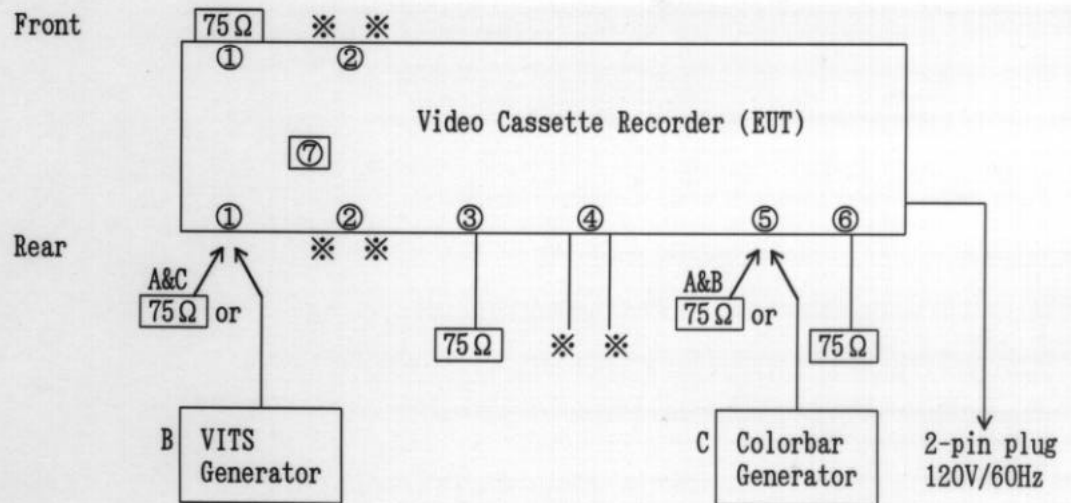


Test System-Arrangement (Drawings)



Note)

- * - No termination
- ① - VIDEO INPUT
- ② - AUDIO INPUT L/R
- ③ - VIDEO OUTPUT
- ④ - AUDIO OUTPUT L/R
- ⑤ - ANTENNA INPUT
- ⑥ - RF OUTPUT
- ⑦ - Channel Selector Switch (3ch and 4ch)

- A - Playing the internal modulation sources
- B - Recording the video modulation sources
- C - Recording the RF modulation sources

Preliminary Test and Test-setup(Drawings)

Conducted Emission 450 kHz - 30 MHz:

The preliminary test was performed according to the description of ANSI C63.4-1992 Sec.7.2.3 (Preliminary AC Powerline Conducted Emissions Tests) and Sec.6.2.1 (Tabletop Equipment Tests). The preliminary test was carried out to investigate the frequency of the emission that has the highest amplitude relative to the limits within normal operating modes, cable positions, and a typical system configuration. In order to find out to the maximum emission, the preliminary test and a final test were performed in accordance with the following steps.

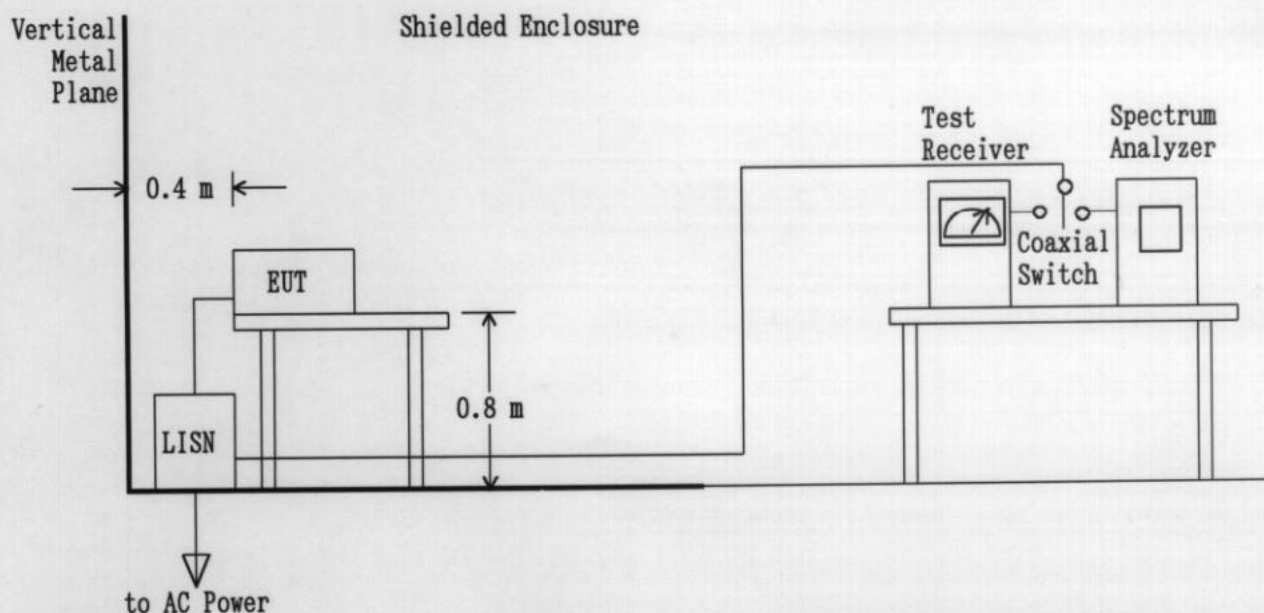
Step 1: One operation mode of the test system was setting.

