

MEASUREMENT/TECHNICAL REPORT

APPLICANT: AVerMedia Technologies, Inc.

MODEL NO.: JOY-TV

FCC ID: J4EMØA1

This report concerns (check one) : Original Grant _____✓
Class II Change _____

Equipment type: Video Converter

Deferred grant requested per 47CFR 0.457(d)(1)(ii)?
 Yes _____ No ✓ If yes, defer until: _____ (date)

We, the undersigned, agree to notify the Commission by (date) _____ / _____ / _____ of the intended date of announce ment of the product so that the grant can be issued on that date.

Transiyion Rules Request per 15.37? Yes _____ No _____
If no, assumed Part 15, Subpart B for unintentional radiator the new 47 CFR (10-1-90 Edition) provision.

Report Prepared

by Testing House : Neutron Engineering Inc.

for Company :

Name AVerMedia Technologies, Inc.

Address 5F-4, No. 520, Yuan Shan Rd., Jonj-Ho City, Taipei Hsien,
Taiwan, R.O.C.

Applicant Signature : Robert Cheng
Robert Cheng / Engineer

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1. GENERAL INFORMATION

1-1. Product Description

The AVerMedia Technologies, Inc. Model: JOY-TV (referred to as the EUT in this report) is an completely plug and play external PC-to-TV video converter. It can convert a TV/Composite Video source into a PC R.G.B. video format and display them on a PC monitor.

1-2. I/O Connector(s):

- (1) VGA IN : One DB-15 connector provides to connect the EUT with a PC via the supplied computer extension cable.
- (2) VGA OUT : One DB-15 connector provides to connect the EUT with a VGA monitor.
- (3) LINE OUT : This port provides to connect with an external speaker.
- (4) A Mini DIN type connector provided for EUT to connect with a S-video interface device.
- (5) A RCA type connector provided for EUT to receive TV program from TV antenna.
- (6) Audio IN/OUT : Two pairs of Audio IN/OUT connector (each for L/R) provided for EUT to receive/output audio signal from/ to an audio device.
- (7) Video IN/OUT : A pair of composite video signal IN/OUT connector provided for EUT to receive output a composite video signal from/ to a video device.

1-3. Related Submittal(s) / Grant (s)

Only the EUT, model JOY-TV , is submitted for FCC ID filing.

1-3. Tested System Details

The FCC IDs for all equipments, plus descriptions of all cables used in the tested system (including inserted cards, which have grants) are:

Model No.	FCC ID	Equipment	Cable
JOY-TV ⁽¹⁾	J4EMØA1	Video converter	Shielded Data Cable
PRESARIO7222	EJH3326	PC	Shielded Power Cord
NE64	KFBNE64	Monitor	Shielded Data Cable ⁽²⁾ Un-Shielded Power Cord
HP2225C+	DSI6XU2225	Printer	Shielded Parallel Data Cable Un-Shielded Power Cord
AT-1200CK	E2O5OV1200CK	Modem	Shielded Serial Data Cable Un-Shielded Power Cord
FDA-102A	F4Z4K3FDA-102A	Keyboard	Shielded Data Cable
M-S34	DZL211029	Mouse	Un-shielded Data Cable
PVM-1390	Sony	TV Monitor	Unshielded Power Cord
LL87891	EOZVCR-4410	VCR	Un-Shielded Power Cord
GRS-455	N/A	Speakers	Un-Shielded Power Cord

Notes:

(1) EUT submitted for grant.

(2) Monitor's attached video cable without ferrite core.

1-4. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 / CISPR22 (1996). Radiated testing was performed at an antenna to EUT distance 10 meters.

1-5. Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the address of No. 5, All 2, Lane 220, Kang Lo St., Nei Hwu, Taipei, Taiwan, R.O.C. of NEUTRON ENGINEERING INC. This site has been fully described in report dated Feb. 04, 1998 Submitted to your office, and accepted in a letter dated March 28, 1998 (31040/SIT-1300F2).

