP	16.8	4.2	27.9	33.8	29.5	46.0	12.2	16.5
65	515	34.6	32.0	LP	21.4	5.4	27.9	39.5	36.9	46.0	6.5	9.1
94	689	29.1	28.8	LP	21.6	6.3	27.2	35.8	35.5	46.0	10.2	10.5
100	695	30.4	29.3	LP	21.7	6.4	27.1	37.4	36.3	46.0	8.6	9.7
113	773	28.0	26.9	LP	22.7	6.8	27.0	36.5	35.4	46.0	9.5	10.6
125	845	23.7	25.8	LP	23.5	7.1	27.0	33.3	35.4	46.0	12.7	10.6
CATV 2nd Harmonic												
1	238	21.9	21.8	BC	16.5	3.2	27.5	20.1	20.0	46.0	25.9	26.0
95	274	22.0	22.2	BC	18.1	3.5	27.8	21.8	22.0	46.0	24.2	24.0
97	298	21.3	21.3	BC	19.7	3.8	27.8	23.0	23.0	46.0	23.0	23.0
99	322	22.1	22.0	LP	16.4	4.0	28.0	20.5	20.4	46.0	25.5	25.6
14	334	22.8	22.3	LP	16.6	4.1	28.0	21.5	21.0	46.0	24.5	25.0
18	382	21.6	21.9	LP	17.5	4.6	27.9	21.8	22.1	46.0	24.2	23.9
22	430	23.2	23.3	LP	18.3	5.0	27.8	24.7	24.8	46.0	21.3	21.2
23	526	21.6	22.5	LP	19.5	5.4	27.8	24.7	25.6	46.0	21.3	20.4
29	598	21.5	21.3	LP	20.0	5.8	27.5	25.8	25.6	46.0	20.2	20.4
36	682	20.8	20.7	LP	21.5	6.3	27.3	27.3	27.2	46.0	18.7	18.8
37	694	21.4	20.7	LP	21.7	6.4	27.1	28.4	27.7	46.0	17.6	18.3
65	1030	54.1	52.8	HO	25.8	2.1	39.0	43.0	41.7	54.0	11.0	12.3
94	1378	50.2	50.7	HO	27.5	2.4	38.7	41.4	41.9	54.0	12.6	12.1
100	1390	48.2	49.6	HO	27.6	2.4	38.7	39.5	40.9	54.0	14.5	13.1
113	1546	49.4	48.8	HO	28.4	2.5	38.6	41.7	41.1	54.0	12.3	12.9
125	1690	48.5	48.3	HO	29.5	2.6	38.5	42.1	41.9	54.0	11.9	12.1

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 0dBmV
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata

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.	100.00	BB	39.7	49.0	10.6	30.0	2.4	5.9	28.6	37.9	43.5	14.9	5.6

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

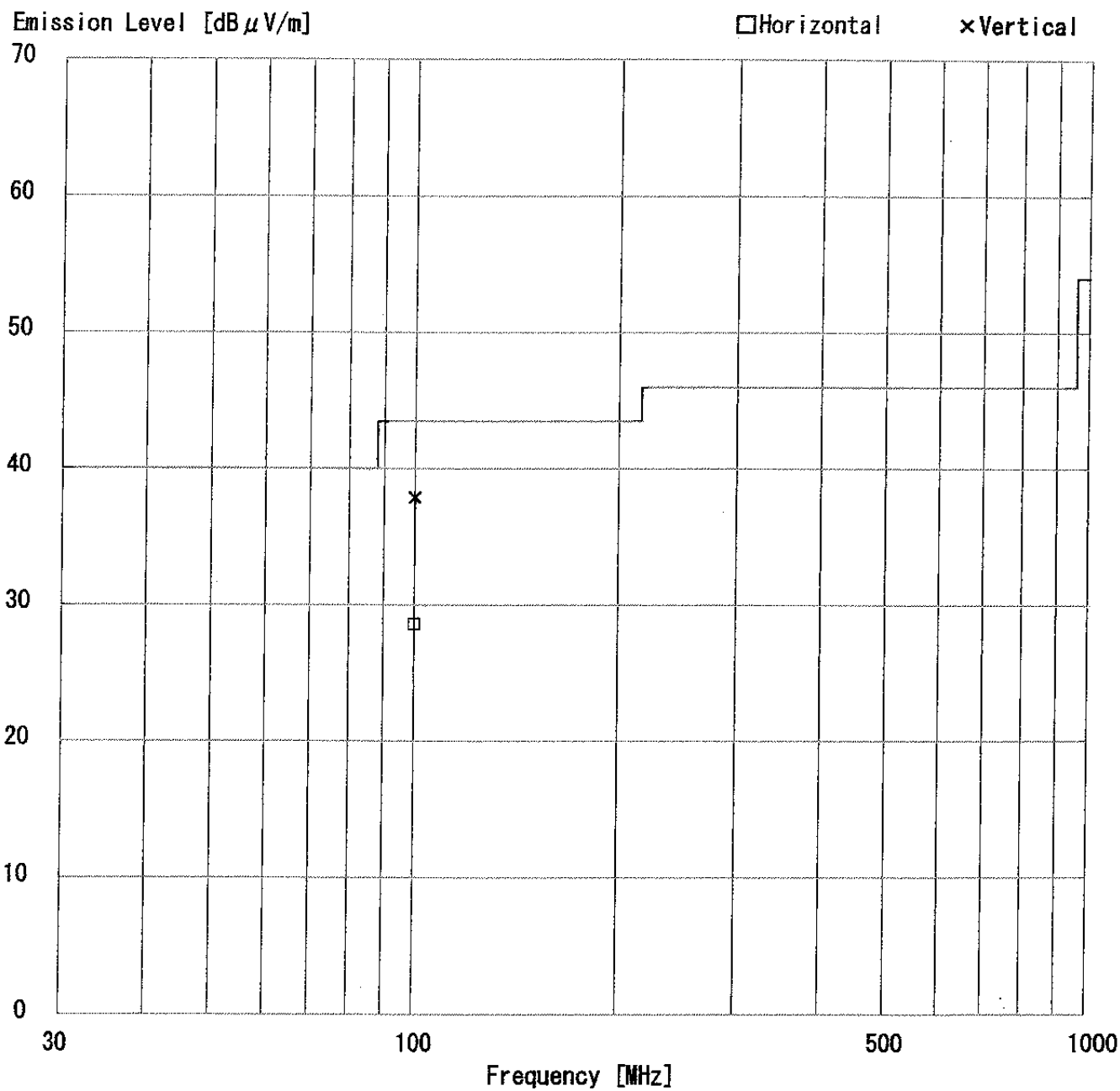
Except for the above table : adequate margin data below the limits.
ANT. TYPE:30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 0dBmV
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

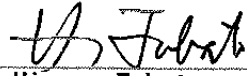

Engineer : Hiroya Tabata



DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata

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.	97.80	BB	30.0	38.9	10.2	30.0	2.4	5.9	18.5	27.4	43.5	25.0	16.1
2.	100.00	BB	40.0	49.5	10.6	30.0	2.4	5.9	28.9	38.4	43.5	14.6	5.1
3.	140.00	BB	35.4	38.2	14.8	29.9	2.9	5.9	29.1	31.9	43.5	14.4	11.6
4.	143.18	BB	31.1	37.7	14.8	29.9	2.9	5.9	24.8	31.4	43.5	18.7	12.1
5.	170.00	BB	23.7	30.4	15.8	29.9	3.2	6.0	18.8	25.5	43.5	24.7	18.0
6.	370.01	BB	28.9	32.1	15.2	30.8	4.9	6.0	24.2	27.4	46.0	21.8	18.6
7.	380.04	BB	28.4	32.7	15.2	30.8	5.0	6.0	23.8	28.1	46.0	22.2	17.9
8.	390.01	BB	28.9	31.2	15.3	30.9	5.1	6.0	24.4	26.7	46.0	21.6	19.3

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

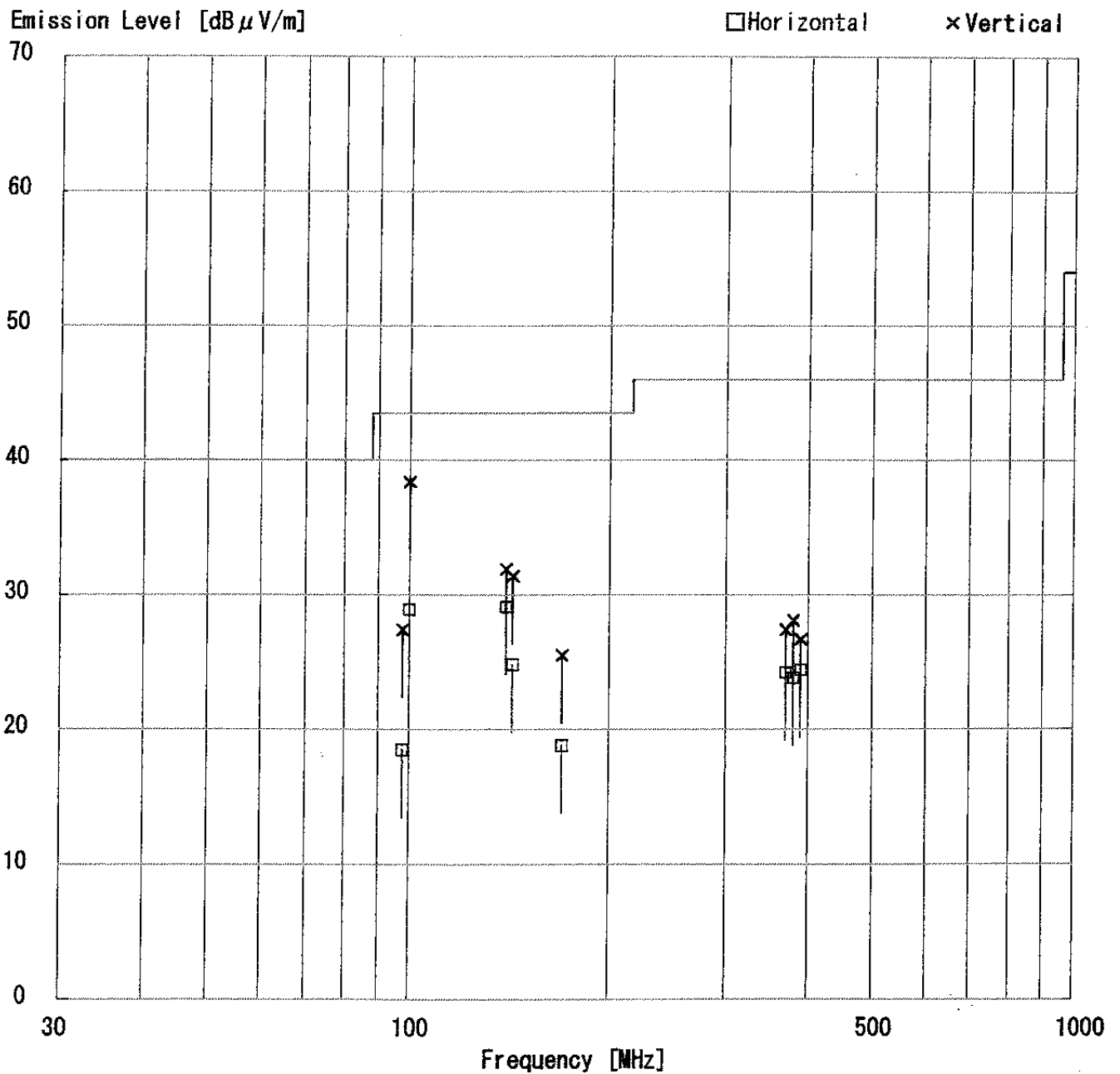
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

H. Tabata
Engineer : Hiroya Tabata



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.2 OPEN TEST SITE

Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 1Vp-p
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata

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.	100.00	BB	41.6	48.0	10.6	30.0	2.4	5.9	30.5	36.9	43.5	13.0	6.6

