

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : TV RECEPTION MODE+REC
Remarks : 0dBmV INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : 
Hisayuki Kioka

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	40.4	-	39.8	-	0.1	0.1	0.0	40.6	-	48.0	0.0	7.4	-
2.	0.5600	37.1	-	36.8	-	0.1	0.1	0.0	37.3	-	48.0	0.0	10.7	-
3.	1.0000	29.6	-	30.0	-	0.1	0.2	0.0	30.3	-	48.0	0.0	17.7	-
4.	3.7112	22.3	-	25.5	-	0.4	0.3	0.0	26.2	-	48.0	0.0	21.8	-
5.	24.0000	32.1	-	32.7	-	1.5	0.6	0.0	34.8	-	48.0	0.0	13.2	-
6.	28.6364	39.0	-	39.5	-	1.8	0.6	0.0	41.9	-	48.0	0.0	6.1	-

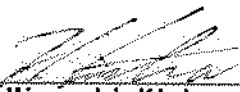
CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

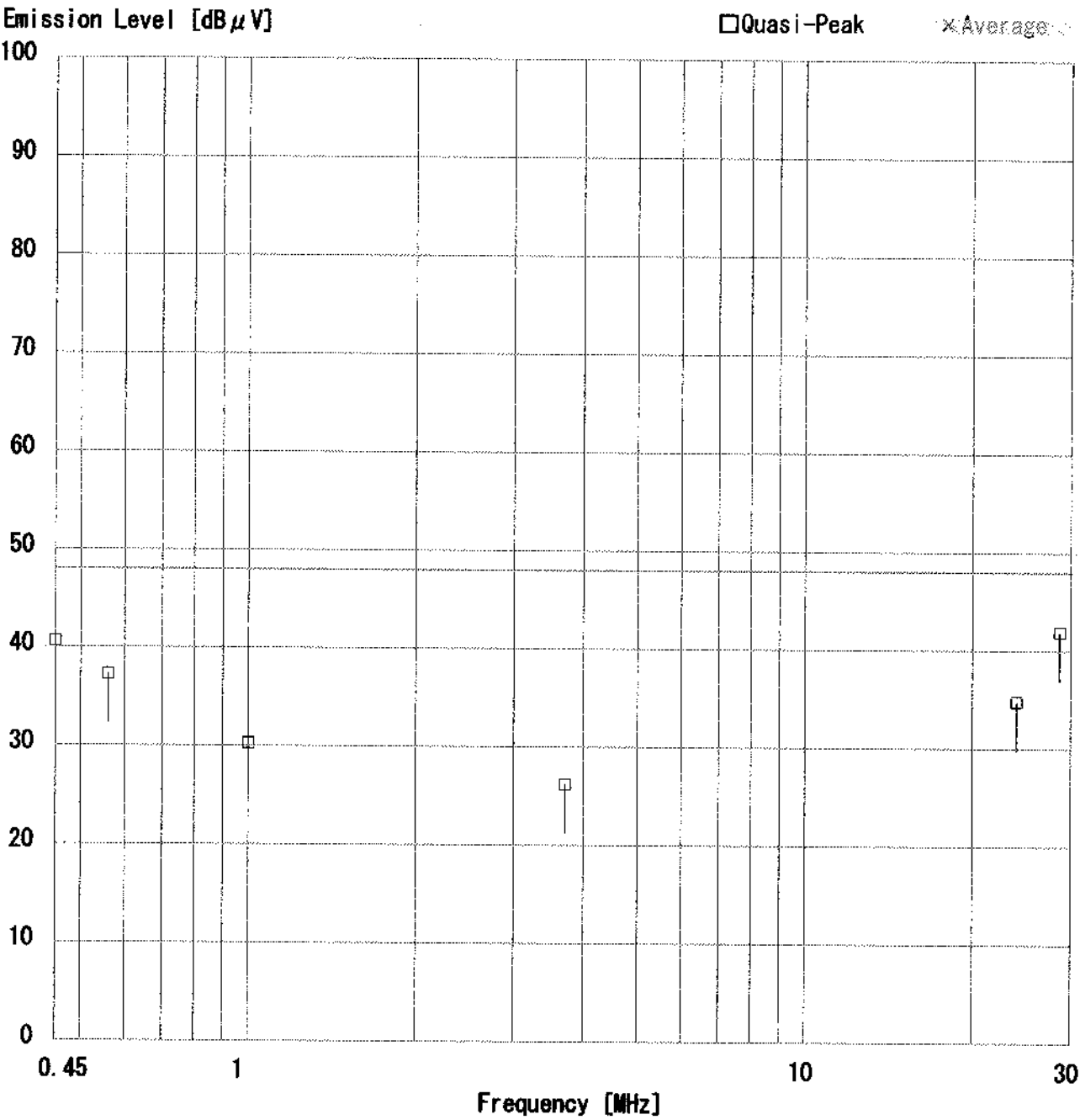
Except for the above table : adequate margin data below the limits.

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Remarks : 0dBmV INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hisayuki Kioka

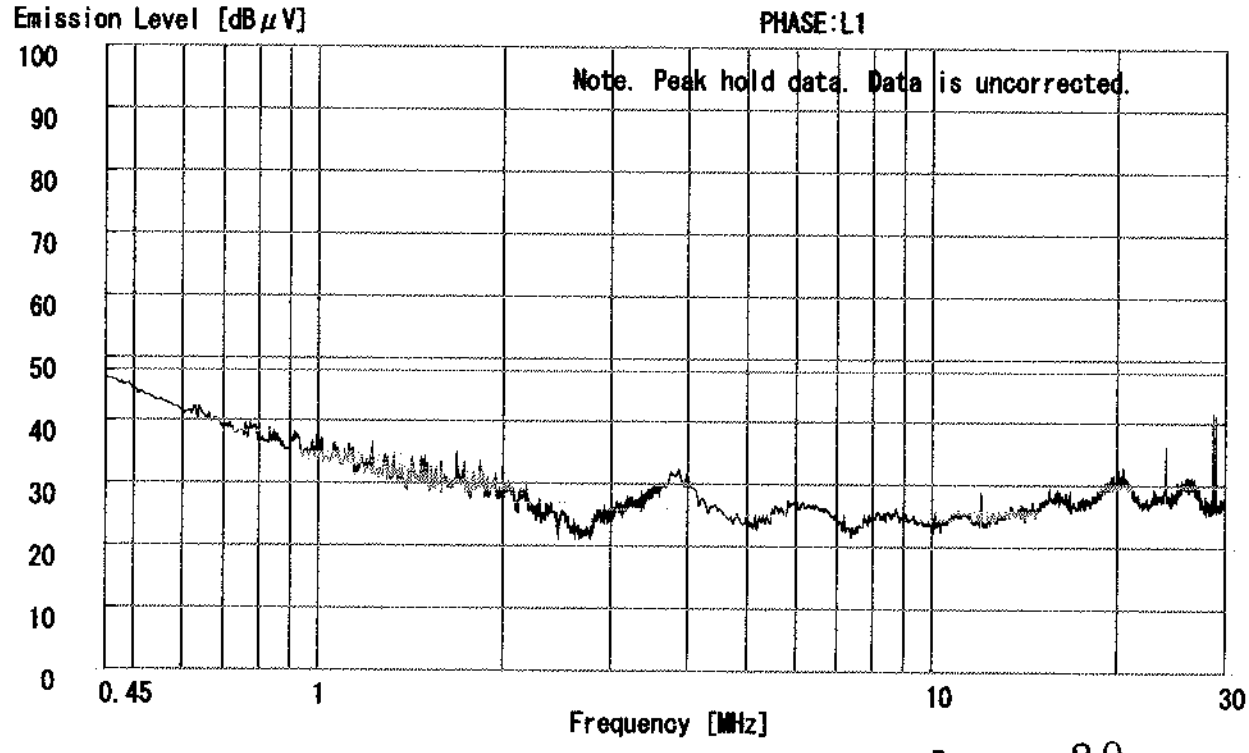
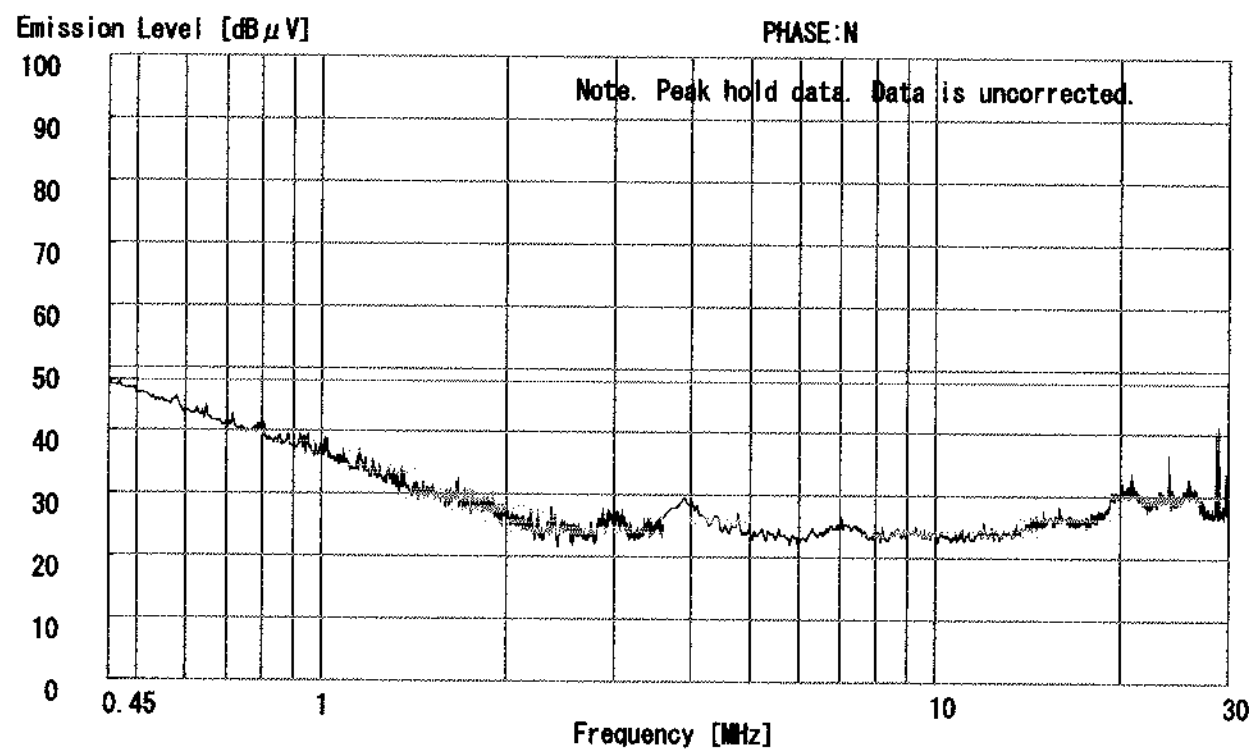


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : TV RECEPTION MODE+REC
Remarks : 0dBmV INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer :  Hisayuki Kioka



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : TV RECEPTION MODE+REC
Remarks : 25dBmV INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV				QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1.	0.4500	36.7	-	39.8	-	0.1	0.1	0.0	40.0	-	48.0	0.0	8.0	-
2.	0.5600	34.1	-	36.0	-	0.1	0.1	0.0	36.2	-	48.0	0.0	11.8	-
3.	1.0000	29.8	-	29.8	-	0.1	0.2	0.0	30.1	-	48.0	0.0	17.9	-
4.	3.8384	26.5	-	27.4	-	0.4	0.3	0.0	28.1	-	48.0	0.0	19.9	-
5.	24.0000	30.1	-	32.8	-	1.5	0.6	0.0	34.9	-	48.0	0.0	13.1	-
6.	28.6364	38.7	-	39.1	-	1.8	0.6	0.0	41.5	-	48.0	0.0	6.5	-

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

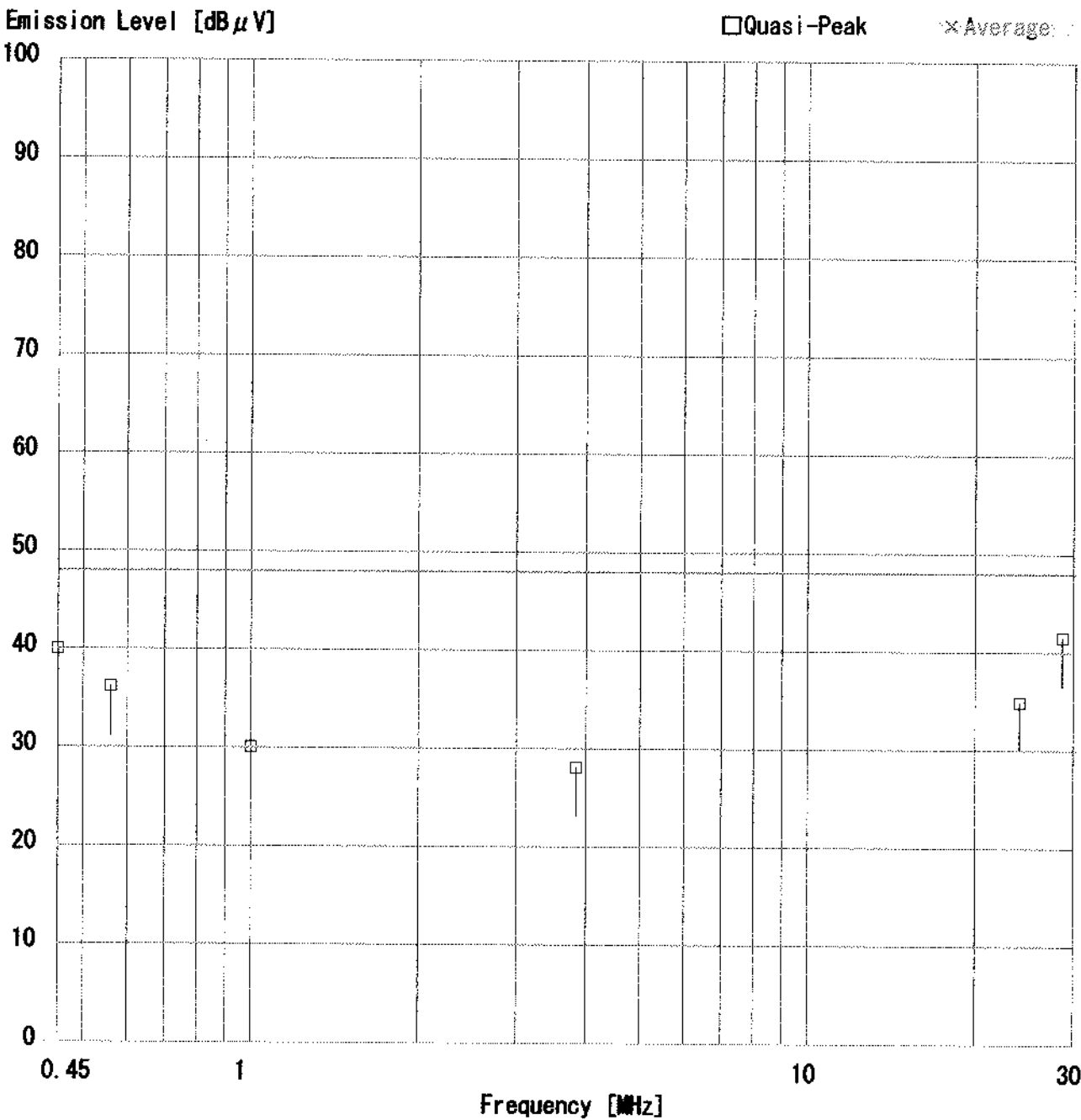
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Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : TV RECEPTION MODE+REC
Remarks : 25dBmV INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hisayuki Kioka

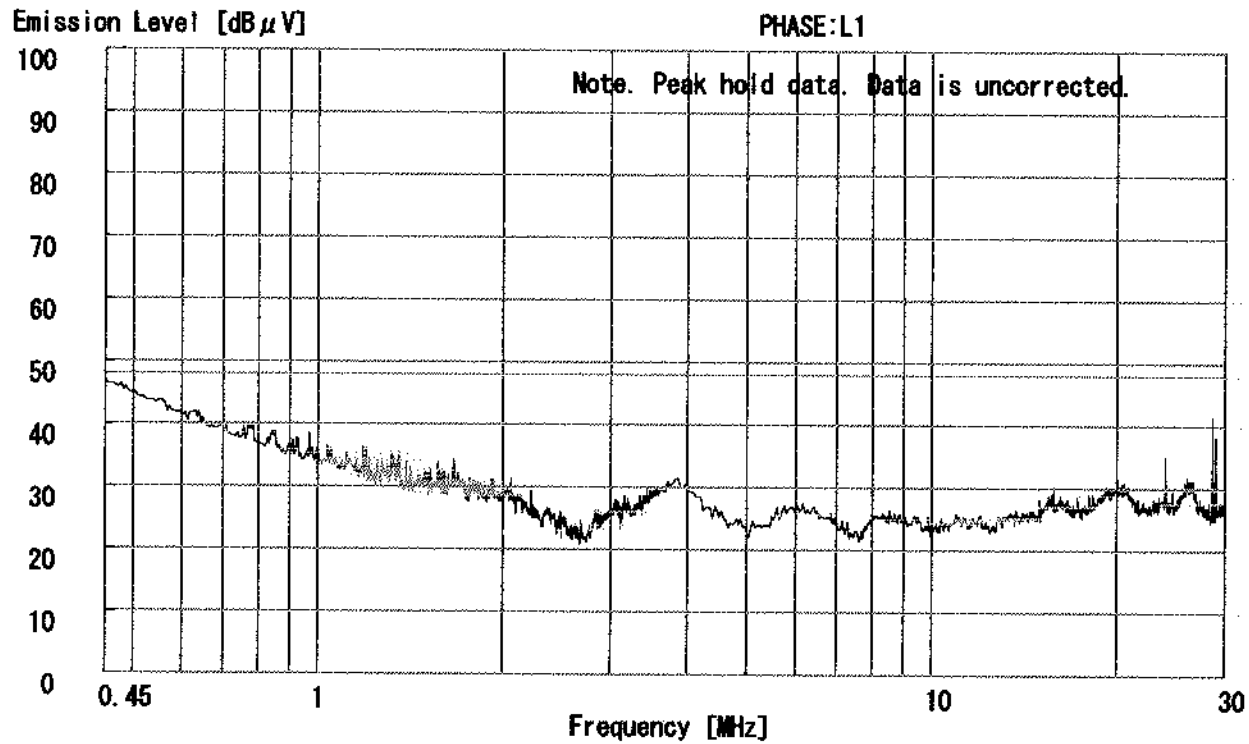
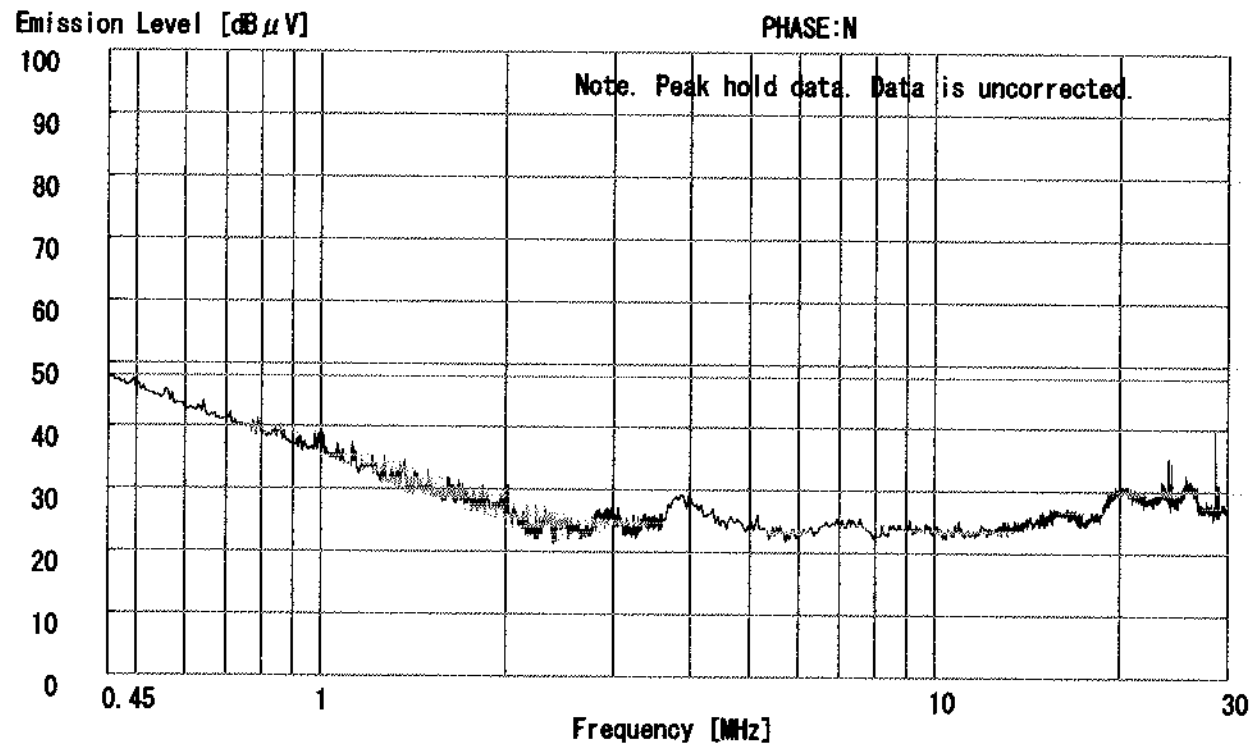


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A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
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Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : TV RECEPTION MODE+REC
Remarks : 25dBmV INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : Hisayuki Kioka



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A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : AV INPUT MODE+REC
Remarks : 1Vp-p INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B


Engineer : Hisayuki Kioka

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	40.4	-	39.8	-	0.1	0.1	0.0	40.6	-	48.0	0.0	7.4	-
2.	0.5600	37.1	-	35.9	-	0.1	0.1	0.0	37.3	-	48.0	0.0	10.7	-
3.	1.0000	30.0	-	30.0	-	0.1	0.2	0.0	30.3	-	48.0	0.0	17.7	-
4.	4.1375	28.6	-	30.0	-	0.4	0.3	0.0	30.7	-	48.0	0.0	17.3	-
5.	23.9990	29.4	-	29.6	-	1.5	0.6	0.0	31.7	-	48.0	0.0	16.3	-
6.	28.6361	35.0	-	34.9	-	1.8	0.6	0.0	37.4	-	48.0	0.0	10.6	-

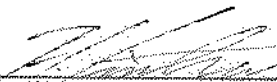
CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

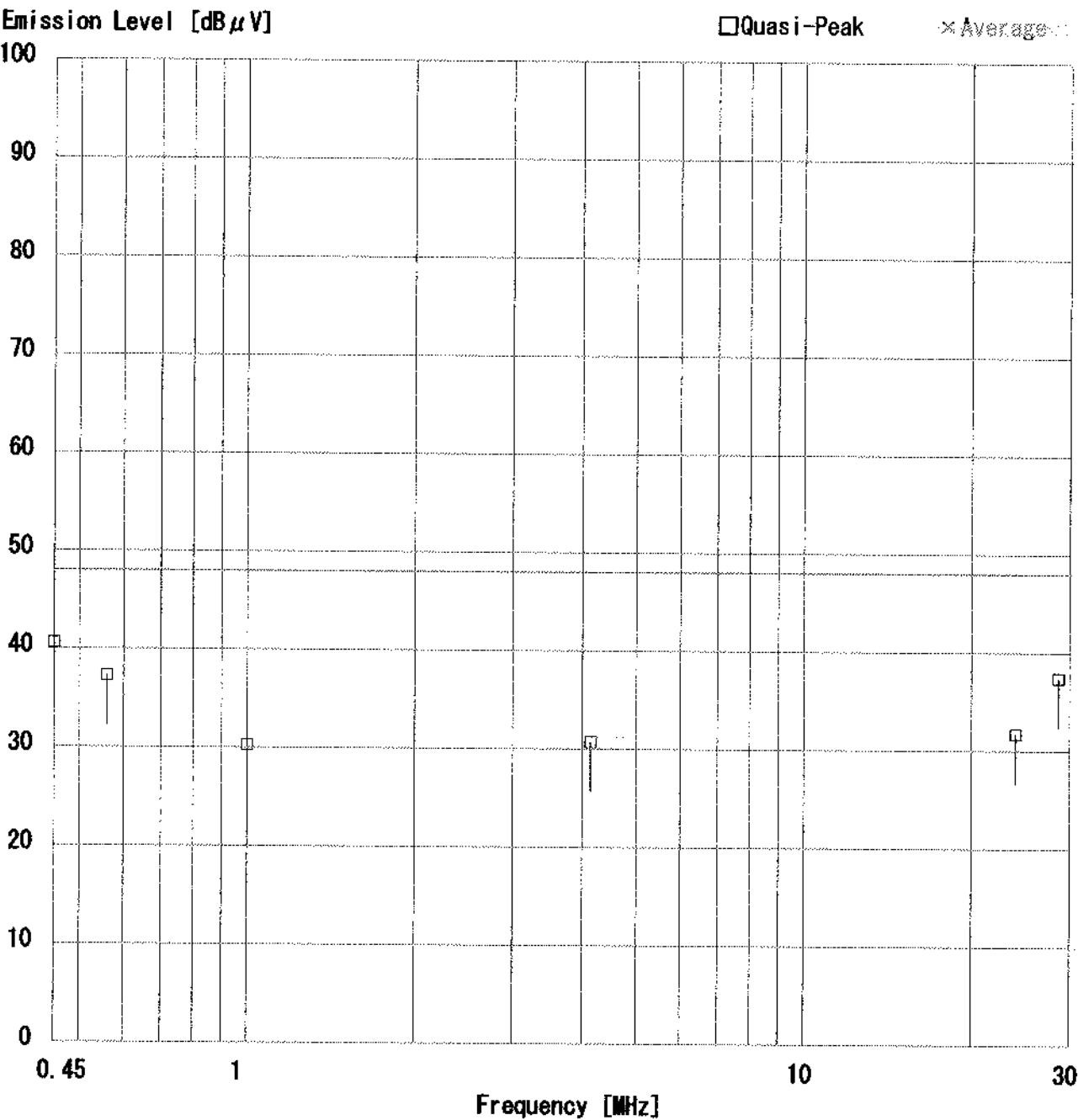
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Mode : AV INPUT MODE+REC
Remarks : 1Vp-p INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer :  Hisayuki Kioka

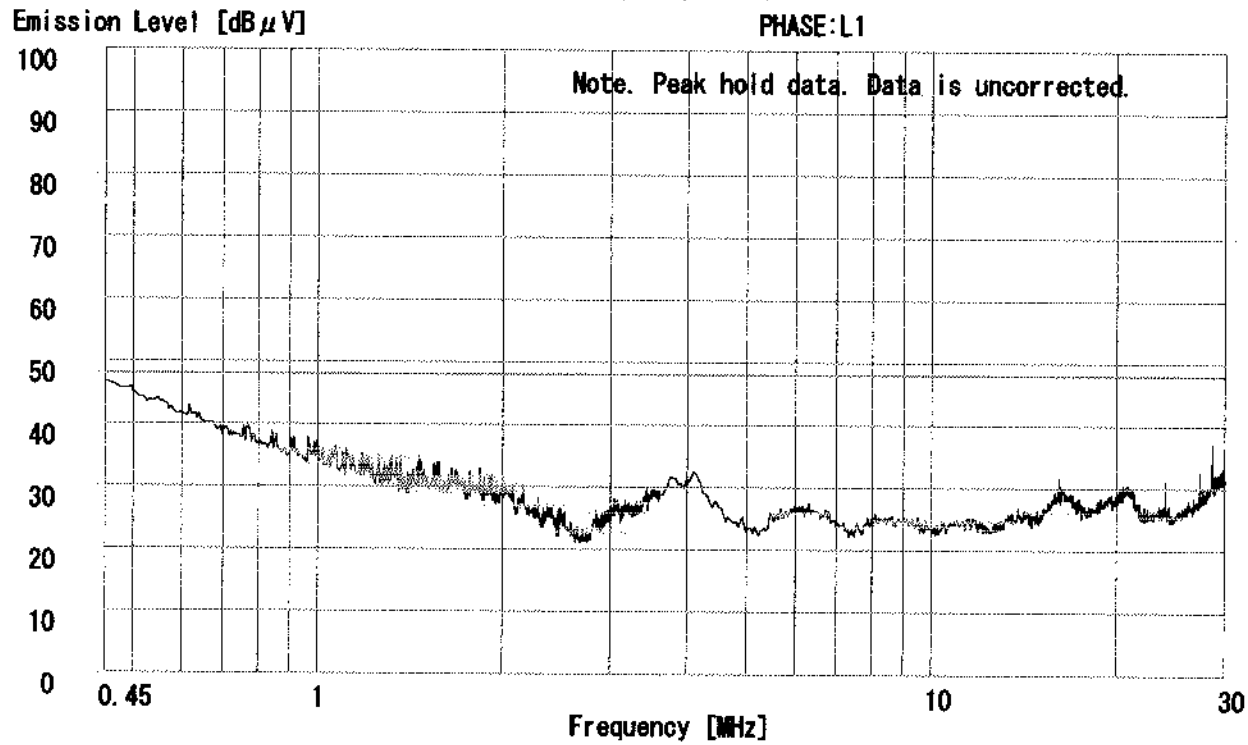
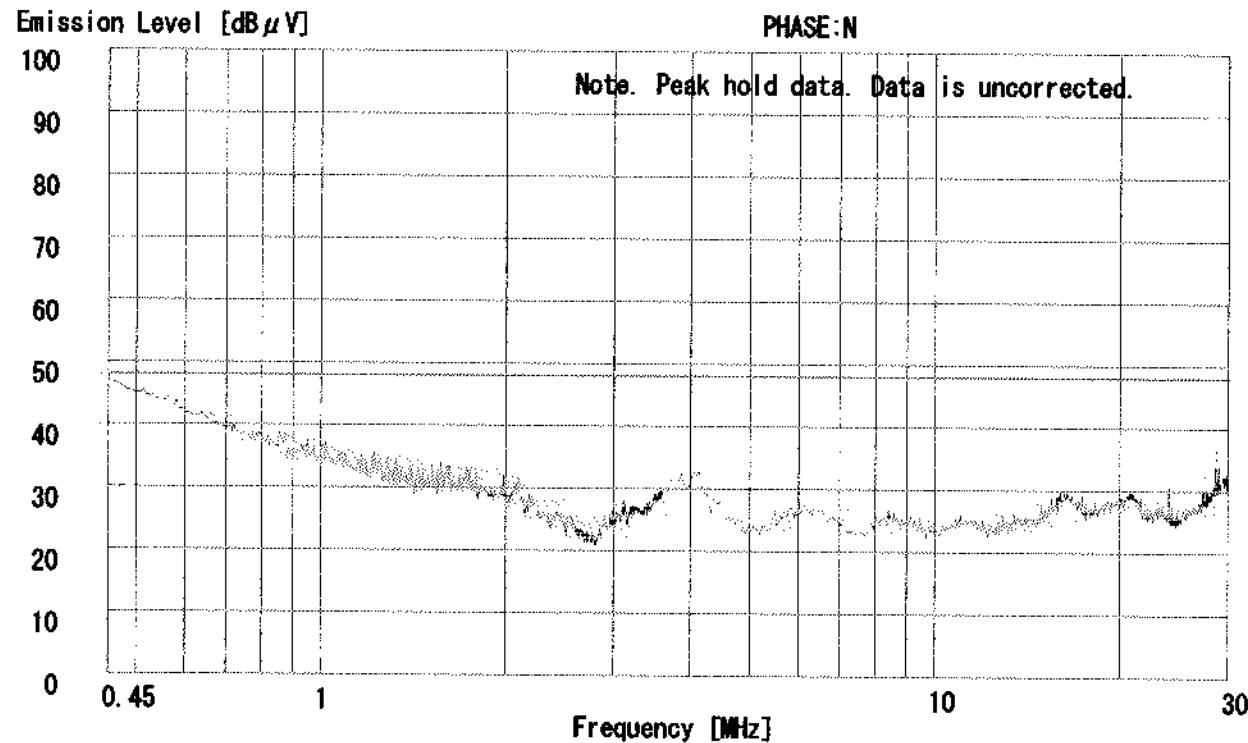