3. System Test Configuration

3-1. Justification

The system was configured for testing in a typical fashion (as a customer would normally use it). The EUT(PC to TV Video converter) was connected to support equipment-personal computer. Peripherals of PC such as printer, modem, keyboard, and mouse except the peripherals of EUT such as TV-monitor, speakers were contained in this system in order to comply with ANSI C63.4 Rules requirement.

Since the EUT provides three different type video source input which may be a composite video or a S-Video signal from either a comcorder or a VCR, or a PC R.G.B. Video from PC in addition to the TV program from TV Antenna terminal. The VGA port on PC was connected to VGA In connector on EUT and a VGA monitor then loopbacked to VGA Out connector on EUT. Meantime, a VCR was used as the Video Source device connecting to the video input connectors of EUT, one end of video cable(or S-Video cable) was connected to video output(composite or S-Video) of VCR; the other end of video cable also connected to the video input (composite or S-Video) connector of EUT.

The PC operated in the default mode of 640x480/31.5 Hkz VGA graphic mode. Both type of video source input, S-Video and composite Video, were tested as per ANSI C63.4 requirement. The simultaneous testing of this identical port did not take the system out of compliance. Therefore, the final qualification testing was completed with only composite video port connected.

3-2. EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The software, contained on a 3-1/2 inch disk, was inserted into driver A and is auto-starting on power-up. Once loaded, the program sequentially exercises each system component in turn. The sequence used is:

1. Read (write) from (to) the disk driver (mass storage device).
2. Send " H " pattern to video port device (Monitor, EUT).
3. Send " H " pattern to TV Monitor (RCA type video input).
4. Send " H " pattern to parallel port device (Printer).
5. Send " H " pattern to parallel to serial port (COM) device (Modem).
6. Repeated from 1 to 5 continuously.

As the Keyboard and mouse are strictly input devices, no data is transmitted to (from) them during test. They are, however, continuously scanned for data input activity.

3-3. Special Accessories

No any other special accessory used for compliance testing except the accessories of VGA extension cable as well as the power adaptor as normally supplied by the applicant. All accessories should be marketed with the EUT to the end user in order to comply with FCC requirement.

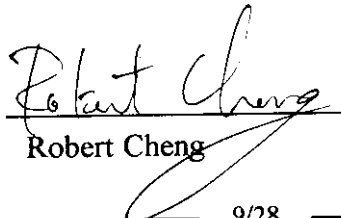
3-4. Equipment Modifications

In order to achieve in compliance with Class B levels, the following change (s) were made by NEUTRON test house during the compliance testing:

Please refer to the next page as the modifications described and cross reference of photos of tested EUT.

The above modifications will be implemented in all product models of this equipment.

Applicant Signature :



Date : April 17, 1998

Type/Printed Name :

Robert Cheng

Position : Engineer

Modification Report

Company: AVerMedia Technologies, Inc.

Model No.: JOY-TV

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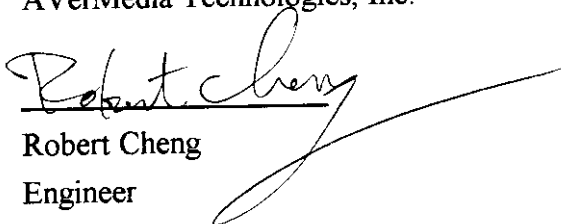
FCC ID: J4EM0A1

Date: April 17, 1998

-
- A. A. Add a gasket on the AV connector to connect the chassis ground.
 - B. Add gaskets on the chassis ground to connect digital ground.

All the above modification will be implemented and relayout in the mass production to meer the FCC Class B requirements.

AVerMedia Technologies, Inc.


Robert Cheng
Engineer

3.5 Configuration of Tested System

The configuration of tested system is described as the block diagram shown in next page Figure 3.1 and details information of I/O cable and power cord connection are tabulated as Table A and B. The monitor is powered from a floor mounted receptacle (referred to as the wall outlet in the previous described) was tested.