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

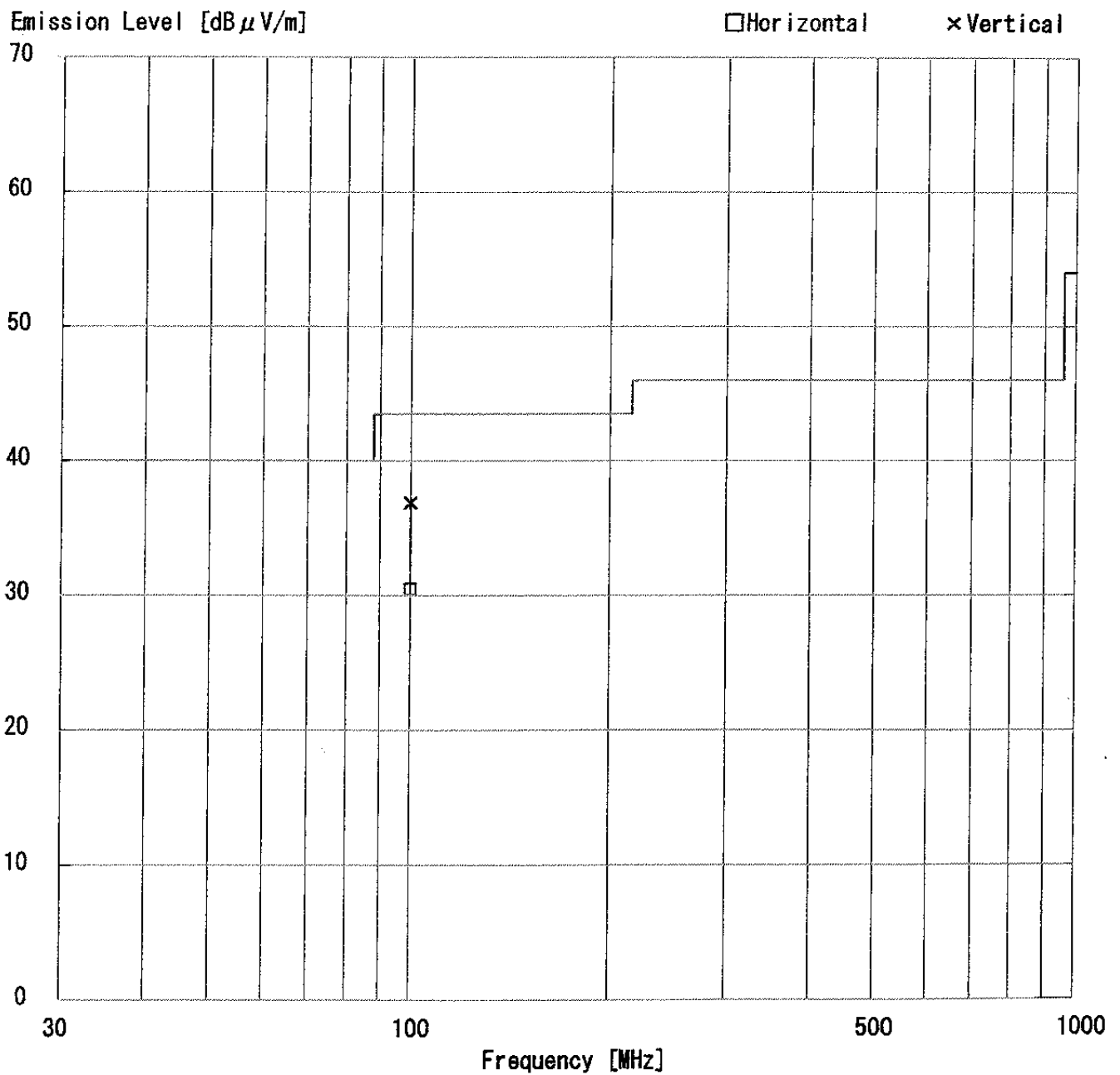
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec.
Remarks : 1Vp-p
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : 
Hiroya Tabata



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.2 OPEN TEST SITE

Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec.
Remarks : 5Vp-p
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata

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.	100.00	BB	42.2	48.2	10.6	30.0	2.4	5.9	31.1	37.1	43.5	12.4	6.4
2.	139.99	BB	36.8	42.8	14.8	29.9	2.9	5.9	30.5	36.5	43.5	13.0	7.0
3.	170.00	BB	26.9	32.1	15.8	29.9	3.2	6.0	22.0	27.2	43.5	21.5	16.3
4.	200.00	BB	30.6	30.5	17.3	30.8	3.4	6.0	26.5	26.4	43.5	17.0	17.1
5.	370.00	BB	28.4	32.7	15.2	30.8	4.9	6.0	23.7	28.0	46.0	22.3	18.0
6.	390.01	BB	27.3	34.0	15.3	30.9	5.1	6.0	22.8	29.5	46.0	23.2	16.5
7.	399.99	BB	33.3	39.1	15.4	30.9	5.2	6.0	29.0	34.8	46.0	17.0	11.2

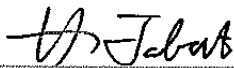
CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

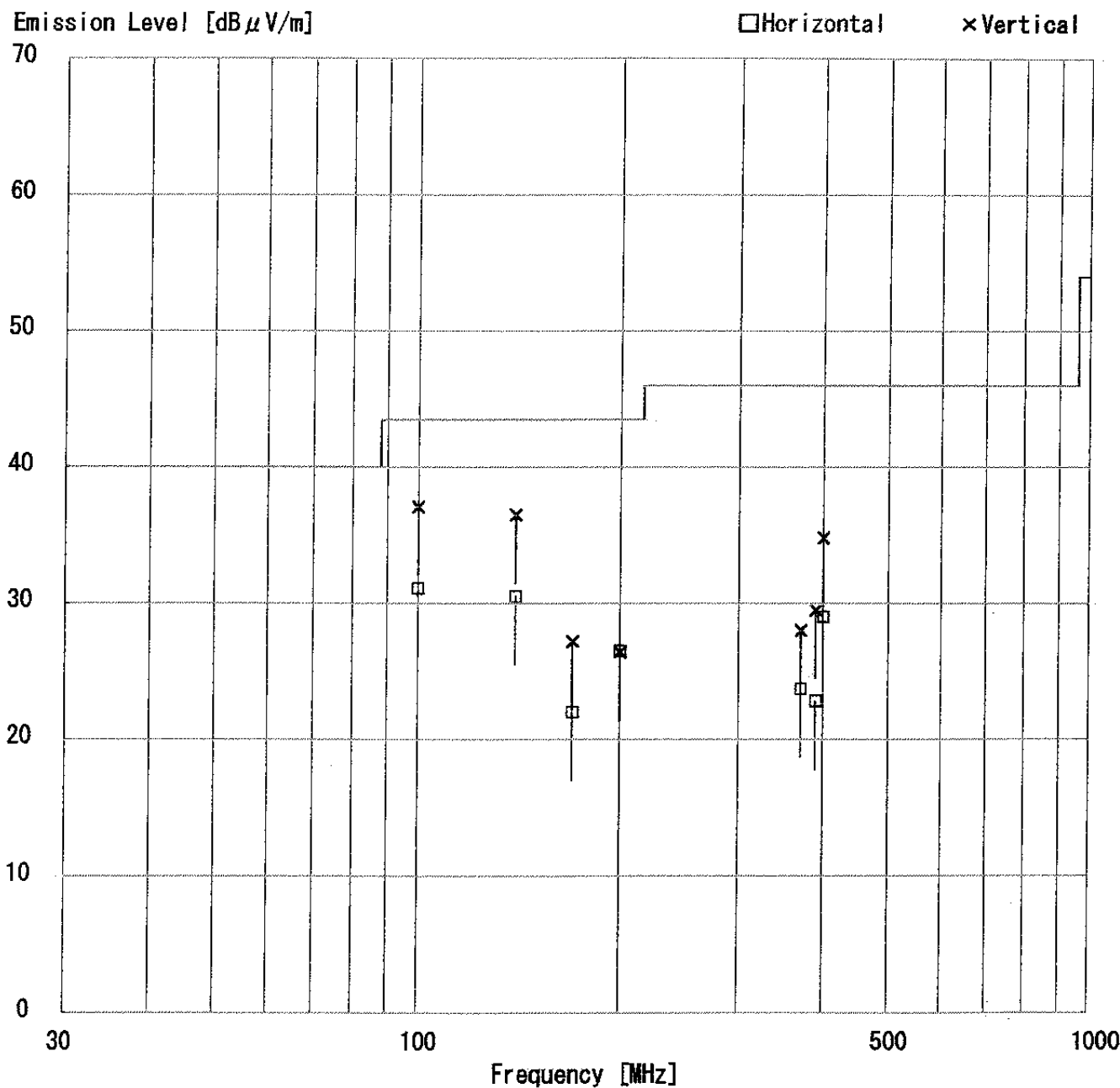
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec.
Remarks : 5Vp-p
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata



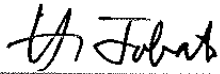
DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.2 OPEN TEST SITE

Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : VCR Playback
Remarks :
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata

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.	98.77	BB	30.9	37.3	10.4	30.0	2.4	5.9	19.6	26.0	43.5	23.9	17.5
2.	100.00	BB	39.3	48.8	10.6	30.0	2.4	5.9	28.2	37.7	43.5	15.3	5.8
3.	120.00	BB	33.6	39.8	13.5	29.8	2.7	6.0	26.0	32.2	43.5	17.5	11.3
4.	150.01	BB	26.6	29.2	15.0	29.8	3.0	5.9	20.7	23.3	43.5	22.8	20.2
5.	170.01	BB	28.9	33.0	15.8	29.9	3.2	6.0	24.0	28.1	43.5	19.5	15.4
6.	360.01	BB	27.8	30.8	15.1	30.8	4.7	6.0	22.8	25.8	46.0	23.2	20.2
7.	370.00	BB	30.7	32.4	15.2	30.8	4.9	6.0	26.0	27.7	46.0	20.0	18.3
8.	390.01	BB	29.7	31.9	15.3	30.9	5.1	6.0	25.2	27.4	46.0	20.8	18.6
9.	537.43	BB	36.3	34.7	18.2	30.7	6.1	5.9	35.8	34.2	46.0	10.2	11.8

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

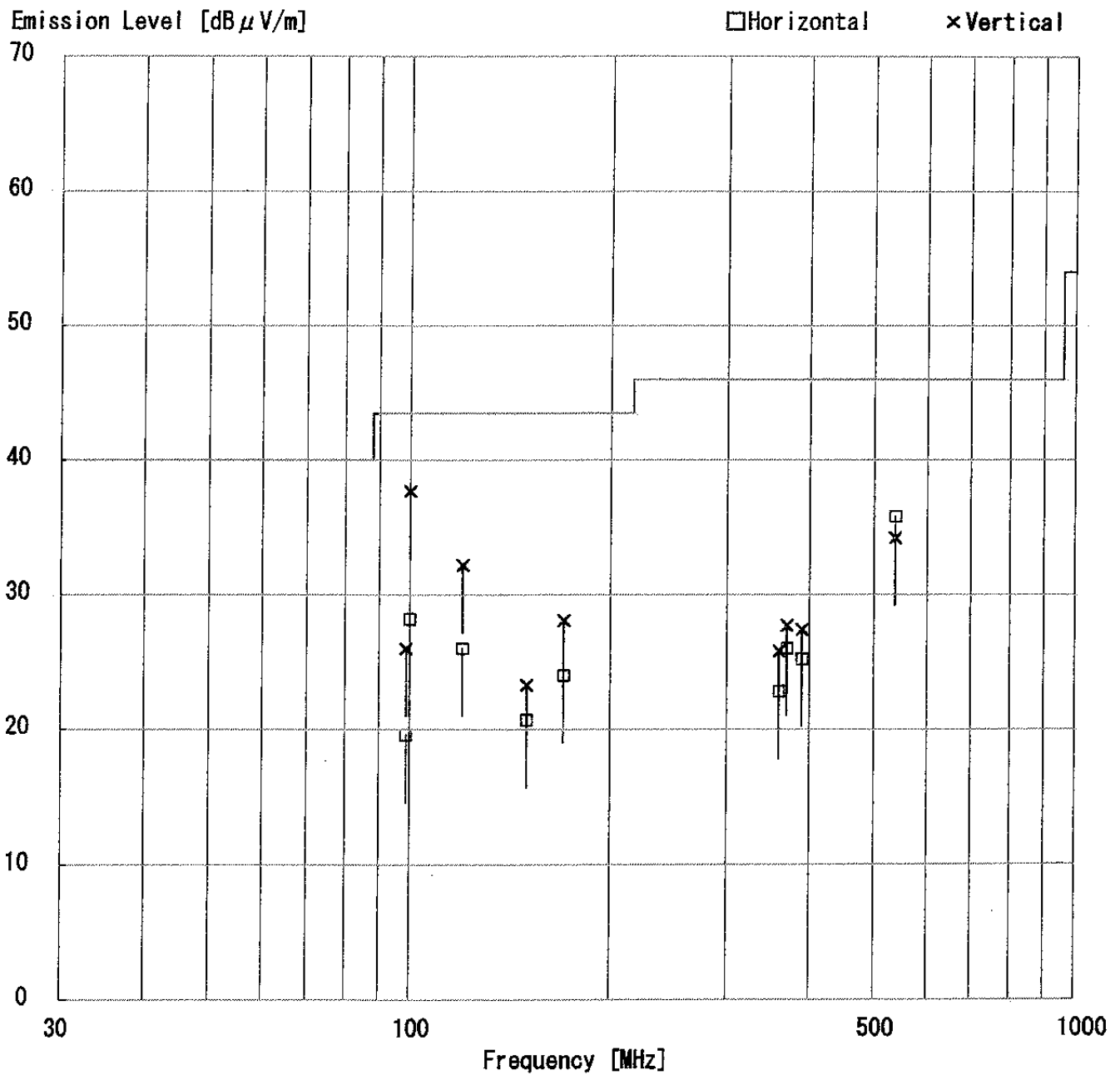
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : VCR Playback
Remarks :
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

H. Tabata
Engineer : Hiroya Tabata



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.2 OPEN TEST SITE

Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : Test Channel 3ch
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata

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.	61.25	BB	27.9	29.7	8.5	29.9	2.0	5.9	14.4	16.2	40.0	25.6	23.8
2.	65.75	BB	27.3	27.1	7.7	29.8	2.1	5.9	13.2	13.0	40.0	26.8	27.0
3.	122.50	BB	23.4	29.2	13.7	29.9	2.7	6.0	15.9	21.7	43.5	27.6	21.8
4.	245.00	BB	22.1	22.9	17.3	30.5	3.8	5.9	18.6	19.4	46.0	27.4	26.6