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : AV INPUT MODE+REC
Remarks : 1Vp-p INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer :  Hisayuki Kioka



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A-PEX INTERNATIONAL CO., LTD.
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Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : AV INPUT MODE+REC
Remarks : 5Vp-p INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

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	40.5	-	39.8	-	0.1	0.1	0.0	40.7	-	48.0	0.0	7.3	-
2.	0.5600	37.2	-	36.0	-	0.1	0.1	0.0	37.4	-	48.0	0.0	10.6	-
3.	1.0000	29.3	-	29.6	-	0.1	0.2	0.0	29.9	-	48.0	0.0	18.1	-
4.	4.1843	25.8	-	27.3	-	0.4	0.3	0.0	28.0	-	48.0	0.0	20.0	-
5.	24.0000	29.8	-	29.6	-	1.5	0.6	0.0	31.9	-	48.0	0.0	16.1	-
6.	28.6351	31.9	-	31.8	-	1.8	0.6	0.0	34.3	-	48.0	0.0	13.7	-

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

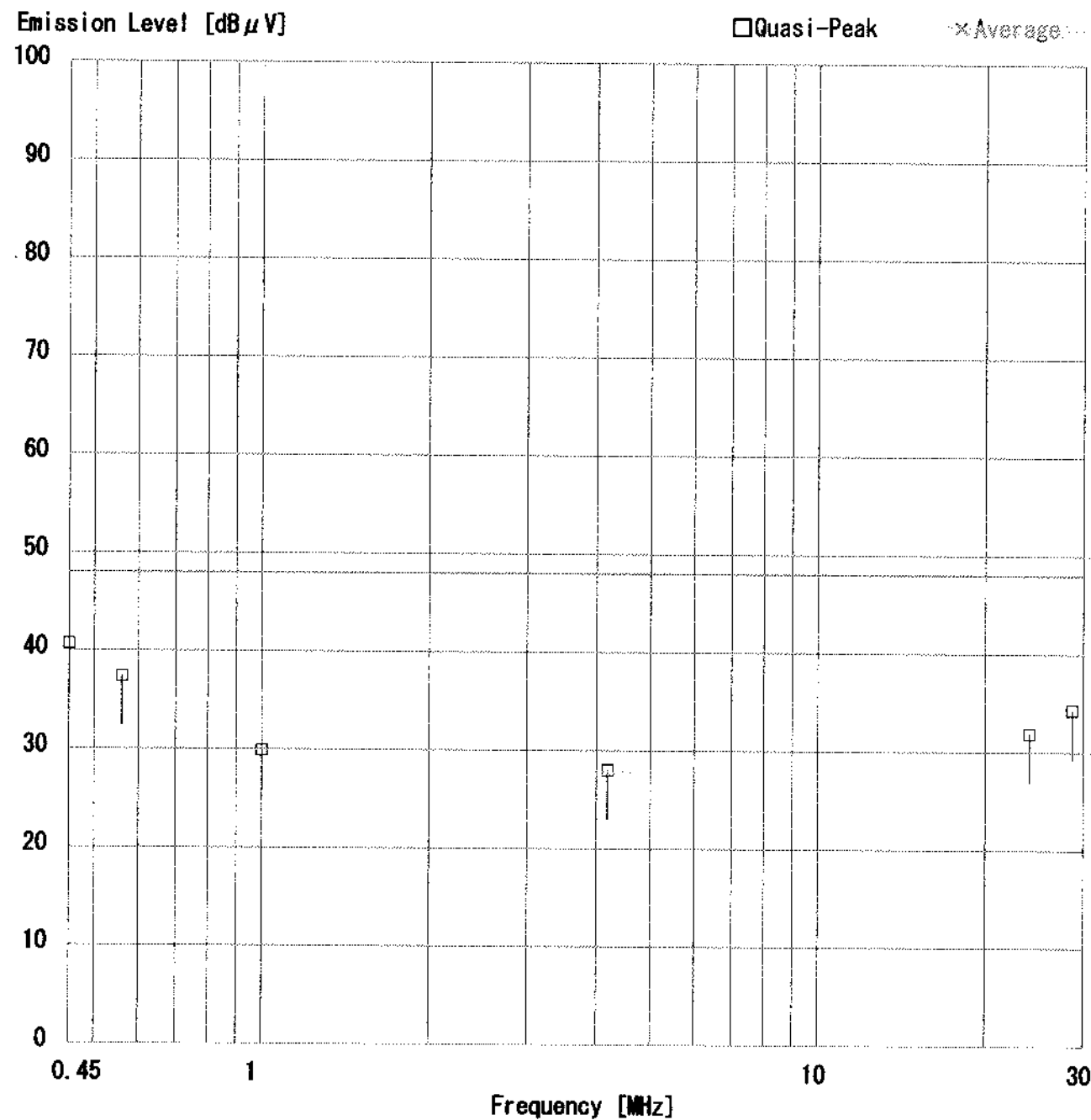
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Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer :  Hisayuki Kioka

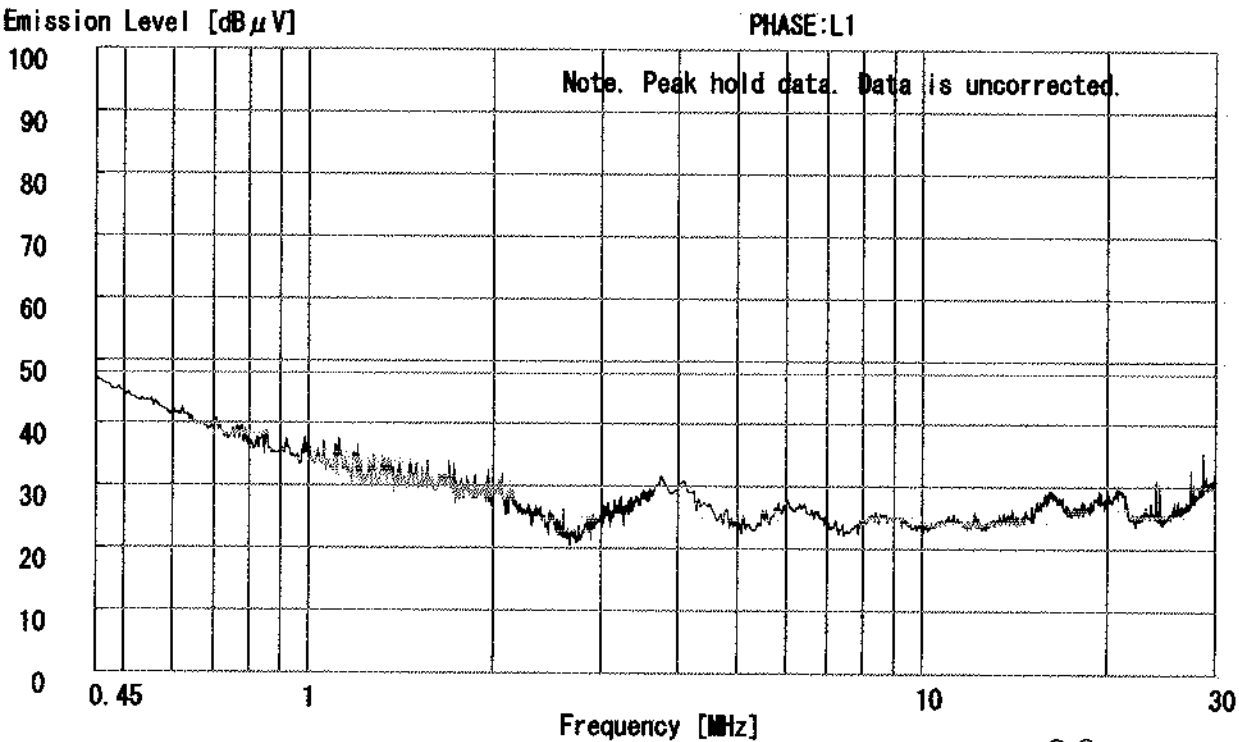
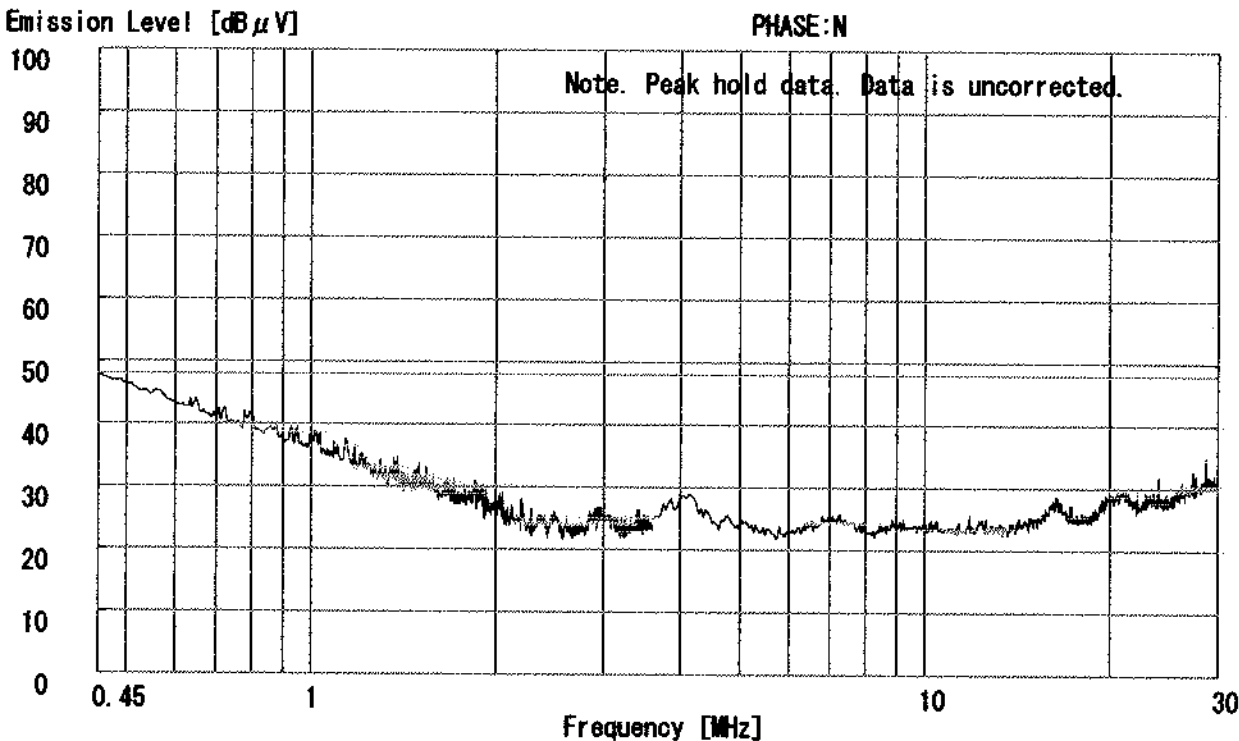


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Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : AV INPUT MODE+REC
Remarks : 5Vp-p INPUT
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

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Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : DVD PLAY MODE
Remarks :
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

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	40.2	-	39.6	-	0.1	0.1	0.0	40.4	-	48.0	0.0	7.6	-
2.	0.5600	36.5	-	35.5	-	0.1	0.1	0.0	36.7	-	48.0	0.0	11.3	-
3.	1.0000	28.1	-	26.4	-	0.1	0.2	0.0	28.4	-	48.0	0.0	19.6	-
4.	4.0580	28.0	-	28.9	-	0.4	0.3	0.0	29.6	-	48.0	0.0	18.4	-
5.	24.0000	30.8	-	30.8	-	1.5	0.6	0.0	32.9	-	48.0	0.0	15.1	-
6.	27.2964	29.6	-	29.2	-	1.7	0.6	0.0	31.9	-	48.0	0.0	16.1	-

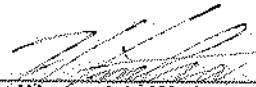
CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

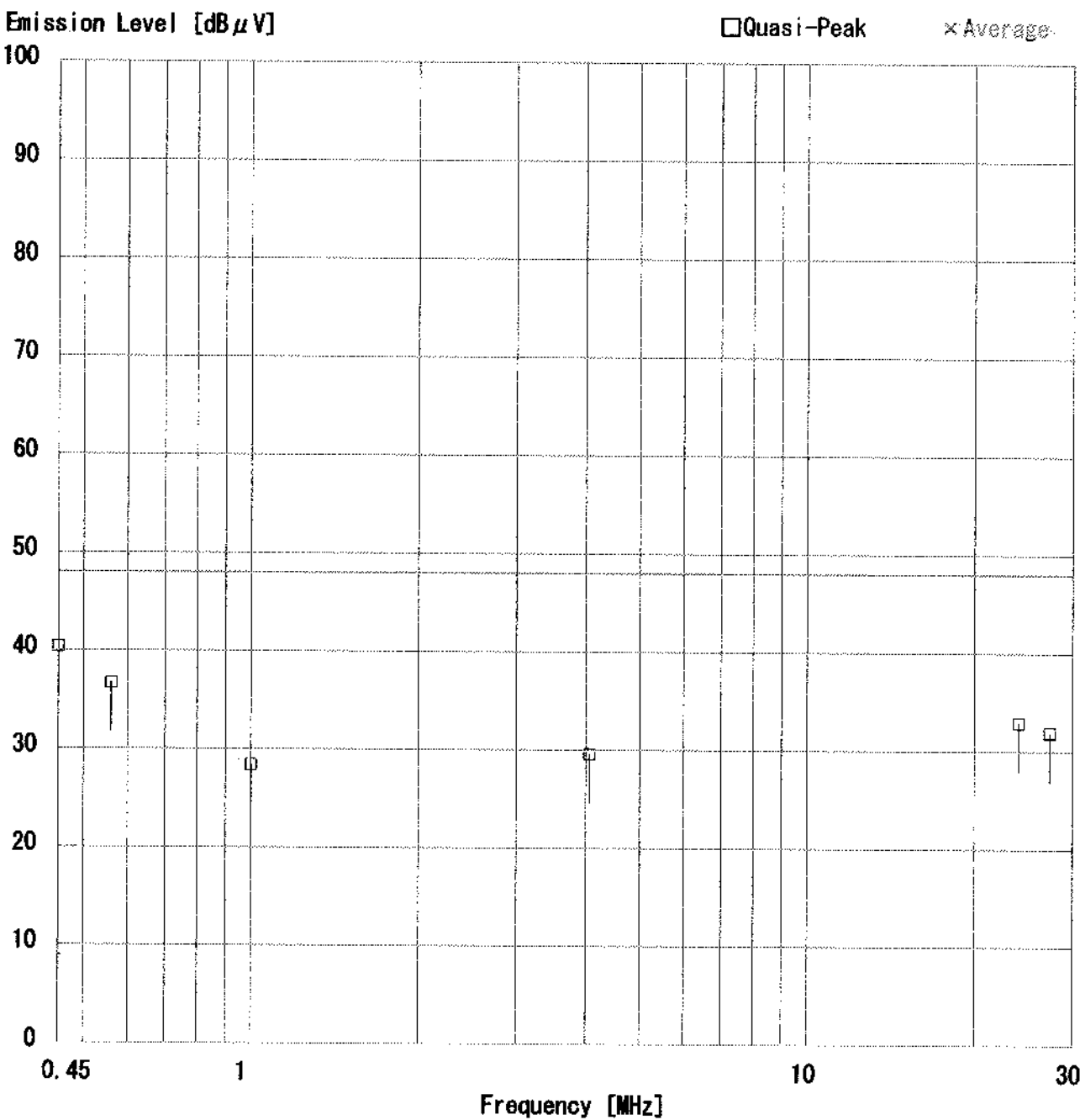
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Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : DVD PLAY MODE
Remarks :
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer :  Hisayuki Kioka

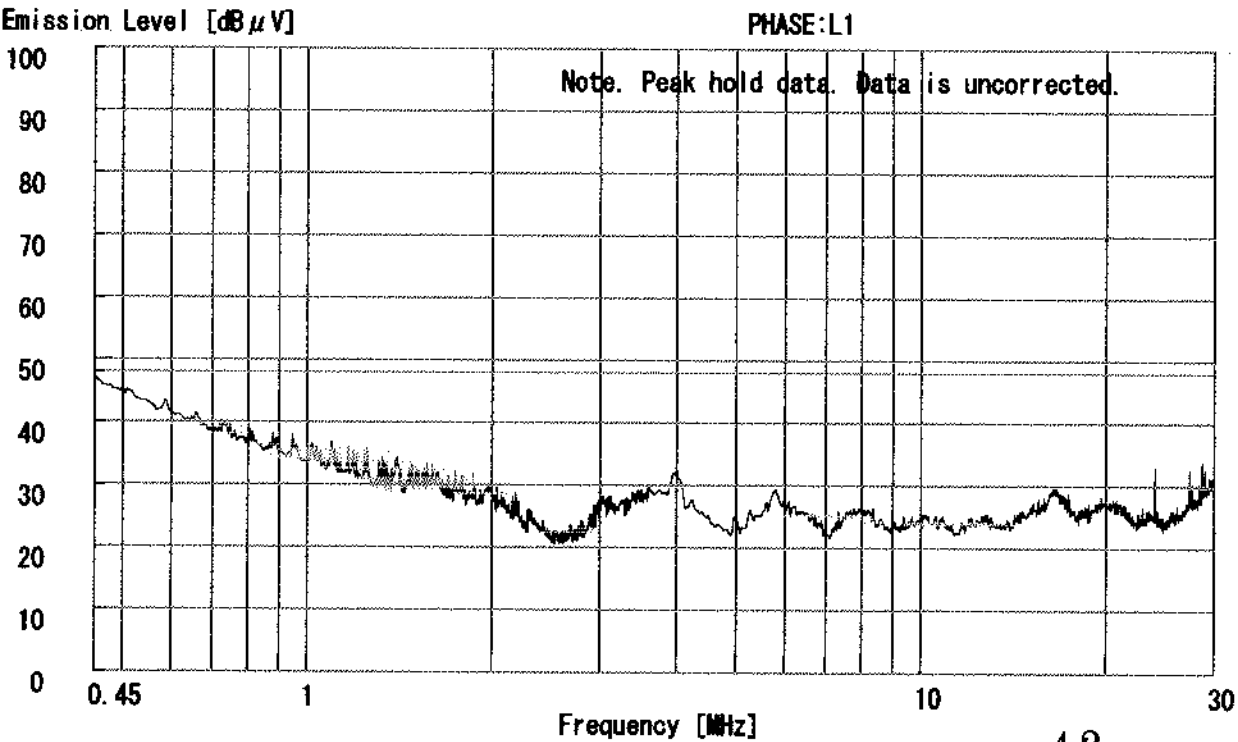
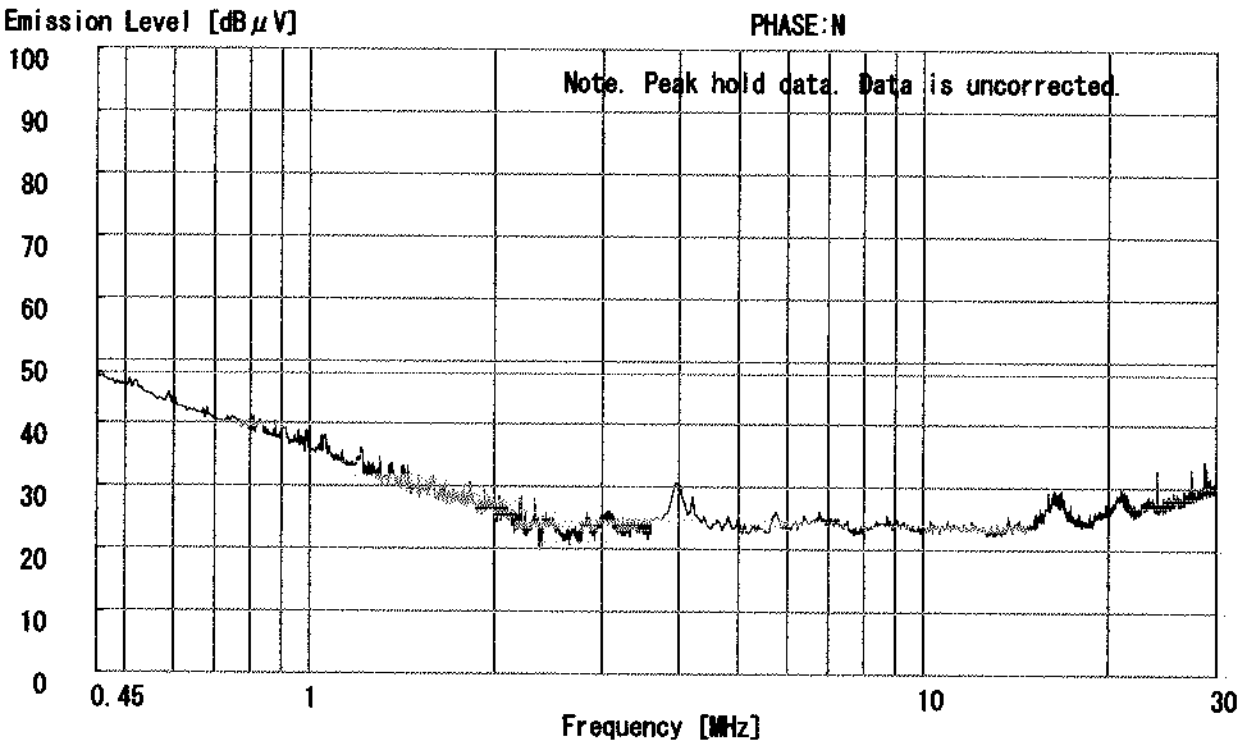


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : DVD PLAY MODE
Remarks :
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : Hisayuki Kioka



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A-PEX INTERNATIONAL CO., LTD.
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Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM RECEPTION MODE
Remarks :
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

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	39.8	-	39.2	-	0.1	0.1	0.0	40.0	-	48.0	0.0	8.0	-
2.	0.5600	36.4	-	35.2	-	0.1	0.1	0.0	36.6	-	48.0	0.0	11.4	-
3.	1.0069	30.0	-	31.5	-	0.1	0.2	0.0	31.8	-	48.0	0.0	16.2	-
4.	1.7459	21.1	-	23.7	-	0.2	0.2	0.0	24.1	-	48.0	0.0	23.9	-
5.	3.5795	28.1	-	31.1	-	0.4	0.3	0.0	31.8	-	48.0	0.0	16.2	-
6.	10.7300	40.3	-	40.1	-	0.8	0.6	0.0	41.7	-	48.0	0.0	6.3	-
7.	25.0564	36.1	-	36.6	-	1.6	0.6	0.0	38.8	-	48.0	0.0	9.2	-

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

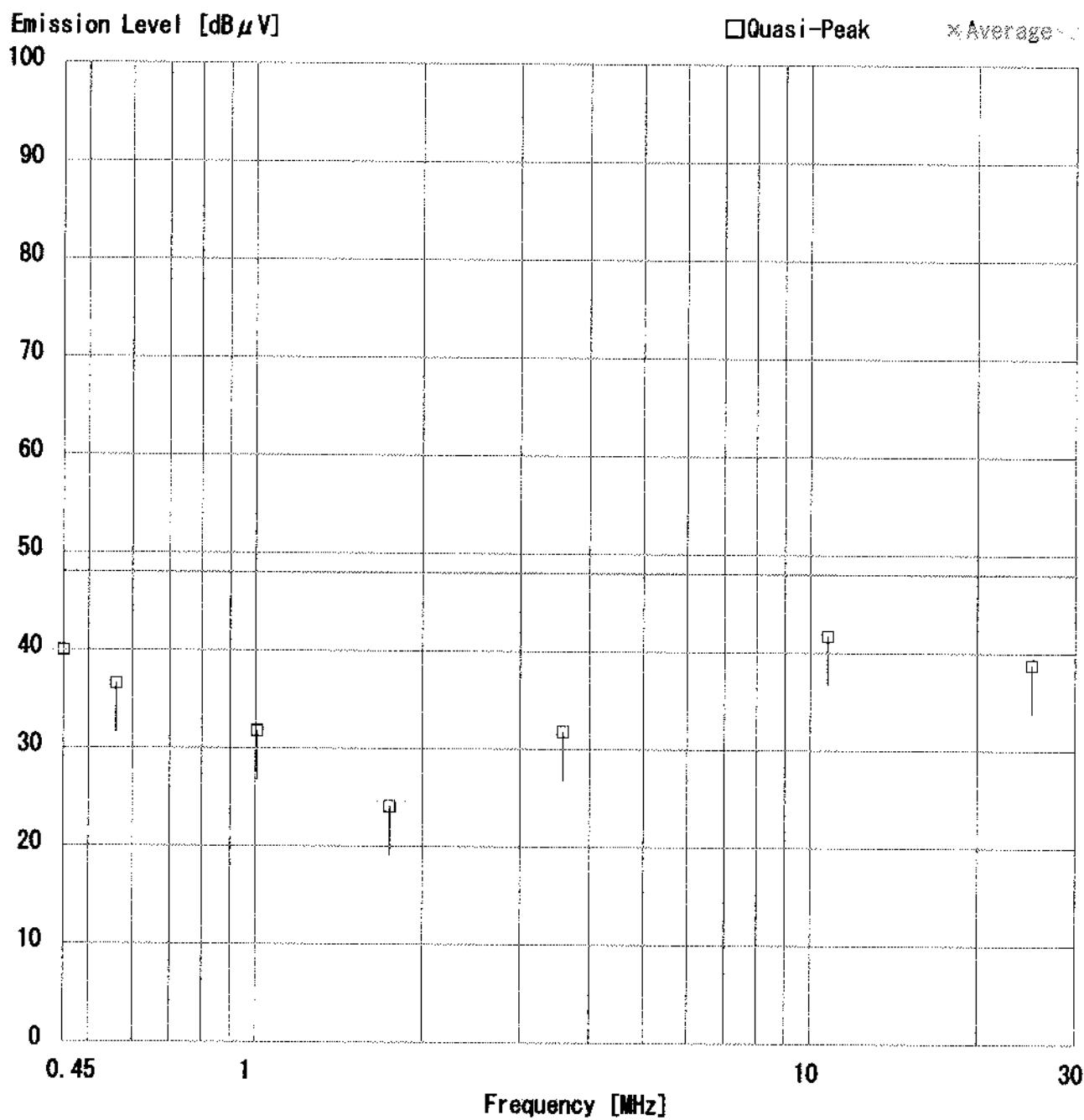
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Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM RECEPTION MODE
Remarks :
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