TABLE A - Test Equipment

Item	Equipment	Mfr.	Model/Type No.	I/O Port	FCC ID	Remark
E-1	Video Converter	AVerMedia	JOY-TV		J4EMØA1	EUT
E-2	Monitor	Chern-Yih	NE64	VGA Port	KFBNE64	
E-3	PC	COMPAQ	PRESARIO7222	VGA Port	EJH3326	
E-4	Printer	HP	HP2225C+	Centronic Port	DSI6XU2225	
E-5	Modem	Datatronics	AT-1200CK	Com Port	E2O5OV1200CK	
E-6	Keyboard	ACER	6311	K/B Port	FVI6311-K	
E-7	Mouse	IBM	M-S34	PS/2 Port	DZL211029	
E-8	TV Monitor	SONY	PVM-1390	VideoOut	AK896APVM1390	
E-9	VCR	SHINTOM	LL87891	S-Video In Video In	EOZVCR-4410	
E-10	Speakers	N/A	GRS-455	Audio Out	N/A	
E-11	VGA Card	GAINWARD	S3Trio64+	PC Slot	ICUVGA-GW503B	

Remark:

- (1) Unless otherwise denoted as EUT in 'Remark' column, device(s) used in tested system is a support equipment.
- (2) Unless otherwise marked as ※ in 'Remark' column, Neutron consigns the supporting equipment(s) to the tested system.

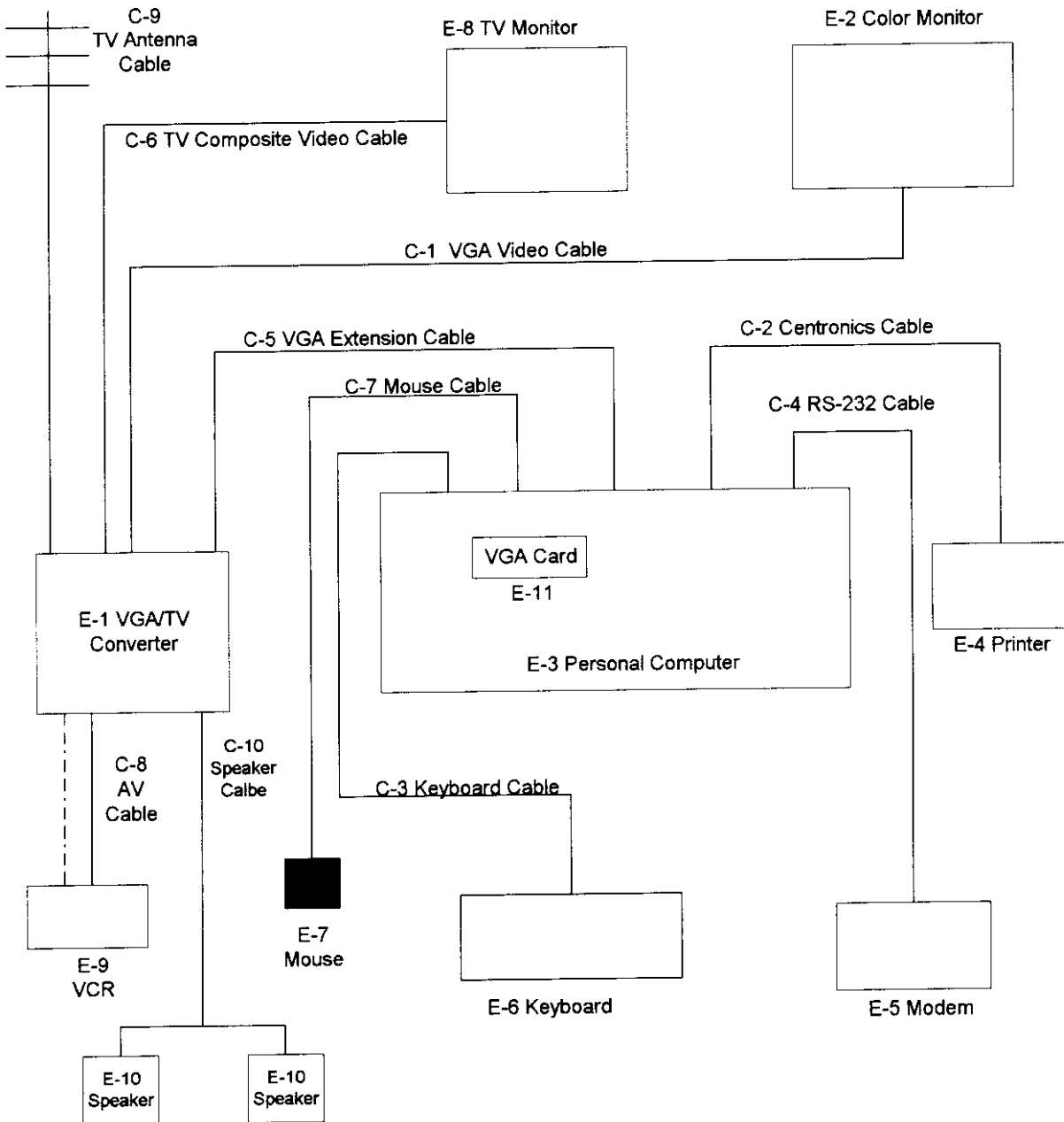
Table B. - Informations Cable Information