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

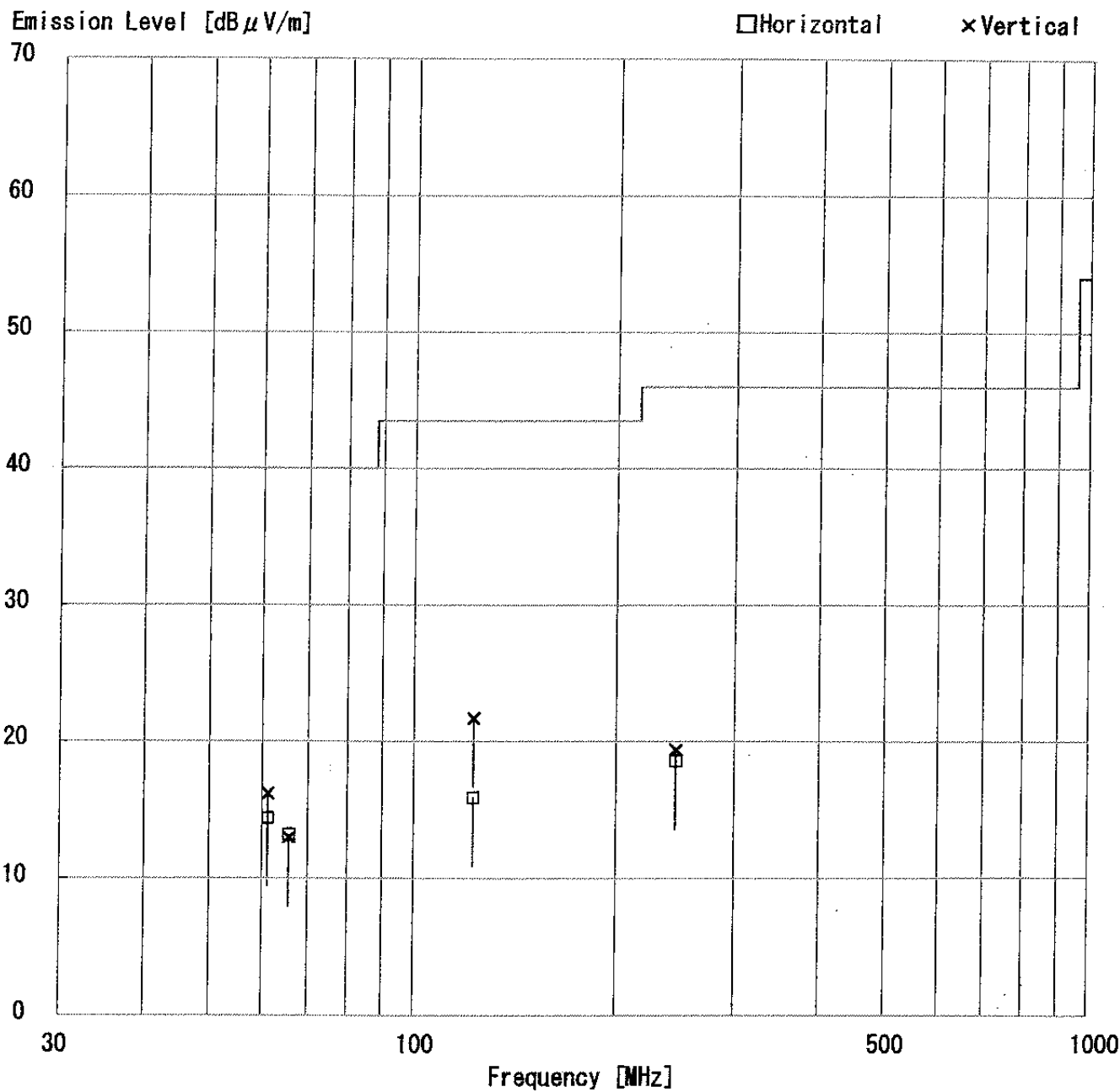
Except for the above table : adequate margin data below the limits.
ANT.TYPE:30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW - 1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : Test Channel 3ch
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.2 OPEN TEST SITE

Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : Test Channel 4ch
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : 
Hiroya Tabata

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	28.2	28.9	7.5	29.9	2.1	5.9	13.8	14.5	40.0	26.2	25.5
2.	71.75	BB	28.6	31.3	6.9	30.0	2.1	5.9	13.5	16.2	40.0	26.5	23.8
3.	134.50	BB	23.0	25.6	14.4	29.9	2.8	6.0	16.3	18.9	43.5	27.2	24.6
4.	201.75	BB	22.8	22.6	17.3	30.7	3.4	6.0	18.8	18.6	43.5	24.7	24.9

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

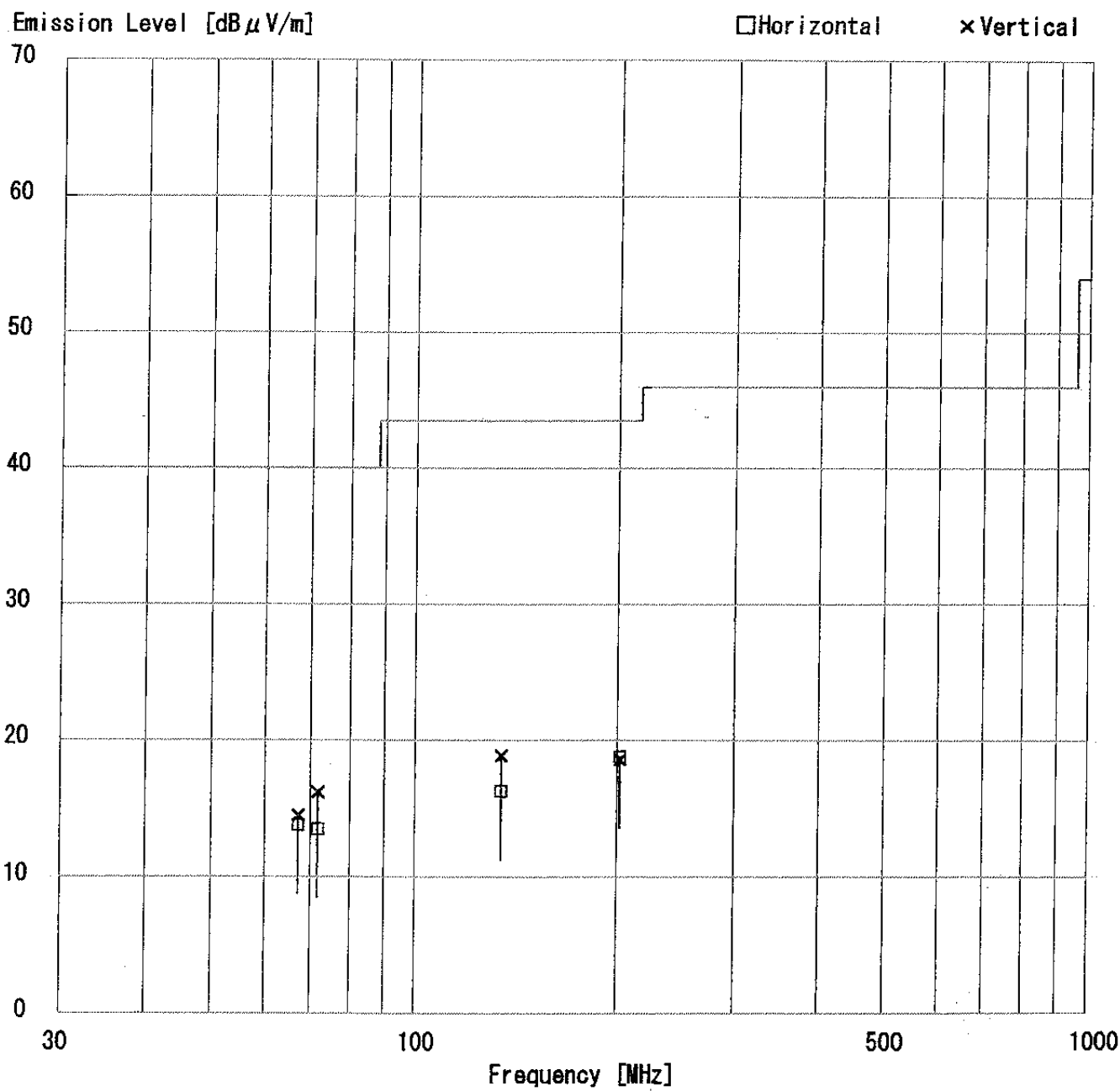
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

UL Apex Co., Ltd.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23LE0121-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : VCR
Model No. : VR313A
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : Test Channel 4ch
Date : 7/28/2003
Test Distance : 3 m
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata



DATA OF ANTENNA TERMINAL TEST

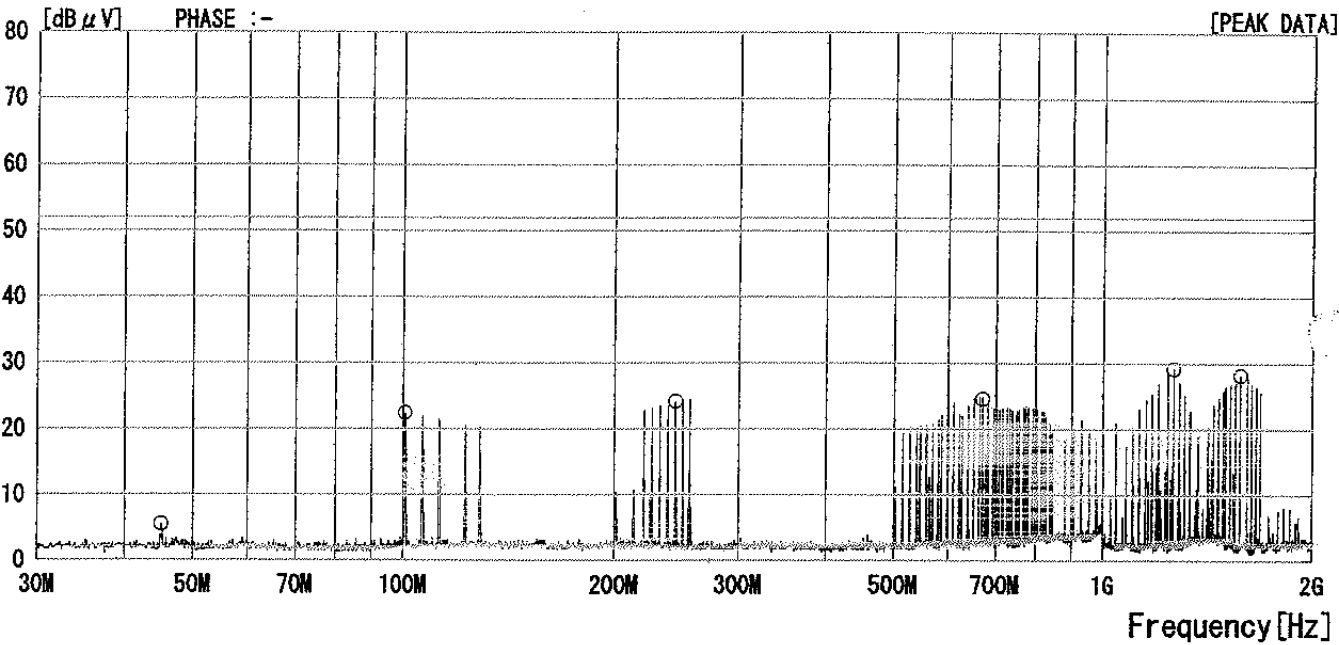
UL Apex Co., Ltd.
Date : 2003/08/01 20:55:08

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : VGR
MODEL : VR313A
OPERATION MODE : TV Tuning mode

REPORT NO : 23LE0121-YW-1
DATE : August 1, 2003
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 24°C/61%

LIMIT : FCC 15B ANTENNA TERMINAL



NO	FREQ [MHz]	READING(PK) [dB μV]	C. F [dB]	RESULT [dB μV]	LIMIT		MARGIN		PHASE
					QP [dB μV]	AV [dB μV]	QP [dB]	AV [dB]	
1	45.20000	37.6	-32.1	5.5	52.0	—	46.5	—	—
2	100.57100	54.2	-31.8	22.4	52.0	—	29.6	—	—
3	244.28799	56.0	-31.8	24.2	52.0	—	27.8	—	—
4	670.85699	56.4	-31.8	24.6	52.0	—	27.4	—	—
5	1261.41101	68.4	-39.2	29.2	52.0	—	22.8	—	—
6	1573.56604	67.0	-38.8	28.2	52.0	—	23.8	—	—