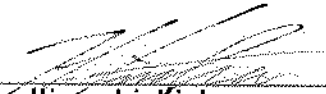
Engineer : Hisayuki Kioka

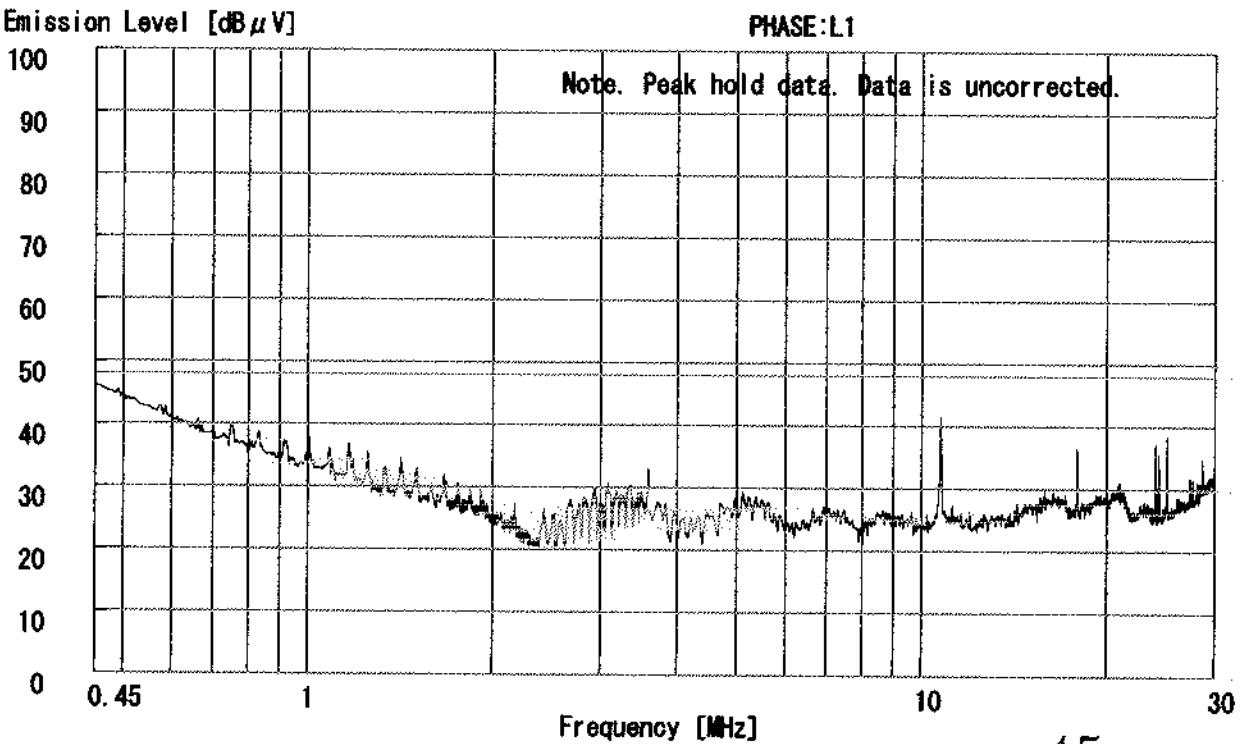
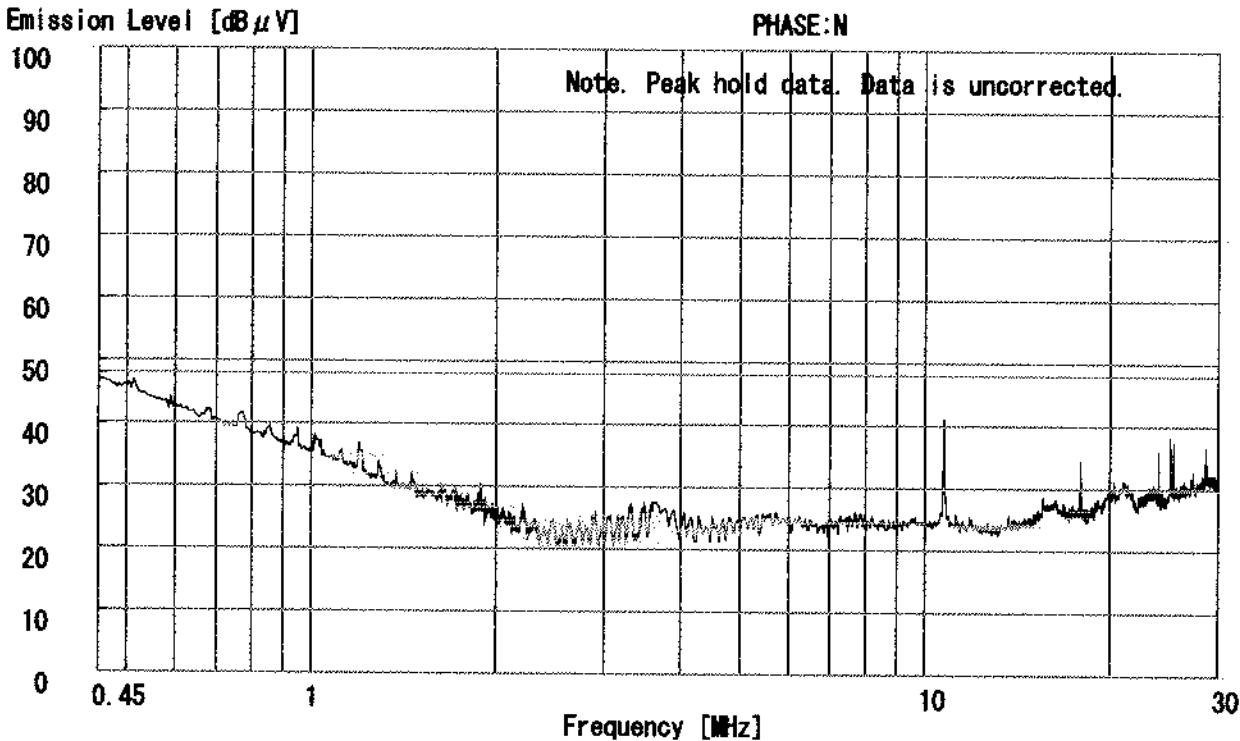


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM RECEPTION MODE
Remarks :
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : 
Hisayuki Kioka



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A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM RECEPTION MODE
Remarks : POWERED SUBWOOFER
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV				QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1.	0.4975	29.1	-	29.3	-	0.1	0.1	0.0	29.5	-	48.0	0.0	18.5	-
2.	0.7458	28.8	-	29.3	-	0.1	0.1	0.0	29.5	-	48.0	0.0	18.5	-
3.	2.1498	17.6	-	19.6	-	0.2	0.3	0.0	20.1	-	48.0	0.0	27.9	-
4.	13.9716	20.1	-	19.7	-	1.0	0.6	0.0	21.7	-	48.0	0.0	26.3	-
5.	24.0000	28.6	-	29.6	-	1.5	0.6	0.0	31.7	-	48.0	0.0	16.3	-
6.	28.6357	27.2	-	26.6	-	1.8	0.6	0.0	29.6	-	48.0	0.0	18.4	-

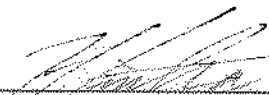
CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

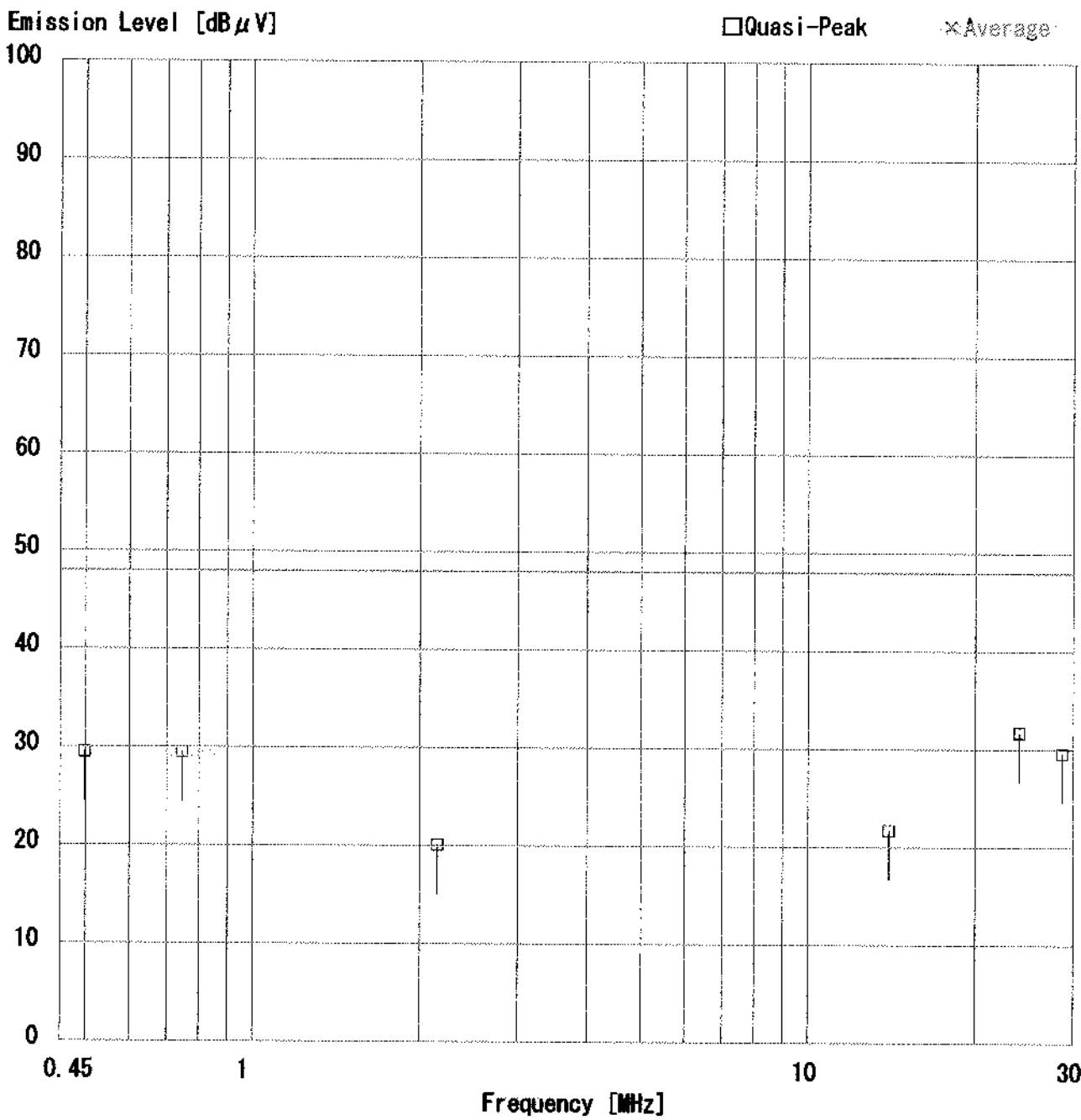
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM RECEPTION MODE
Remarks : POWERED SUBWOOFER
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : 
Hisayuki Kioka

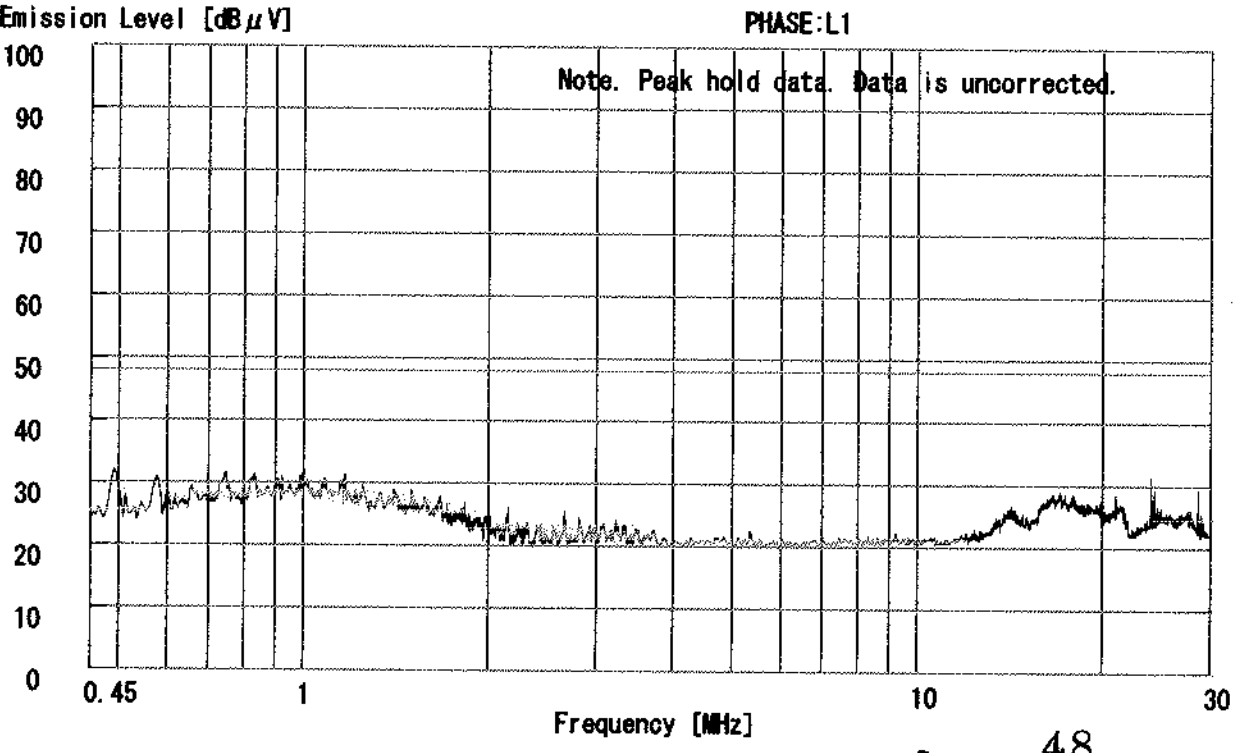
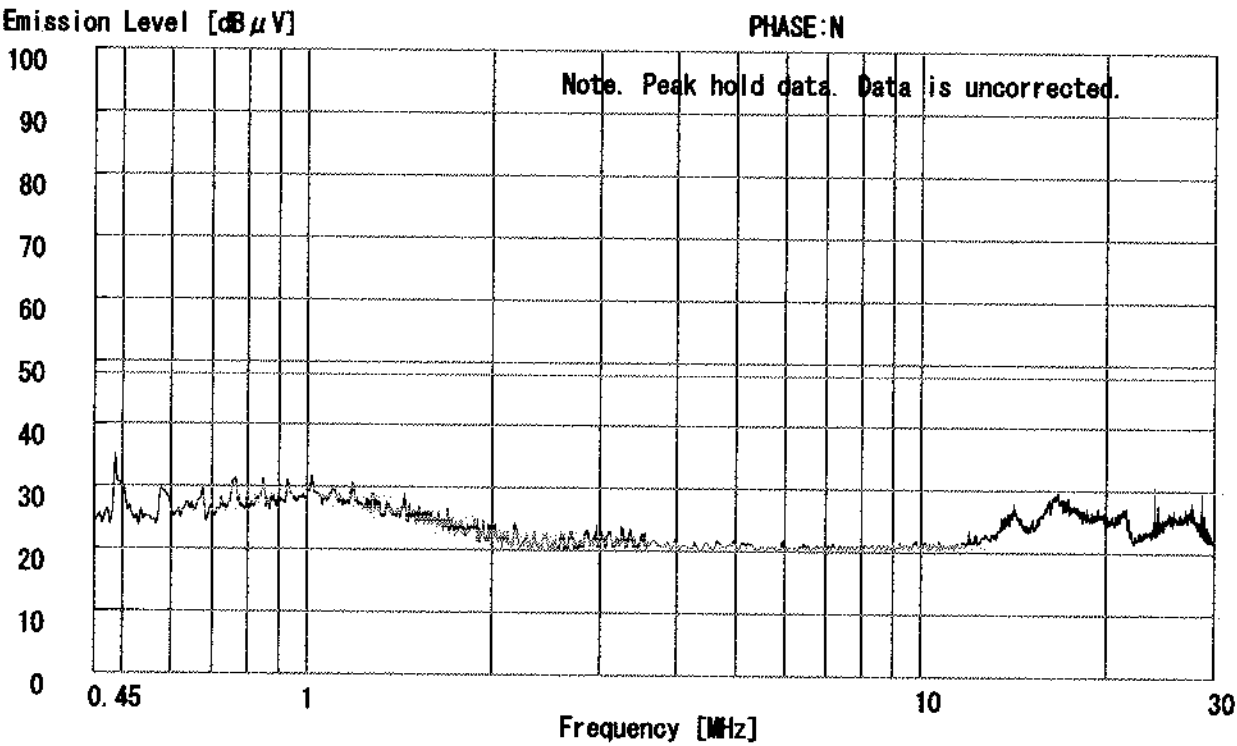


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YM-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM RECEPTION MODE
Remarks : POWERED SUBWOOFER
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer :  Hisayuki Kioka



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : VCR PLAYBACK MODE
Remarks :
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV				QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1.	0.4500	40.3	-	39.5	-	0.1	0.1	0.0	40.5	-	48.0	0.0	7.5	-
2.	0.5600	36.8	-	36.0	-	0.1	0.1	0.0	37.0	-	48.0	0.0	11.0	-
3.	1.0000	29.8	-	30.0	-	0.1	0.2	0.0	30.3	-	48.0	0.0	17.7	-
4.	3.8581	20.5	-	24.5	-	0.4	0.3	0.0	25.2	-	48.0	0.0	22.8	-
5.	24.0000	30.2	-	30.0	-	1.5	0.6	0.0	32.3	-	48.0	0.0	15.7	-
6.	28.6359	33.7	-	33.7	-	1.8	0.6	0.0	36.1	-	48.0	0.0	11.9	-

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

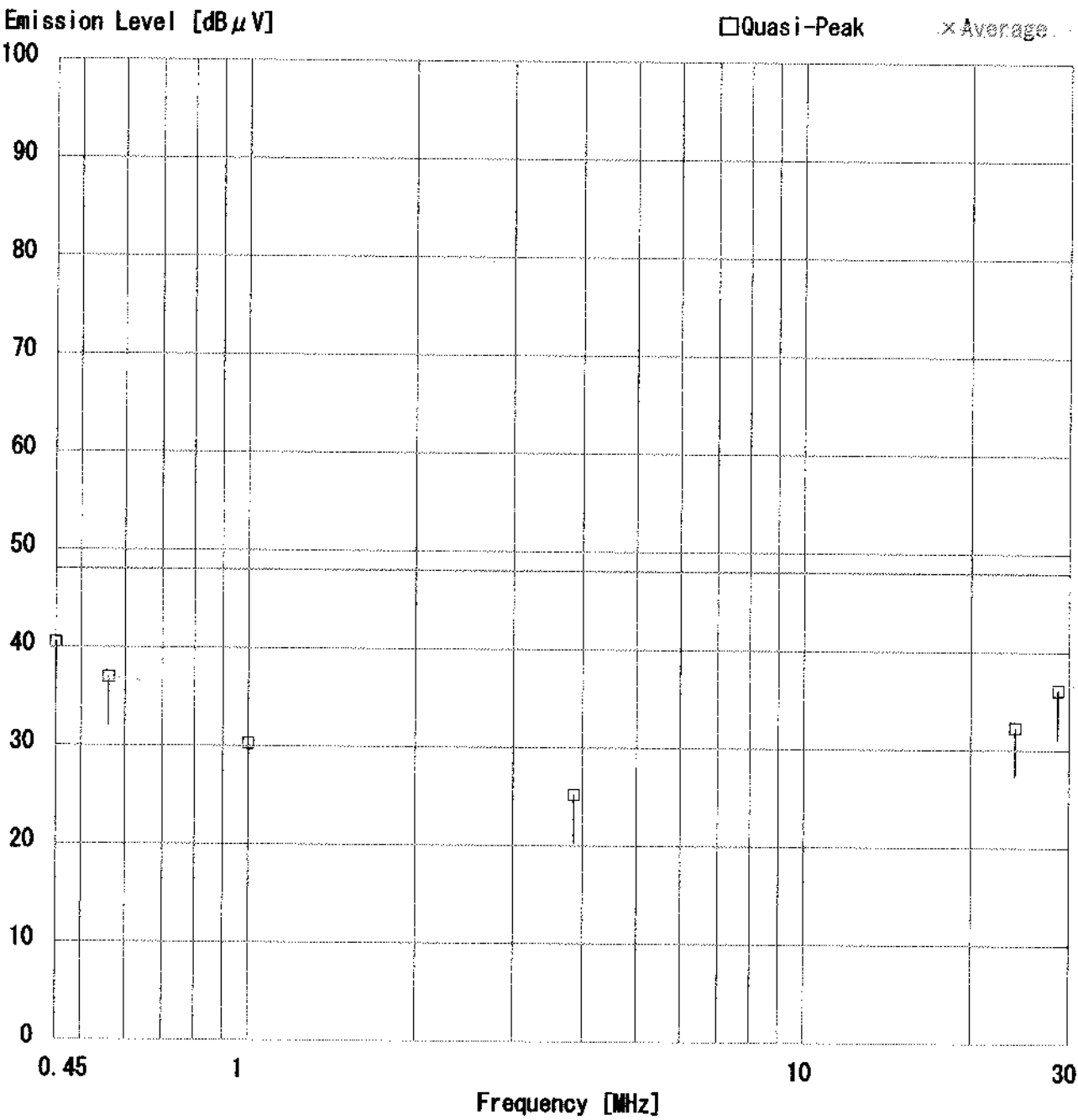
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DVM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : VCR PLAYBACK MODE
Remarks :
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation : FCC Part15B CLASS B

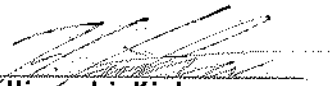

Engineer : Hisayuki Kioka

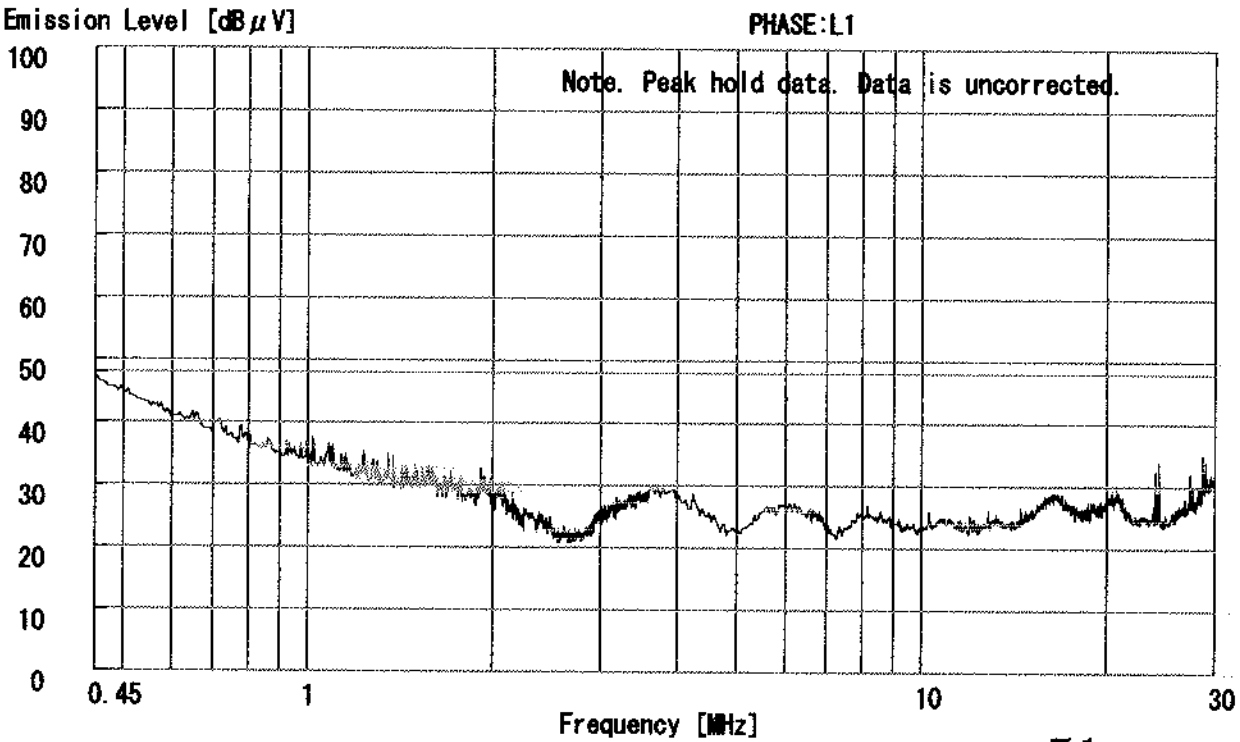
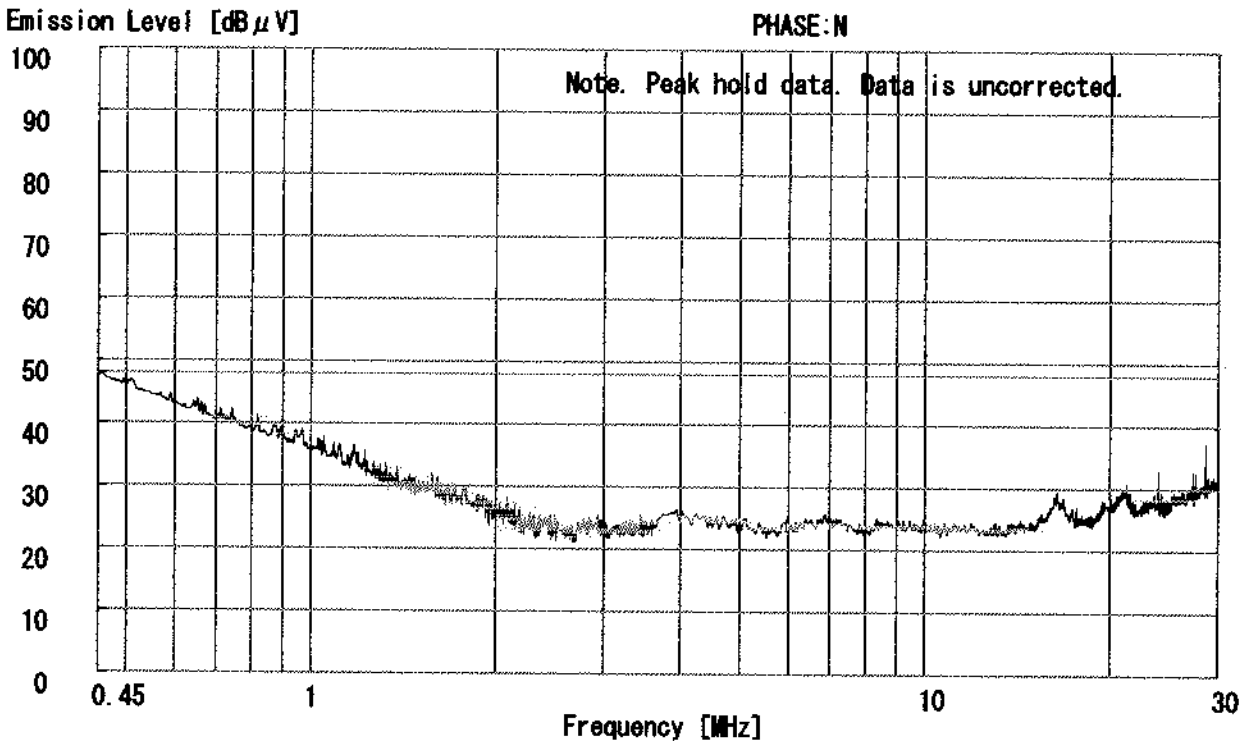


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR RECEIVER
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : VCR PLAYBACK MODE
Remarks :
Date : 8/23/2002
Phase : Single Phase
Temperature : 26 °C
Humidity : 59 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer :  Hisayuki Kioka



DATA OF RADIATION TEST

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

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR Receiver
MODEL No. : DWM-3000U
POWER : AC120V/60Hz
DESCRIPTION : TV RECEPTION+REC

REPORT No. : 23AE0029-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : August 19, 2002


ENGINEER : Hiroya Tabata

CH.	FREQ [MHz]	READING HOR. VER. [dBuV]	ANT TYPE	ANT. FAC. [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULTS HOR. VER. [dBuV/m]	LIMIT [dBuV/m]	MARGIN HOR. VER. [dB]
VHF Fundamental									
2	101	26.1 31.6	BC	10.2	2.2	29.7	14.8 20.3	43.5	28.7 23.2
3	107	25.4 33.1	BC	11.2	2.3	29.7	15.2 22.9	43.5	28.3 20.6
4	113	28.8 32.1	BC	12.3	2.3	29.7	19.7 23.0	43.5	23.8 20.5
5	123	28.0 30.7	BC	13.7	2.5	29.7	20.5 23.2	43.5	23.0 20.3
6	129	27.9 29.2	BC	14.0	2.5	29.7	20.7 22.0	43.5	22.8 21.5
7	221	23.7 23.0	BC	16.6	3.4	29.7	20.0 19.3	46.0	26.0 26.7
8	227	23.2 23.4	BC	16.7	3.4	29.7	19.6 19.8	46.0	26.4 26.2
9	233	23.2 23.9	BC	16.7	3.5	29.7	19.7 20.4	46.0	26.3 25.6
10	239	23.0 24.0	BC	16.7	3.5	29.7	19.5 20.5	46.0	26.5 25.5
11	245	23.0 23.1	BC	16.8	3.6	29.7	19.7 19.8	46.0	26.3 26.2
12	251	23.6 23.1	BC	16.9	3.6	29.7	20.4 19.9	46.0	25.6 26.1
13	257	25.7 24.6	BC	17.2	3.7	29.7	22.9 21.8	46.0	23.1 24.2
VHF 2nd Harmonic									
2	202	24.1 23.6	BC	16.5	3.2	29.7	20.1 19.6	43.5	23.4 23.9
3	214	24.4 21.4	BC	16.6	3.3	29.7	20.6 17.6	43.5	22.9 25.9
4	226	23.3 23.2	BC	16.7	3.4	29.7	19.7 19.6	46.0	26.3 26.4
5	246	23.6 24.9	BC	16.8	3.6	29.7	20.3 21.6	46.0	25.7 24.4
6	258	26.0 25.8	BC	17.3	3.7	29.7	23.3 23.1	46.0	22.7 22.9
7	442	23.5 23.3	LP	18.7	5.1	29.9	23.4 23.2	46.0	22.6 22.8
8	454	23.3 23.0	LP	18.9	5.2	29.9	23.5 23.2	46.0	22.5 22.8
9	466	24.1 23.5	LP	19.2	5.3	29.9	24.7 24.1	46.0	21.3 21.9
10	478	23.0 22.7	LP	19.4	5.3	29.9	23.8 23.5	46.0	22.2 22.5
11	490	23.6 23.7	LP	19.6	5.4	29.9	24.7 24.8	46.0	21.3 21.2
12	502	23.1 23.6	LP	19.8	5.5	29.9	24.5 25.0	46.0	21.5 21.0
13	514	23.3 23.2	LP	19.8	5.6	29.8	24.9 24.8	46.0	21.1 21.2

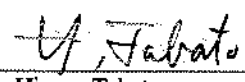
Model No. of tunerbox(Before the change) :TCMN0682PA13D(4) /SAMSUNG
Model No. of tunerbox(After the change) :115-V-D065AM(0162300034) /SANYO

DATA OF RADIATION TEST

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

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR Receiver
MODEL No. : DWM-3000U
POWER : AC120V/60Hz
DESCRIPTION : TV RECEPTION+REC