Step 2: Using both of a spectrum analyzer and a test receiver, the emission's circumstance from the system was monitored in one of ten divided frequency bands of the specified frequency range (450 kHz - 30 MHz). The maximum emission in the band was found by changing the typical cable positions or cable manipulation under a typical system configuration and by selecting of current-carrying conductor. The level and the frequency at the one point which are regarded as relative high emission in the band was measured and recorded. This step was repeated until the ending frequency band.

Step 3: Return to step 1, if the other operation mode was possible to be setting.

Step 4: Based on the collected results, the operation mode produced the maximum emission was selected. The final test on the selected operation mode was performed. But if it was difficult to select the operation mode, the final tests on all operation modes were performed.

Step 5: Based on the same data, as result if the final measurement, at the worst point that has the highest amplitude relative to the limit the repeatability of the worst was reconfirmed. The photographs of the test system setup on the worst point were taken and recorded.



Radiated Emission (Electric Field) 30 MHz - 1000 MHz:

The preliminary test was performed according to the description of ANSI C63.4-1992 Sec.8.3.1.1 (Preliminary Radiated Emissions Tests) and Sec.6.2.1 (Tabletop Equipment Tests).

The preliminary test was carried out to investigate the frequency of the emission that has the highest amplitude relative to the limits within normal operating modes, cable positions, and a typical system configuration. In order to find out to the maximum emission, the preliminary test and a final test were performed in accordance with the following steps.

Step 1: One operation mode of the test system was setting.

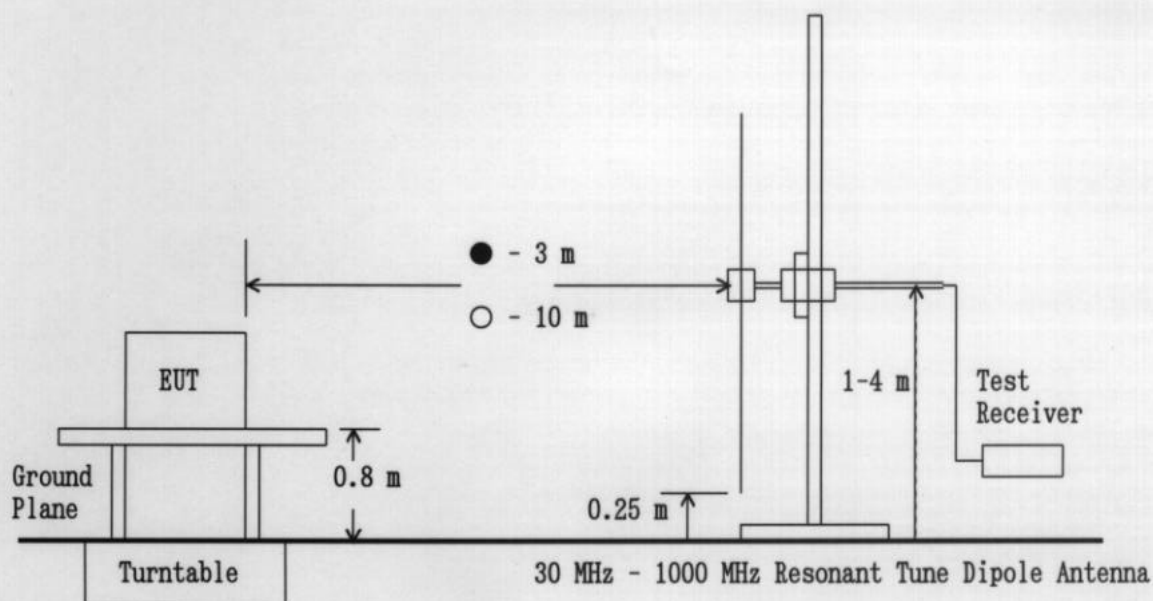
Step 2: Using a test receiver and a test antenna probe, the significant frequency of the emission's circumstance from the test system were investigated. These data were recorded every one of 22 divided bands in the specified frequency band (30 MHz - 1000 MHz).

Step 3: Using a test receiver and a resonant tuned dipole antenna, the emission's circumstance from the test system was measured in according with ANSI C63.4-1992 Sec.8.3.1.2 (Final Radiated Emissions Tests) at each frequency which was found the higher emission referred to level vs. frequency on the list and which was measured by the resonant tuned dipole antenna. The maximum emission was found by changing the cable positions or cable manipulation under a typical system configuration.

Step 4: Return to step 1, if the other operation mode was possible to be setting.

Step 5: The worst result was reported arranging data of which was obtained and performed by one or plural operation modes as the final test.

At the worst point that has the highest amplitude relative to the limit the repeatability of the level was reconfirmed. The photographs of the tests system setup on the the worst point were taken and recorded.



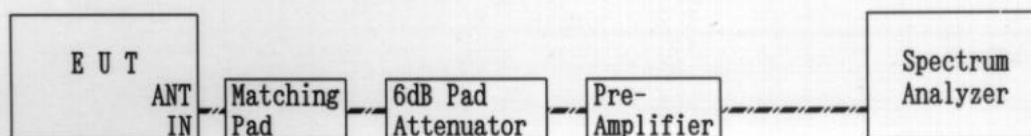
Output Signal Level and Spurious Emission 30 MHz - 1000 MHz:

The test was performed according to the description of ANSI C63.4-1992 Sec.12.2.5 (Output and Spurious Conducted Level Measurements).