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

DATA OF ANTENNA TERMINAL TEST

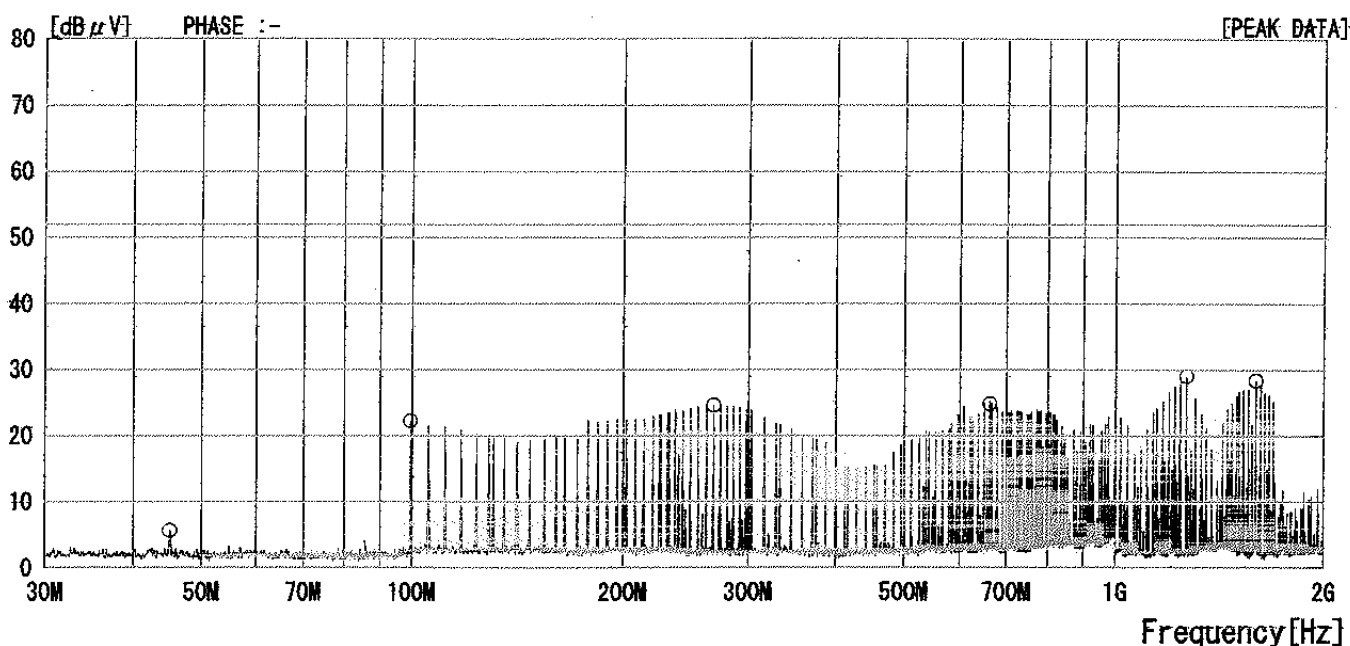
UL Apex Co., Ltd.
Date : 2003/08/01 20:59:55

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : VCR
MODEL : VR313A
OPERATION MODE : CATV Tuning mode

REPORT NO : 23LE0121YW-1
DATE : August 1, 2003
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 24°C/61%

LIMIT : FCC 15B ANTENNA TERMINAL

NO	FREQ [MHz]	READING (PK) [dB μ V]	G. F [dB]	RESULT [dB μ V]	LIMIT		MARGIN		PHASE
					QP [dB μ V]	AV [dB μ V]	QP [dB]	AV [dB]	
1	45.20000	37.8	-32.1	5.7	52.0	-----	46.3	-----	-
2	99.39900	54.0	-31.8	22.2	52.0	-----	29.8	-----	-
3	268.00201	56.4	-31.8	24.6	52.0	-----	27.4	-----	-
4	663.42902	56.6	-31.8	24.8	52.0	-----	27.2	-----	-
5	1267.12500	68.2	-39.2	29.0	52.0	-----	23.0	-----	-
6	1593.56494	67.2	-38.8	28.4	52.0	-----	23.6	-----	-

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

RF output level

UL Apex Co., Ltd.
Yokowa EMC Lab.

Company : ORION Electric Co., Ltd.
Equipment : VCR
Model number : VR313A
Power : AC 120 V / 60 Hz
Description : TV Reception + Rec(0dBmV)

Report Number : 23LE0121-YW-1
Regulation : FCC Part 15 Subpart B
Date : July 29 , 2003
Temp. / Humid. : 23°C / 65%

Engineer  Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	86.9	22.2	64.7	69.5	4.8
4	67.25	86.9	22.1	64.8	69.5	4.7

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.9	22.1	50.8	56.5	5.7
	65.75	71.6	22.1	49.5	56.5	7.0
4	62.75	72.2	22.2	50.0	56.5	6.5
	71.75	71.6	22.1	49.5	56.5	7.0

RF output level

UL Apex Co., Ltd.
Yokowa EMC Lab.

Company	: ORION Electric Co., Ltd.	Report Number	: 23LE0121-YW-1
Equipment	: VCR	Regulation	: FCC Part 15 Subpart B
Model number	: VR313A	Date	: July 29 , 2003
Power	: AC 120 V / 60 Hz	Temp. / Humid.	: 23°C / 65%
Description	: TV Reception + Rec(25dBmV)		

Engineer  : Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	87.4	22.2	65.2	69.5	4.3
4	67.25	86.9	22.1	64.8	69.5	4.7

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.9	22.1	50.8	56.5	5.7
	65.75	71.6	22.1	49.5	56.5	7.0
4	62.75	72.2	22.2	50.0	56.5	6.5
	71.75	70.9	22.1	48.8	56.5	7.7

RF output level

UL Apex Co., Ltd.
Yokowa EMC Lab.

Company	: ORION Electric Co., Ltd.	Report Number	: 23LE0121-YW-1
Equipment	: VCR	Regulation	: FCC Part 15 Subpart B
Model number	: VR313A	Date	: July 29, 2003
Power	: AC 120 V / 60 Hz	Temp. / Humid.	: 23°C / 65%
Description	: AV Input + Rec (1V p-p)		

Engineer  : Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	88.0	22.2	65.8	69.5	3.7
4	67.25	86.7	22.1	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	72.8	22.1	50.7	56.5	5.8
	65.75	71.8	22.1	49.7	56.5	6.8
4	62.75	72.4	22.2	50.2	56.5	6.3
	71.75	71.0	22.1	48.9	56.5	7.6

RF output level

UL Apex Co., Ltd.
Yokowa EMC Lab.

Company : ORION Electric Co., Ltd.
Equipment : VCR
Model number : VR313A
Power : AC 120 V / 60 Hz
Description : AV Input + Rec (5V p-p)

Report Number : 23LE0121-YW-1
Regulation : FCC Part 15 Subpart B
Date : July 29, 2003
Temp. / Humid. : 23°C / 65%


Engineer : Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	86.4	22.2	64.2	69.5	5.3
4	67.25	87.5	22.1	65.4	69.5	4.1

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.8	22.1	50.7	56.5	5.8
	65.75	71.8	22.2	49.6	56.5	6.9
4	62.75	72.6	22.1	50.5	56.5	6.0
	71.75	71.2	22.1	49.1	56.5	7.4

RF output level

UL Apex Co., Ltd.
Yokowa EMC Lab.

Company : ORION Electric Co., Ltd.
Equipment : VCR
Model number : VR313A
Power : AC 120 V / 60 Hz
Description : VCR Playback

Report Number : 23LE0121-YW-1
Regulation : FCC Part 15 Subpart B
Date : July 29 , 2003
Temp. / Humid. : 23°C / 65%

Engineer : Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	86.9	22.2	64.7	69.5	4.8
4	67.25	86.0	22.1	63.9	69.5	5.6

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.8	22.1	50.7	56.5	5.8
	65.75	71.8	22.1	49.7	56.5	6.8
4	62.75	72.1	22.2	49.9	56.5	6.6
	71.75	71.1	22.1	49.0	56.5	7.5

DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokowa EMC Laboratory

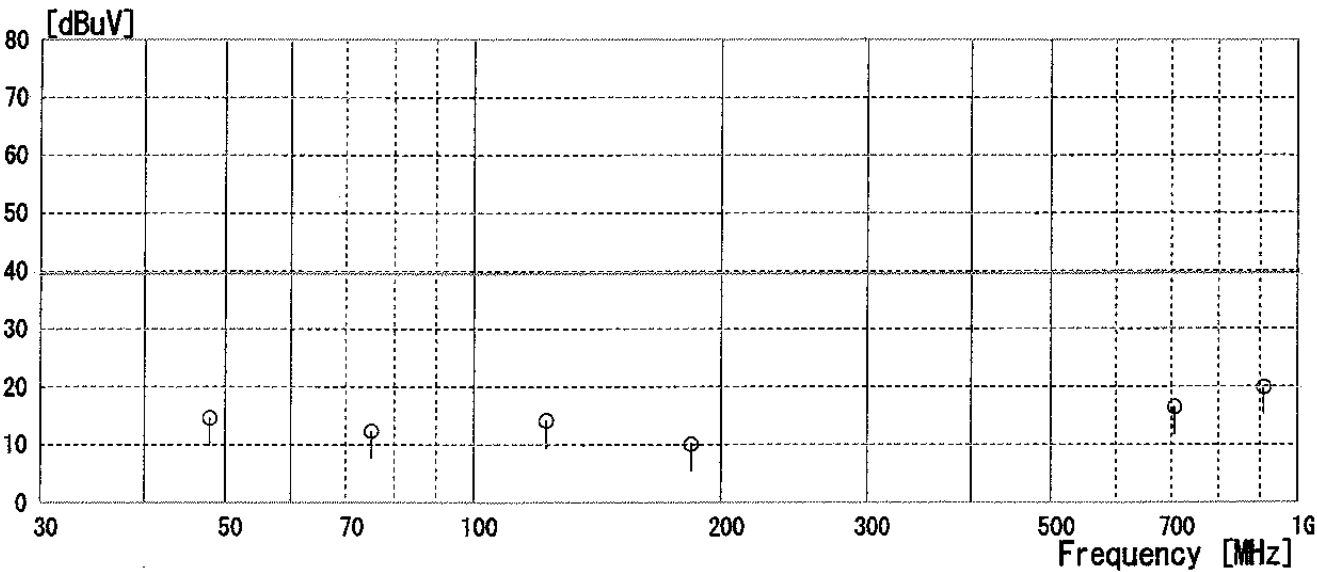
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: TV Reception + Rec
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 : 0dBmV Input
Remarks 2 : 3CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [dB]
1	48.000	36.4	—	-21.8	14.6	—	39.5	—	24.9	—
2	75.100	34.0	—	-21.7	12.3	—	39.5	—	27.2	—
3	122.700	35.6	—	-21.4	14.2	—	39.5	—	25.3	—
4	183.700	31.4	—	-21.3	10.1	—	39.5	—	29.4	—
5	706.700	37.7	—	-21.2	16.5	—	39.5	—	23.0	—
6	908.590	40.2	—	-20.3	19.9	—	39.5	—	19.6	—

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



DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokawa EMC Laboratory

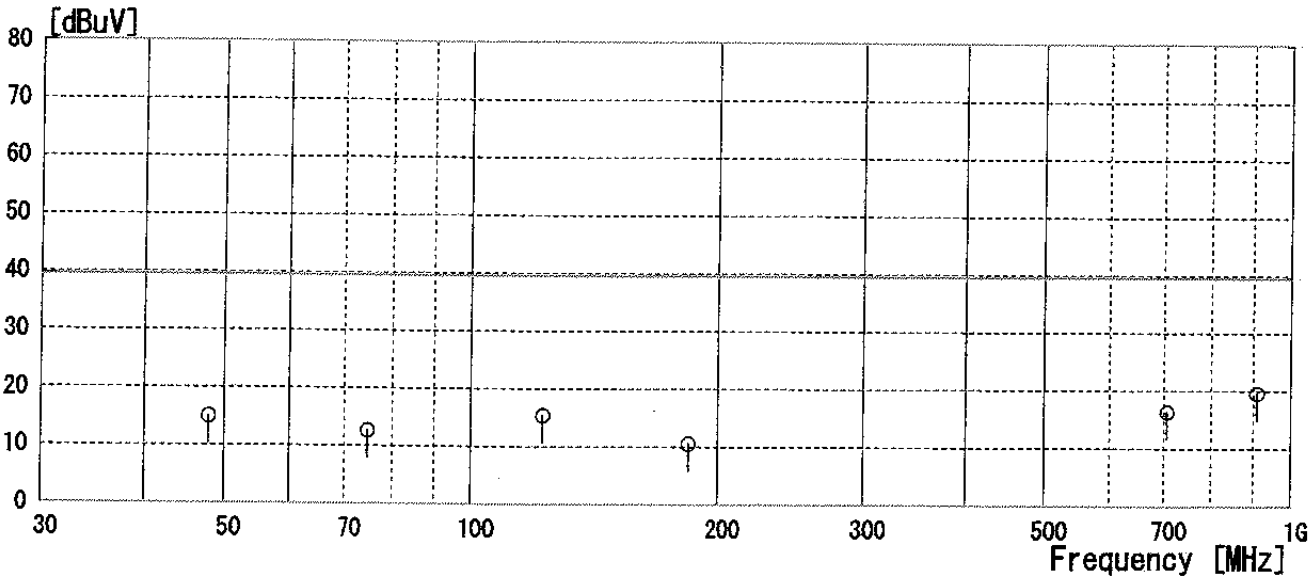
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: TV Reception + Rec
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 : 25dBmV Input
Remarks 2 : 3CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	48.000	36.8	—	-21.8	15.0	—	39.5	—	24.5	—
2	74.740	34.3	—	-21.7	12.6	—	39.5	—	26.9	—
3	122.510	36.8	—	-21.4	15.4	—	39.5	—	24.1	—
4	183.700	31.9	—	-21.3	10.6	—	39.5	—	28.9	—
5	706.700	37.6	—	-21.2	16.4	—	39.5	—	23.1	—
6	908.590	39.9	—	-20.3	19.6	—	39.5	—	19.9	—