Item	I/O Cable	Device Connected	Shielded	Ferrite	Detachable/Permanently	Note
C-1	Video Cable	EUT-Monitor	Yes	No	Permanently attached on Monitor	
C-2	Centronics Cable	PC-Printer	Yes	No	Detacheble type	
C-3	Keyboard Cable	PC-Keyboard	Yes	No	Permanently attached on KB	
C-4	RS-232 Cable	PC-Modem	Yes	No	Detachable type	
C-5	VGA Ext. Cable	PC-EUT	Yes	No	Detachable type	※
C-6	Composite VideoCable	TV Monitor-EUT	No	No	Detachable type	
C-7	Mouse Cable	PC-Mouse	Yes	No	Permanently attached on Mouse	
C-8	AV Cable (2)	EUT-VCR	No	No	Detachable type	
C-9	TV Antenna Cable	EUT-TV Antenna	Yes	No	Detachable type	
C-10	Speaker Cable	EUT-Speaker	No	No	Permanently attached on Speaker	

Note:

- (1) Unless otherwise marked as ※ in 「Remark」 colum, Neutron consigns the supporting equipment(s) to the tested system.
- (2) May be a S-Video cable which connecting S-Video connector between EUT and VCR;
or be a pair of AV cable which connecting RCA type Video/Audio connectors between EUT and VCR.

Figure 3.1 Configuration of Tested System



6. Conducted Emission Datas

6.1 The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Judgement: Passed by **-3.25 dB** in mode of **Neutral** terminal **0.40 MHz**

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Safe Margins	
		QP-Mode	AV-Mode	QP-Mode	AV-Mode	(dBuV)	Note
0.17	Line	54.52	*	65.16	55.16	-10.64	(QP)
0.39	Line	49.90	40.30	58.17	48.17	-7.87	(AV)
1.04	Line	37.53	*	56.00	46.00	-18.47	(QP)
3.60	Line	41.21	*	56.00	46.00	-14.79	(QP)
27.13	Line	37.48	*	60.00	50.00	-22.52	(QP)
0.16	Neutral	56.44	46.40	65.36	55.36	-8.92	(QP)
0.36	Neutral	49.26	41.40	58.77	48.77	-7.37	(AV)
0.40	Neutral	53.63	44.60	57.85	47.85	-3.25	(AV)
4.98	Neutral	43.12	*	56.00	46.00	-12.88	(QP)
27.13	Neutral	42.53	*	60.00	50.00	-17.47	(QP)

Remark:

- : (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz ; SPA setting in RBW=100KHz, VBW=100KHz, Swp. Time = 0.3 sec./MHz. Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=1MHz, VBW=10Hz, Swp. Time = 0.3 sec./MHz.
- (2) All readings are QP Mode value unless otherwise stated AVG in column of 'Note'. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a "*" marked in AVG Mode column of Interference Voltage Measured.
- (3) Measuring frequency range from 150KHz to 30MHz.