1. Output Signal Level



2. Output Terminal Conducted Spurious Emission

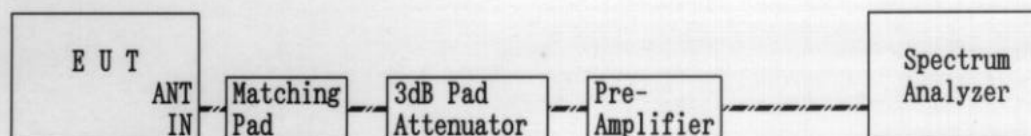


Spectrum Analyzer Setting:

RES BW	100 kHz
VIDEO BW	300 kHz
SPAN	10 MHz

Transfer Switch Isolation Measurements:

The test was performed according to the description of ANSI C63.4-1992 Sec.12.2.6 (Antenna Transfer Switch Measurements for Unintentional Radiators).



Spectrum Analyzer Setting:

RES BW	AUTO
VIDEO BW	AUTO
SPAN	20 kHz

Test-Setup (Photographs) at worst case

Conducted Emission 450kHz - 30MHz:



Front View

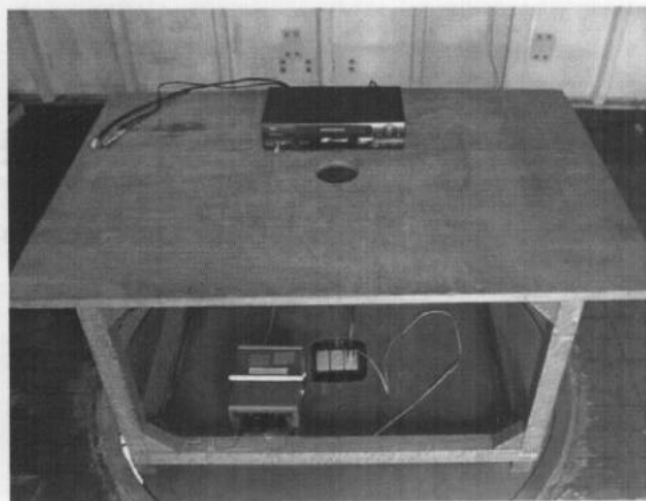


Rear View

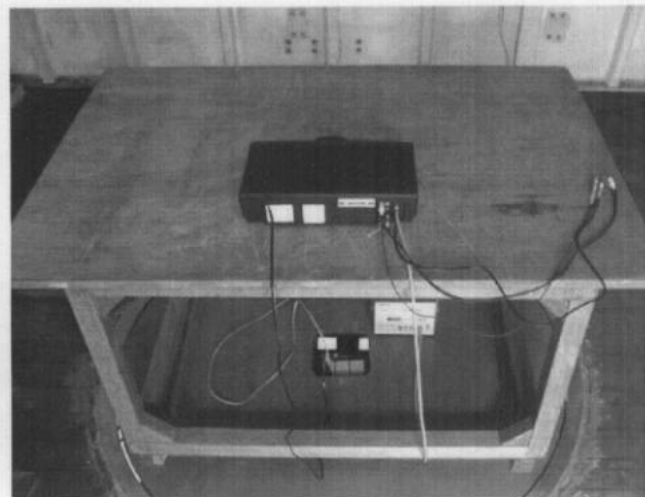


Side View

Radiated Emission 30MHz - 1000MHz:



Front View



Rear View

Mains terminal Disturbance Measurement

TV Interface Device

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)

Operating Condition : Playing Mode

Test Date: December 18, 1998

RF Output Channels : #3 and #4

Temp.: 23 °C ; Humi.: 34 %

Frequency [MHz]	Correction Factor [dB]	Meter Readings dB(μV)				Limits dB(μV)	Results dB(μV)		Margin [dB]	Remarks (Note 2)
		VA-QP	VA-AV	VB-QP	VB-AV		QP	AV		
0.45	0.1	40.0	-	40.0	-	48.0	40.1	-	+ 7.9	A
0.81	0.1	33.0	-	32.0	-	48.0	33.1	-	+14.9	A
1.28	0.2	36.0	-	34.0	-	48.0	36.2	-	+11.8	A
2.18	0.2	25.0	-	24.0	-	48.0	25.2	-	+22.8	A
3.85	0.3	18.0	-	17.0	-	48.0	18.3	-	+29.7	A
14.32	0.6	27.0	-	25.0	-	48.0	27.6	-	+20.4	A
21.48	0.8	17.0	-	14.0	-	48.0	17.8	-	+30.2	A
26.00	0.9	21.0	-	18.0	-	48.0	21.9	-	+26.1	A
28.64	0.9	38.0	-	35.0	-	48.0	38.9	-	+ 9.1	A
29.98	0.9	25.0	-	22.0	-	48.0	25.9	-	+22.1	A

Sample of calculated result at 0.45 MHz, as the Minimum Margin point:

Cable Loss = 0.1 dB

+) Meter Reading = 40.0 dB(μV)

Result = 40.1 dB(μV)

Minimum Margin : 48.0 - 40.1 = 7.9(dB)

The point shown on "___" is the Minimum Margin Point.