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



DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokowa EMC Laboratory

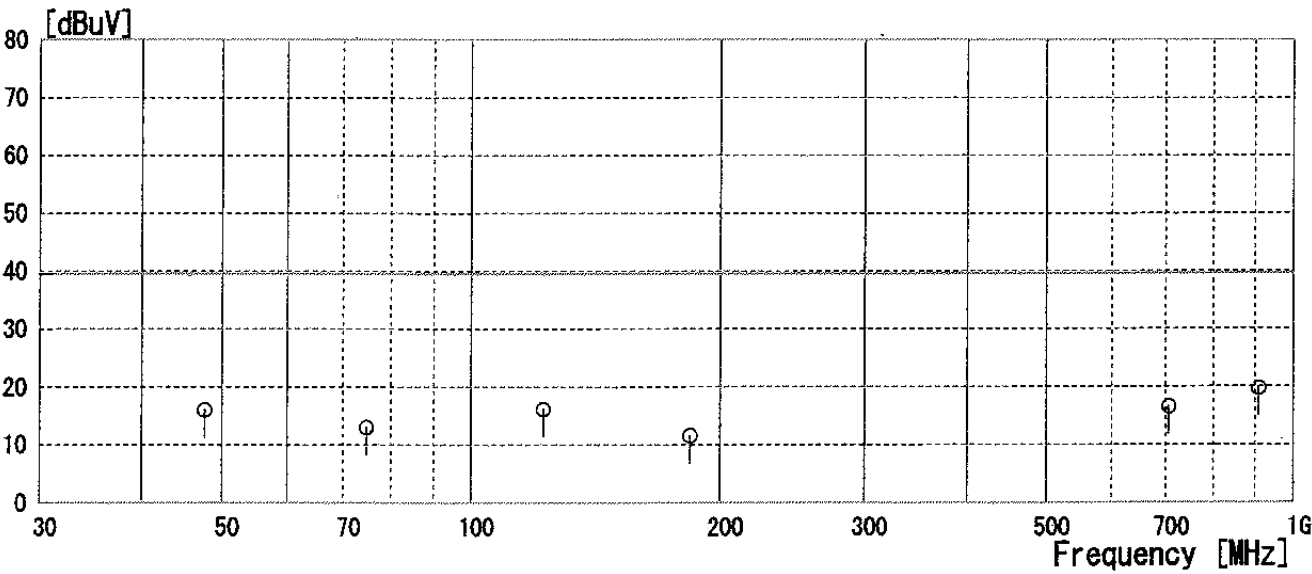
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: AV Input + Rec
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 : 1V p-p Input
Remarks 2 : 3CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

77
Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [dB]
1	47.760	37.8	—	-21.8	16.0	—	39.5	—	23.5	—
2	74.770	34.7	—	-21.7	13.0	—	39.5	—	26.5	—
3	122.500	37.6	—	-21.4	16.2	—	39.5	—	23.3	—
4	183.750	32.9	—	-21.3	11.6	—	39.5	—	27.9	—
5	706.700	37.8	—	-21.2	16.6	—	39.5	—	22.9	—
6	908.590	40.0	—	-20.3	19.7	—	39.5	—	19.8	—

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



DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokawa EMC Laboratory

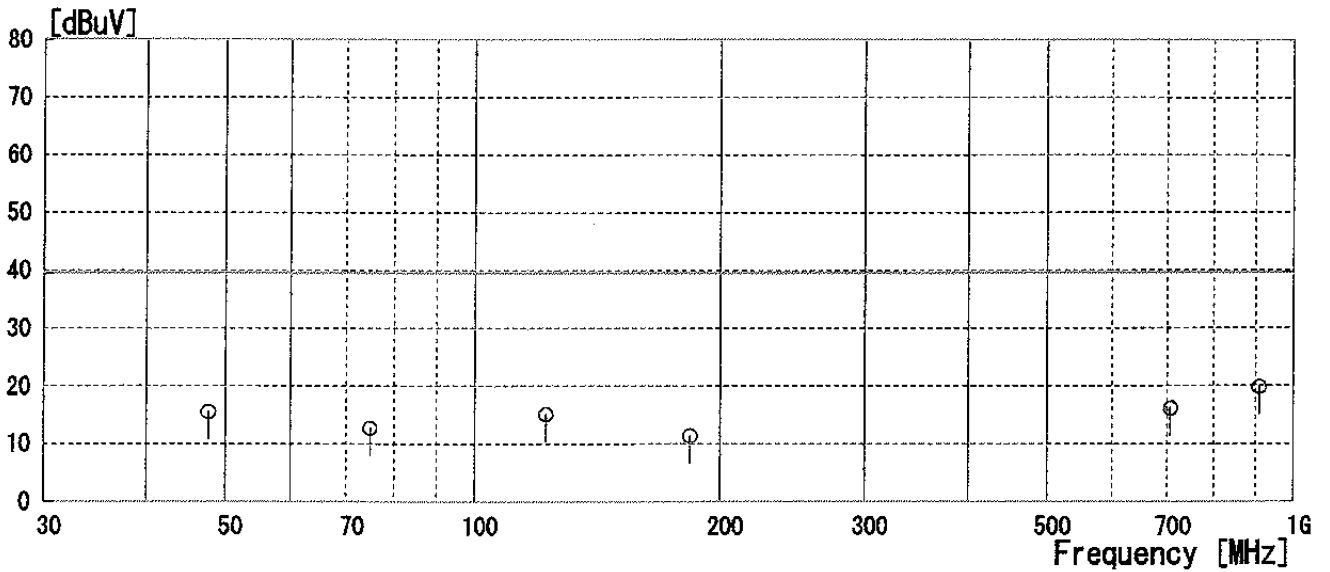
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode : AV Input + Rec
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 : 5V p-p Input
Remarks 2 : 3CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	47.760	37.3	—	-21.8	15.5	—	39.5	—	24.0	—
2	74.770	34.4	—	-21.7	12.7	—	39.5	—	26.8	—
3	122.500	36.6	—	-21.4	15.2	—	39.5	—	24.3	—
4	183.750	32.7	—	-21.3	11.4	—	39.5	—	28.1	—
5	706.700	37.4	—	-21.2	16.2	—	39.5	—	23.3	—
6	908.590	40.1	—	-20.3	19.8	—	39.5	—	19.7	—

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



DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokowa EMC Laboratory

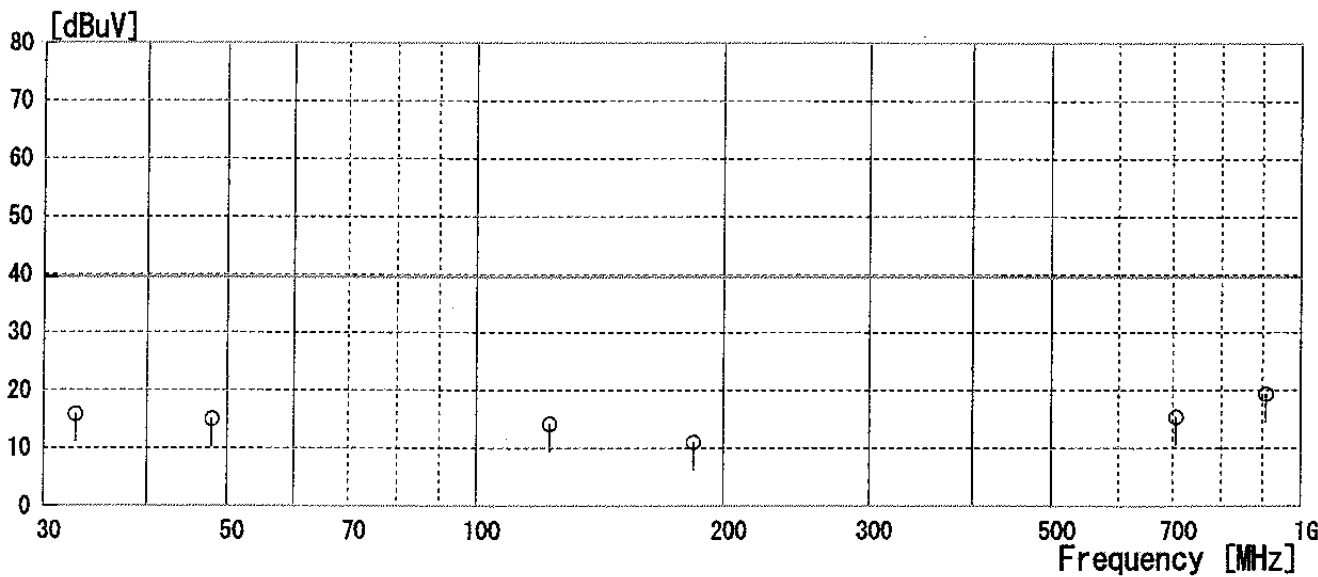
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode : VCR Playback
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 :
Remarks 2 : 3CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	32.800	37.8	—	-22.0	15.8	—	39.5	—	23.7	—
2	48.000	36.8	—	-21.8	15.0	—	39.5	—	24.5	—
3	122.700	35.6	—	-21.4	14.2	—	39.5	—	25.3	—
4	183.750	32.3	—	-21.3	11.0	—	39.5	—	28.5	—
5	706.700	36.6	—	-21.2	15.4	—	39.5	—	24.1	—
6	908.590	39.6	—	-20.3	19.3	—	39.5	—	20.2	—

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



DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokowa EMC Laboratory

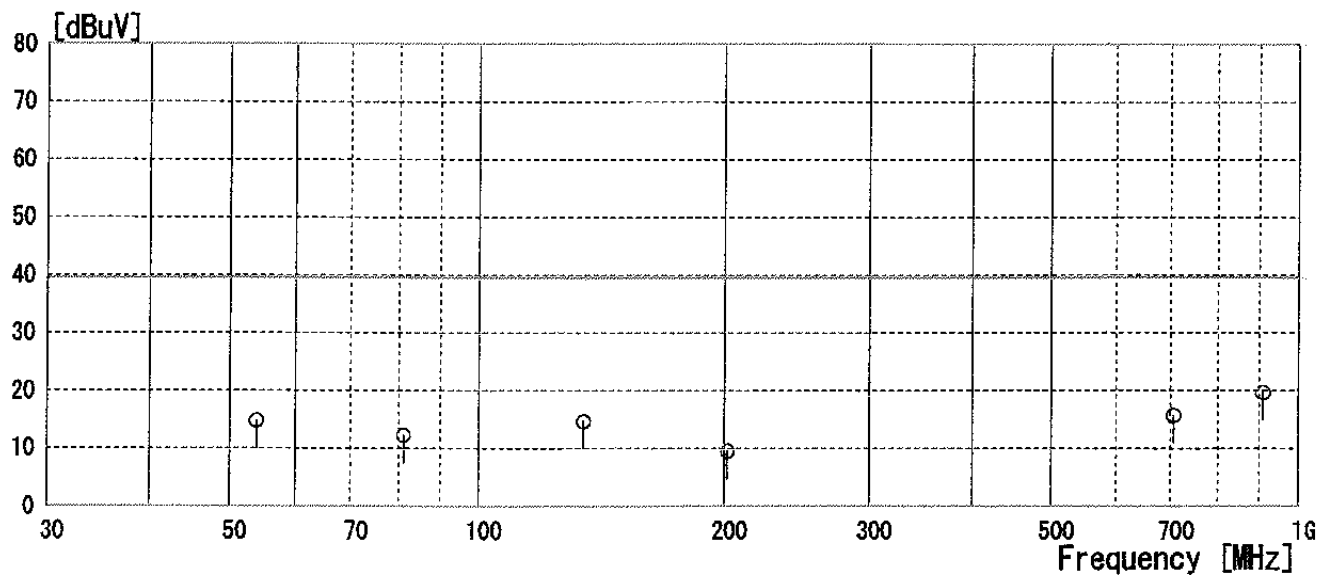
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: TV Reception + Rec
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 : 0dBmV Input
Remarks 2 : 4CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: 
Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	53.950	36.5	—	-21.7	14.8	—	39.5	—	24.7	—
2	81.150	33.9	—	-21.6	12.3	—	39.5	—	27.2	—
3	134.500	36.1	—	-21.4	14.7	—	39.5	—	24.8	—
4	201.750	30.8	—	-21.3	9.5	—	39.5	—	30.0	—
5	706.400	36.9	—	-21.2	15.7	—	39.5	—	23.8	—
6	908.590	40.0	—	-20.3	19.7	—	39.5	—	19.8	—