Review :

Test Personnel :

Date:

April 17, 1998

7. Radiated Emission Datas

- 7.1 The following data lists the significant emission frequency, measured levels, correction factor (includes cable and antenna corrections), the corrected reading, as well as the limit. Explanation of the Correction Factor is given in paragraph 7.2.

Judgement: Passed by **-4.11 dB** in polarity of **Vertical 399.03 MHz**

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Safe Margins (dBuV/m)	Note
38.20	V	13.60	11.31	24.91	30.00	- 5.09	
41.60	H	12.20	11.70	23.90	30.00	- 6.10	
49.60	V	12.60	12.18	24.78	30.00	- 5.22	
80.99	V	19.00	6.52	25.52	30.00	- 4.48	
148.20	H	10.80	12.82	23.62	30.00	- 6.38	
189.30	H	6.80	18.86	25.66	30.00	- 4.34	
257.60	V	15.90	14.16	30.06	37.00	- 6.94	
320.00	H	14.80	16.10	30.90	37.00	- 6.10	
332.80	H	14.00	16.12	30.12	37.00	- 6.88	
332.80	V	13.20	16.12	29.32	37.00	- 7.68	
399.03	H	12.00	17.79	29.79	37.00	- 7.21	
399.03	V	15.10	17.79	32.89	37.00	- 4.11	

Remark :

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz .
- (2) All readings are Peak unless otherwise stated QP in column of 'Note'. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform .
- (3) Measuring frequency range from 30MHz to 1000MHz .
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table .

Review :

Test Personnel. :

Date: April 15, 1998

7-2. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where **FS = Field Strength**

RA = Receiver Amplitude

AF = Antenna Factor (1)

CL = Cable Attenuation Factor (1)

AG = Amplifier Gain (1) (2)

Remark :

(1) The Correction Factor = $AF + CL - AG$, as shown in the data tables' Correction Factor column.

(2) AG is not available for Neutron's Open Site Facility

Example of Calculation:

Assume a Receiver Reading of 23.7 dBuV is obtained with an Antenna Factor of 7.2 dB and a Cable Factor of 1.1 dB Then:

1. The Correction Factor will be calculated by

$$\text{Correction Factor} = AF + CF - AG = 7.2 + 1.1 - 0 = 8.3 \text{ (dB)}$$

as shown in the data tables' Correction Factor column.

2. The Field Strength will be calculated by

$$FS = RA + \text{Correction Factor} = 23.7 + 8.3 = 32 \text{ (dB}\mu\text{V/m)}.$$

FS is the value shown in the data tables' Corrected Reading column and RA is the value shown in the data tables' Receiver Reading column. The 32 dBuV/m value was mathematically converted to its corresponding level in uV/m as:

$$\text{Log}^{-1} \left[(32.0 \text{ dBuV/m}) / 20 \right] = 39.8 \text{ (uV/m)}$$