REPORT No. : 23AE0029-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : August 19, 2002

ENGINEER :  Hiroya Tabata

CH.	FREQ	READING		ANT TYPE	ANT. FAC.	CABLE LOSS	AMP GAIN	RESULTS		LIMIT	MARGIN	
	HOR.	VER.	HOR.					VER.	HOR.		VER.	
	[MHz]	[dBuV]			[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
CATV Fundamental												
1	119	30.1	36.1	BC	13.3	2.4	29.7	22.1	28.1	43.5	21.4	15.4
95	137	31.5	37.9	BC	14.4	2.6	29.7	24.8	31.2	43.5	18.7	12.3
97	149	41.7	36.9	BC	14.9	2.7	29.7	35.6	30.8	43.5	7.9	12.7
99	161	35.1	39.2	BC	15.3	2.8	29.7	29.5	33.6	43.5	14.0	9.9
14	167	25.9	28.2	BC	15.6	2.9	29.7	20.7	23.0	43.5	22.8	20.5
18	191	25.2	26.6	BC	16.3	3.1	29.6	21.0	22.4	43.5	22.5	21.1
22	215	25.2	25.2	BC	16.6	3.3	29.7	21.4	21.4	43.5	22.1	22.1
23	263	23.0	25.0	BC	17.6	3.7	29.7	20.6	22.6	46.0	25.4	23.4
29	299	24.3	24.5	BC	19.9	3.9	29.8	24.3	24.5	46.0	21.7	21.5
36	341	23.8	24.9	LP	17.1	4.2	29.8	21.3	22.4	46.0	24.7	23.6
37	347	24.0	24.5	LP	17.2	4.3	29.8	21.7	22.2	46.0	24.3	23.8
65	515	25.5	27.2	LP	19.8	5.6	29.8	27.1	28.8	46.0	18.9	17.2
94	689	24.0	25.3	LP	22.2	6.8	29.9	29.1	30.4	46.0	16.9	15.6
100	695	24.0	26.2	LP	22.4	6.8	29.9	29.3	31.5	46.0	16.7	14.5
113	773	23.1	23.1	LP	23.3	7.3	29.7	30.0	30.0	46.0	16.0	16.0
125	845	24.0	22.6	LP	23.9	7.6	29.4	32.1	30.7	46.0	13.9	15.3
CATV 2nd Harmonic												
1	238	25.3	25.6	BC	16.7	3.5	29.7	21.8	22.1	46.0	24.2	23.9
95	274	23.6	25.4	BC	18.3	3.8	29.7	22.0	23.8	46.0	24.0	22.2
97	298	24.3	24.9	BC	19.9	3.9	29.8	24.3	24.9	46.0	21.7	21.1
99	322	27.6	29.5	LP	16.8	4.1	29.8	24.7	26.6	46.0	21.3	19.4
14	334	24.7	25.6	LP	17.0	4.2	29.8	22.1	23.0	46.0	23.9	23.0
18	382	24.3	23.5	LP	17.6	4.6	29.9	22.6	21.8	46.0	23.4	24.2
22	430	23.0	23.1	LP	18.5	5.0	29.9	22.6	22.7	46.0	23.4	23.3
23	526	23.3	23.0	LP	19.9	5.6	29.8	25.0	24.7	46.0	21.0	21.3
29	598	23.0	23.0	LP	20.1	6.3	29.9	25.5	25.5	46.0	20.5	20.5
36	682	22.7	22.7	LP	22.1	6.7	29.9	27.6	27.6	46.0	18.4	18.4
37	694	22.7	22.7	LP	22.4	6.8	29.9	28.0	28.0	46.0	18.0	18.0
65	1030	38.1	40.8	HO	25.2	1.4	38.7	26.0	28.7	54.0	28.0	25.3
94	1378	40.7	43.1	HO	26.4	1.8	38.3	30.6	33.0	54.0	23.4	21.0
100	1390	38.7	43.6	HO	26.4	1.8	38.3	28.6	33.5	54.0	25.4	20.5
113	1546	39.8	43.9	HO	27.1	2.0	38.1	30.8	34.9	54.0	23.2	19.1
125	1690	36.6	36.6	HO	28.2	2.1	38.0	28.9	28.9	54.0	25.1	25.1

Model No. of tunerbox(Before the change) :TCMN0682PA13D(4) /SAMSUNG
Model No. of tunerbox(After the change) :115-V-D065AM(0162300034) /SANYO

DATA OF RADIATION TEST

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

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR Receiver
MODEL No. : DWM-3000U
POWER : AC120V/60Hz
DESCRIPTION : TV RECEPTION+REC

REPORT No. : 23AE0029-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : August 19, 2002

ENGINEER :  Hiroya Tabata

CH.	FREQ	READING		ANT TYPE	ANT. FAC.	CABLE LOSS	AMP GAIN	RESULTS		LIMIT	MARGIN	
	[MHz]	HOR.	VER.					[dBuV]	HOR.		VER.	[dB]
UHF Fundamental												
14	517	25.5	27.4	LP	19.9	5.6	29.8	27.2	29.1	46.0	18.8	16.9
19	547	26.3	29.6	LP	19.9	5.8	29.9	28.1	31.4	46.0	17.9	14.6
28	601	29.4	30.4	LP	20.1	6.3	29.9	31.9	32.9	46.0	14.1	13.1
36	649	24.7	27.0	LP	21.3	6.5	29.9	28.6	30.9	46.0	17.4	15.1
44	697	24.2	26.6	LP	22.4	6.8	29.9	29.5	31.9	46.0	16.5	14.1
53	751	25.7	26.0	LP	23.1	7.1	29.7	32.2	32.5	46.0	13.8	13.5
61	799	27.1	26.1	LP	23.6	7.4	29.5	34.6	33.6	46.0	11.4	12.4
69	847	26.6	24.1	LP	23.9	7.6	29.4	34.7	32.2	46.0	11.3	13.8
UHF 2nd Harmonic												
14	1034	38.9	41.2	HO	25.2	1.4	38.7	26.8	29.1	54.0	27.2	24.9
19	1094	36.7	38.2	HO	25.4	1.5	38.6	25.0	26.5	54.0	29.0	27.5
28	1202	39.8	41.0	HO	25.8	1.6	38.5	28.7	29.9	54.0	25.3	24.1
36	1298	40.1	40.7	HO	26.1	1.7	38.4	29.5	30.1	54.0	24.5	23.9
44	1394	39.7	43.2	HO	26.4	1.8	38.3	29.6	33.1	54.0	24.4	20.9
53	1502	37.8	40.7	HO	26.8	1.9	38.1	28.4	31.3	54.0	25.6	22.7
61	1598	39.6	40.8	HO	27.5	2.0	38.1	31.0	32.2	54.0	23.0	21.8
69	1694	36.1	36.9	HO	28.2	2.1	38.0	28.4	29.2	54.0	25.6	24.8

Model No. of tunerbox(Before the change) :TCMN0682PA13D(4) /SAMSUNG
Model No. of tunerbox(After the change) :115-V-D065AM(0162300034) /SANYO

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception
Remarks : OTHER (OdBm)
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
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.	120.00	BB	37.4	39.5	13.5	29.8	2.5	6.0	29.6	31.7	43.5	13.9	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, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

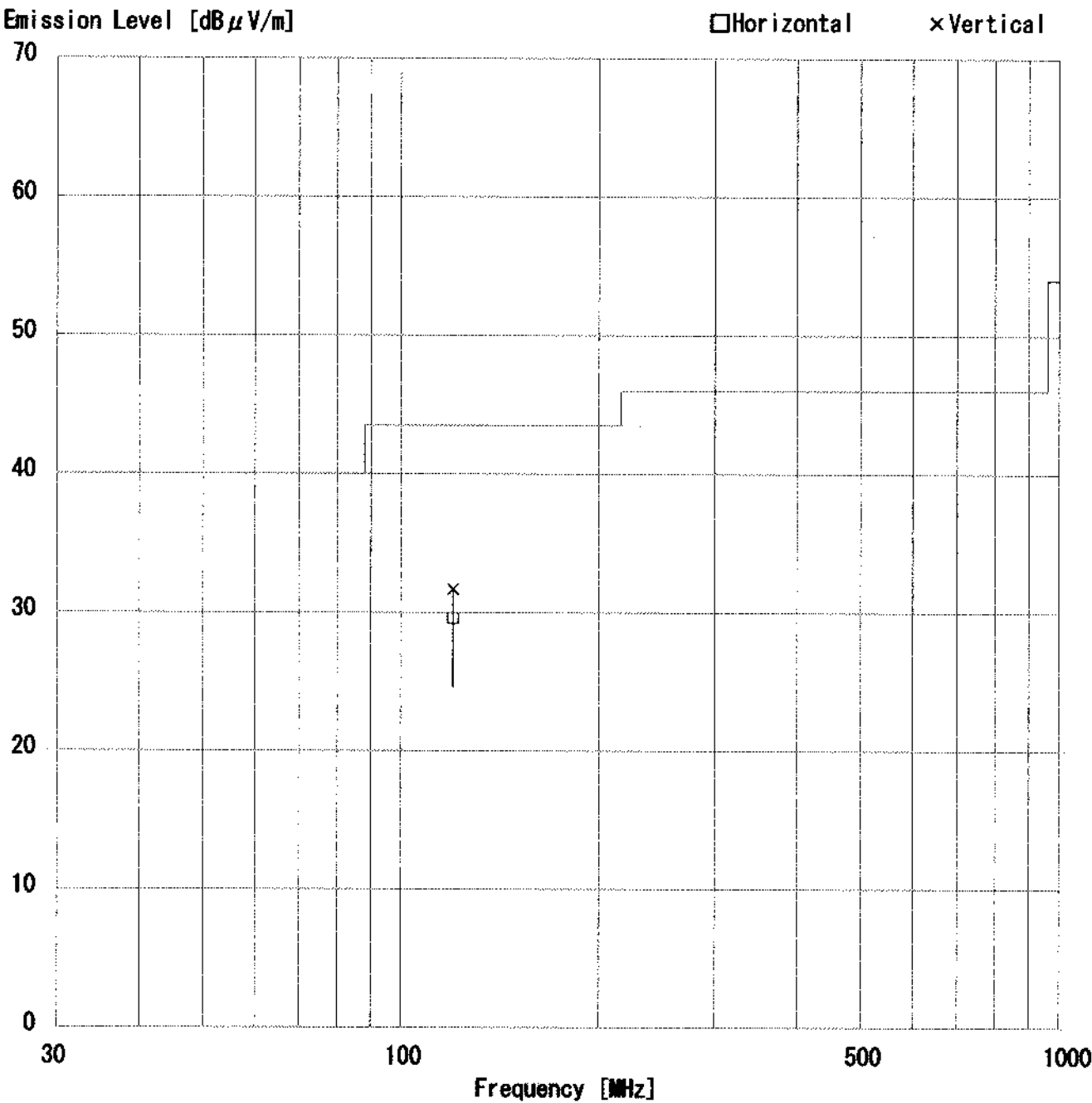
A-PEX INTERNATIONAL CO., LTD.

YOKOWA No.2 OPEN TEST SITE

Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWN-3000U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception
Remarks : OTHER (OdBm)
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

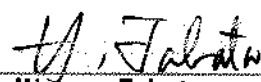
Engineer :  Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception
Remarks : OTHER (25dBm)
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
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.	41.65	BB	28.9	35.3	14.1	29.7	1.4	6.0	20.7	27.1	40.0	19.3	12.9
2.	54.64	BB	33.0	32.0	9.8	29.8	1.7	6.0	20.7	19.7	40.0	19.3	20.3
3.	72.00	BB	37.8	38.4	6.7	29.7	1.9	6.1	22.8	23.4	40.0	17.2	16.6
4.	89.99	BB	34.5	33.0	8.0	29.7	2.2	6.1	21.1	19.6	43.5	22.4	23.9
5.	119.99	BB	37.3	39.7	13.5	29.8	2.5	6.0	29.5	31.9	43.5	14.0	11.6
6.	135.00	BB	29.9	31.1	14.3	29.7	2.7	6.0	23.2	24.4	43.5	20.3	19.1
7.	323.99	BB	38.0	38.6	14.0	30.1	4.3	6.1	32.3	32.9	46.0	13.7	13.1
8.	405.59	BB	25.2	24.3	15.6	30.2	4.9	6.1	21.6	20.7	46.0	24.4	25.3

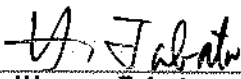
CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

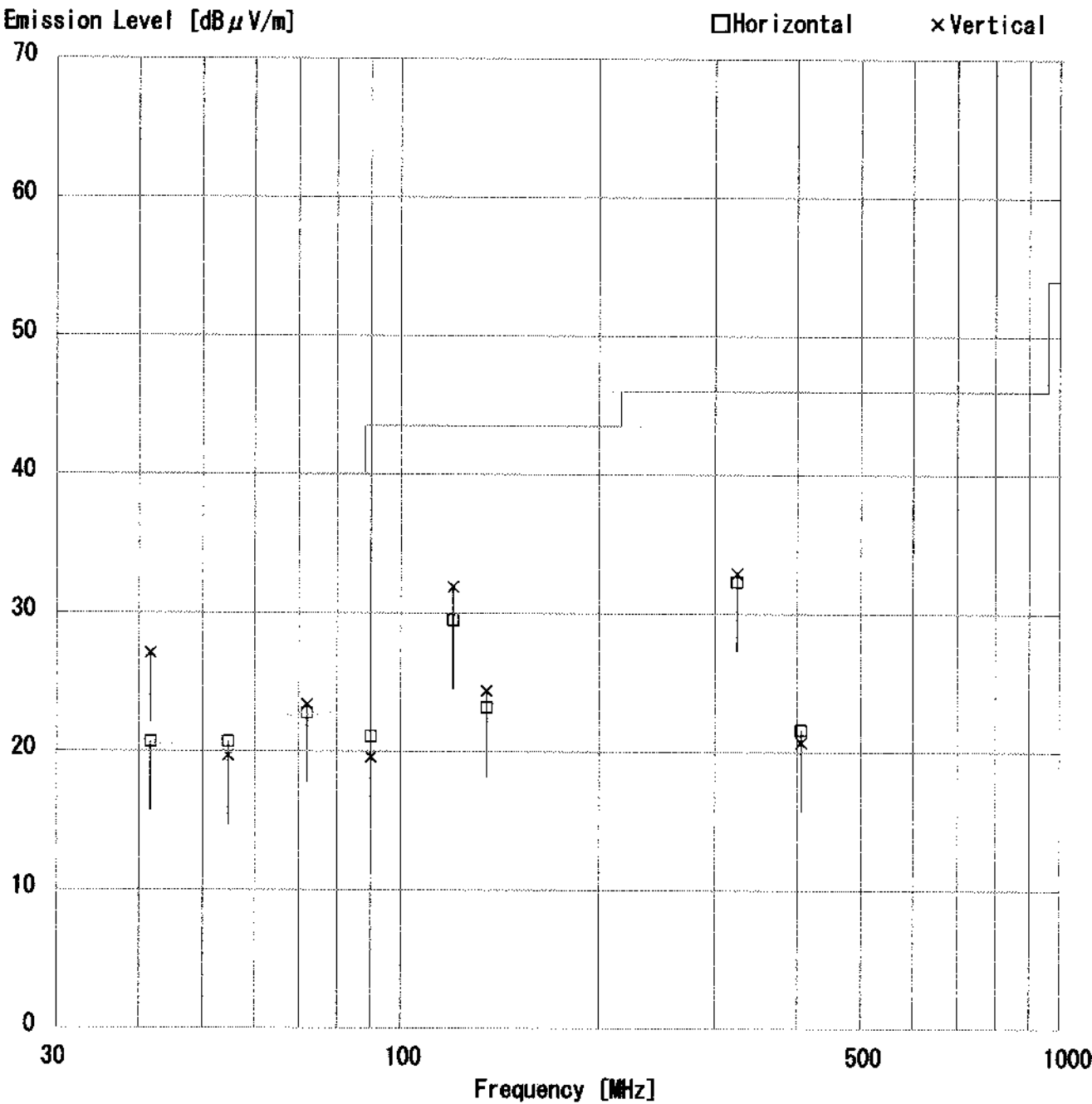
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception
Remarks : OTHER (25dBm)
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : VCR Play
Remarks : OTHER
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
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.	38.05	BB	28.1	35.4	15.5	29.7	1.4	6.0	21.3	28.6	40.0	18.7	11.4
2.	54.62	BB	37.2	38.8	9.8	29.8	1.7	6.0	24.9	26.5	40.0	15.1	13.5
3.	72.00	BB	41.5	34.7	6.7	29.7	1.9	6.1	26.5	19.7	40.0	13.5	20.3
4.	89.98	BB	34.9	34.6	8.0	29.7	2.2	6.1	21.5	21.2	43.5	22.0	22.3
5.	119.99	BB	37.1	35.6	13.5	29.8	2.5	6.0	29.3	27.8	43.5	14.2	15.7
6.	135.00	BB	30.5	34.1	14.3	29.7	2.7	6.0	23.8	27.4	43.5	19.7	16.1
7.	165.91	BB	32.3	30.1	15.5	29.8	2.9	6.0	26.9	24.7	43.5	16.6	18.8
8.	324.01	BB	34.7	35.6	14.0	30.1	4.3	6.1	29.0	29.9	46.0	17.0	16.1
9.	405.56	BB	32.2	26.8	15.6	30.2	4.9	6.1	28.6	23.2	46.0	17.4	22.8

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

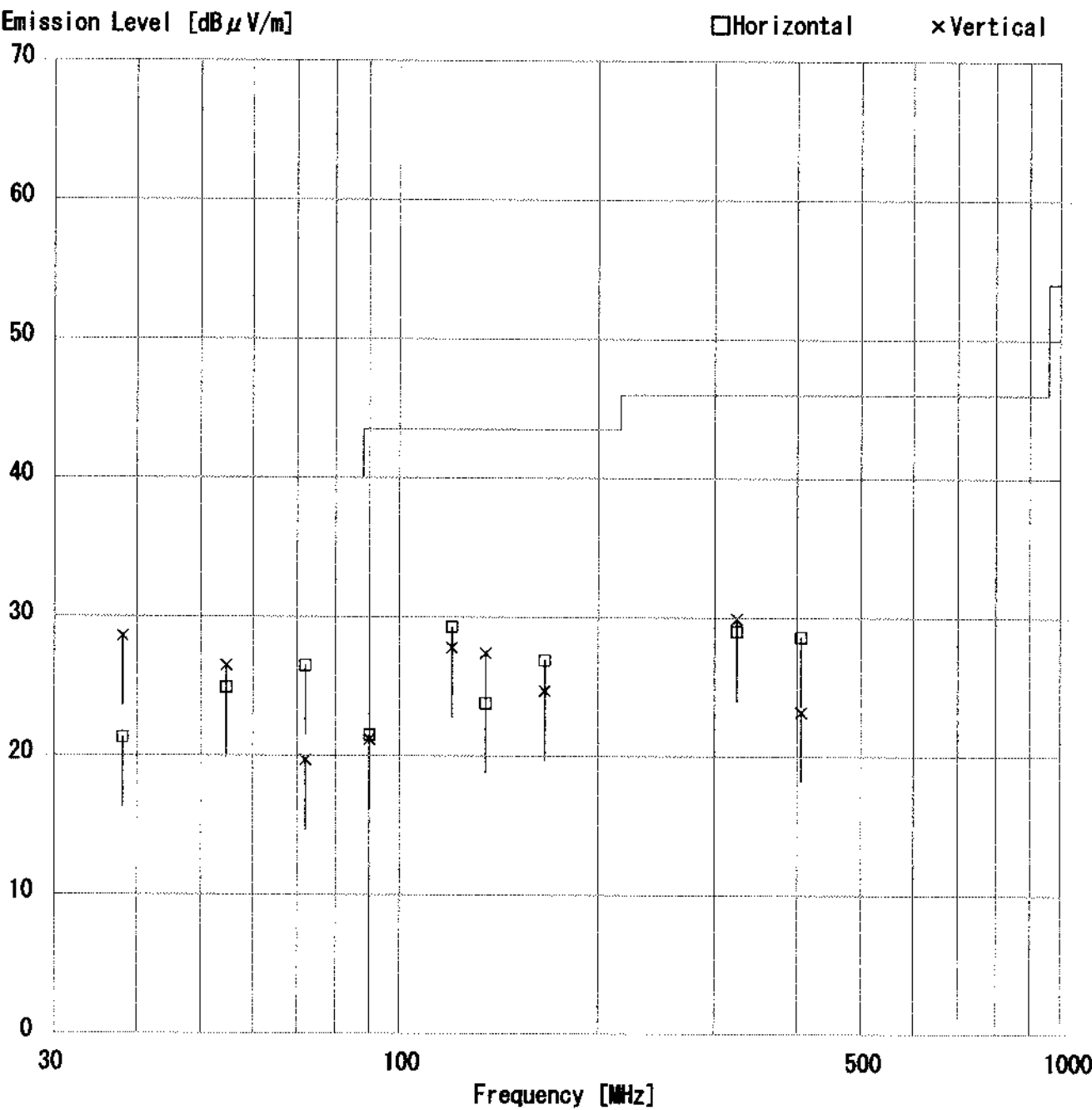
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : VCR Play
Remarks : OTHER
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B


Engineer : Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : DVD Play
Remarks : OTHER
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
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.	38.22	BB	30.7	37.0	15.4	29.7	1.4	6.0	23.8	30.1	40.0	16.2	9.9
2.	54.63	BB	39.5	39.6	9.8	29.8	1.7	6.0	27.2	27.3	40.0	12.8	12.7
3.	63.64	BB	41.1	39.2	7.8	29.7	1.8	6.0	27.0	25.1	40.0	13.0	14.9
4.	72.01	BB	41.9	33.0	6.7	29.7	1.9	6.1	26.9	18.0	40.0	13.1	22.0
5.	89.98	BB	34.8	34.8	8.0	29.7	2.2	6.1	21.4	21.4	43.5	22.1	22.1
6.	120.00	BB	37.4	35.3	13.5	29.8	2.5	6.0	29.6	27.5	43.5	13.9	16.0
7.	135.00	BB	31.0	34.7	14.3	29.7	2.7	6.0	24.3	28.0	43.5	19.2	15.5
8.	165.89	BB	32.0	28.7	15.5	29.8	2.9	6.0	26.6	23.3	43.5	16.9	20.2
9.	324.01	BB	35.4	35.5	14.0	30.1	4.3	6.1	29.7	29.8	46.0	16.3	16.2
10.	1248.10	BB	41.5	48.1	25.9	38.4	1.7	0.0	30.7	37.3	54.0	23.3	16.7
11.	1694.03	BB	53.7	55.3	27.4	38.0	1.9	0.0	45.0	46.6	54.0	9.0	7.4

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

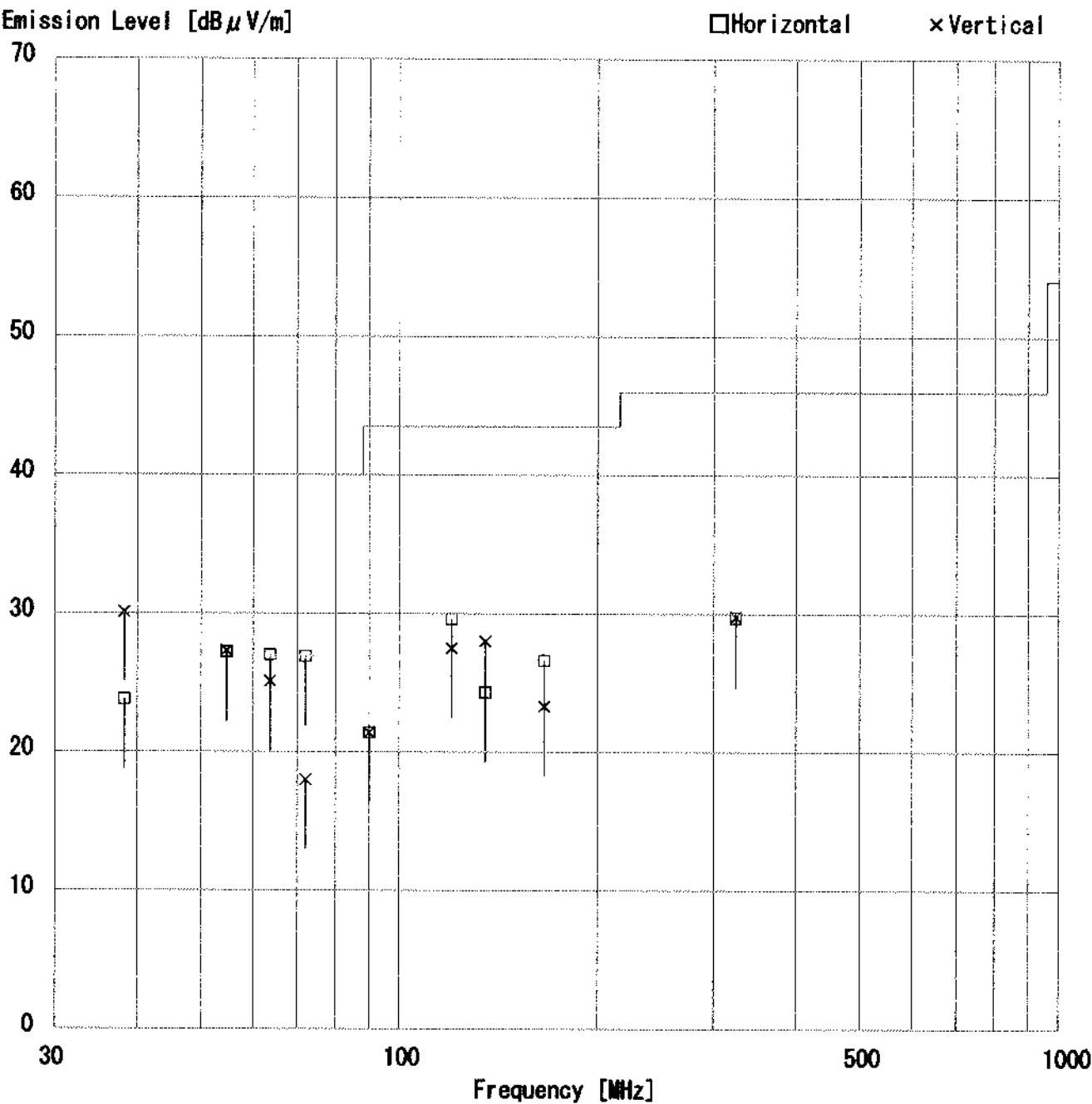
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : DVD Play
Remarks : OTHER
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

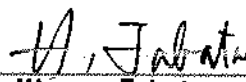
H. Tabata
Engineer : Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM Reception
Remarks : 87.9MHz Receive
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
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.	98.60	BB	30.5	36.1	9.7	29.9	2.2	6.0	18.5	24.1	43.5	25.0	19.4
2.	197.20	BB	25.8	23.9	16.4	29.6	3.2	6.0	21.8	19.9	43.5	21.7	23.6
3.	295.80	BB	22.9	23.3	19.7	29.9	4.1	6.1	22.9	23.3	46.0	23.1	22.7

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

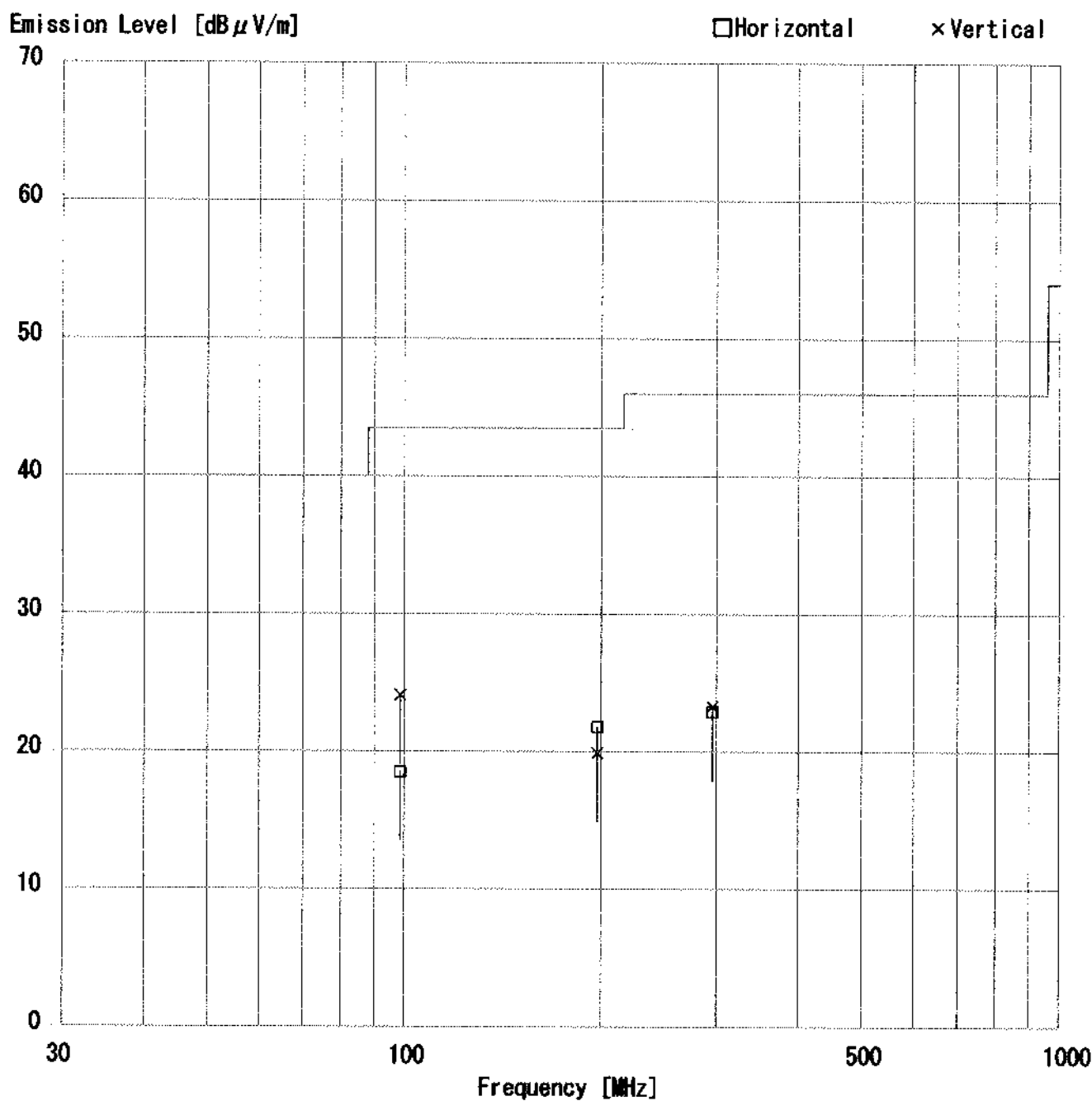
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM Reception
Remarks : 87.9MHz Receive
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : *H. Tabata*
Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM Reception
Remarks : 97.9MHz Receive
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
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.	108.60	BB	31.8	31.7	11.5	29.8	2.8	6.0	22.3	22.2	43.5	21.2	21.3
2.	217.20	BB	25.9	22.6	16.6	29.7	3.4	6.0	22.2	18.9	46.0	23.8	27.1
3.	325.80	BB	25.2	22.7	14.0	30.1	4.3	6.1	19.5	17.0	46.0	26.5	29.0