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



DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokowa EMC Laboratory

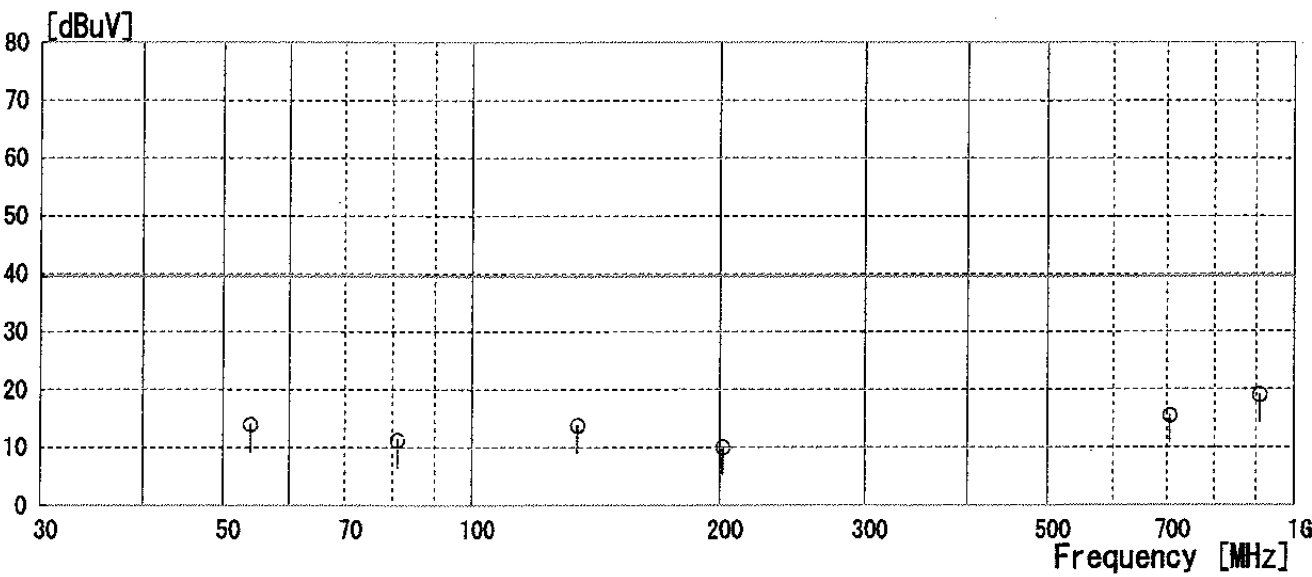
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: TV Reception + Rec
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 : 25dBmV Input
Remarks 2 : 4CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B


Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	53.950	35.7	—	-21.7	14.0	—	39.5	—	25.5	—
2	81.150	32.9	—	-21.6	11.3	—	39.5	—	28.2	—
3	134.500	35.2	—	-21.4	13.8	—	39.5	—	25.7	—
4	201.750	31.3	—	-21.3	10.0	—	39.5	—	29.5	—
5	706.400	36.7	—	-21.2	15.5	—	39.5	—	24.0	—
6	908.590	39.3	—	-20.3	19.0	—	39.5	—	20.5	—

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



DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokowa EMC Laboratory

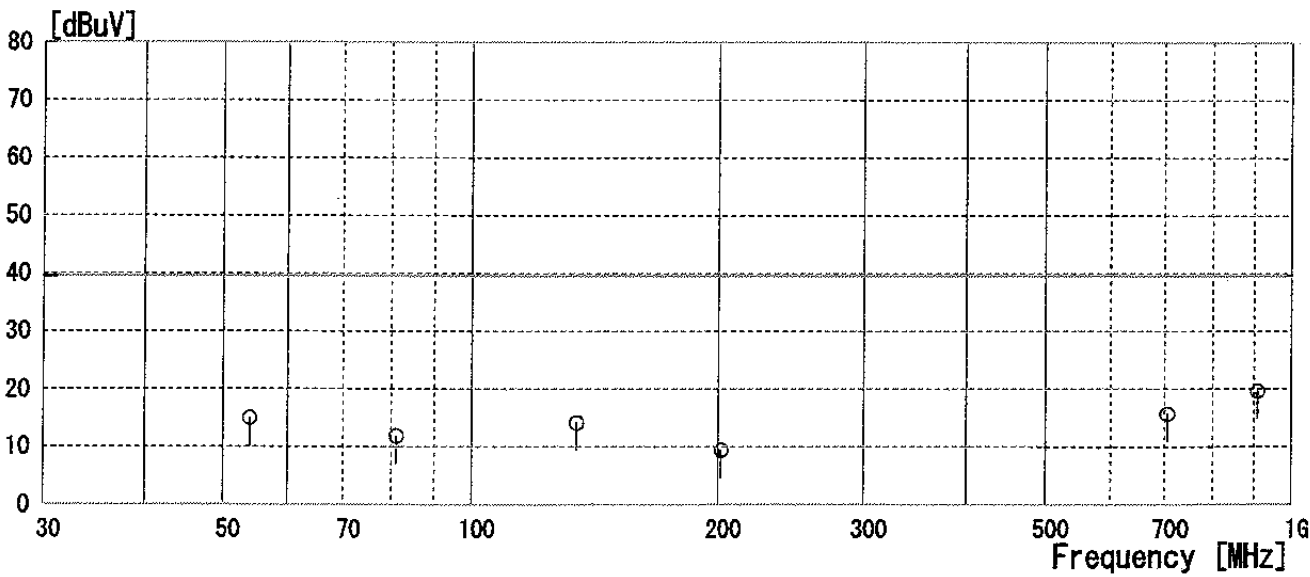
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: AV Input + Rec
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 : 1V p-p Input
Remarks 2 : 4CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B


Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [dB]
1	53.950	36.7	—	-21.7	15.0	—	39.5	—	24.5	—
2	81.150	33.5	—	-21.6	11.9	—	39.5	—	27.6	—
3	134.500	35.6	—	-21.4	14.2	—	39.5	—	25.3	—
4	201.750	30.7	—	-21.3	9.4	—	39.5	—	30.1	—
5	706.400	36.9	—	-21.2	15.7	—	39.5	—	23.8	—
6	908.590	39.9	—	-20.3	19.6	—	39.5	—	19.9	—

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



DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokowa EMC Laboratory

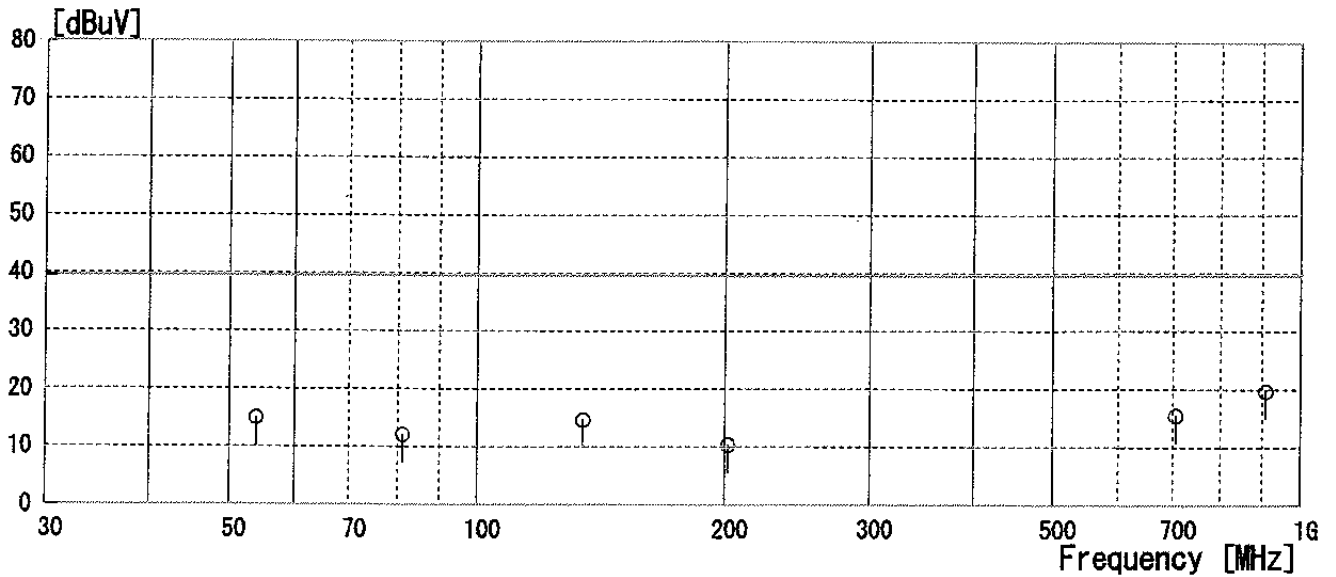
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode : AV Input + Rec
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 : 5V p-p Input
Remarks 2 : 4CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [dB]
1	53.950	36.7	—	-21.7	15.0	—	39.5	—	24.5	—
2	81.150	33.7	—	-21.6	12.1	—	39.5	—	27.4	—
3	134.500	36.1	—	-21.4	14.7	—	39.5	—	24.8	—
4	201.750	31.7	—	-21.3	10.4	—	39.5	—	29.1	—
5	706.400	36.7	—	-21.2	15.5	—	39.5	—	24.0	—
6	908.590	40.0	—	-20.3	19.7	—	39.5	—	19.8	—

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



DATA OF RF SPURIOUS

UL Apex Co., Ltd.
Yokowa EMC Laboratory

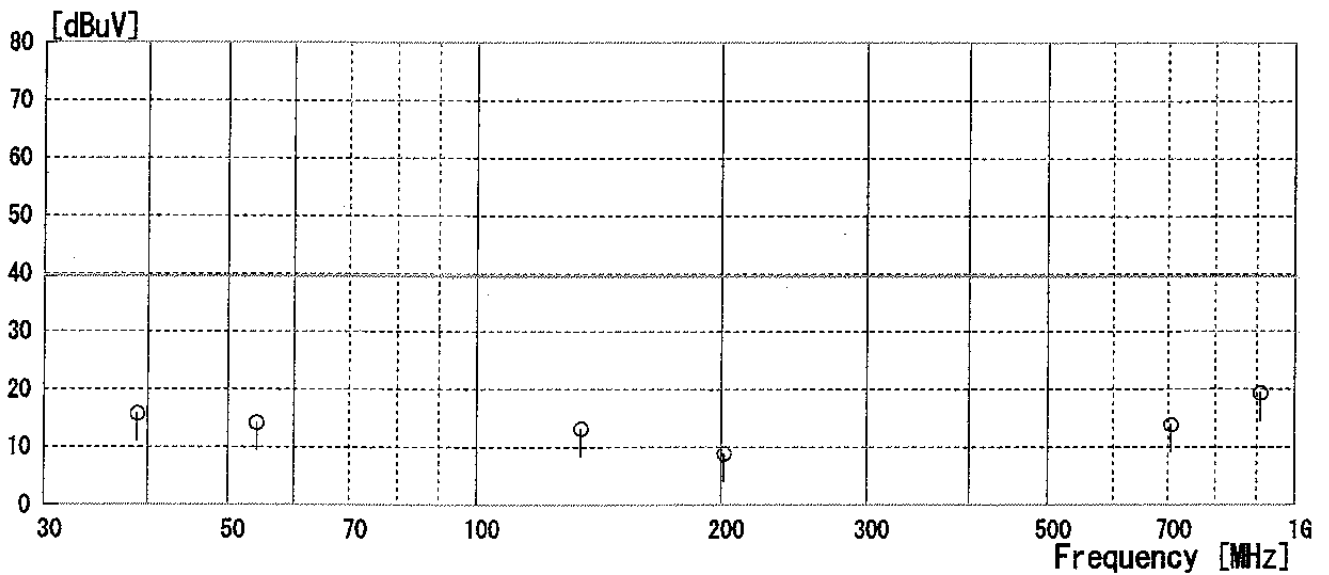
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode : VCR Playback
Port : RF Output Terminal
Power : AC120V/60Hz
Remarks 1 : -
Remarks 2 : 4CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	38.900	37.6	—	-21.9	15.7	—	39.5	—	23.8	—
2	54.120	35.9	—	-21.7	14.2	—	39.5	—	25.3	—
3	134.500	34.6	—	-21.4	13.2	—	39.5	—	26.3	—
4	201.750	30.2	—	-21.3	8.9	—	39.5	—	30.6	—
5	706.400	35.1	—	-21.2	13.9	—	39.5	—	25.6	—
6	908.590	39.6	—	-20.3	19.3	—	39.5	—	20.2	—

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

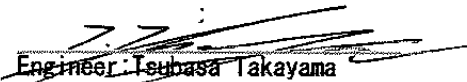


DATA OF ANTENNA TRANSFER SWITCH

UL Apex Co., Ltd.
Yokowa EMC Laboratory

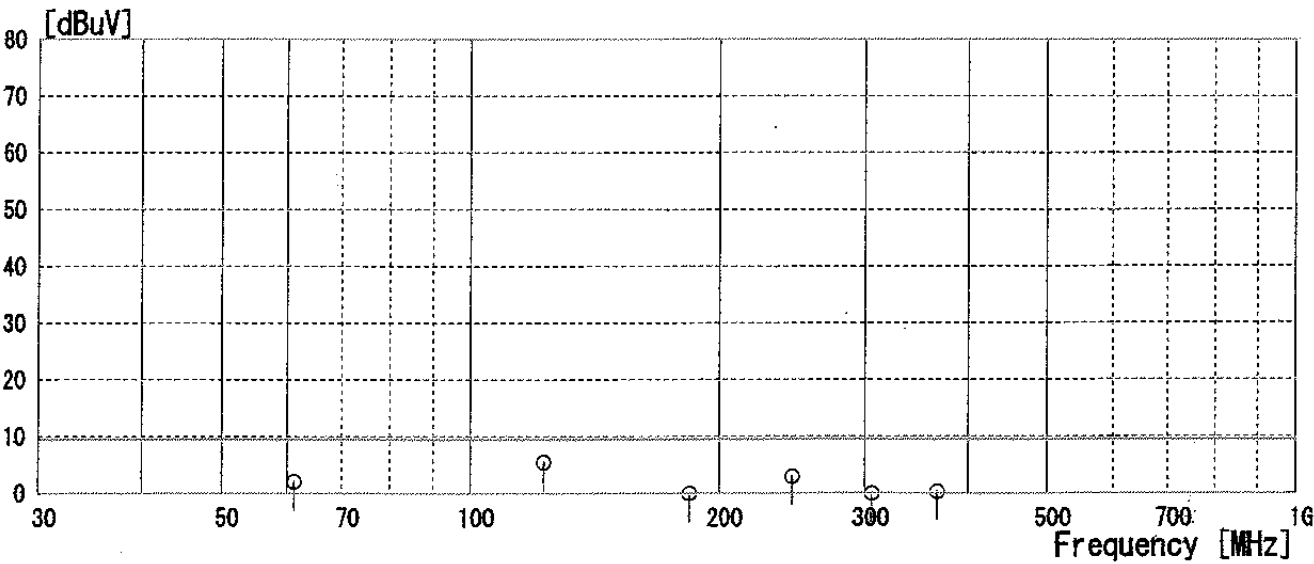
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: AV Input + Rec
Port : RF Input Terminal
Power : AC120V/60Hz
Remarks 1 : 1V p-p Input
Remarks 2 : 3CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B


Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	61.250	23.8	—	-21.7	2.1	—	9.5	—	7.4	—
2	122.500	26.9	—	-21.4	5.5	—	9.5	—	4.0	—
3	183.750	21.3	—	-21.3	0.0	—	9.5	—	9.5	—
4	245.000	24.2	—	-21.3	2.9	—	9.5	—	6.6	—
5	306.250	21.3	—	-21.3	0.0	—	9.5	—	9.5	—
6	367.500	21.6	—	-21.3	0.3	—	9.5	—	9.2	—

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



DATA OF ANTENNA TRANSFER SWITCH

UL Apex Co., Ltd.
Yokowa EMC Laboratory

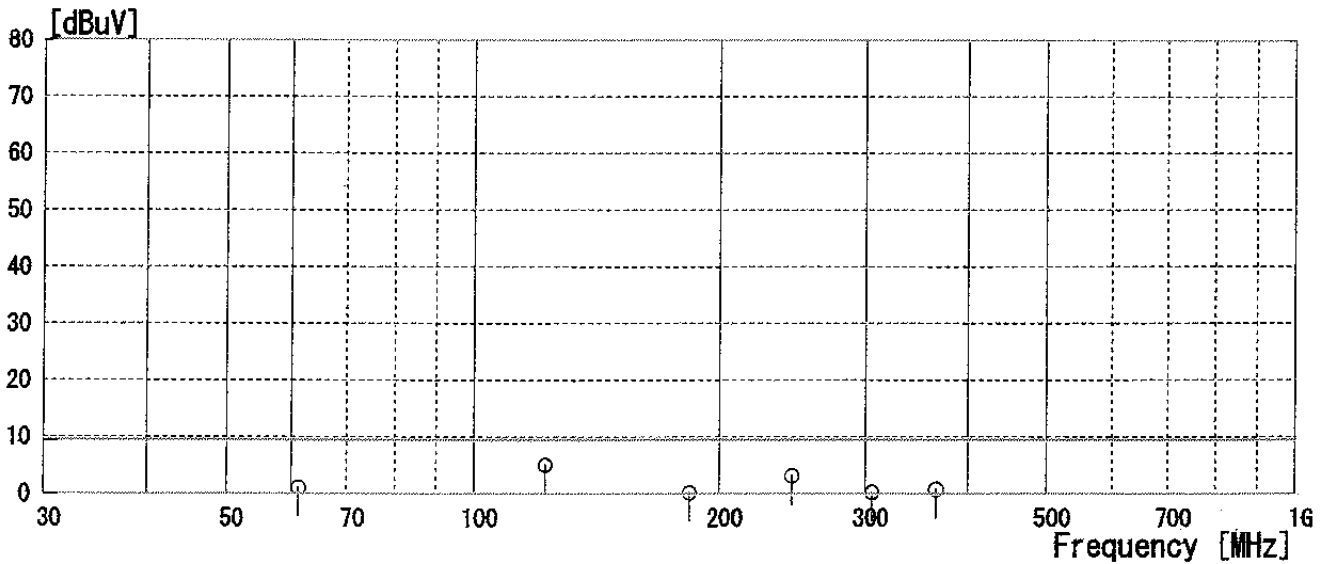
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: AV Input + Rec
Port : RF Input Terminal
Power : AC120V/60Hz
Remarks 1 : 5V p-p Input
Remarks 2 : 3CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	61.250	22.8	—	-21.7	1.1	—	9.5	—	8.4	—
2	122.500	26.5	—	-21.4	5.1	—	9.5	—	4.4	—
3	183.750	21.5	—	-21.3	0.2	—	9.5	—	9.3	—
4	245.000	24.4	—	-21.3	3.1	—	9.5	—	6.4	—
5	306.250	21.5	—	-21.3	0.2	—	9.5	—	9.3	—
6	367.500	22.1	—	-21.3	0.8	—	9.5	—	8.7	—

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



DATA OF ANTENNA TRANSFER SWITCH

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

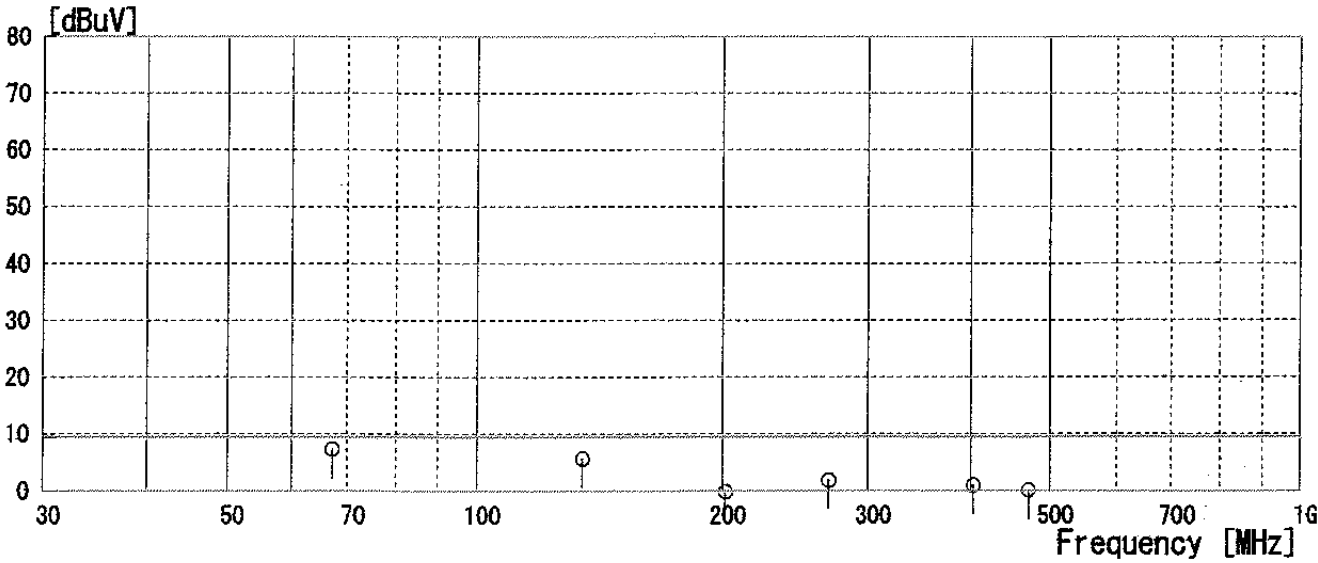
Company : Orion Electric Co.,Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: AV Input + Rec
Port : RF Input Terminal
Power : AC120V/60Hz
Remarks 1 : 1V p-p Input
Remarks 2 : 4CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	67.250	29.0	—	-21.7	7.3	—	9.5	—	2.2	—
2	134.500	27.1	—	-21.4	5.7	—	9.5	—	3.8	—
3	201.750	21.2	—	-21.3	-0.1	—	9.5	—	9.6	—
4	269.000	23.1	—	-21.2	1.9	—	9.5	—	7.6	—
5	403.500	22.3	—	-21.3	1.0	—	9.5	—	8.5	—
6	470.750	21.5	—	-21.4	0.1	—	9.5	—	9.4	—

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



DATA OF ANTENNA TRANSFER SWITCH

UL Apex Co., Ltd.
Yokowa EMC Laboratory

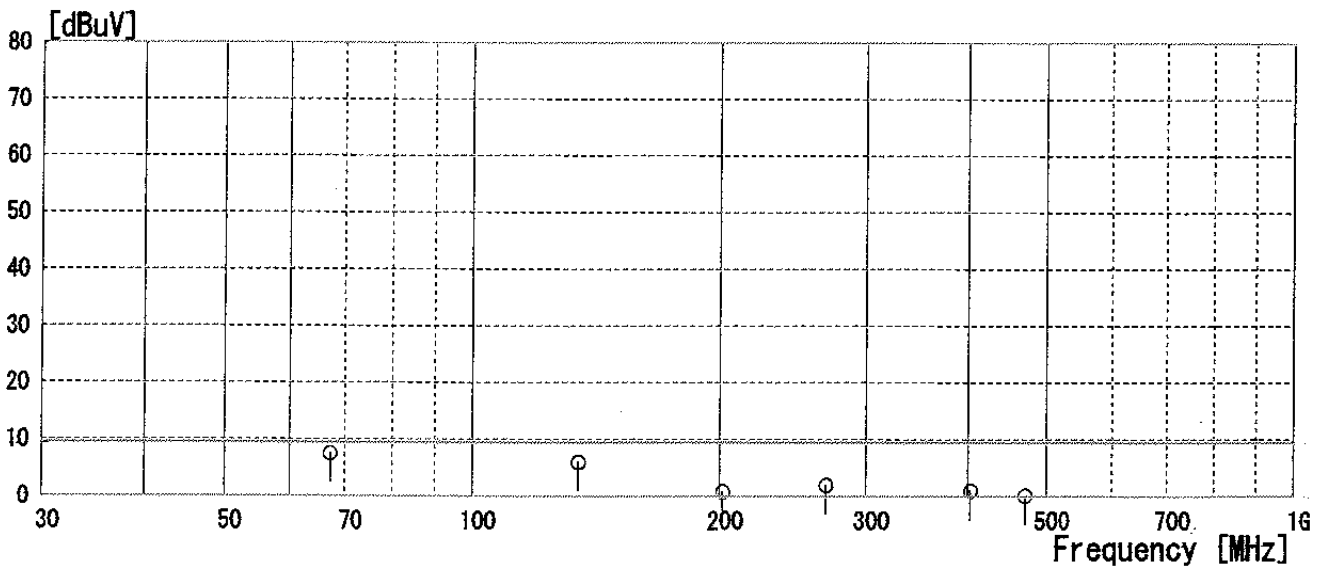
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode : AV Input + Rec
Port : RF Input Terminal
Power : AC120V/60Hz
Remarks 1 : 5V p-p Input
Remarks 2 : 4CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer : Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	67.250	29.2	—	-21.7	7.5	—	9.5	—	2.0	—
2	134.500	27.4	—	-21.4	6.0	—	9.5	—	3.5	—
3	201.750	22.1	—	-21.3	0.8	—	9.5	—	8.7	—
4	269.000	23.2	—	-21.2	2.0	—	9.5	—	7.5	—
5	403.500	22.3	—	-21.3	1.0	—	9.5	—	8.5	—
6	470.750	21.5	—	-21.4	0.1	—	9.5	—	9.4	—

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



DATA OF ANTENNA TRANSFER SWITCH

UL Apex Co., Ltd.
Yokowa EMC Laboratory

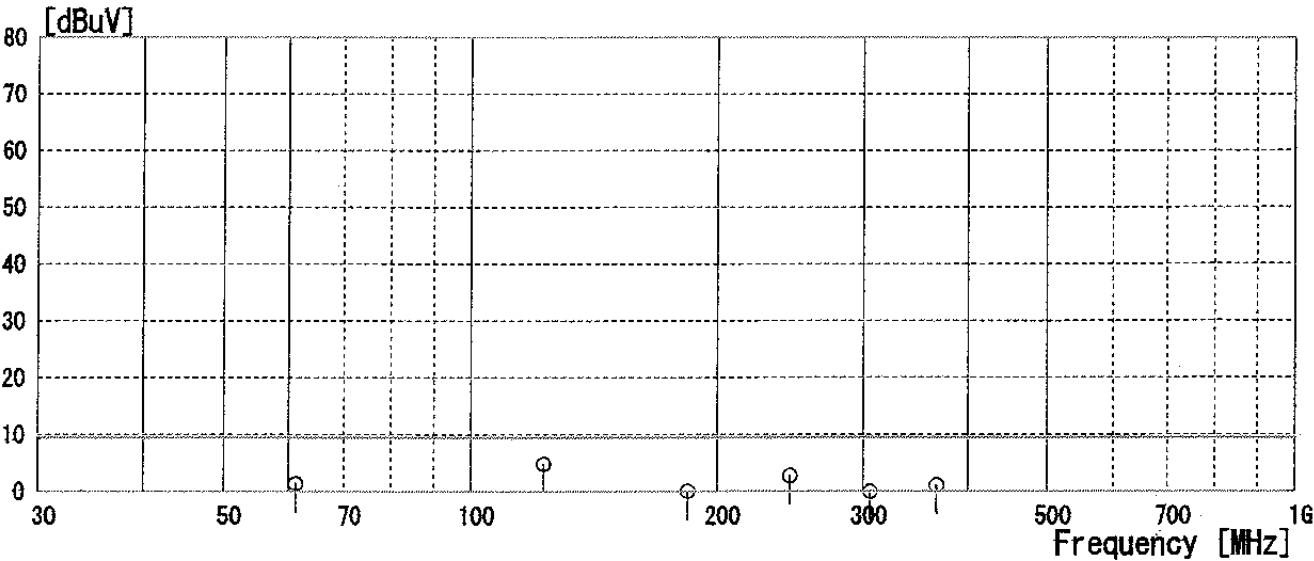
Company : Orion Electric Co., Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: VCR Playback
Port : RF Input Terminal
Power : AC120V/60Hz
Remarks 1 : -
Remarks 2 : 3CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	61.250	23.1	—	-21.7	1.4	—	9.5	—	8.1	—
2	122.500	26.3	—	-21.4	4.9	—	9.5	—	4.6	—
3	183.750	21.4	—	-21.3	0.1	—	9.5	—	9.4	—
4	245.000	24.0	—	-21.3	2.7	—	9.5	—	6.8	—
5	306.250	21.3	—	-21.3	0.0	—	9.5	—	9.5	—
6	367.500	22.4	—	-21.3	1.1	—	9.5	—	8.4	—