7-3. Correction Factor VS Frequency

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)
30.00	11.10	0.20
35.00	10.80	0.00
40.00	11.20	0.40
45.00	11.50	0.40
50.00	11.30	0.90
55.00	10.50	0.00
60.00	9.90	0.00
65.00	8.70	0.20
70.00	7.60	0.00
75.00	6.40	0.50
80.00	6.10	0.10
85.00	7.00	0.80
90.00	8.00	0.30
95.00	10.00	0.40
100.00	11.20	0.60
110.00	12.60	0.60
120.00	13.00	0.60
130.00	12.50	0.50
140.00	12.00	0.20
150.00	12.00	1.00
160.00	13.20	1.20
170.00	14.80	1.60
180.00	16.30	1.90
190.00	17.00	1.90
200.00	17.30	1.40
225.00	10.50	1.10
250.00	11.70	2.00
275.00	12.80	2.40
300.00	14.50	2.40
325.00	14.00	1.90
350.00	14.20	2.40
375.00	14.60	2.90
400.00	15.10	2.70
450.00	16.20	3.20
500.00	17.60	3.70
550.00	17.80	3.90
600.00	18.40	4.30
650.00	19.50	4.00
700.00	20.80	4.10
750.00	20.50	5.30
800.00	21.10	5.90
850.00	22.40	5.80
900.00	23.50	5.50
950.00	24.00	6.30
1000.00	24.80	5.20

8. Supplementary Information for a TV Receiver

8.1 Picture Sensitivity Measurement

The picture sensitivity of a TV broadcast receiver for UHF band between CH. 14 aCH.69 Inclusive and VHF band between CH.2 and CH.13 were measured and data collected as following.

<u>Band</u>	<u>CH. No.</u>	<u>Local OSC. Freq.</u>	<u>Picture Sensitivity</u>	<u>Average</u>
UHF	14	517 MHz	27.3	27.1
	20	553 MHz	27.6	
	26	589 MHz	26.7	
	32	625 MHz	27.4	
	38	661 MHz	26.2	
	44	697 MHz	26.5	
	50	733 MHz	27.3	
	56	769 MHz	27.4	
	62	805 MHz	27.6	
	69	847 MHz	27.0	
VHF	2	101 MHz	23.0	23.3
	3	107 MHz	23.8	
	4	113 MHz	23.0	
	5	123 MHz	23.6	
	6	129 MHz	23.2	
	7	221 MHz	22.7	
	8	227 MHz	22.6	
	9	233 MHz	24.1	
	10	239 MHz	22.9	
	11	245 MHz	23.0	
	12	251 MHz	24.7	
	13	257 MHz	22.9	

8.1 Noise Figure Measurement

The noise figure for any channels CH.14 to CH.69 inclusive was measured and data collected as followint.

CHANNEL NO.	Local OSC. Freq.	Noise Figure (dB)	Limit (dB)
14	517 MHz	9.68	14.0
20	553 MHz	9.11	14.0
26	589 MHz	9.31	14.0
32	625 MHz	9.81	14.0
38	661 MHz	9.00	14.0
44	697 MHz	9.25	14.0
50	733 MHz	9.72	14.0
56	769 MHz	9.50	14.0
62	805 MHz	9.37	14.0

Judgement: Passed by -4.32 dB safe margin in CH.50

8.2 TV Radiated Emission Measurement Data-CATV Channel

Tunner MFR: Philips, Ltd.

Tunner Type No.: FM1236/PH hm

Tuning Frequency Range: 119 MHz - 695 MHz (Local Osc. Freq.)