Note 1:

1. The correction factors includes the LISN insertion loss and the cable loss.

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	9 kHz
B	Average	10 kHz

Tester Signature :

A. Hosoda

Type Name

: Akio Hosoda

JQA Application No. : KL8080616
Model No. : VRA671AT21
FCC ID : ADTVRA671

Regulation : CFR 47 FCC Rules Part 15
Issue Date : January 14, 1999

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Testing Signal Sources : Video Modulation Sources (VITS: 1Vp_p and 5Vp_p)
Operating Condition : Recording Mode

RF Output Channels : #3 and #4

Test Date: December 18, 1998
Temp.: 23 °C ; Humi.: 34 %

Frequency [MHz]	Correction Factor [dB]	Meter Readings dB(μV)				Limits dB(μV)	Results dB(μV)		Margin [dB]	Remarks (Note 2)
		VA-QP	VA-AV	VB-QP	VB-AV		QP	AV		
0.45	0.1	40.0	-	40.0	-	48.0	40.1	-	+ 7.9	A
0.80	0.1	33.0	-	33.0	-	48.0	33.1	-	+14.9	A
1.20	0.1	34.0	-	34.0	-	48.0	34.1	-	+13.9	A
3.00	0.3	24.0	-	24.0	-	48.0	24.3	-	+23.7	A
4.09	0.3	29.0	-	29.0	-	48.0	29.3	-	+18.7	A
5.86	0.4	39.0	-	39.0	-	48.0	39.4	-	+ 8.6	A
7.16	0.4	41.0	-	41.0	-	48.0	41.4	-	+ 6.6	A
14.32	0.6	21.0	-	18.0	-	48.0	21.6	-	+26.4	A
23.00	0.8	20.0	-	17.0	-	48.0	20.8	-	+27.2	A
28.64	0.9	33.0	-	31.0	-	48.0	33.9	-	+14.1	A

Sample of calculated result at 7.16 MHz, as the Minimum Margin point:

Cable Loss = 0.4 dB
+) Meter Reading = 41.0 dB(μV)
Result = 41.4 dB(μV)
Minimum Margin : 48.0 - 41.4 = 6.6(dB)
The point shown on "___" is the Minimum Margin Point.

Note 1:

1. The correction factors includes the LISN insertion loss and the cable loss.

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	9 kHz
B	Average	10 kHz

Tester Signature :

A. Hosoda

Type Name

: Akio Hosoda

JQA Application No. : KL8080616
Model No. : VRA671AT21
FCC ID : ADTVRA671

Regulation : CFR 47 FCC Rules Part 15
Issue Date : January 14, 1999

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Testing Signal Sources : RF Modulation Sources (NTSC Colorbar: 70dB(μV) at 193.25 MHz)

Operating Condition : Recording Mode

Test Date: December 28, 1998

Temp.: 19 °C ; Humi.: 34 %

RF Output Channels : #3 and #4

Frequency [MHz]	Correction Factor [dB]	Meter Readings dB(μV)				Limits dB(μV)	Results dB(μV)		Margin [dB]	Remarks (Note 2)
		VA-QP	VA-AV	VB-QP	VB-AV		QP	AV		
0.45	0.1	41.0	-	41.0	-	48.0	41.1	-	+ 6.9	A
0.80	0.1	33.0	-	33.0	-	48.0	33.1	-	+14.9	A
1.25	0.2	30.0	-	30.0	-	48.0	30.2	-	+17.8	A
3.00	0.3	17.0	-	19.0	-	48.0	19.3	-	+28.7	A
4.30	0.3	20.0	-	20.0	-	48.0	20.3	-	+27.7	A
7.16	0.4	27.0	-	27.0	-	48.0	27.4	-	+20.6	A
14.32	0.6	23.0	-	22.0	-	48.0	23.6	-	+24.4	A
23.00	0.8	11.0	-	< 10.0	-	48.0	11.8	-	+36.2	A
28.64	0.9	27.0	-	24.0	-	48.0	27.9	-	+20.1	A
29.87	0.9	15.0	-	12.0	-	48.0	15.9	-	+32.1	A

Sample of calculated result at 0.45 MHz, as the Minimum Margin point:

Cable Loss = 0.1 dB

+) Meter Reading = 41.0 dB(μV)

Result = 41.1 dB(μV)

Minimum Margin : 48.0 - 41.1 = 6.9(dB)

The point shown on "____" is the Minimum Margin Point.

Note 1:

1. The correction factors includes the LISN insertion loss and the cable loss.

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	9 kHz
B	Average	10 kHz

Tester Signature : A. Hosoda

Type Name : Akio Hosoda

JQA Application No. : KL8080616
Model No. : VRA671AT21
FCC ID : ADTVRA671

Regulation : CFR 47 FCC Rules Part 15
Issue Date : January 14, 1999

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Electromagnetic Radiation Disturbance Measurement

TV Interface Device

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)