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



DATA OF ANTENNA TRANSFER SWITCH

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

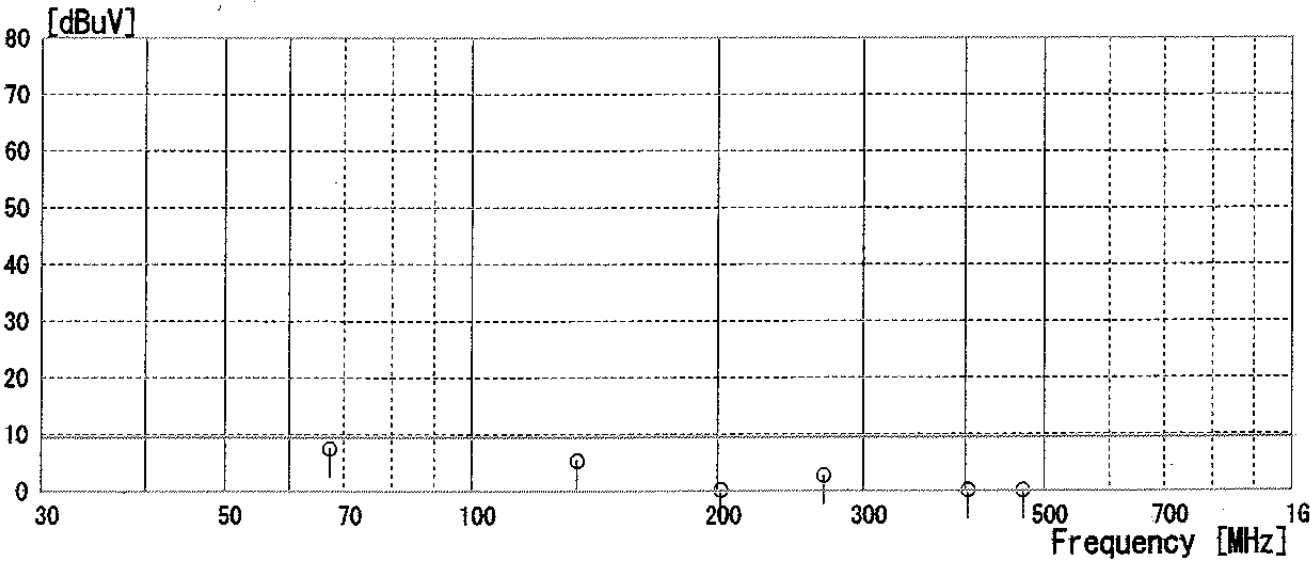
Company : Orion Electric Co.,Ltd.
Equipment : VCR
Model Name : VR313A
Operation Mode: VCR Playback
Port : RF Input Terminal
Power : AC120V/60Hz
Remarks 1 : -
Remarks 2 : 4CH Output

Rport No. : 23LE0121-YW-1
Date : July 29, 2003
Regulation : FCC Part15 Subpart B

Engineer: Tsubasa Takayama

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	67.250	29.2	—	-21.7	7.5	—	9.5	—	2.0	—
2	134.500	26.8	—	-21.4	5.4	—	9.5	—	4.1	—
3	201.750	21.5	—	-21.3	0.2	—	9.5	—	9.3	—
4	269.000	24.0	—	-21.2	2.8	—	9.5	—	6.7	—
5	403.500	21.5	—	-21.3	0.2	—	9.5	—	9.3	—
6	470.750	21.5	—	-21.4	0.1	—	9.5	—	9.4	—

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



Picture sensitivity test

UL Apex Co., Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.

Equipment : VCR

Model number : VR313A

Power : AC 120 V / 60 Hz

Description : TV Reception

Report Number : 23LE0121-YW-1

Regulation : FCC Part 15B Subpart B

Date : July 29, 2003

Temp./Humid. : 22°C/71%

Engineer  Tsubasa Takayama

Ch.	Frequency	Sensitivity		Ch.	Frequency	Sensitivity	
[VHF]	[MHz]	[dBuV]	[uV]	[UHF]	[MHz]	[dBuV]	[uV]
2	55.25	20.0	10.0	14	471.25	24.8	17.4
3	61.25	20.3	10.4	20	507.25	24.7	17.2
4	67.25	20.2	10.2	26	543.25	23.9	15.7
5	77.25	20.3	10.4	32	579.25	24.1	16.0
6	83.25	20.5	10.6	38	615.25	24.1	16.0
7	175.25	22.4	13.2	44	651.25	24.1	16.0
8	181.25	22.3	13.0	50	687.25	22.9	14.0
9	187.25	21.8	12.3	56	723.25	22.1	12.7
10	193.25	21.9	12.4	62	759.25	21.8	12.3
11	199.25	22.4	13.2	69	801.25	21.8	12.3
12	205.25	21.6	12.0	-	-	-	-
13	211.25	21.5	11.9	-	-	-	-
Average VHF			11.6	Average UHF			15.0
Average UHF/VHF : $20 \log \text{UHF[uV]}/\text{VHF[uV]} =$				2.2	dB		
[Limit : 8.0 dB]							

Noise figure test

UL Apex Co., Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : VCR
Model number : VR313A
Power : AC 120 V / 60 Hz
Description : TV Reception

Report Number : 23LE0121-YW-1
Regulation : FCC Part15 Subpart B
Date : July 29, 2003
Temp./Humid. : 22°C/71%

Engineer : Tsubasa Takayama

Ch.	Frequency [MHz]	Meter reading [dB]	Correction factor [dB]	Noise figure [dB]	Limits [dB]	Margin [dB]
TV VHF Fundamental						
2	55.25	3.2	0.2	3.0	14.0	11.0
3	61.25	2.7	0.2	2.5	14.0	11.5
4	67.25	2.6	0.2	2.4	14.0	11.6
5	77.25	2.5	0.2	2.3	14.0	11.7
6	83.25	2.9	0.2	2.7	14.0	11.3
7	175.25	4.8	0.2	4.6	14.0	9.4
8	181.25	4.6	0.2	4.4	14.0	9.6
9	187.25	4.3	0.2	4.1	14.0	9.9
10	193.25	4.2	0.2	4.0	14.0	10.0
11	199.25	4.5	0.2	4.3	14.0	9.7
12	205.25	4.0	0.2	3.8	14.0	10.2
13	211.25	4.0	0.2	3.8	14.0	10.2
TV UHF Fundamental						
14	471.25	6.4	0.3	6.1	14.0	7.9
20	507.25	6.2	0.3	5.9	14.0	8.1
26	543.25	5.9	0.3	5.6	14.0	8.4
32	579.25	5.8	0.3	5.5	14.0	8.5
38	615.25	5.6	0.3	5.3	14.0	8.7
44	651.25	6.0	0.3	5.7	14.0	8.3
50	687.25	4.7	0.3	4.4	14.0	9.6
56	723.25	4.0	0.4	3.6	14.0	10.4
62	759.25	4.4	0.4	4.0	14.0	10.0
69	801.25	4.4	0.4	4.0	14.0	10.0
Mid-band						
14	121.25	3.2	0.2	3.0	14.0	11.0
16	133.25	6.8	0.2	6.6	14.0	7.4
18	145.25	5.8	0.2	5.6	14.0	8.4
20	157.25	5.2	0.2	5.0	14.0	9.0
22	169.25	4.9	0.2	4.7	14.0	9.3
Super-band						
23	217.25	4.2	0.2	4.0	14.0	10.0
26	235.25	3.8	0.2	3.6	14.0	10.4
29	253.25	3.6	0.2	3.4	14.0	10.6
32	271.25	3.6	0.2	3.4	14.0	10.6
36	295.25	3.5	0.2	3.3	14.0	10.7

Test Report No : 23LE0121-YW-1

APPENDIX 3

Test Instruments

Control No.	Instrument	Manufacturer	Model No.	Test Item	Calibration Date Interval: month
APVBT01	VIDEO BOOSTER	UL Apex	-	RF, ATS	-
APTVG01	TV Generator	Leader	408NPS	RF, ATS	Pre Check
APSPA04	Spectrum Analyzer	Advantest	R3265	AT, RF, ATS	2003/05/15 * 12
APMAT04	Matching Pad	TME	ZT-204	PS, NF	2002/12/16 * 12
APMAT05	Matching Pad	TME	ZT-130	AT, RF, ATS	2002/12/16 * 12
APNFM01	Noise Figure Indicator	Elena	ENF-2005	NF	2002/09/27 * 24
APNFS01	Noise Source	Elena	MC1100	NF	-
AV01-01	Signal Generator	Rohde & Schwarz	SMY01	PS	2003/02/18 * 12
SS-05	Digitizing Oscilloscope	Sony Tektronix	2221	PS	2003/01/07 * 12
APBPF01	Band pass filter	Erika Fiedler	BP	PS	Pre Check
APPRA01	Pre Amplifier	Anritsu	MH648A	AT, RF, ATS	2002/09/11 * 12
APPRA05	Pre Amplifier	Hewlett Packard	8449B	AT	2002/12/05 * 12
APCBL-01	Coaxial Cable	Fujikura	5D-2W	AT, RF, ATS	2003/01/12 * 12
APCBL-02	Coaxial Cable	Fujikura	5D-2W	AT, RF, ATS	2003/01/12 * 12
OS-15	Digital Humidity Indicator	SATO	PC-5000TRH	CE, RF, ATS, PS, NF	2003/05/09 * 12
AF-03	Pre Amplifier	Anritsu	MH648A	RE	2003/03/27 * 12
AF-07	Pre Amplifier	Agilent	HP8449B	RE	2002/12/20 * 12
BA-04	Biconical Antenna	Schwarzbeck	BBA9106	RE	2003/04/22 * 12
HA-01	Horn Antenna	A.H.Systems	SAS-200/571	RE	2003/04/28 * 12
LA-05	Logperiodic Antenna	Schwarzbeck	UHALP9108-A	RE	2002/10/27 * 12
LS-03	LISN(AMN)	Schwarzbeck	NSLK8127	CE	2002/11/01 * 12
SA-05	Spectrum Analyzer	Advantest	R3271	CE, RE	2002/12/24 * 12
TR-03	Test Receiver	Rohde & Schwarz	ESHS30	CE	2003/05/15 * 12
TR-04	Test Receiver	Rohde & Schwarz	ESVS10	RE	2003/05/15 * 12
CC-20RC	Yokowa No.2 open coaxial(0.01-1000MHz)	UL Apex	CC-21,CC-22,C C-23,CC-24,CC -25,CC-26,CC- 27,SW-21,SW-2 2	RE	2003/03/28 * 12
CC-2S	Yokowa No.2 shield coaxial(0.01MHz-1000MHz)	UL Apex	CC-24,CC-25,C C-26,CC-28,CC -29,SW-21,SW- 22	CE	2003/03/29 * 12
CC-C6	Microwave Cable	Suhner	SUCOFLEX	RE	2003/01/10 * 12
CC-C11	Microwave Cable	Storm	421-014(4mx2)	RE	2002/12/17 * 12
YOATS-02	Open Test Site	JSE	3m, 10m	RE	2003/04/20 * 12
OS-10	Digital Humidity Indicator	SATO	PC-5000TRH	RE	2003/05/06 * 12
AF-01	Pre Amplifier	Hewlett Packard	8447D	AT	2003/03/27 * 12
AF-06	Pre Amplifier	Agilent	HP8449B	AT	2002/12/20 * 12
SA-06	Spectrum Analyzer	Advantest	R3273	AT	2002/11/19 * 12
OS-11	Digital Humidity Indicator	SATO	PC-5000TRH	AT	2003/04/24 * 12

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
 RF: RF output level & spurious
 ATS: Antenna transfer switch
 PS: Picture sensitivity
 NF: Noise figure

UL Apex Co., Ltd.