CH. No.	Measure d Freq (MHz)	Meter Peading Field Strng. at 3 meters (dBuV/m)	Correction Factor AF+CL (dBuV/m)	Corrected Field Strng. (dB/Vm)	H/V	Field Strng. Limit (dBuV/m)	Margins (dBuV/m)
1	119	9.1	10.9	20.0	H	435	-23.5
	238	3.8	15.6	19.4	H	46.5	-27.1
	357	*	*	*	*	46.5	*
	476	*	*	*	*	46.5	*
95	137	10.4	12.1	22.5	V	43.5	-21.0
	274	5.1	16.5	21.6	H	46.5	-24.9
	411	*	*	*	*	46.5	*
	548	*	*	*	*	46.5	*
98	155	8.5	13.3	21.8	V	43.5	-21.7
	310	2.3	18.0	20.3	V	46.5	-26.2
	465	*	*	*	*	46.5	*
	620	*	*	*	*	46.5	*
14	167	7.8	14.0	21.8	H	43.5	-21.7
	334	*	*	*	*	46.5	*
	501	*	*	*	*	46.5	*
18	191	10.5	14.4	24.9	H	43.5	-18.6
	382	*	*	*	*	46.5	*
	573	*	*	*	*	46.5	*
22	215	9.5	14.6	24.1	V	43.5	-19.4
	430	1.8	22.4	24.0	H	46.5	-22.5
	645	*	*	*	*	46.5	*
23	263	9.8	16.3	26.1	V	43.5	-17.4
	526	1.8	23.4	25.2	V	46.5	-21.3
	789	*	*	*	*	46.5	*
27	287	8.0	17.8	25.8	H	43.5	-17.7
	574	*	*	*	*	46.5	*
	861	*	*	*	*	46.5	*
31	311	7.1	18.0	25.1	H	43.5	-18.4
	622	*	*	*	*	46.5	*
	933	*	*	*	*	46.5	*

CH. No.	Measured Freq (MHz)	Meter Reading Field Strng. at 3 meters (dBuV/m)	Correction Factor AF+CL (dBuV/m)	Corrected Field Strng. (dB/Vm)	H/V	Field Strng. Limit (dBuV/m)	Margins (dBuV/m)
36	341	7.6	18.7	26.3	V	46.5	-20.2
	682	*	*	*	*	46.5	*
42	377	7.1	20.9	28.0	V	46.5	-18.5
	754	*	*	*	*	46.5	*
48	413	7.0	21.3	28.3	H	46.5	-18.2
	826	*	*	*	*	46.5	*
54	449	6.5	22.3	28.8	H	46.5	-17.7
	898	*	*	*	*	46.5	*
60	485	6.4	22.6	29.0	V	46.5	-17.5
	970	*	*	*	*	46.5	*
66	521	5.1	23.3	28.4	H	46.5	-18.1
72	557	5.3	24.2	29.5	H	46.5	-17.0
78	593	2.8	26.6	29.4	H	46.5	-17.1
84	629	2.0	27.6	29.6	H	46.5	-16.9
90	665	1.9	28.7	30.6	V	46.5	-16.5
100	695	2.1	28.7	60.8	V	46.5	-15.7

Note: (1) Measuring Procedure: IEC 106 & 106A
(2) Measuring Distance: 3 meters
(3) Symbol * means Field Strength emission more than 25 dB below the limits.
(4) Correction Factor calculated by Antenna Factor (AF)+Cable Loss (CL) in dBu V/m.

8.2 TV Radiated Emission Measurement Data-VHF Channel

Tunner MFR: Philips, Ltd.

Tunner Type No.: FM1236/PH hm

Tuning Frequency Range: 119 MHz - 695 MHz (Local Osc. Freq.)

CH. No.	Measure d Freq (MHz)	Meter Peading Field Strng. at 3 meters (dBuV/m)	Correction Factor AF+CL (dBuV/m)	Corrected Field Strng. (dB/Vm)	H/V	Field Strng. Limit (dBuV/m)	Margins (dBuV/m)
2	101	*	*	*	*	43.5	*
	201	*	*	*	*	43.5	*
	303	*	*	*	*	46.5	*
3	107	13.6	10.1	23.7	H	43.5	-19.8
	214	6.1	14.6	20.7	H	43.5	-22.8
	314	*	*	*	*	46.5	*
4	113	4.6	10.8	15.4	H	43.5	-28.3
	226	3.0	15.0	18.0	*	46.5	*
	339	*	*	*	*	46.5	*
5	123	10.2	11.7	21.9	H	43.5	-21.6
	246	4.5	15.8	20.3	*	46.5	*
	369	*	*	*	*	46.5	*
6	129	6.0	12.0	18.0	H	43.5	-25.7
	258	3.2	16.1	19.3	*	46.5	*
	387	*	*	*	*	46.5	*
7	227	4.2	14.9	19.1	H	43.5	-27.4
	442	*	*	*	H	46.5	*
	663	*	*	*	*	46.5	*
8	227	2.3	15.1	17.4	H	43.5	-28.9
	454	*	*	*	H	46.5	*
	681	*	*	*	*	46.5	*

8.2 TV Radiated Emission Measurement Data-VHF Channel

Tunner MFR: Philips, Ltd.