Operating Condition : Playing Mode

Test Date: January 4, 1999

RF Output Channels : #3 and #4

Temp.: 19 °C ; Humi.: 36 %

Frequency [MHz]	Antenna Factor dB(1/m)	Cable Loss [dB]	Meter Readings dB(μV)		Limits dB(μV/m)	Results dB(μV/m)		Margin [dB]	Remarks (Note 2)
			Hori.	Vert.		Hori.	Vert.		
43.0	1.6	1.3	18.0	15.0	40.0	20.9	17.9	+19.1	A
71.6	6.0	1.6	22.0	17.0	40.0	29.6	24.6	+10.4	A
85.9	7.6	1.8	28.0	21.0	40.0	37.4	30.4	+ 2.6	A
114.6	10.1	2.0	16.0	13.0	43.5	28.1	25.1	+15.4	A
143.2	12.0	2.3	13.0	11.0	43.5	27.3	25.3	+16.2	A
200.5	14.9	2.8	13.0	9.0	43.5	30.7	26.7	+12.8	A
214.8	15.5	2.9	5.0	< 0.0	43.5	23.4	< 18.4	+20.1	A
272.0	17.6	3.4	7.0	< 7.0	46.0	28.0	< 28.0	+18.0	A
300.7	18.4	3.6	6.0	1.0	46.0	28.0	23.0	+18.0	A
372.3	20.5	4.0	1.0	<-5.0	46.0	25.5	< 19.5	+20.5	A

Sample of calculated result at 85.9 MHz, as the Minimum Margin point:

Antenna Factor = 7.6 dB(1/m)

Cable Loss = 1.8 dB

+) Meter Reading = 28.0 dB(μV)

Result = 37.4 dB(μV/m)

Minimum Margin : 40.0 - 37.4 = 2.6(dB)

The point shown on "___" is the Minimum Margin Point.

Note 1:

1) The highest frequency generated or used in the EUT: 71.75 MHz

2) The upper frequency of measurement range : 1GHz

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 kHz
B	Average	120 kHz
C	Average	12 kHz
D	Average	7.5 kHz

Tester Signature : A. Hosoda

Type Name : Akio Hosoda

JQA Application No. : KL8080616
Model No. : VRA671AT21
FCC ID : ADTVRA671

Regulation : CFR 47 FCC Rules Part 15
Issue Date : January 14, 1999

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Testing Signal Sources : Video Modulation Sources (VITS: 1Vp_p and 5Vp_p)
Operating Condition : Recording Mode

RF Output Channels : #3 and #4

Test Date: January 5, 1999
Temp.: 11 °C ; Humi.: 58 %

Frequency [MHz]	Antenna Factor dB(1/m)	Cable Loss [dB]	Meter Readings dB(μV)		Limits dB(μV/m)	Results dB(μV/m)		Margin [dB]	Remarks (Note 2)
			Hori.	Vert.		Hori.	Vert.		
43.0	1.6	1.3	18.0	17.0	40.0	20.9	19.9	+19.1	A
71.6	6.0	1.6	21.0	14.0	40.0	28.6	21.6	+11.4	A
85.9	7.6	1.8	28.0	22.0	40.0	37.4	31.4	+ 2.6	A
114.6	10.1	2.0	18.0	13.0	43.5	30.1	25.1	+13.4	A
143.2	12.0	2.3	14.0	10.0	43.5	28.3	24.3	+15.2	A
200.5	14.9	2.8	12.0	6.0	43.5	29.7	23.7	+13.8	A
257.8	17.1	3.3	10.0	1.0	46.0	30.4	21.4	+15.6	A
272.1	17.6	3.4	9.0	< 9.0	46.0	30.0	< 30.0	+16.0	A
300.7	18.4	3.6	4.0	1.0	46.0	26.0	23.0	+20.0	A
372.3	20.5	4.0	1.0	<-5.0	46.0	25.5	< 19.5	+20.5	A

Sample of calculated result at 85.9 MHz, as the Minimum Margin point:

Antenna Factor = 7.6 dB(1/m)

Cable Loss = 1.8 dB

+) Meter Reading = 28.0 dB(μV)

Result = 37.4 dB(μV/m)

Minimum Margin : 40.0 - 37.4 = 2.6(dB)

The point shown on "___" is the Minimum Margin Point.

Note 1:

1)The highest frequency generated or used in the EUT: 71.75 MHz

2)The upper frequency of measurement range : 1GHz

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 kHz
B	Average	120 kHz
C	Average	12 kHz
D	Average	7.5 kHz

Tester Signature : A. Hosoda
Type Name : Akio Hosoda

JQA Application No. : KL8080616
Model No. : VRA671AT21
FCC ID : ADTVRA671

Regulation : CFR 47 FCC Rules Part 15
Issue Date : January 14, 1999

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Testing Signal Sources : RF Modulation Sources (NTSC Colorbar: 70dB(μV) at 193.25 MHz)
Operating Condition : Recording Mode

RF Output Channels : #3 and #4

Test Date: January 5, 1999
Temp.: 14 °C ; Humi.: 44 %

Frequency [MHz]	Antenna Factor dB(1/m)	Cable Loss [dB]	Meter Readings dB(μV)		Limits dB(μV/m)	Results dB(μV/m)		Margin [dB]	Remarks (Note 2)
			Hori.	Vert.		Hori.	Vert.		
43.0	1.6	1.3	19.0	19.0	40.0	21.9	21.9	+18.1	A
71.6	6.0	1.6	21.0	19.0	40.0	28.6	26.6	+11.4	A
85.9	7.6	1.8	28.5	23.0	40.0	37.9	32.4	+ 2.1	A
114.6	10.1	2.0	19.0	14.0	43.5	31.1	26.1	+12.4	A
143.2	12.0	2.3	21.0	22.0	43.5	35.3	36.3	+ 7.2	A
200.5	14.9	2.8	13.0	9.0	43.5	30.7	26.7	+12.8	A
214.8	15.5	2.9	10.0	5.0	43.5	28.4	23.4	+15.1	A
257.8	17.1	3.3	11.0	< 3.0	46.0	31.4	< 23.4	+14.6	A
272.0	17.6	3.4	6.0	< 6.0	46.0	27.0	< 27.0	+19.0	A
315.0	18.9	3.7	7.0	2.0	46.0	29.6	24.6	+16.4	A