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

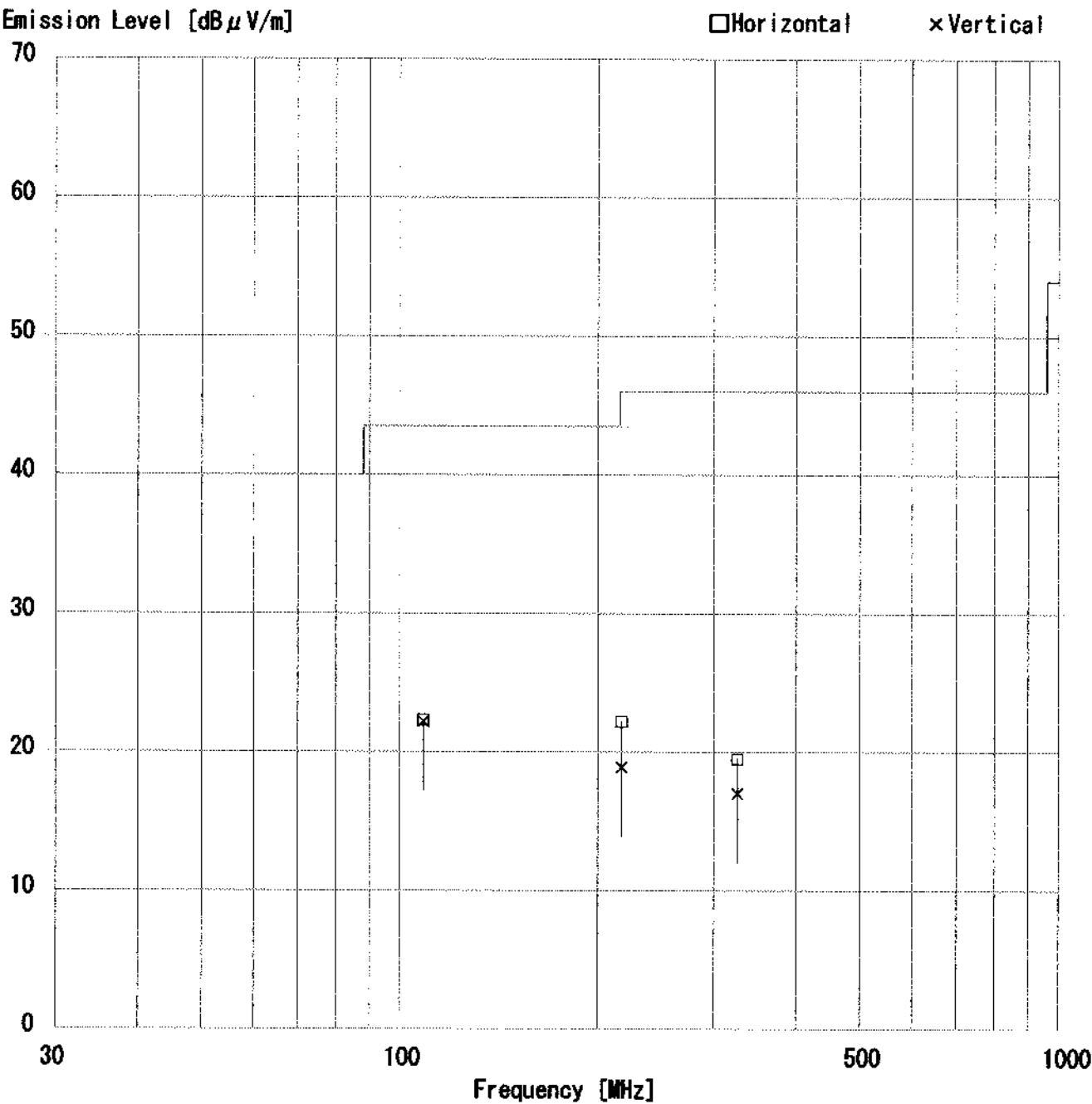
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM Reception
Remarks : 97.9MHz Receive
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : *H. Tabata*
Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM Reception
Remarks : 107.9MHz Receive
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

H. Tabata
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.	118.60	BB	30.2	31.1	13.3	29.8	2.5	6.0	22.2	23.1	43.5	21.3	20.4
2.	237.20	BB	22.3	22.5	16.7	29.8	3.6	6.0	18.8	19.0	46.0	27.2	27.0
3.	355.80	BB	24.4	23.7	14.6	30.1	4.6	6.1	19.6	18.9	46.0	26.4	27.1

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

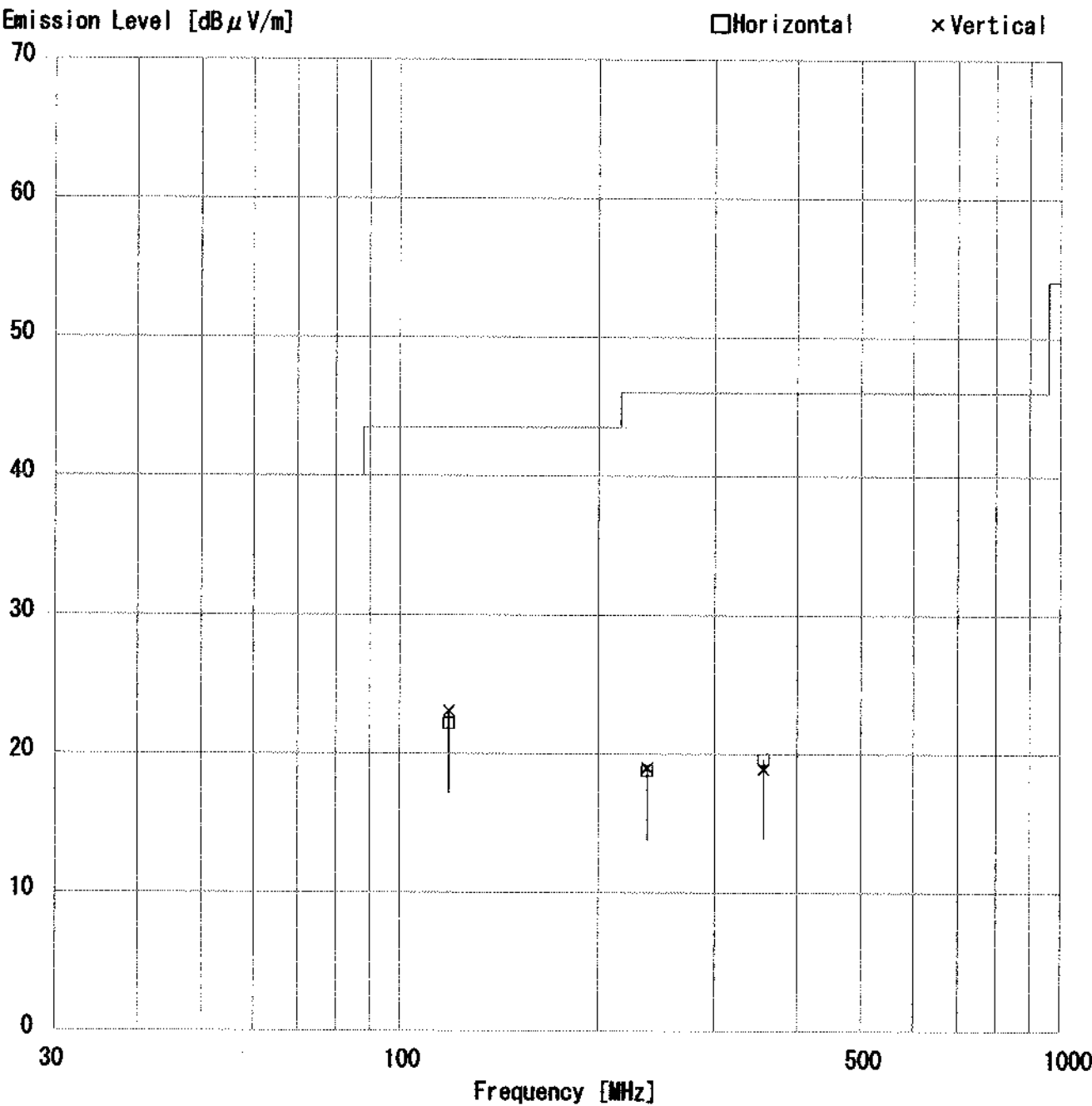
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM Reception
Remarks : 107.9MHz Receive
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : *H. Tabata*
Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : Maximum Operation
Remarks : Test Channel #3
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

H. Tabata
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	30.5	26.4	8.2	29.4	1.8	6.0	17.1	13.0	40.0	22.9	27.0
2.	65.75	BB	36.1	33.7	7.4	29.8	1.8	6.0	21.5	19.1	40.0	18.5	20.9
3.	122.50	BB	25.6	26.5	13.6	29.8	2.6	6.0	18.0	18.9	43.5	25.5	24.6
4.	245.00	BB	22.4	24.2	16.8	29.8	3.7	6.0	19.1	20.9	46.0	26.9	25.1

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

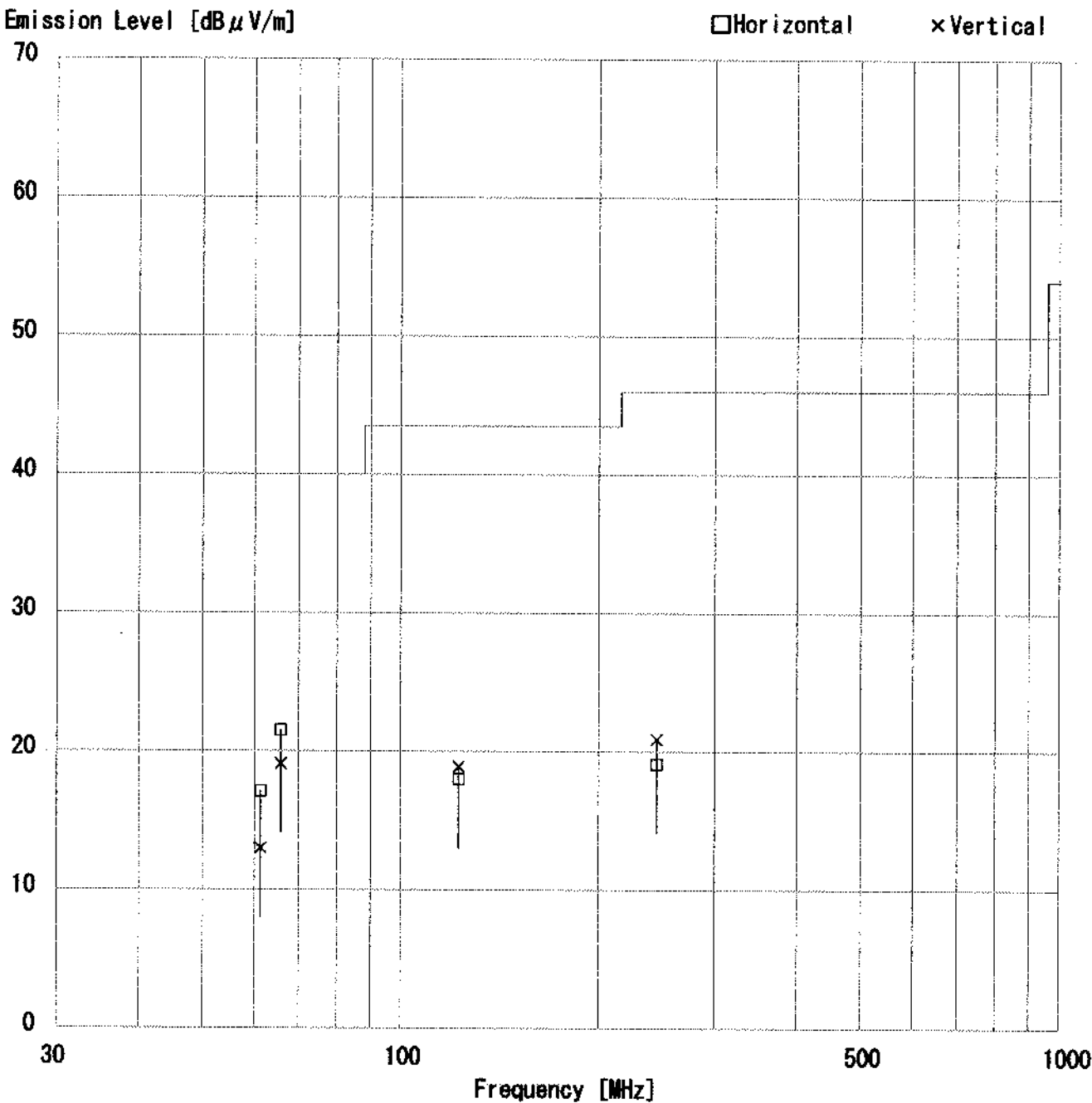
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DVM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : Maximum Operation
Remarks : Test Channel #3
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : *H. Tabata*
Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : Maximum Operation
Remarks : Test Channel #4
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

H. Tabata
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	30.9	28.3	7.2	29.8	1.9	6.1	16.3	13.7	40.0	23.7	26.3
2.	71.75	BB	29.9	29.5	6.7	29.7	1.9	6.1	14.9	14.5	40.0	25.1	25.5
3.	134.50	BB	28.0	25.1	14.3	29.7	2.7	6.0	21.3	18.4	43.5	22.2	25.1
4.	201.75	BB	24.0	22.5	16.5	29.7	3.3	6.0	20.1	18.6	43.5	23.4	24.9

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

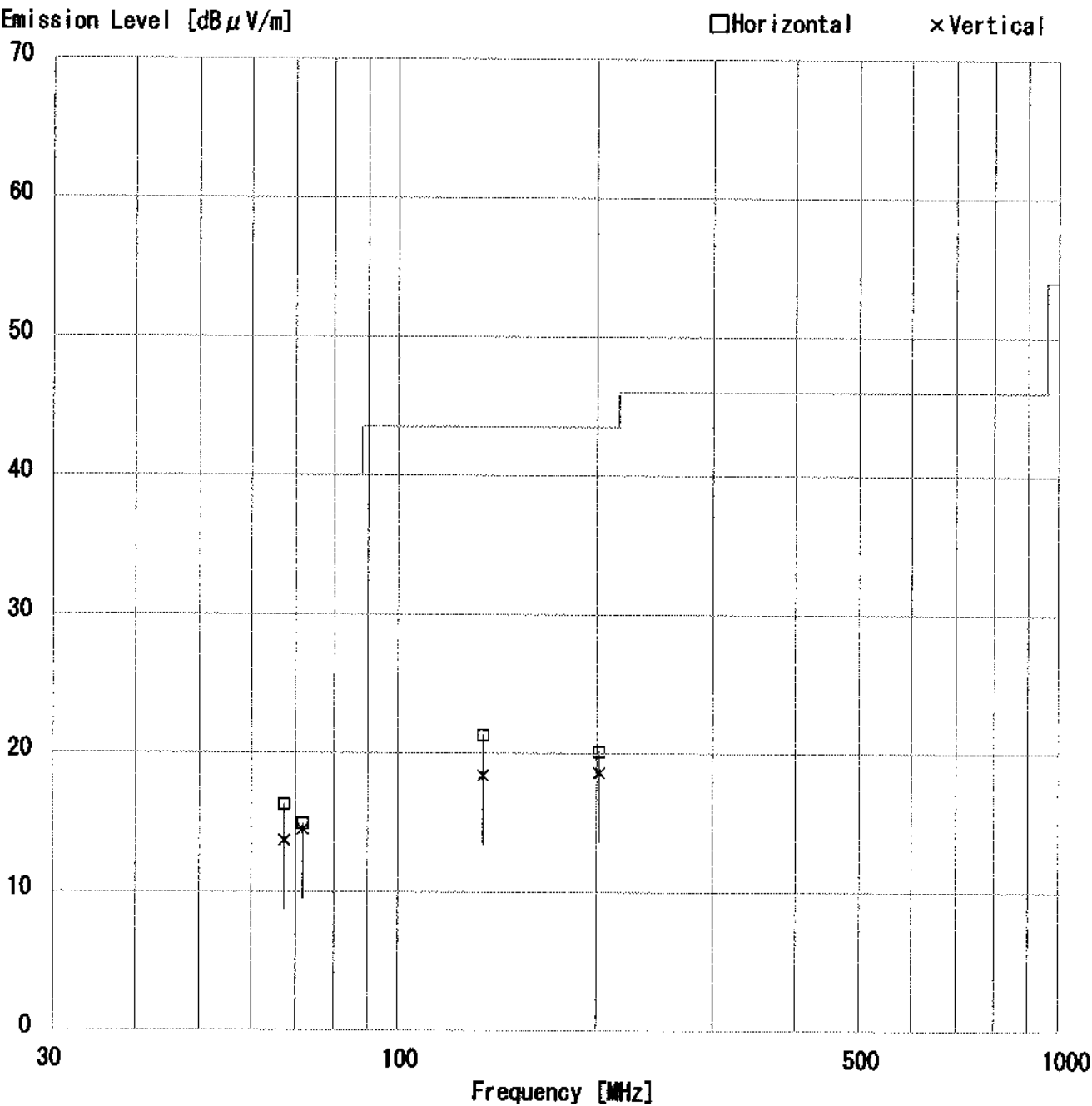
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : Maximum Operation
Remarks : Test Channel #4
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

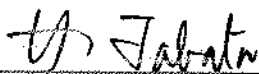
Engineer : H. Tabata
Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input
Remarks : OTHER(1Vp-p)
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
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.	120.00	BB	36.9	36.4	13.5	29.8	2.5	6.0	29.1	28.6	43.5	14.4	14.9

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

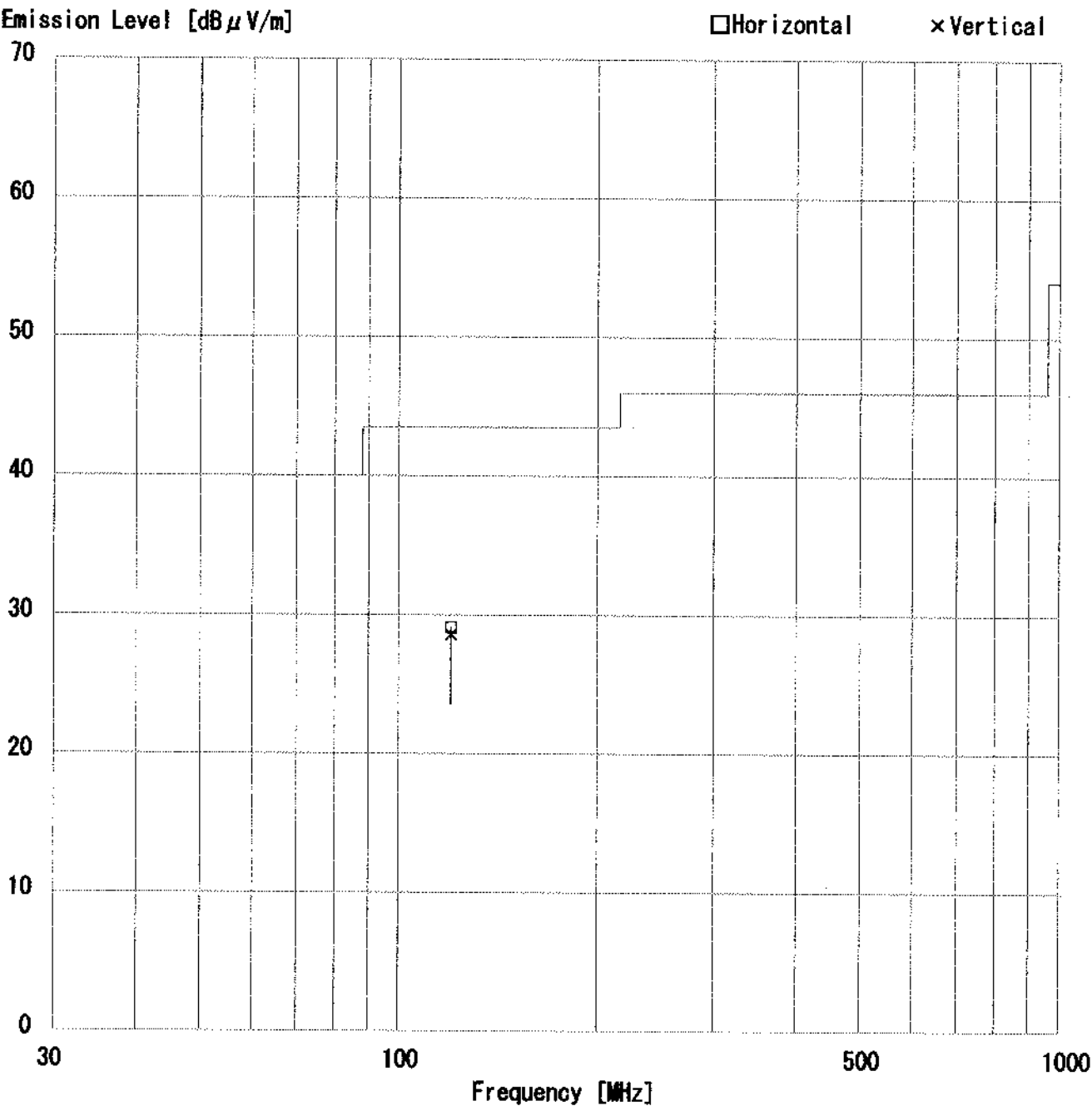
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input
Remarks : OTHER(1Vp-p)
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : H. Tabata
Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input
Remarks : OTHER (5Vp-p)
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
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.	41.65	BB	27.8	33.6	14.1	29.7	1.4	6.0	19.6	25.4	40.0	20.4	14.6
2.	54.61	BB	31.9	31.5	9.8	29.8	1.7	6.0	19.6	19.2	40.0	20.4	20.8
3.	72.00	BB	40.9	40.6	6.7	29.7	1.9	6.1	25.9	25.6	40.0	14.1	14.4
4.	90.00	BB	36.8	34.1	8.0	29.8	2.3	6.1	23.4	20.7	43.5	20.1	22.8
5.	120.01	BB	38.3	35.6	13.5	29.8	2.5	6.0	30.5	27.8	43.5	13.0	15.7
6.	134.99	BB	29.9	34.5	14.3	29.7	2.7	6.0	23.2	27.8	43.5	20.3	15.7
7.	165.90	BB	29.4	31.1	15.5	29.8	2.9	6.0	24.0	25.7	43.5	19.5	17.8
8.	324.00	BB	34.6	37.7	14.0	30.1	4.3	6.1	28.9	32.0	46.0	17.1	14.0
9.	405.56	BB	31.9	26.5	15.6	30.2	4.9	6.1	28.3	22.9	46.0	17.7	23.1

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

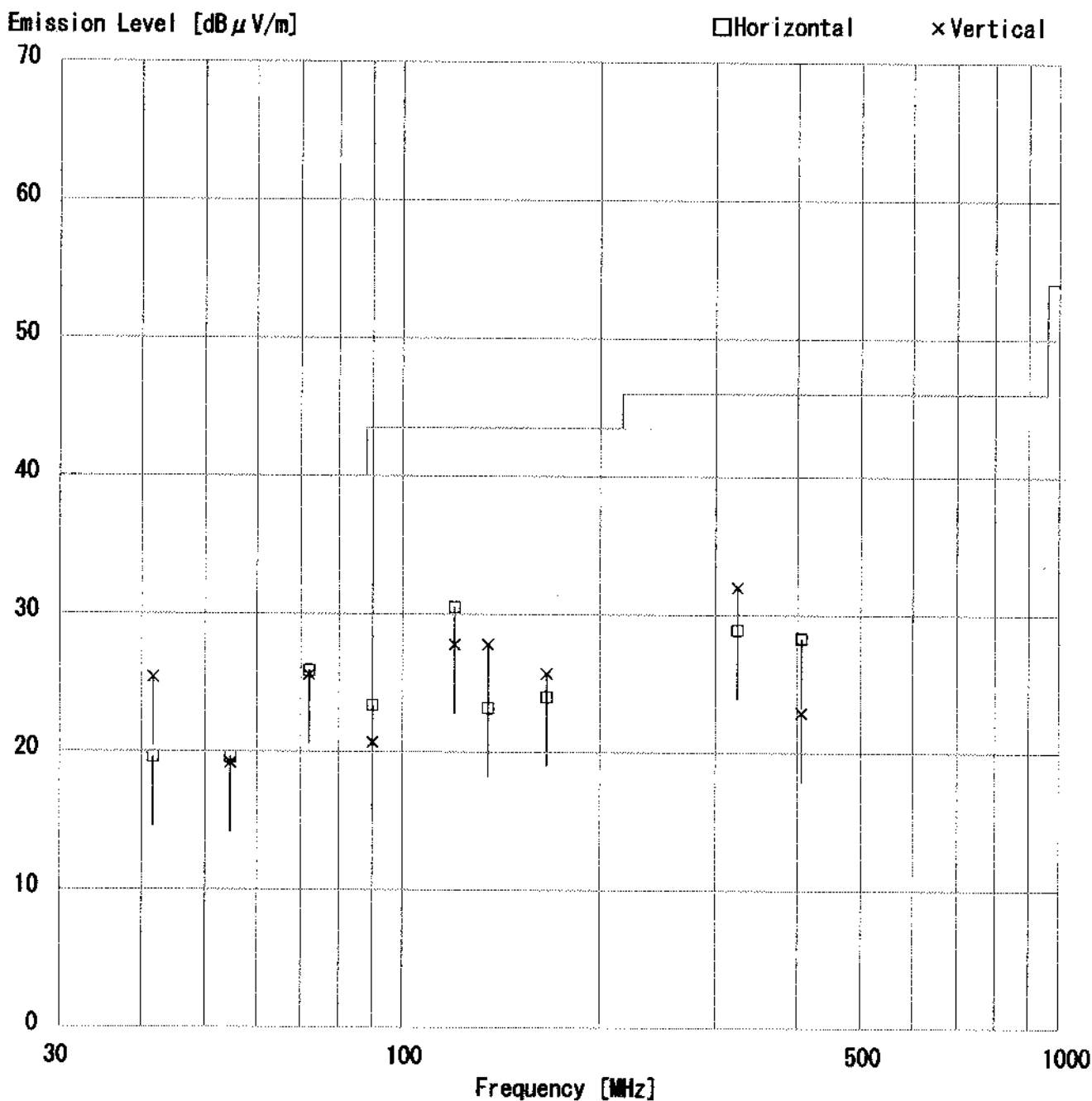
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input
Remarks : OTHER (5Vp-p)
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : Hiroya Tabata



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWM-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM Reception
Remarks : OTHER
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
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.	40.92	BB	27.4	35.6	14.4	29.7	1.4	6.0	19.5	27.7	40.0	20.5	12.3
2.	54.62	BB	30.5	32.3	9.8	29.8	1.7	6.0	18.2	20.0	40.0	21.8	20.0
3.	72.02	BB	37.5	36.3	6.7	29.7	1.9	6.1	22.5	21.3	40.0	17.5	18.7
4.	90.01	BB	32.1	30.5	8.0	29.8	2.2	6.1	18.6	17.0	43.5	24.9	26.5
5.	120.02	BB	35.0	31.3	13.5	29.8	2.5	6.0	27.2	23.5	43.5	16.3	20.0
6.	135.02	BB	25.6	26.2	14.3	29.7	2.7	6.0	18.9	19.5	43.5	24.6	24.0
7.	323.99	BB	23.1	22.9	14.0	30.1	4.3	6.1	17.4	17.2	46.0	28.6	28.8
8.	405.58	BB	24.2	24.1	15.6	30.2	4.9	6.1	20.6	20.5	46.0	25.4	25.5