Sample of calculated result at 85.9 MHz, as the Minimum Margin point:

Antenna Factor = 7.6 dB(1/m)

Cable Loss = 1.8 dB

+) Meter Reading = 28.5 dB(μV)

Result = 37.9 dB(μV/m)

Minimum Margin : 40.0 - 37.9 = 2.1(dB)

The point shown on "___" is the Minimum Margin Point.

Note 1:

1)The highest frequency generated or used in the EUT: 71.75 MHz

2)The upper frequency of measurement range : 1GHz

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 kHz
B	Average	120 kHz
C	Average	12 kHz
D	Average	7.5 kHz

Tester Signature : A. Hosoda
Type Name : Akio Hosoda

JQA Application No. : KL8080616
Model No. : VRA671AT21
FCC ID : ADTVRA671

Regulation : CFR 47 FCC Rules Part 15
Issue Date : January 14, 1999

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Output Signal Level Measurement

TV Interface Device

Test Date: January 7, 1999
Temp.: 22 °C ; Humi.: 40 %

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)

Operating Condition : Playing Mode

RF Output Channel	Carrier Frequency [MHz]		Matching Pad Loss [dB]	Meter Readings [dBm]		Limits(*) [dBm]		Results [dBm]		Margin [dB]
	Visual	Aural		Visual	Aural	Visual	Aural	Visual	Aural	
3	61.25	65.75	6.0	-48.3	-63.6	-39.2	-52.2	-42.3	-57.6	+ 3.1
4	67.25	71.75	6.0	-49.0	-64.3	-39.2	-52.2	-43.0	-58.3	+ 3.8

Testing Signal Sources : Video Modulation Sources (VITS: 1Vp_p and 5Vp_p)

Operating Condition : Recording Mode

RF Output Channel	Carrier Frequency [MHz]		Matching Pad Loss [dB]	Meter Readings [dBm]		Limits(*) [dBm]		Results [dBm]		Margin [dB]
	Visual	Aural		Visual	Aural	Visual	Aural	Visual	Aural	
3	61.25	65.75	6.0	-48.0	-63.3	-39.2	-52.2	-42.0	-57.3	+ 2.8
4	67.25	71.75	6.0	-48.2	-63.7	-39.2	-52.2	-42.2	-57.7	+ 3.0

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar: 70dB(μV) at 193.25 MHz)

Operating Condition : Recording Mode

RF Output Channel	Carrier Frequency [MHz]		Matching Pad Loss [dB]	Meter Readings [dBm]		Limits(*) [dBm]		Results [dBm]		Margin [dB]
	Visual	Aural		Visual	Aural	Visual	Aural	Visual	Aural	
3	61.25	65.75	6.0	-48.2	-63.1	-39.2	-52.2	-42.2	-57.1	+ 3.0
4	67.25	71.75	6.0	-48.2	-63.9	-39.2	-52.2	-42.2	-57.9	+ 3.0

Sample of calculated result at 61.25 MHz, as the Minimum Margin point:

Matching Pad Loss = 6.0 dB
+) Meter Reading = -48.0 dBm
Result = -42.0 dBm

Minimum Margin : -39.2 - (-42.0) = 2.8(dB)

The point shown on "___" is the Minimum Margin Point.

※) Conversion of applied limits (refer to §15.115(b)(1)(ii))

Visual : $\sqrt{75} \times 346.4 [\mu V] = -90 + 20\log(346.4) [\text{dBm}]$

Aural : $\sqrt{75} \times 77.5 [\mu V] = -90 + 20\log(77.5) [\text{dBm}]$

Remarks:

Detector Function	RES. B.W	V.B.W	Sweep Time	Span
Peak (Spectrum Analyzer)	100 kHz	300 kHz	20 msec	10 MHz

Tester Signature :

A. Hosoda

Type Name

: Akio Hosoda

Output Terminal Conducted Spurious Emission Measurement

TV Interface Device

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)