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

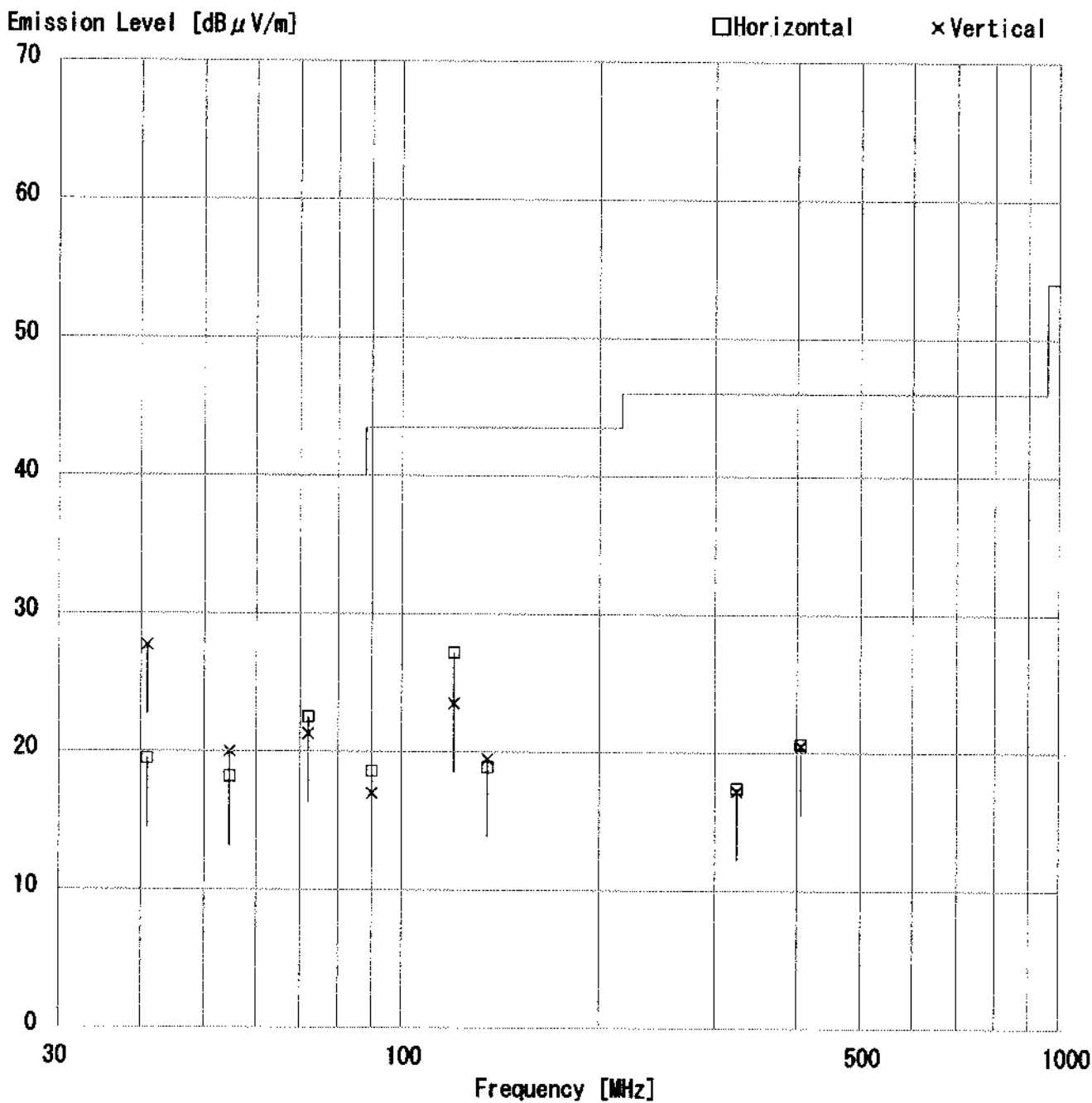
Except for the above table : adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300MHz-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23AE0029-YW-1

Applicant : ORION ELECTRIC CO., LTD.
Kind of Equipment : DVD/VCR Receiver
Model No. : DWW-3000U
Serial No. :
Power : AC120V/60Hz
Mode : FM Reception
Remarks : OTHER
Date : 8/19/2002
Test Distance : 3 m
Temperature : 21 °C
Humidity : 46 %
Regulation : FCC Part15B CLASS B

Engineer : *H. Tabata*
Hiroya Tabata



DATA OF ANTENNA TERMINAL

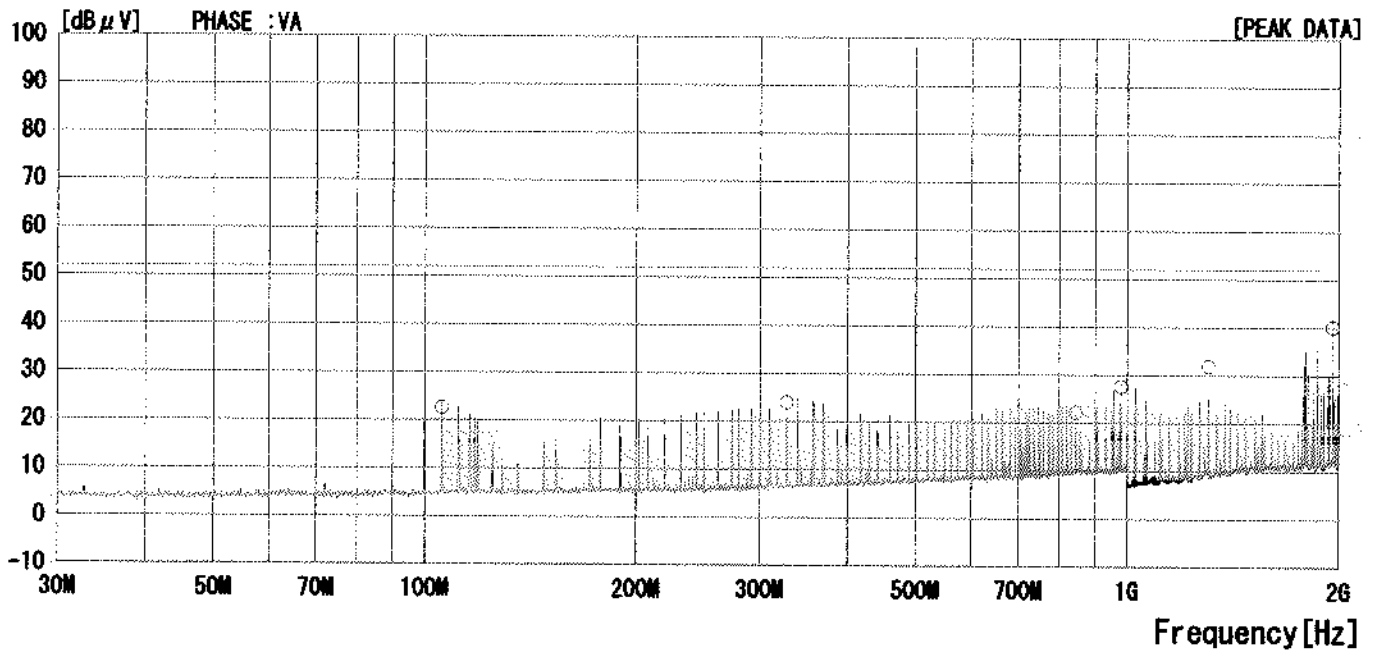
A-PEX INTERNATIONAL CO., LTD.
Date : 2002/08/29 21:30:07

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR RECEIVER
MODEL : DVM-3000U
OPERATION MODE : TUNING

REPORT NO. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B
TEST ENGINEER : Hisayuki Kipka

REMARKS : CATV MODE

LIMIT : FCC 15B ANTENNA TERMINAL



NO	FREQ [MHz]	READING (PK) [dB μ V]	C. F [dB]	RESULT [dB μ V]	LIMIT		MARGIN		PHASE
					QP [dB μ V]	AV [dB μ V]	QP [dB]	AV [dB]	
1	105.71400	53.2	-30.6	22.6	52.0	—	29.4	—	VA
2	327.42899	53.6	-29.6	24.0	52.0	—	28.0	—	VA
3	843.57703	50.2	-28.1	22.1	52.0	—	29.9	—	VA
4	979.44000	52.6	-25.0	27.6	52.0	—	24.4	—	VA
5	1303.55103	55.8	-23.9	31.9	52.0	—	20.1	—	VA
6	1959.25195	70.8	-30.7	40.1	52.0	—	11.9	—	VA

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

DATA OF ANTENNA TERMINAL

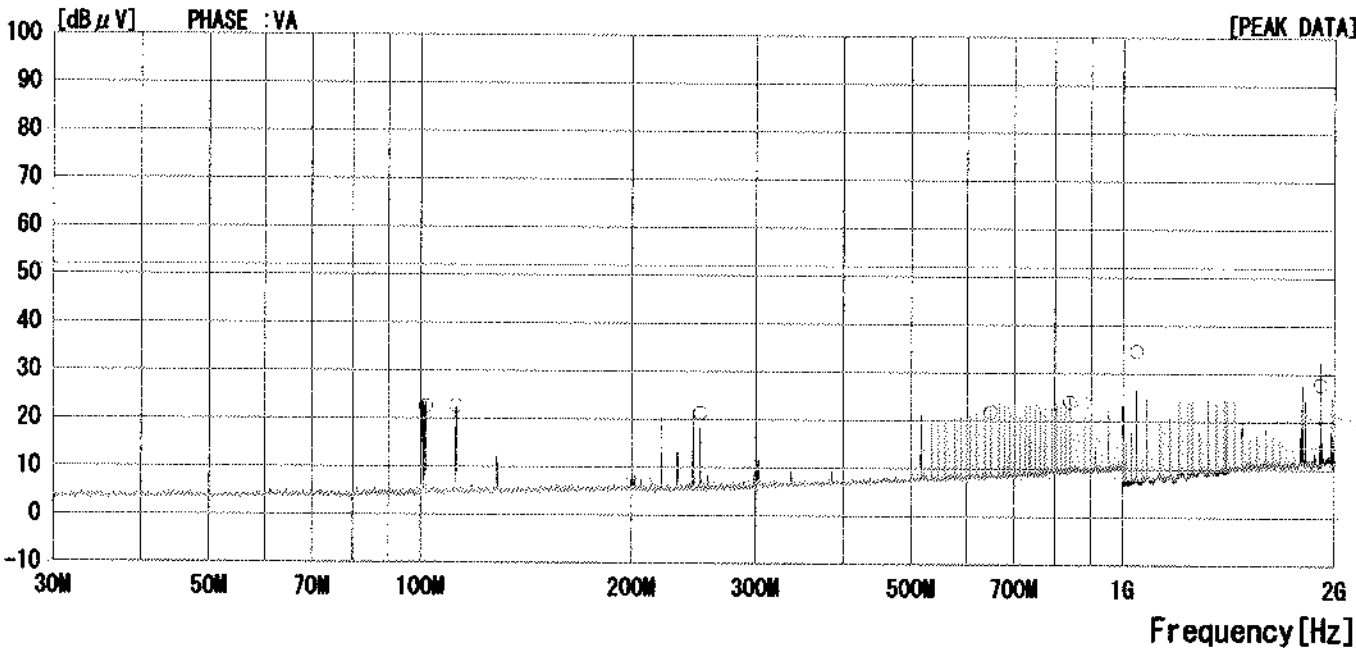
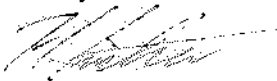
A-PEX INTERNATIONAL CO., LTD.
Date : 2002/08/29 21:50:18

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR RECEIVER
MODEL : DVM-3000U
OPERATION MODE : TUNNING

REPORT NO. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B
TEST ENGINEER : Hisayuki Kioka

REMARKS : TV MODE

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	101.71400	53.2	-30.6	22.6	52.0	—	29.4	—	VA
2	112.28600	52.4	-29.7	22.7	52.0	—	29.3	—	VA
3	250.28799	50.8	-29.5	21.3	52.0	—	30.7	—	VA
4	648.00098	50.4	-28.6	21.8	52.0	—	30.2	—	VA
5	840.14899	50.2	-26.2	24.0	52.0	—	28.0	—	VA
6	1044.28503	59.6	-25.0	34.6	52.0	—	17.4	—	VA
7	1907.82703	60.8	-33.0	27.8	52.0	—	24.2	—	VA

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

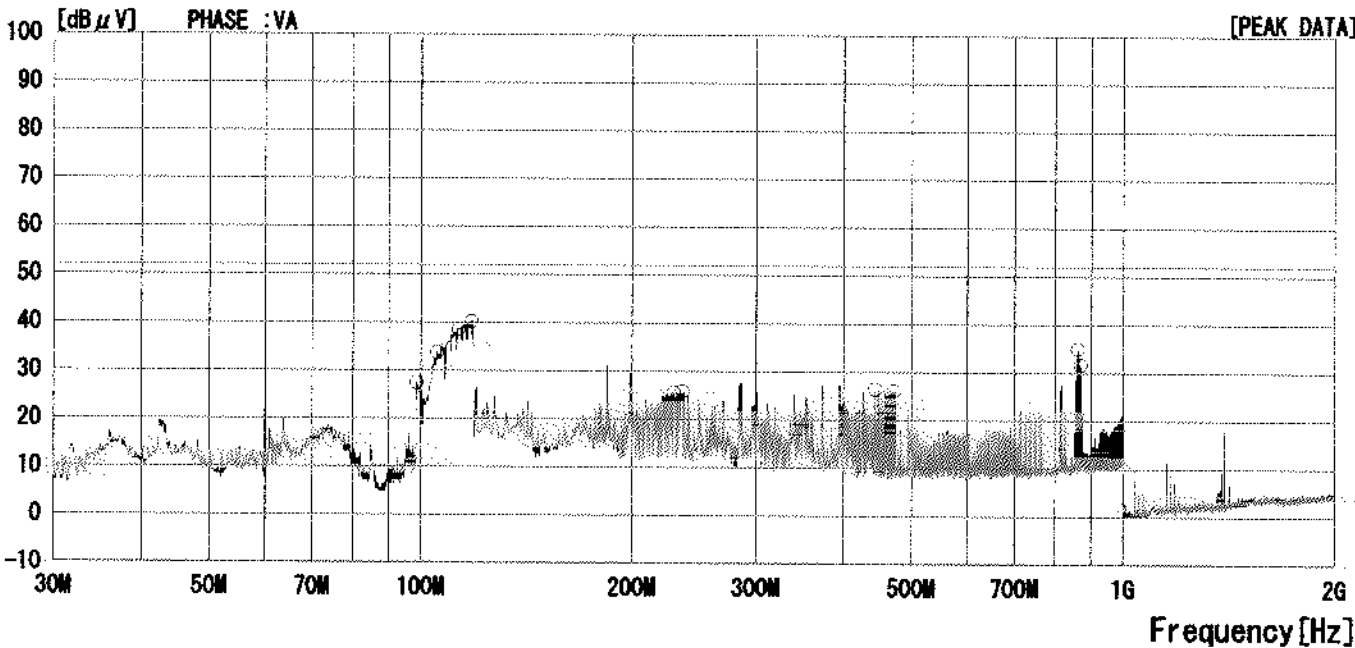
DATA OF ANTENNA TERMINAL

A-PEX INTERNATIONAL CO., LTD.
Date : 2002/08/23 16:49:15

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR RECEIVER
MODEL : DVM-3000J
OPERATION MODE : TUNING

REPORT NO. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B
TEST ENGINEER : Hisayuki Kioka

REMARKS : FM MODE
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	98.59900	57.2	-29.7	27.5	52.0	—	24.5	—	VA
2	105.42900	63.4	-29.6	33.8	52.0	—	18.2	—	VA
3	113.14300	68.0	-29.4	38.6	52.0	—	13.4	—	VA
4	118.00000	69.6	-29.4	40.2	52.0	—	11.8	—	VA
5	229.14500	54.4	-28.8	25.6	52.0	—	26.4	—	VA
6	235.71700	54.6	-28.7	25.9	52.0	—	26.1	—	VA
7	442.85999	53.8	-27.3	26.5	52.0	—	25.5	—	VA
8	471.43201	53.2	-27.1	26.1	52.0	—	25.9	—	VA
9	861.14899	59.8	-24.8	35.0	52.0	—	17.0	—	VA
10	868.86401	56.4	-24.7	31.7	52.0	—	20.3	—	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 : DVD/VCR RECEIVER
Model number : DWM-3000U
Power : AC 120 V / 60 Hz
Description : TV reception + Rec. mode (0 dBmV)

Report Number : 23AE0029-YW-1
Regulation : FCC Part 15 Subpart B
Date : August 23, 2002

Engineer : Hisayuki Kioka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	84.3	20.4	63.9	69.5	5.6
4	67.25	84.3	20.4	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	72.1	20.4	51.7	56.5	4.8
	65.75	70.9	20.4	50.5	56.5	6.0
4	62.75	71.5	20.4	51.1	56.5	5.4
	71.75	70.3	20.4	49.9	56.5	6.6

RF output level

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

Company : ORION ELECTRIC CO.,LTD.
Equipment : DVD/VCR RECEIVER
Model number : DWM-3000U
Power : AC 120 V / 60 Hz
Description : Receive + Rec. mode (25 dBmV)

Report Number : 23AE0029-YW-1
Regulation : FCC Part 15 Subpart B
Date : August 23, 2002

Engineer :  Hisayuki Kioka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	85.6	20.4	65.2	69.5	4.3
4	67.25	85.0	20.4	64.6	69.5	4.9

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.0	20.4	51.6	56.5	4.9
	65.75	70.9	20.4	50.5	56.5	6.0
4	62.75	71.5	20.4	51.1	56.5	5.4
	71.75	70.3	20.4	49.9	56.5	6.6

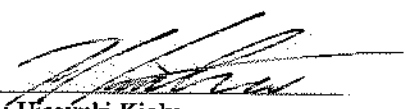
RF output level

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

Company : ORION ELECTRIC CO.,LTD.
Equipment : DVD/VCR RECEIVER
Model number : DWM-3000U
Power : AC 120 V / 60 Hz
Description : AV Input + Rec. mode (1 Vp-p)

Report Number : 23AE0029-YW-1
Regulation : FCC Part 15 Subpart B
Date : August 23, 2002

Engineer


Hisayuki Kioka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	84.5	20.4	64.1	69.5	5.4
4	67.25	86.1	20.4	65.7	69.5	3.8

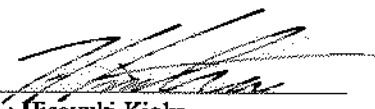
Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.5	20.4	52.1	56.5	4.4
	65.75	71.5	20.4	51.1	56.5	5.4
4	62.75	71.5	20.4	51.1	56.5	5.4
	71.75	70.4	20.4	50.0	56.5	6.5

RF output level

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

Company	: ORION ELECTRIC CO.,LTD.	Report Number	: 23AE0029-YW-1
Equipment	: DVD/VCR RECEIVER	Regulation	: FCC Part 15 Subpart B
Model number	: DWM-3000U	Date	: August 23, 2002
Power	: AC 120 V / 60 Hz		
Description	: AV Input + Rec. mode (5 Vp-p)		

Engineer :  Hisayuki Kioka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	86.6	20.4	66.2	69.5	3.3
4	67.25	85.2	20.4	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	72.2	20.4	51.8	56.5	4.7
	65.75	71.0	20.4	50.6	56.5	5.9
4	62.75	71.7	20.4	51.3	56.5	5.2
	71.75	70.5	20.4	50.1	56.5	6.4

RF output level

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

Company : ORION ELECTRIC CO.,LTD.
Equipment : DVD/VCR RECEIVER
Model number : DWM-3000U
Power : AC 120 V / 60 Hz
Description : VCR playback mode

Report Number : 23AE0029-YW-1
Regulation : FCC Part 15 Subpart B
Date : August 23, 2002

Engineer :  Hisayuki Kioka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	85.2	20.4	64.8	69.5	4.7
4	67.25	86.1	20.4	65.7	69.5	3.8

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.1	20.4	51.7	56.5	4.8
	65.75	70.9	20.4	50.5	56.5	6.0
4	62.75	71.4	20.4	51.0	56.5	5.5
	71.75	70.3	20.4	49.9	56.5	6.6

RF output levelA-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company : ORION ELECTRIC CO.,LTD.
Equipment : DVD/VCR RECEIVER
Model number : DWN-3000U
Power : AC 120 V / 60 Hz
Description : DVD play mode

Report Number : 23AE0029-YW-1
Regulation : FCC Part 15 Subpart B
Date : August 23, 2002

Engineer


: Hisayuki Kioka**Video signal**

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	85.4	20.4	65.0	69.5	4.5
4	67.25	84.8	20.4	64.4	69.5	5.1

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	72.1	20.4	51.7	56.5	4.8
	65.75	70.9	20.4	50.5	56.5	6.0
4	62.75	71.8	20.4	51.4	56.5	5.1
	71.75	70.6	20.4	50.2	56.5	6.3

DATA OF SPURIOUS EMISSION

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

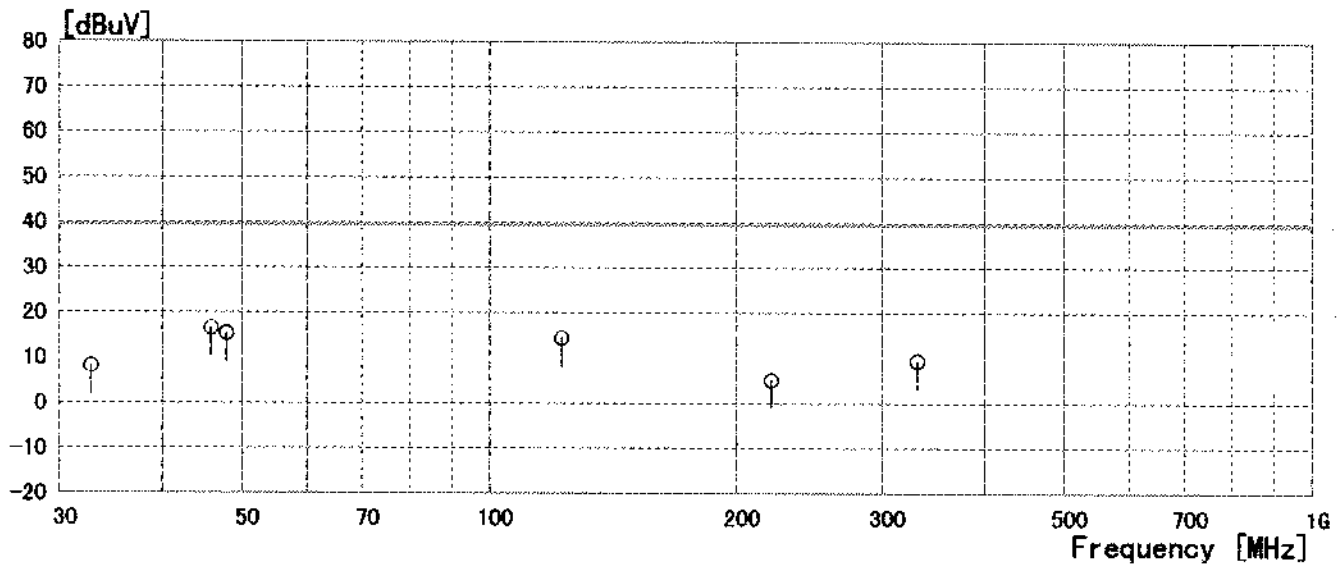
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : TV RECEPTION(3CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 0dBmV INPUT
REMARKS : -

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hsayingki Kioka

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	29.8	—	-21.7	8.1	—	39.5	—	31.4	—
2	45.900	38.1	—	-21.6	16.5	—	39.5	—	23.0	—
3	47.900	37.0	—	-21.6	15.4	—	39.5	—	24.1	—
4	122.500	35.8	—	-21.4	14.4	—	39.5	—	25.1	—
5	220.500	26.5	—	-21.4	5.1	—	39.5	—	34.4	—
6	331.600	30.8	—	-21.4	9.4	—	39.5	—	30.1	—

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



DATA OF SPURIOUS EMISSION

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

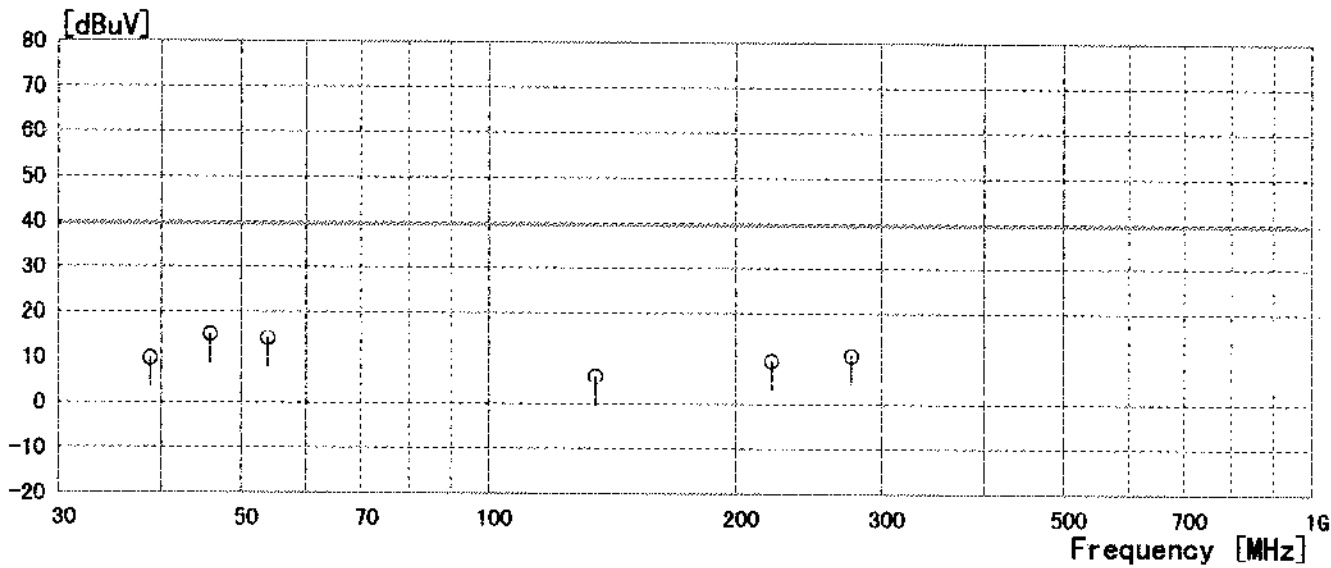
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : TV RECEPTION(4CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : QdBmV INPUT
REMARKS : -

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B


TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	38.800	31.4	-----	-21.6	9.8	-----	39.5	-----	29.7	-----
2	45.900	36.7	-----	-21.6	15.1	-----	39.5	-----	24.4	-----
3	53.900	35.8	-----	-21.6	14.2	-----	39.5	-----	25.3	-----
4	135.000	27.4	-----	-21.4	6.0	-----	39.5	-----	33.5	-----
5	221.000	30.9	-----	-21.4	9.5	-----	39.5	-----	30.0	-----
6	276.300	32.1	-----	-21.4	10.7	-----	39.5	-----	28.8	-----

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



DATA OF SPURIOUS EMISSION

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

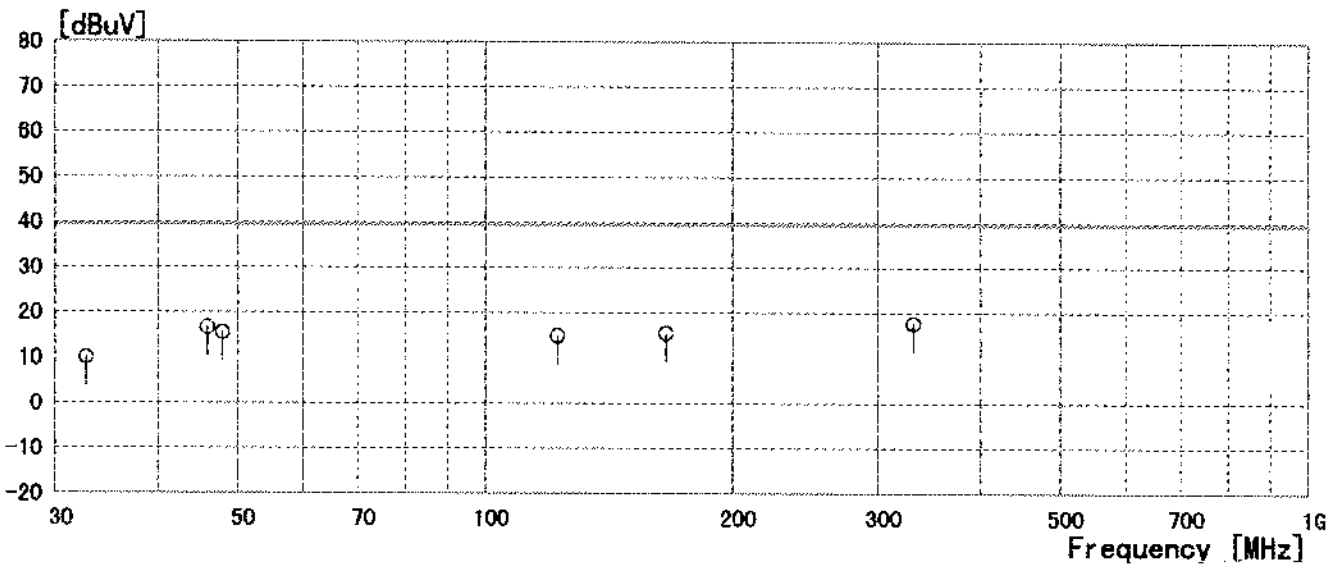
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE: TV RECEPTION(3CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 25dBmV INPUT
REMARKS : -

REPORT No. : 23AEC029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hrsayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	32.740	31.7	----	-21.7	10.0	----	39.5	----	29.5	----
2	45.940	38.3	----	-21.6	16.7	----	39.5	----	22.8	----
3	47.940	37.2	----	-21.6	15.6	----	39.5	----	23.9	----
4	122.500	36.3	----	-21.4	14.9	----	39.5	----	24.6	----
5	166.000	36.9	----	-21.4	15.5	----	39.5	----	24.0	----
6	331.600	39.1	----	-21.4	17.7	----	39.5	----	21.8	----

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



DATA OF SPURIOUS EMISSION

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

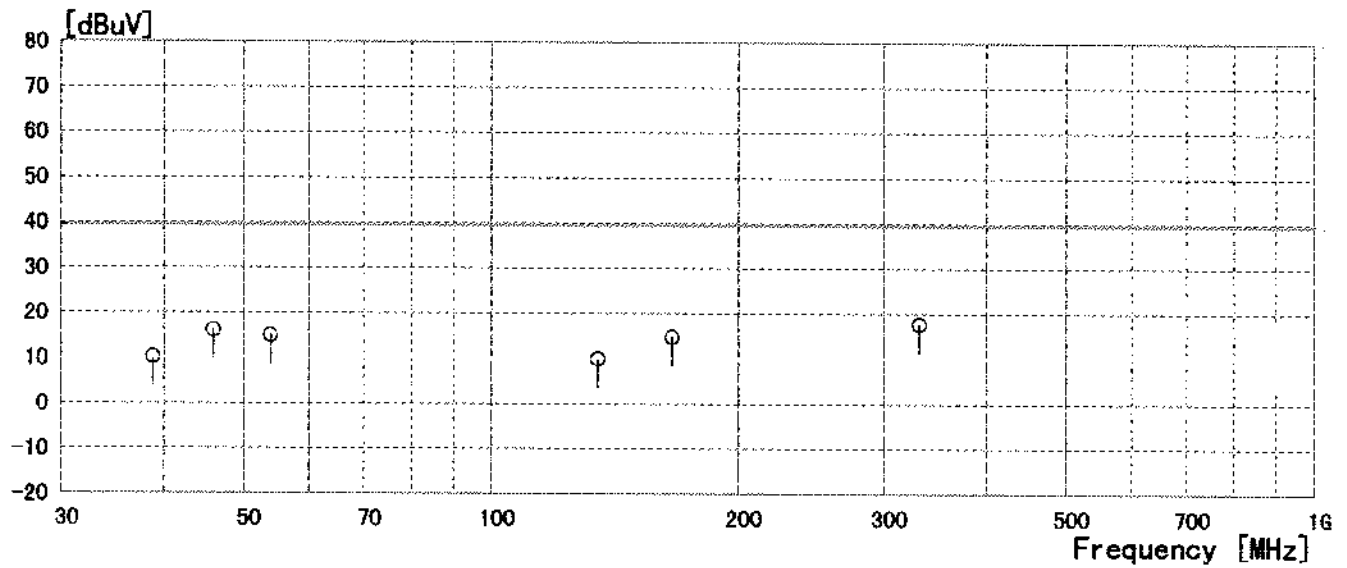
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : TV RECEPTION (4CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 25dBmV INPUT
REMARKS : -