Operating Condition : Playing Mode

Test Date: January 7, 1999

Temp.: 22 °C ; Humi.: 40 %

RF Output Channel	Frequency [MHz]	Matching Pad Loss [dB]	Pre-Amp. Gain [dB]	Attenuation Pad Loss [dB]	Meter Readings [dBm]	Limits (※) [dBm]	Results [dBm]	Margin [dB]
3	56.65	6.0	26.3	6.0	<-80.0	-69.2	<-94.3	>+25.1
	68.65	6.0	26.3	6.0	<-80.0	-69.2	<-94.3	>+25.1
	122.50	6.0	26.0	6.0	-71.0	-69.2	-85.0	+15.8
	183.75	6.0	25.8	6.0	-72.3	-69.2	-86.1	+16.9
	245.00	6.0	25.5	6.0	<-80.0	-69.2	<-93.5	>+24.3
	306.25	6.0	25.7	6.0	<-80.0	-69.2	<-93.7	>+24.5
	367.50	6.0	26.1	6.0	-79.4	-69.2	-93.5	+24.3
	428.75	6.0	26.4	6.0	<-80.0	-69.2	<-94.4	>+25.2
4	62.65	6.0	26.3	6.0	<-80.0	-69.2	<-94.3	>+25.1
	74.65	6.0	26.2	6.0	<-80.0	-69.2	<-94.2	>+25.0
	134.50	6.0	26.0	6.0	-79.3	-69.2	-93.3	+24.1
	201.75	6.0	25.7	6.0	-73.2	-69.2	-86.9	+17.7
	269.00	6.0	25.4	6.0	<-80.0	-69.2	<-93.4	>+24.2
	336.25	6.0	25.9	6.0	-76.3	-69.2	-90.2	+21.0
	403.50	6.0	26.3	6.0	-79.5	-69.2	-93.8	+24.6
	470.75	6.0	26.6	6.0	<-80.0	-69.2	<-94.6	>+25.4

Sample of calculated result at 122.50 MHz, as the Minimum Margin point:

Matching Pad Loss = 6.0 dB
 Pre-Amp. Gain = -26.0 dB
 Attenuation Pad Loss = 6.0 dB
 +) Meter Reading = -71.0 dBm
 Result = -85.0 dBm

Minimum Margin : -69.2 - (-85.0) = 15.8(dB)

The point shown on " " is the Minimum Margin Point.

※) Conversion of applied limits (refer to §15.115(b)(2)(ii))

$$\sqrt{75} \times 10.95 [\mu V] = -90 + 20\log(10.95) [\text{dBm}]$$

Remarks:

Detector Function	RES. B.W	V.B.W	Sweep Time	Span
Peak (Spectrum Analyzer)	100 kHz	300 kHz	20 msec	10 MHz

Tester Signature : A. Hosoda

Type Name : Akio Hosoda

JQA Application No. : KL8080616
Model No. : VRA671AT21
FCC ID : ADTVRA671

Regulation : CFR 47 FCC Rules Part 15
Issue Date : January 14, 1999

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Testing Signal Sources : Video Modulation Sources (VITS: 1Vp_p and 5Vp_p)
Operating Condition : Recording Mode

Test Date: January 7, 1999
Temp.: 22 °C ; Humi.: 40 %

RF Output Channel	Frequency [MHz]	Matching Pad Loss [dB]	Pre-Amp. Gain [dB]	Attenuation Pad Loss [dB]	Meter Readings [dBm]	Limits (※) [dBm]	Results [dBm]	Margin [dB]
3	56.65	6.0	26.3	6.0	<-80.0	-69.2	<-94.3	>+25.1
	68.65	6.0	26.3	6.0	<-80.0	-69.2	<-94.3	>+25.1
	122.50	6.0	26.0	6.0	-71.2	-69.2	-85.2	+16.0
	183.75	6.0	25.8	6.0	-71.5	-69.2	-85.3	+16.1
	245.00	6.0	25.5	6.0	<-80.0	-69.2	<-93.5	>+24.3
	306.25	6.0	25.7	6.0	<-80.0	-69.2	<-93.7	>+24.5
	367.50	6.0	26.1	6.0	-79.2	-69.2	-93.3	+24.1
	428.75	6.0	26.4	6.0	-79.0	-69.2	-93.4	+24.2
4	62.65	6.0	26.3	6.0	<-80.0	-69.2	<-94.3	>+25.1
	74.65	6.0	26.2	6.0	<-80.0	-69.2	<-94.2	>+25.0
	134.50	6.0	26.0	6.0	-78.9	-69.2	-92.9	+23.7
	201.75	6.0	25.7	6.0	-71.9	-69.2	-85.6	+16.4
	269.00	6.0	25.4	6.0	<-80.0	-69.2	<-93.4	>+24.2
	336.25	6.0	25.9	6.0	-75.4	-69.2	-89.3	+20.1
	403.50	6.0	26.3	6.0	-79.5	-69.2	-93.8	+24.6
	470.75	6.0	26.6	6.0	<-80.0	-69.2	<-94.6	>+25.4

Sample of calculated result at 122.25 MHz, as the Minimum Margin point:

Matching Pad Loss = 6.0 dB
Pre-Amp. Gain = -26.0 dB
Attenuation Pad Loss = 6.0 dB
+) Meter Reading = -71.2 dBm
Result = -85.2 dBm

Minimum Margin : -69.2 - (-85.2) = 16.0(dB)

The point shown on "___" is the Minimum Margin Point.