REPORT No. : 23AEC029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	38.800	31.9	-----	-21.6	10.3	-----	39.5	-----	29.2	-----
2	45.940	37.8	-----	-21.6	16.2	-----	39.5	-----	23.3	-----
3	53.940	36.6	-----	-21.6	15.0	-----	39.5	-----	24.5	-----
4	134.800	31.3	-----	-21.4	9.9	-----	39.5	-----	29.6	-----
5	166.000	36.2	-----	-21.4	14.8	-----	39.5	-----	24.7	-----
6	331.600	39.1	-----	-21.4	17.7	-----	39.5	-----	21.8	-----

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



DATA OF SPURIOUS EMISSION

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

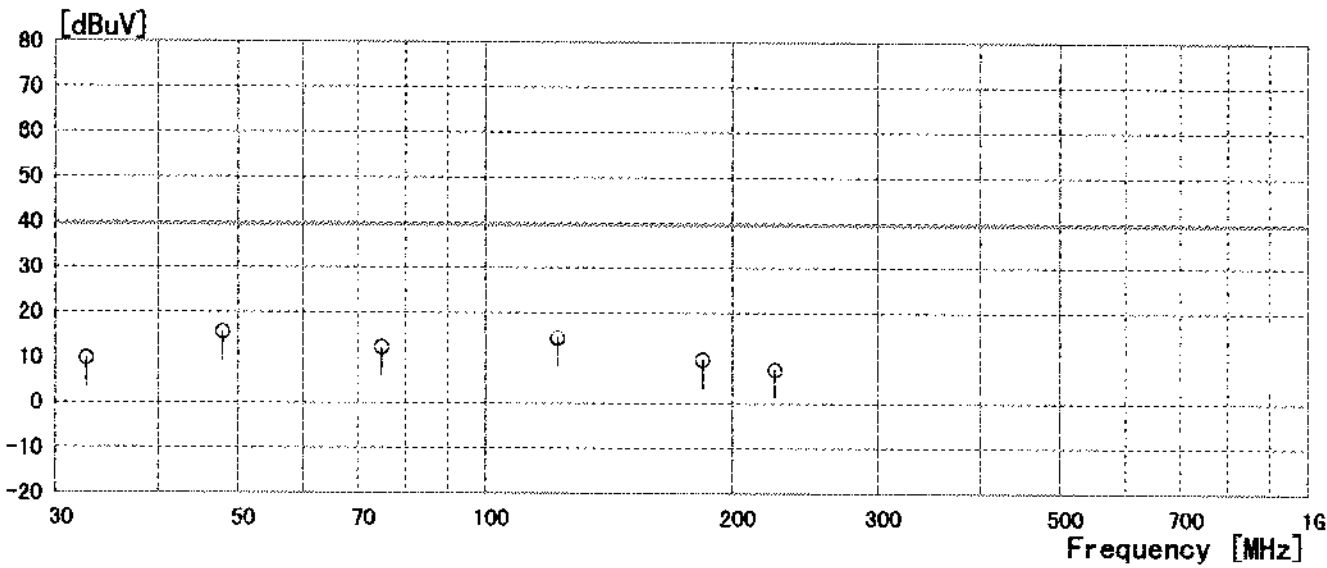
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE: AV INPUT MODE(3CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 1Vp-p INPUT
REMARKS : FRONT AV INPUT

REPORT No. : 22AEO029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	32.740	31.5	-----	-21.7	9.8	-----	39.5	-----	29.7	-----
2	47.940	37.3	-----	-21.6	15.7	-----	39.5	-----	23.8	-----
3	74.800	33.8	-----	-21.5	12.3	-----	39.5	-----	27.2	-----
4	122.500	35.8	-----	-21.4	14.4	-----	39.5	-----	25.1	-----
5	184.000	31.0	-----	-21.4	9.6	-----	39.5	-----	29.9	-----
6	225.300	28.9	-----	-21.4	7.5	-----	39.5	-----	32.0	-----

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



DATA OF SPURIOUS EMISSION

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

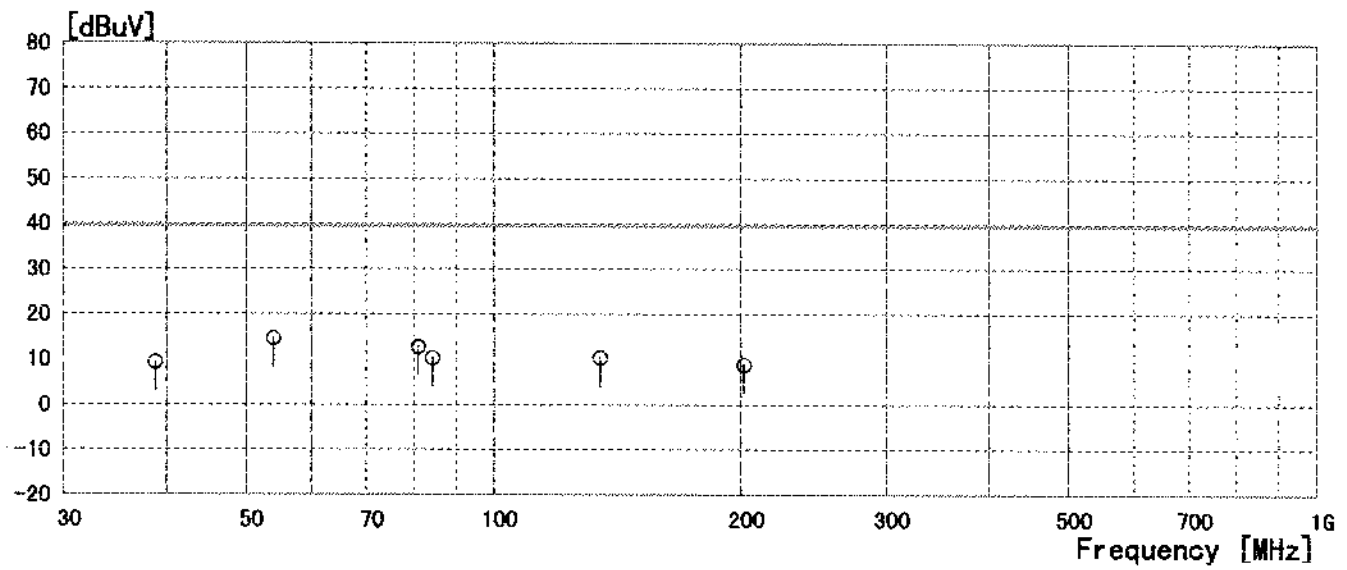
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE: AV INPUT MODE(4CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 1Vp-p INPUT
REMARKS : FRONT AV INPUT

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	38.800	31.0	—	-21.6	9.4	—	39.5	—	30.1	—
2	54.000	36.2	—	-21.6	14.6	—	39.5	—	24.9	—
3	81.000	34.2	—	-21.4	12.8	—	39.5	—	26.7	—
4	84.300	31.7	—	-21.4	10.3	—	39.5	—	29.2	—
5	134.800	31.7	—	-21.4	10.3	—	39.5	—	29.2	—
6	201.700	30.2	—	-21.4	8.8	—	39.5	—	30.7	—

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



DATA OF SPURIOUS EMISSION

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

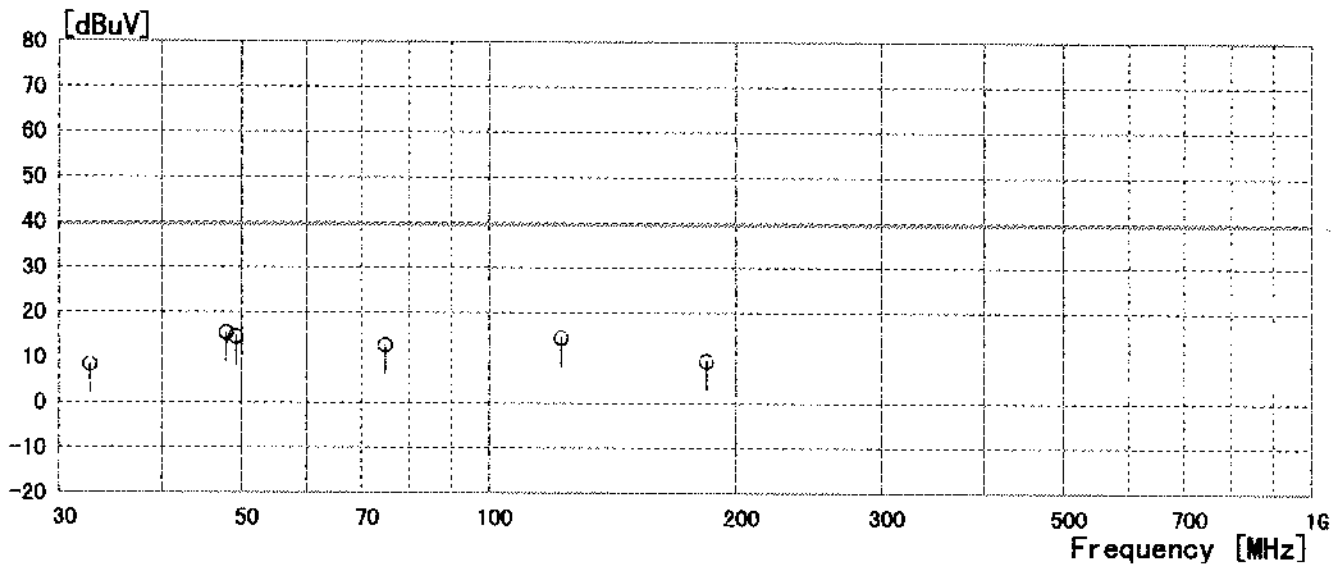
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : AV INPUT MODE (3CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 5Vp-p INPUT
REMARKS : FRONT AV INPUT

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B


TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	32.740	30.1	—	-21.7	8.4	—	39.5	—	31.1	—
2	47.940	37.0	—	-21.6	15.4	—	39.5	—	24.1	—
3	49.260	36.2	—	-21.6	14.6	—	39.5	—	24.9	—
4	74.800	34.2	—	-21.5	12.7	—	39.5	—	26.8	—
5	122.500	35.8	—	-21.4	14.4	—	39.5	—	25.1	—
6	184.000	30.7	—	-21.4	9.3	—	39.5	—	30.2	—

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



DATA OF SPURIOUS EMISSION

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

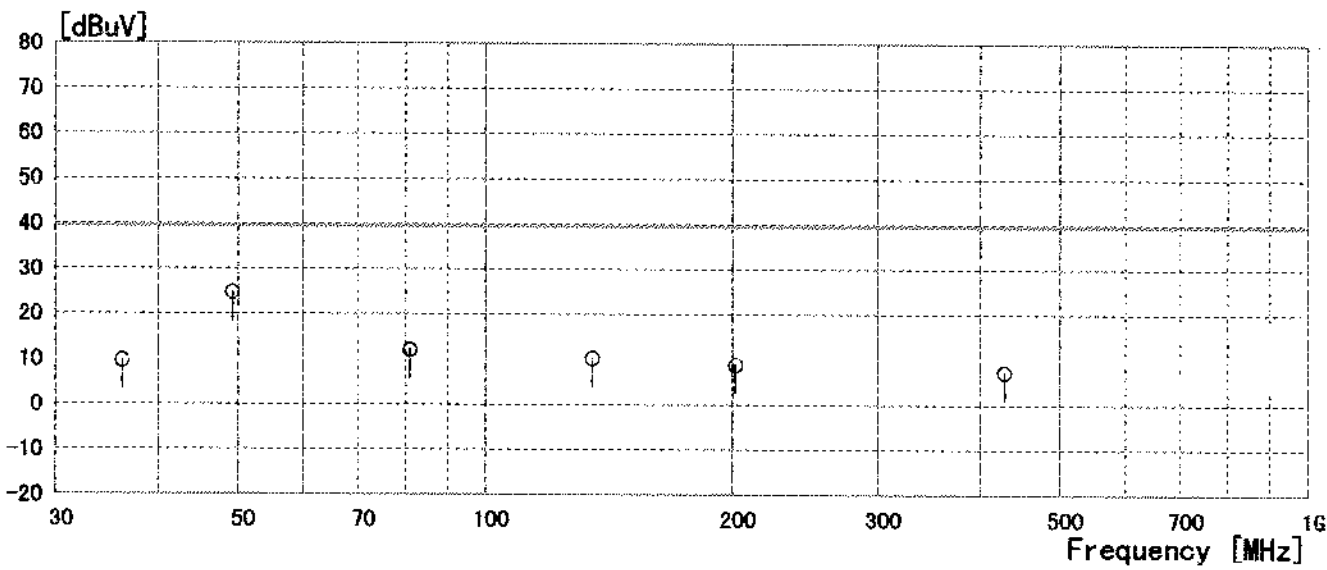
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : AV INPUT MODE (4CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 5Vp-p INPUT
REMARKS : FRONT AV INPUT

REPORT No. : 23AEC029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hrsayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	36.170	31.3	—	-21.7	9.6	—	39.5	—	29.9	—
2	49.260	46.3	—	-21.6	24.7	—	39.5	—	14.8	—
3	81.000	33.5	—	-21.4	12.1	—	39.5	—	27.4	—
4	135.000	31.6	—	-21.4	10.2	—	39.5	—	29.3	—
5	201.700	30.2	—	-21.4	8.8	—	39.5	—	30.7	—
6	428.400	28.5	—	-21.3	7.2	—	39.5	—	32.3	—

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



DATA OF SPURIOUS EMISSION

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

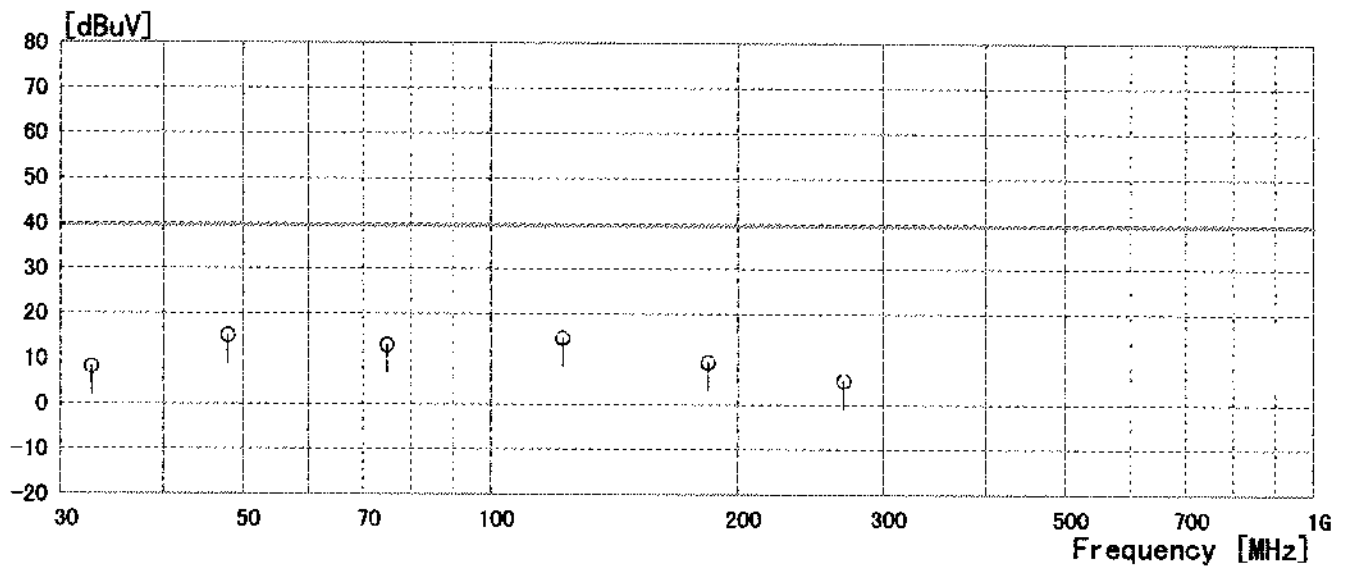
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : VCR PLAYBACK (3CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : -
REMARKS : -

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER : Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	32.740	29.9	—	-21.7	8.2	—	39.5	—	31.3	—
2	47.940	36.8	—	-21.6	15.2	—	39.5	—	24.3	—
3	74.840	34.5	—	-21.5	13.0	—	39.5	—	26.5	—
4	122.500	36.0	—	-21.4	14.6	—	39.5	—	24.9	—
5	184.000	30.7	—	-21.4	9.3	—	39.5	—	30.2	—
6	269.000	26.7	—	-21.4	5.3	—	39.5	—	34.2	—

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



DATA OF SPURIOUS EMISSION

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

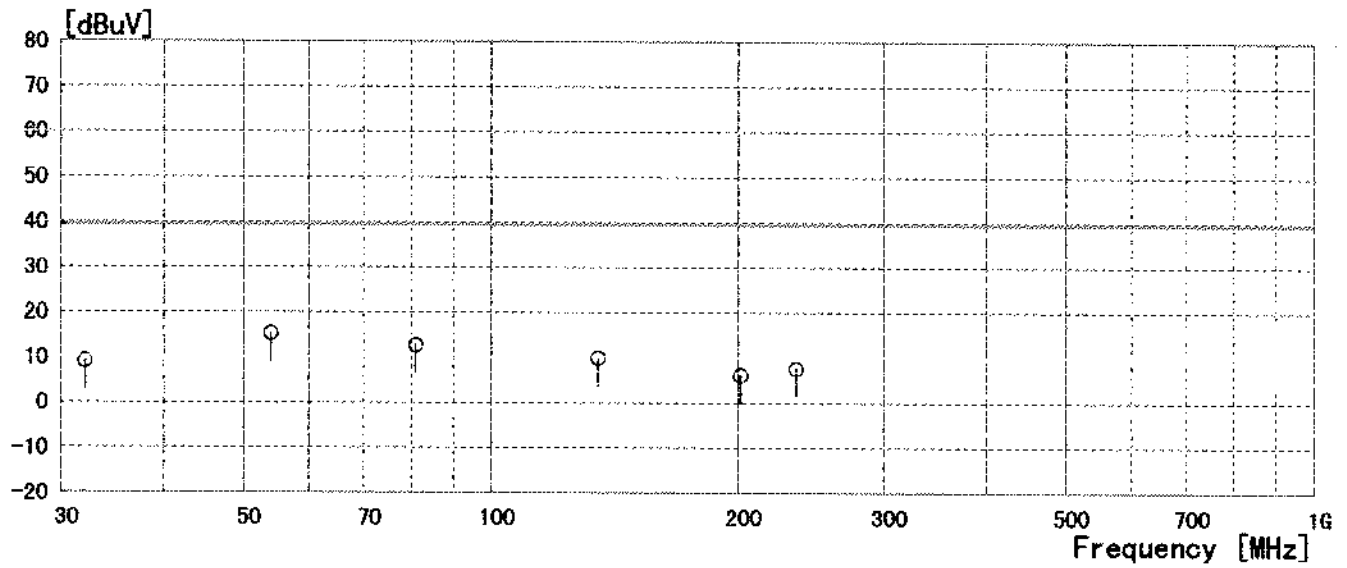
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : VCR PLAYBACK (4CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : -
REMARKS : -

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	32.110	30.8	—	-21.7	9.1	—	39.5	—	30.4	—
2	54.000	36.9	—	-21.6	15.3	—	39.5	—	24.2	—
3	81.000	34.1	—	-21.4	12.7	—	39.5	—	26.8	—
4	135.000	31.3	—	-21.4	9.9	—	39.5	—	29.6	—
5	201.300	27.5	—	-21.4	6.1	—	39.5	—	33.4	—
6	235.000	29.0	—	-21.4	7.6	—	39.5	—	31.9	—

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



DATA OF SPURIOUS EMISSION

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

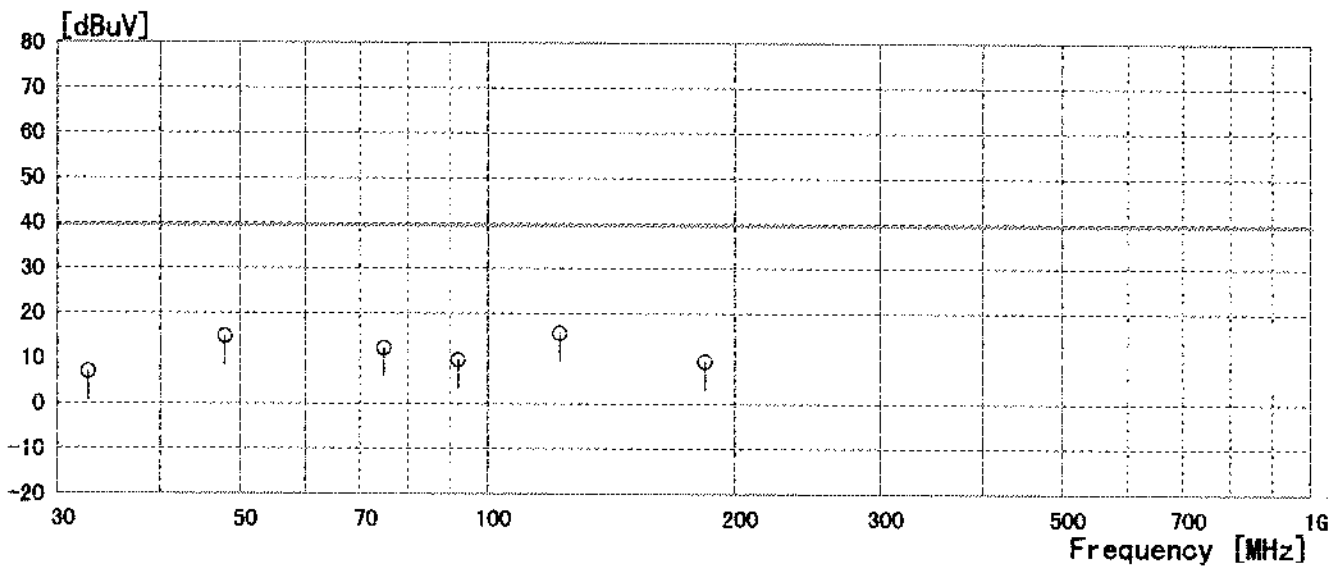
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE: DVD PLAY MODE(3CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : -
REMARKS : -

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	32.700	28.7	----	-21.7	7.0	----	39.5	----	32.5	----
2	47.940	36.5	----	-21.6	14.9	----	39.5	----	24.6	----
3	74.800	33.8	----	-21.5	12.3	----	39.5	----	27.2	----
4	92.100	31.1	----	-21.4	9.7	----	39.5	----	29.8	----
5	122.500	37.0	----	-21.4	15.6	----	39.5	----	23.9	----
6	184.000	30.8	----	-21.4	9.4	----	39.5	----	30.1	----

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



DATA OF SPURIOUS EMISSION

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

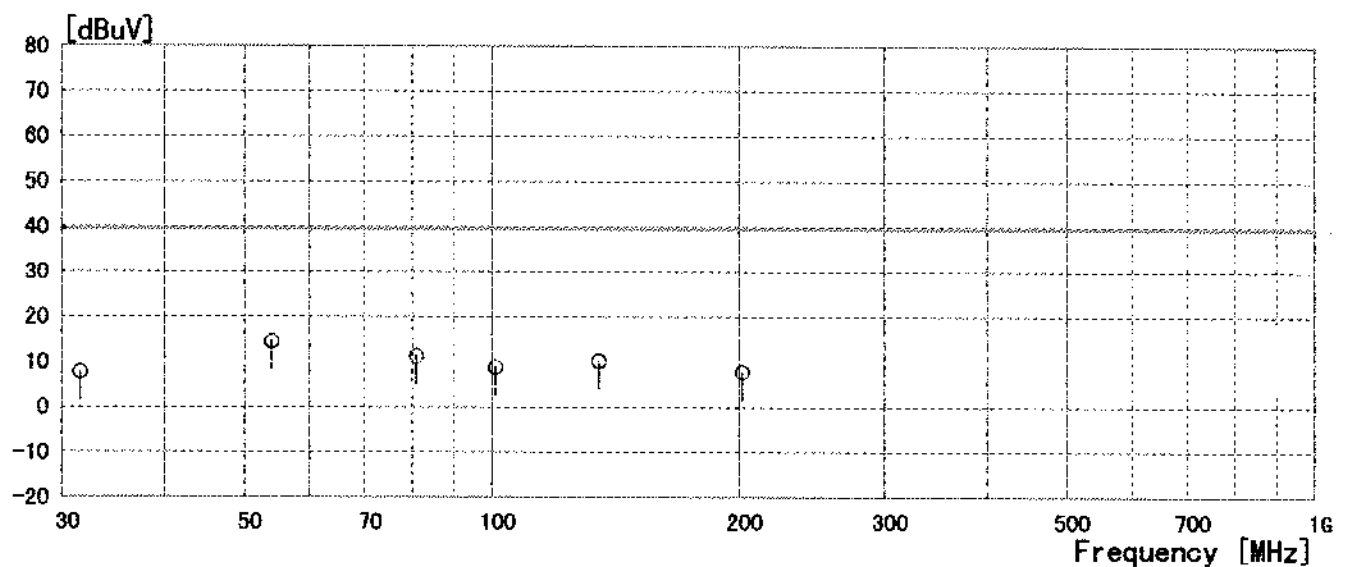
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : DVD PLAY MODE (4CH OUTPUT)
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : -
REMARKS : -

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 23, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	31.600	29.4	—	-21.7	7.7	—	39.5	—	31.8	—
2	54.000	36.1	—	-21.6	14.5	—	39.5	—	25.0	—
3	81.000	32.7	—	-21.4	11.3	—	39.5	—	28.2	—
4	101.100	30.2	—	-21.4	8.8	—	39.5	—	30.7	—
5	135.000	31.6	—	-21.4	10.2	—	39.5	—	29.3	—
6	201.700	29.2	—	-21.4	7.8	—	39.5	—	31.7	—

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



DATA OF ANTENNA TRANSFER SWITCH

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

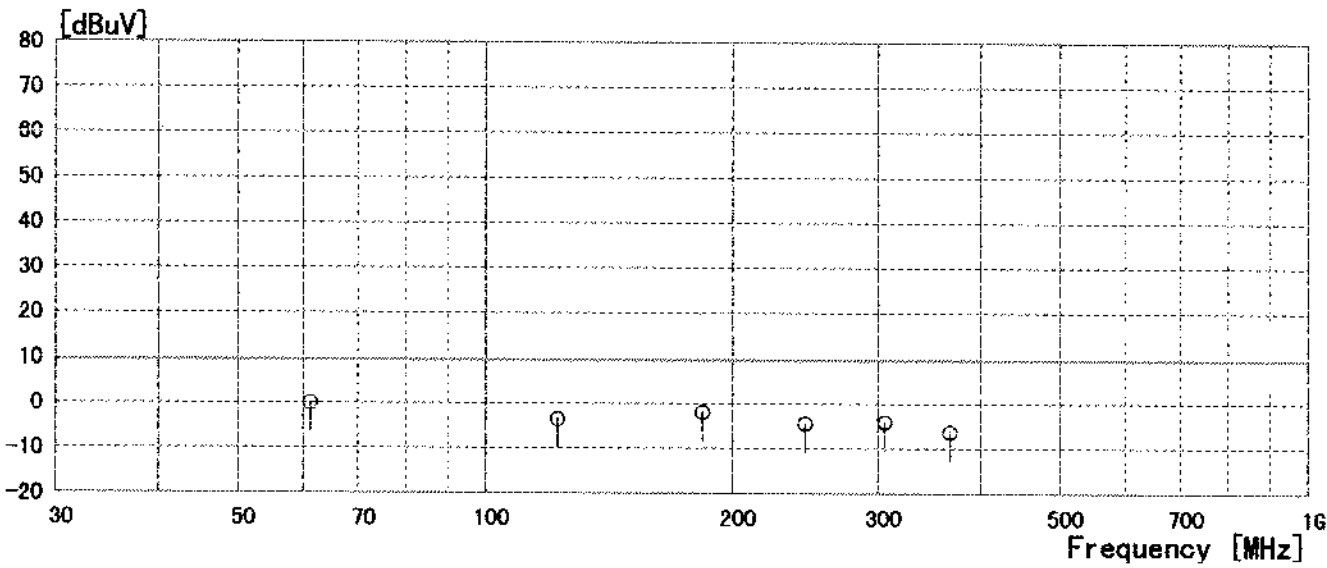
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : LINE IN + REC(3CH OUTPUT)
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 1Vp-p INPUT
REMARKS : FRONT AV INPUT

REPORT No. : 23AEC029-YW-1
DATE : AUGUST 22, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	61.250	21.5	----	-21.5	0.0	----	9.5	----	9.5	----
2	122.500	17.8	----	-21.4	-3.6	----	9.5	----	13.1	----
3	183.750	19.4	----	-21.4	-2.0	----	9.5	----	11.5	----
4	245.000	17.0	----	-21.4	-4.4	----	9.5	----	13.9	----
5	306.250	17.3	----	-21.4	-4.1	----	9.5	----	13.6	----
6	367.500	15.0	----	-21.4	-6.4	----	9.5	----	15.9	----