※) Conversion of applied limits (refer to §15.115(b)(2)(ii))

$$\sqrt{75} \times 10.95 [\mu V] = -90 + 20\log(10.95) [\text{dBm}]$$

Remarks:

Detector Function	RES. B.W	V.B.W	Sweep Time	Span
Peak (Spectrum Analyzer)	100 kHz	300 kHz	20 msec	10 MHz

Tester Signature : A. Hosoda

Type Name : Akio Hosoda

JQA Application No. : KL8080616
 Model No. : VRA671AT21
 FCC ID : ADTVRA671

Regulation : CFR 47 FCC Rules Part 15
 Issue Date : January 14, 1999

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Testing Signal Sources : RF Modulation Sources (NTSC Colorbar: 70dB(μV) at 193.25 MHz)
 Operating Condition : Recording Mode

Test Date: January 7, 1999
 Temp.: 22 °C ; Humi.: 40 %

RF Output Channel	Frequency [MHz]	Matching Pad Loss [dB]	Pre-Amp. Gain [dB]	Attenuation Pad Loss [dB]	Meter Readings [dBm]	Limits (※) [dBm]	Results [dBm]	Margin [dB]
3	56.65	6.0	26.3	6.0	<-80.0	-69.2	<-94.3	>+25.1
	68.65	6.0	26.3	6.0	<-80.0	-69.2	<-94.3	>+25.1
	122.50	6.0	26.0	6.0	-71.2	-69.2	-85.2	+16.0
	183.75	6.0	25.8	6.0	-71.5	-69.2	-85.3	+16.1
	245.00	6.0	25.5	6.0	<-80.0	-69.2	<-93.5	>+24.3
	306.25	6.0	25.7	6.0	<-80.0	-69.2	<-93.7	>+24.5
	367.50	6.0	26.1	6.0	-79.2	-69.2	-93.3	+24.1
	428.75	6.0	26.4	6.0	-79.0	-69.2	-93.4	+24.2
4	62.65	6.0	26.3	6.0	<-80.0	-69.2	<-94.3	>+25.1
	74.65	6.0	26.2	6.0	<-80.0	-69.2	<-94.2	>+25.0
	134.50	6.0	26.0	6.0	-78.9	-69.2	-92.9	+23.7
	201.75	6.0	25.7	6.0	-71.9	-69.2	-85.6	+16.4
	269.00	6.0	25.4	6.0	<-80.0	-69.2	<-93.4	>+24.2
	336.25	6.0	25.9	6.0	-75.4	-69.2	-89.3	+20.1
	403.50	6.0	26.3	6.0	-79.5	-69.2	-93.8	+24.6
	470.75	6.0	26.6	6.0	<-80.0	-69.2	<-94.6	>+25.4

Sample of calculated result at 122.25 MHz, as the Minimum Margin point:

Matching Pad Loss = 6.0 dB
 Pre-Amp. Gain = -26.0 dB
 Attenuation Pad Loss = 6.0 dB
 +) Meter Reading = -71.2 dBm
 Result = -85.2 dBm

Minimum Margin : -69.2 - (-85.2) = 16.0(dB)

The point shown on " " is the Minimum Margin Point.

※) Conversion of applied limits (refer to §15.115(b)(2)(ii))

$\sqrt{75} \times 10.95 [\mu V] = -90 + 20\log(10.95) [\text{dBm}]$

Remarks:

Detector Function	RES. B.W	V.B.W	Sweep Time	Span
Peak (Spectrum Analyzer)	100 kHz	300 kHz	20 msec	10 MHz

Tester Signature :

A. Hosoda

Type Name

: Akio Hosoda

JQA Application No. : KL8080616
Model No. : VRA671AT21
FCC ID : ADTVRA671

Regulation : CFR 47 FCC Rules Part 15
Issue Date : January 14, 1999

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Transfer Switch Isolation Measurement TV Interface Device

Test Date: January 7, 1999
Temp.: 22 °C ; Humi.: 40 %

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
Operating Condition : Playing Mode

RF Output Channel	Carrier Frequency [MHz]	Matching Pad Loss [dB]	Pre-Amp. Gain [dB]	Attenuation Pad Loss [dB]	Meter Readings [dBm]	Limits (※) [dBm]	Results [dBm]	Margin [dB]
3	61.25	6.0	26.3	3.0	-89.4	-99.2	-106.7	+ 7.5
4	67.25	6.0	26.3	3.0	-87.4	-99.2	-104.7	+ 5.5

Testing Signal Sources : Video Modulation Sources (VITS: 1Vp_p and 5Vp_p)
Operating Condition : Recording Mode

RF Output Channel	Carrier Frequency [MHz]	Matching Pad Loss [dB]	Pre-Amp. Gain [dB]	Attenuation Pad Loss [dB]	Meter Readings [dBm]	Limits (※) [dBm]	Results [dBm]	Margin [dB]
3	61.25	6.0	26.3	3.0	-89.2	-99.2	-106.5	+ 7.3
4	67.25	6.0	26.3	3.0	-87.2	-99.2	-104.5	+ 5.3

Sample of calculated result at 67.25 MHz, as the Minimum Margin point:

Matching Pad Loss = 6.0 dB
Pre-Amp. Gain = -26.3 dB
Attenuation Pad Loss = 3.0 dB
+) Meter Reading = -87.2 dBm
Result = -104.5 dBm

Minimum Margin : $-99.2 - (-104.5) = 5.3(\text{dB})$

The point shown on "___" is the Minimum Margin Point.

※) Conversion of applied limits (refer to §15.115(c)(1)(ii))

$$\sqrt{75} \times 0.346 [\mu\text{V}] = -90 + 20\log(0.346) [\text{dBm}]$$

Remarks:

Detector Function	RES. B.W	V.B.W	Sweep Time	Span
Peak (Spectrum Analyzer)	AUTO	AUTO	30 msec	20 kHz

Tester Signature :

A. Hosoda

Type Name

: Akio Hosoda