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



DATA OF ANTENNA TRANSFER SWITCH

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

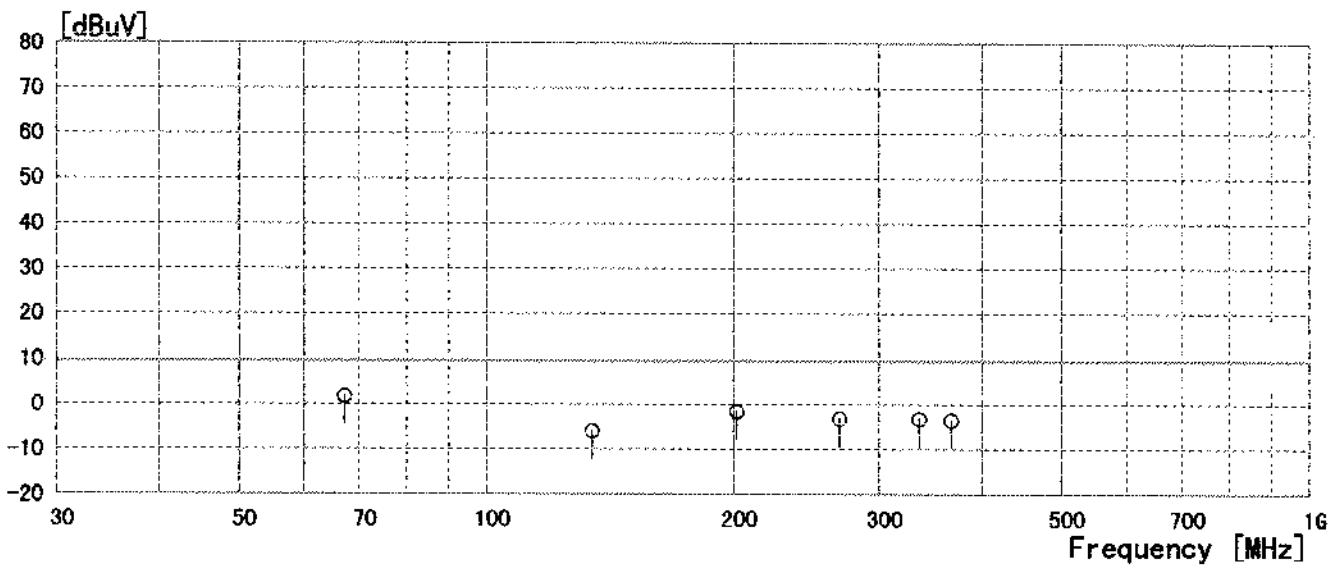
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : AV INPUT MODE (4CH OUTPUT)
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 1Vp-p INPUT
REMARKS : FRONT AV INPUT

REPORT No. : 23AEC029-YW-1
DATE : AUGUST 22, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [dB]
1	67.250	23.2	-----	-21.5	1.7	-----	9.5	-----	7.8	-----
2	134.500	15.4	-----	-21.4	-6.0	-----	9.5	-----	15.5	-----
3	201.750	19.8	-----	-21.4	-1.6	-----	9.5	-----	11.1	-----
4	269.000	18.2	-----	-21.4	-3.2	-----	9.5	-----	12.7	-----
5	336.250	18.1	-----	-21.4	-3.3	-----	9.5	-----	12.8	-----
6	367.500	17.8	-----	-21.4	-3.6	-----	9.5	-----	13.1	-----

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



DATA OF ANTENNA TRANSFER SWITCH

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

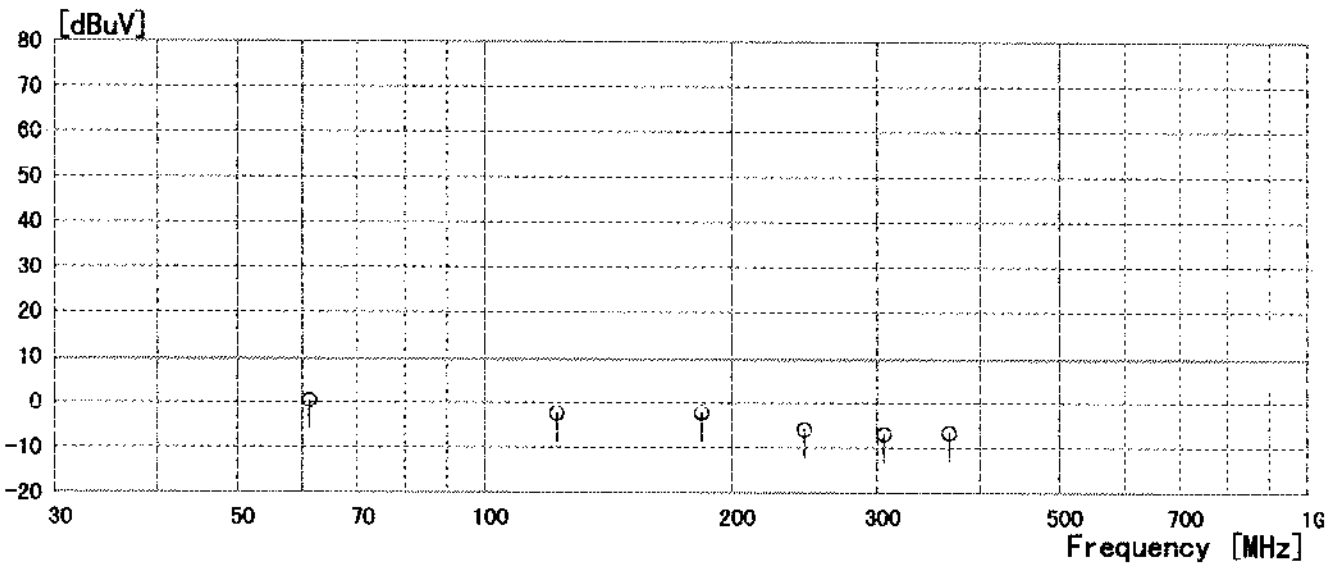
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : LINE IN + REC(3CH OUTPUT)
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 5Vp-p INPUT
REMARKS : FRONT AV INPUT

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 22, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Htsayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	61.250	21.9	—	-21.5	0.4	—	9.5	—	9.1	—
2	122.500	19.0	—	-21.4	-2.4	—	9.5	—	11.9	—
3	183.750	19.2	—	-21.4	-2.2	—	9.5	—	11.7	—
4	245.000	15.5	—	-21.4	-5.9	—	9.5	—	15.4	—
5	306.250	14.5	—	-21.4	-6.9	—	9.5	—	16.4	—
6	367.500	14.7	—	-21.4	-6.7	—	9.5	—	16.2	—

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



DATA OF ANTENNA TRANSFER SWITCH

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

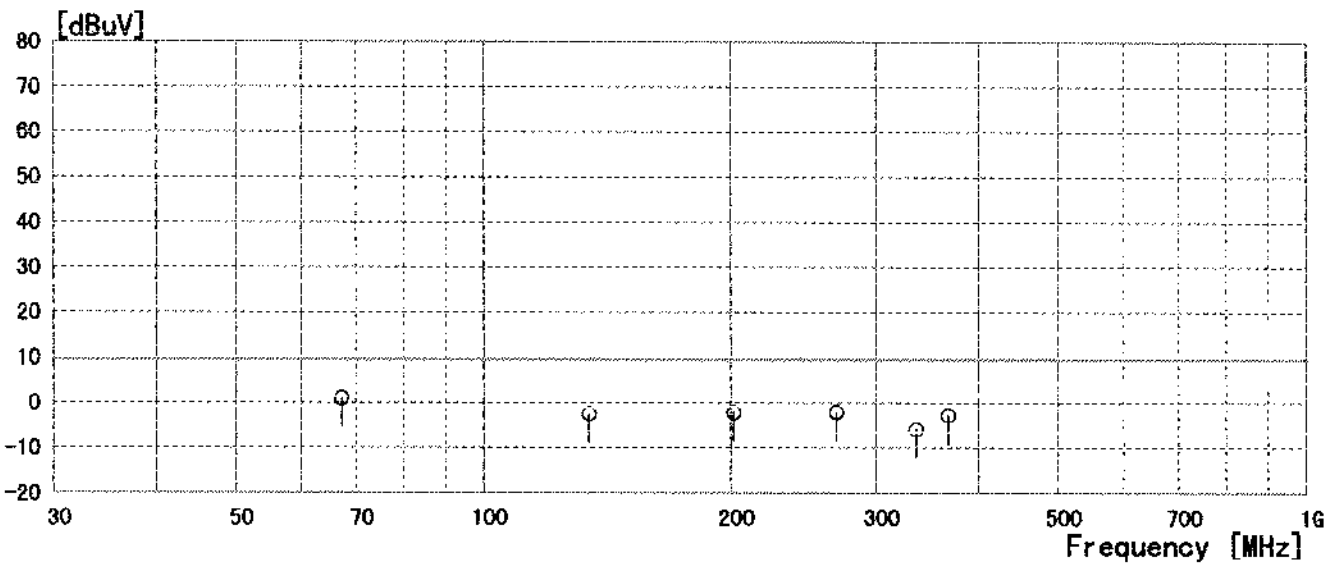
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : AV INPUT MODE (4CH OUTPUT)
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : 5Vp-p INPUT
REMARKS : FRONT AV INPUT

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 22, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV [dBuV]		QP	AV [dBuV]	QP	AV [dBuV]	QP	AV [dB]
1	67.250	22.4	-----	-21.5	0.9	-----	9.5	-----	8.6	-----
2	134.500	18.8	-----	-21.4	-2.6	-----	9.5	-----	12.1	-----
3	201.750	19.2	-----	-21.4	-2.2	-----	9.5	-----	11.7	-----
4	269.000	19.3	-----	-21.4	-2.1	-----	9.5	-----	11.6	-----
5	336.250	15.5	-----	-21.4	-5.9	-----	9.5	-----	15.4	-----
6	367.500	18.5	-----	-21.4	-2.9	-----	9.5	-----	12.4	-----

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



DATA OF ANTENNA TRANSFER SWITCH

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

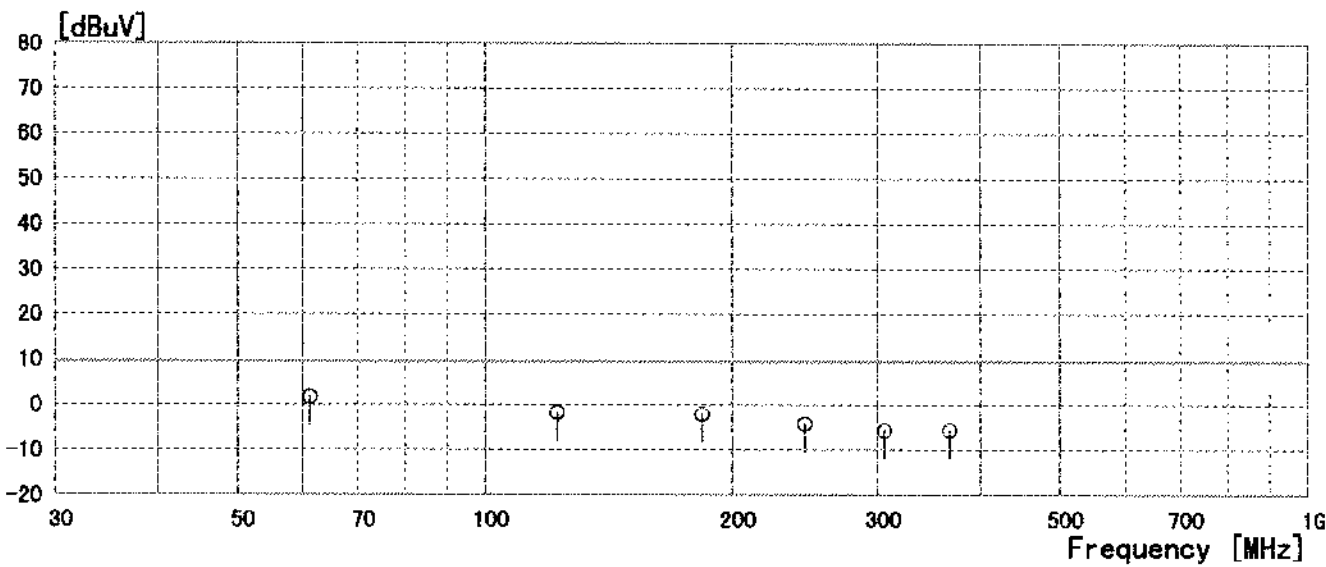
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : VCR PLAYBACK(3CH OUTPUT)
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : -
REMARKS : -

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 22, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	61.250	23.2	-----	-21.5	1.7	-----	9.5	-----	7.8	-----
2	122.500	19.6	-----	-21.4	-1.8	-----	9.5	-----	11.3	-----
3	183.750	19.3	-----	-21.4	-2.1	-----	9.5	-----	11.6	-----
4	245.000	17.2	-----	-21.4	-4.2	-----	9.5	-----	13.7	-----
5	306.250	15.7	-----	-21.4	-5.7	-----	9.5	-----	15.2	-----
6	367.500	15.7	-----	-21.4	-5.7	-----	9.5	-----	15.2	-----

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



DATA OF ANTENNA TRANSFER SWITCH

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

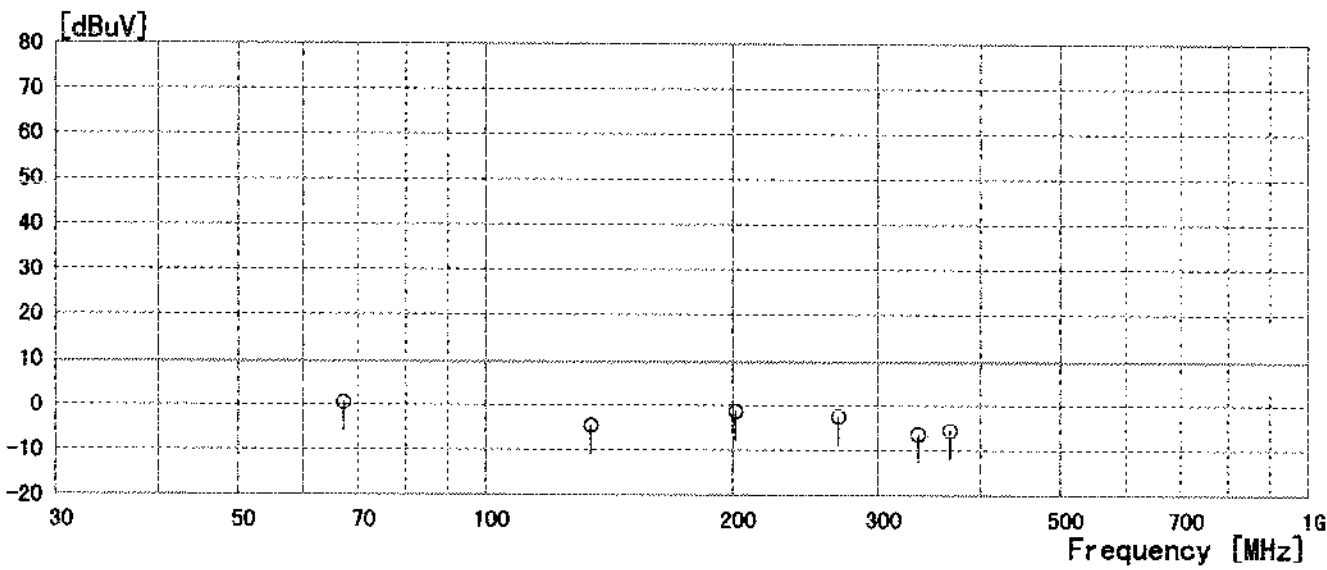
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE: VCR PLAYBACK(4CH OUTPUT)
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : -
REMARKS : -

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 22, 2002
REGULATION : FCC PART15 SUBPART B

TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	67.250	21.9	—	-21.5	0.4	—	9.5	—	9.1	—
2	134.500	16.8	—	-21.4	-4.6	—	9.5	—	14.1	—
3	201.750	20.0	—	-21.4	-1.4	—	9.5	—	10.9	—
4	269.000	18.9	—	-21.4	-2.5	—	9.5	—	12.0	—
5	336.250	15.0	—	-21.4	-6.4	—	9.5	—	15.9	—
6	367.500	15.8	—	-21.4	-5.6	—	9.5	—	15.1	—

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



DATA OF ANTENNA TRANSFER SWITCH

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

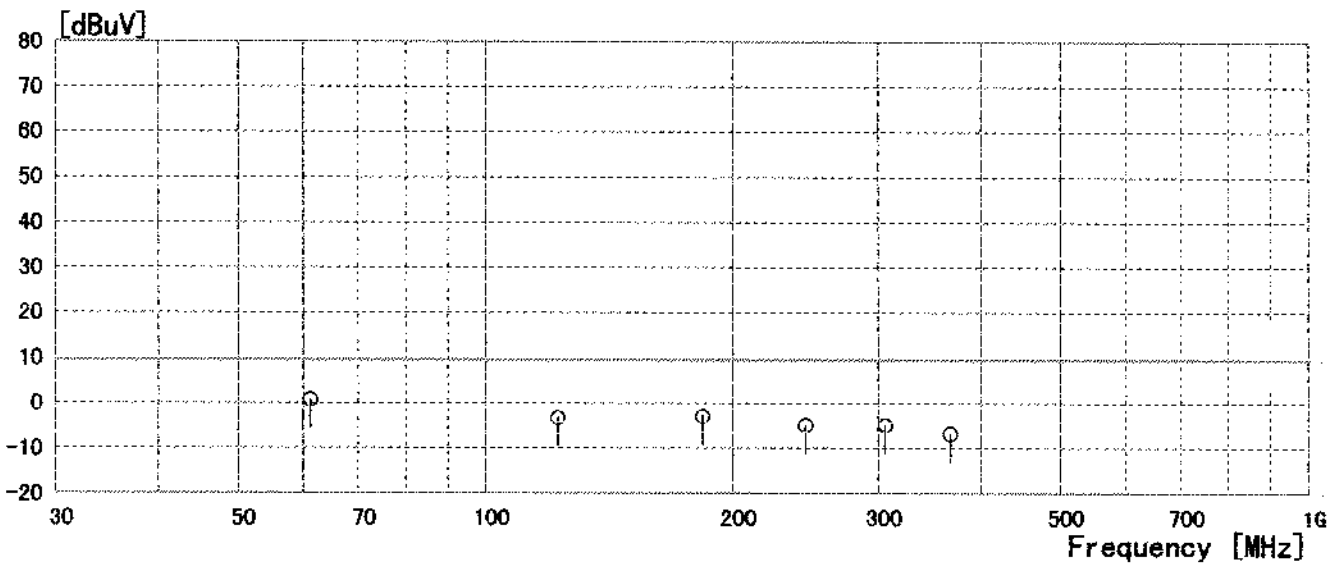
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : DVD PLAY (3CH OUTPUT)
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : -
REMARKS : -

REPORT No. : 23AEO029-YW-1
DATE : AUGUST 22, 2002
REGULATION : FCC PART15 SUBPART B


TEST ENGINEER: Htsayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	61.250	22.2	-----	-21.5	0.7	-----	9.5	-----	8.8	-----
2	122.500	18.1	-----	-21.4	-3.3	-----	9.5	-----	12.8	-----
3	183.750	18.5	-----	-21.4	-2.9	-----	9.5	-----	12.4	-----
4	245.000	16.5	-----	-21.4	-4.9	-----	9.5	-----	14.4	-----
5	306.250	16.5	-----	-21.4	-4.9	-----	9.5	-----	14.4	-----
6	367.500	14.6	-----	-21.4	-6.8	-----	9.5	-----	16.3	-----

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

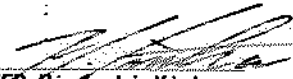


DATA OF ANTENNA TRANSFER SWITCH

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

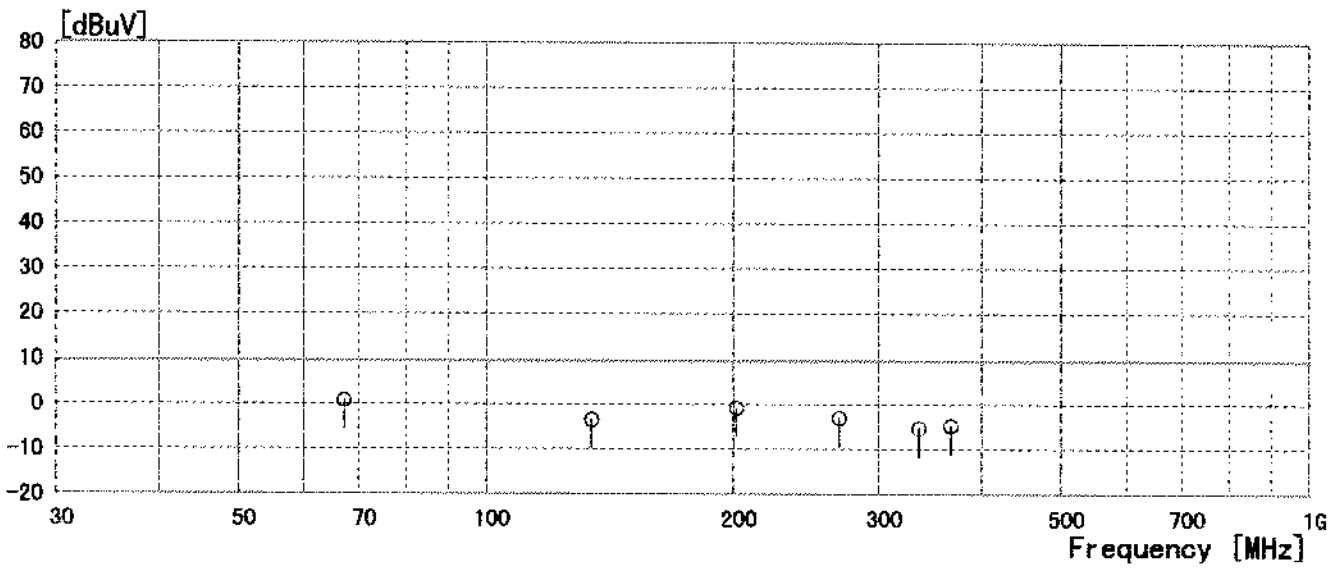
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPEMENT : DVD/VCR RECEIVER
MODEL NAME : DWM-3000U
OPERATION MODE : DVD PLAY(4CH OUTPUT)
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS : -
REMARKS : -

REPORT No. : 23AE0029-YW-1
DATE : AUGUST 22, 2002
REGULATION : FCC PART15 SUBPART B


TEST ENGINEER: Hisayuki Kioka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP	AV		QP	AV	QP	AV	QP	AV
		[dBuV]			[dBuV]		[dBuV]		[dB]	
1	67.250	22.2	----	-21.5	0.7	----	9.5	----	8.8	----
2	134.500	17.8	----	-21.4	-3.6	----	9.5	----	13.1	----
3	201.750	20.5	----	-21.4	-0.9	----	9.5	----	10.4	----
4	269.000	18.3	----	-21.4	-3.1	----	9.5	----	12.6	----
5	336.250	16.0	----	-21.4	-5.4	----	9.5	----	14.9	----
6	367.500	16.5	----	-21.4	-4.9	----	9.5	----	14.4	----

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



Picture sensitivity test

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

Company : ORION ELECTRIC CO., LTD.
Equipment : DVD/VCR RECEIVER
Model number : DWM-3000U
Power : AC 120 V / 60 Hz
Description : TV RECEPTION

Report Number : 23AE0029-YW-1
Regulation : FCC Prat15B Subpart B
Date : August 23, 2002

Engineer


Hisayuki Kioka

Ch.	Frequency	Sensitivity		Ch.	Frequency	Sensitivity	
[VHF]	[MHz]	[dBuV]	[uV]	[UHF]	[MHz]	[dBuV]	[uV]
2	55.25	20.0	10.0	14	471.25	21.5	11.9
3	61.25	19.7	9.7	20	507.25	21.5	11.9
4	67.25	18.2	8.1	26	543.25	21.1	11.4
5	77.25	18.9	8.8	32	579.25	21.0	11.2
6	83.25	18.1	8.0	38	615.25	20.3	10.4
7	175.25	19.4	9.3	44	651.25	20.2	10.2
8	181.25	19.2	9.1	50	687.25	21.3	11.6
9	187.25	19.1	9.0	56	723.25	22.1	12.7
10	193.25	18.9	8.8	62	759.25	20.8	11.0
11	199.25	18.9	8.8	69	801.25	21.8	12.3
12	205.25	18.9	8.8	-	-	-	-
13	211.25	18.8	8.7	-	-	-	-
Average VHF			8.9	Average UHF			11.5
Average UHF/VHF : $20 \log \text{UHF}[\text{uV}]/\text{VHF}[\text{uV}] =$				2.2	dB		
[Limit : 8.0 dB]							

Noise figure test

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

Company : ORION ELECTRIC CO., LTD.
Equipment : DVD/VCR RECEIVER
Model number : DWM-3000U
Power : AC 120 V / 60 Hz
Description : TV RECEPTION

Report Number : 23AE0029-YW-1
Regulation : FCC Part 15B Subpart B
Date : August 21, 2002

Engineer

Hisayuki Kioka

Ch.	Frequency [MHz]	Meter reading [dB]	Correction factor [dB]	Noise figure [dB]	Limits [dB]	Margin [dB]
TV VHF Fundamental						
2	55.25	5.2	0.2	5.0	14.0	9.0
3	61.25	3.5	0.2	3.3	14.0	10.7
4	67.25	3.3	0.2	3.1	14.0	10.9
5	77.25	3.3	0.2	3.1	14.0	10.9
6	83.25	3.0	0.2	2.8	14.0	11.2
7	175.25	4.6	0.2	4.4	14.0	9.6
8	181.25	4.4	0.2	4.2	14.0	9.8
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	4.2	0.2	4.0	14.0	10.0
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	5.8	0.3	5.5	14.0	8.5
20	507.25	6.0	0.3	5.7	14.0	8.3
26	543.25	6.2	0.3	5.9	14.0	8.1
32	579.25	5.8	0.3	5.5	14.0	8.5
38	615.25	5.4	0.3	5.1	14.0	8.9
44	651.25	5.2	0.3	4.9	14.0	9.1
50	687.25	6.2	0.3	5.9	14.0	8.1
56	723.25	7.0	0.4	6.6	14.0	7.4
62	759.25	6.0	0.4	5.6	14.0	8.4
69	801.25	6.4	0.4	6.0	14.0	8.0
Mid-band						
14	121.25	4.8	0.2	4.6	14.0	9.4
16	133.25	6.0	0.2	5.8	14.0	8.2
18	145.25	5.4	0.2	5.2	14.0	8.8
20	157.25	5.0	0.2	4.8	14.0	9.2
22	169.25	4.8	0.2	4.6	14.0	9.4
Super-band						
23	217.25	4.0	0.2	3.8	14.0	10.2
26	235.25	3.8	0.2	3.6	14.0	10.4
29	253.25	3.8	0.2	3.6	14.0	10.4
32	271.25	3.9	0.2	3.7	14.0	10.3
36	295.25	4.2	0.2	4.0	14.0	10.0

Test Report No :23AE0029-YW-1

APPENDIX 3
Test Instruments

Control No	Instrument	Manufacturer	Model No	Test Item	Calibration Data * Interval (month)
AF-03	Pre Amplifier	Anritsu	MH648A	RE, AT, TS, RF	2002/04/01 * 12
AF-04	Pre Amplifier	Hewlett Packard	8449B	RE, AT	2001/11/03 * 12
AT-04	Attenuator	Anritsu	MP721B	RE	2002/04/04 * 12
BA-04	Biconical Antenna	Schwarzbeck	BBA9106	RE	2002/04/27 * 12
LA-05	Logperiodic Antenna	Schwarzbeck	UHALP9108-A	RE	2001/11/17 * 12
LA-05	Logperiodic Antenna	Schwarzbeck	UHALP9108-A	RE	2001/11/17 * 12
SA-08	Spectrum Analyzer	Advantest	R3272	RE, CE, AT, TS, RF	2002/04/11 * 12
TR-03	Test Receiver	Rohde & Schwarz	ESHS30	CE	2002/05/30 * 12
TR-04	Test Receiver	Rohde & Schwarz	ESVS10	RE	2002/05/01 * 12
OS-10	Digital Humidity Indicator	SATO	PC-5000TRH	RE	2002/05/09 * 12
OS-15	Digital Humidity Indicator	SATO	PC-5000TRH	CE, AT, TS, RF, NF	2002/05/16 * 12
CC-20RC	Yokowa 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
CC-2S	Yokowa 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-C6	Microwave Cable	Suhner	SUCOFLEX	RE	2002/01/13 * 12
CC-C11	Microwave Cable	Storm	421-014(4mx2)	RE	2001/12/22 * 12
YOATS-02	Open Test Site	JSE	3m, 10m	RE	2002/03/17 * 12
HA-06	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2002/04/28 * 12
LS-03	LISN	Schwarzbeck	NSLK8127	CE (EUT)	2001/11/06 * 12
LS-07	LISN	Schwarzbeck	NSLK8126	CE	2001/11/06 * 12
SP-01	75 Ω Coaxial Cable(TV Type)	A-PEX	75-F-N-SP	AT, TS, RF	2002/04/28 * 12
SP-03	50 Ω Coaxil Cable(Antenna Terminal)	A-PEX	50-N-N-SP	AT, TS, RF	2002/04/28 * 12
SP-04	50 Ω Coaxil Cable(Antenna Terminal)	A-PEX	50-N-N-SP	AT, TS, RF	2002/04/28 * 12
SP-05	50 Ω Coaxil Cable(Antenna Terminal)	A-PEX	50-N-N-SP	AT, TS, RF	2002/04/28 * 12
AV14-02	Matching Pad	TME	ZT-102	AT, TS, RF, PS, NF	2002/06/03 * 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 voltage
- TS: Antenna transfer switch
- RF: RF output level/ spurious emission
- PS: Picture sensitivity
- NF: Noise figure

A-PEX INTERNATIONAL CO., LTD.