Tunner Type No.: FM1236/PH hm

Tuning Frequency Range: 101 MHz - 257 MHz (Local Osc. Freq.)

CH. No.	Measure d Freq (MHz)	Meter Peading Field Strng. at 3 meters (dBuV/m)	Correction Factor AF+CL (dBuV/m)	Corrected Field Strng. (dB/Vm)	H/V	Field Strng. Limit (dBuV/m)	Margins (dBuV/m)
9	233	1.9	15.3	17.2	H	46.5	-29.3
	466	*	*	*	*	46.5	*
	699	*	*	*	*	46.5	*
10	239	1.3	15.6	16.9	H	46.5	-29.6
	478	*	*	*	*	46.5	*
	717	*	*	*	*	46.5	*
11	245	2.1	15.8	17.9	H	46.5	-28.6
	490	*	*	*	*	46.5	*
	735	*	*	*	*	46.5	*
12	251	4.0	15.9	19.9	H	46.5	-26.6
	502	*	*	*	*	46.5	*
	753	*	*	*	*	46.5	*
13	257	1.4	16.1	17.5	H	46.5	-29.0
	514	*	*	*	*	46.5	*
	771	*		*	*	46.5	*

- Note:** (1) Medsuring Procedure: IEC 106& 106A
 (2) Measuring Distance: 3 meters
 (3) Symbol * means Field Strength emission more than 25 dB below the limits.
 (4) Correction Factor calculated by Antenna Factor (AF)+Cable Loss (CL) in dBu V/m.

8.2 TV Radiated Emission Measurement Data-UHF Channel

Tunner MFR: Philips, Ltd.

Tunner Type No.: FM1236/PH hm

Tuning Frequency Range: 101 MHz - 811 MHz (Local Osc. Freq.)

CH. No.	Measure d Freq (MHz)	Meter Peading Field Strng. at 3 meters (dBuV/m)	Correcction Factor AF+CL (dBuV/m)	Corrected Field Strng. (dB/Vm)	H/V	Field Strng. Limit (dBuV/m)	Margins (dBuV/m)
14	517	1.5	23.2	24.7	V	46.5	-21.8
20	553	2.1	24.1	26.2	H	46.5	-20.3
28	601	1.1	26.7	27.8	V	46.5	-18.7
36	649	0.3	28.7	28.4	H	46.5	-18.1
44	697	1.5	28.7	30.2	V	46.5	-16.3
53	751	0.7	28.8	29.5	V	46.5	-17.0
63	811	2.8	29.0	31.8	H	46.5	-14.7

Note: (1) Medsuring Procedure: IEC 106& 106A
 (2) Measuring Distance: 3 meters
 (3) Symbol * means Field Strength emission more than 25 dB below the limits.
 (4) Correction Factor calculated by Antenna Factor (AF)+Cable Loss (CL) in dBu V/m.

8. Photos of Tested EUT:

- | | |
|-------------------|--|
| 1. Photo EUT 1. | Front View |
| 2. Photo EUT 2. | Rear View |
| 3. Photo EUT 3. | Rear View |
| 4. Photo EUT 4 | Unit partially Disassembled |
| 5. Photo EUT 5. | Unit partially Disassembled |
| 6. Photo EUT 6. | Unit partially Disassembled |
| 7. Photo EUT 7. | Unit partially Disassembled |
| 8. Photo EUT 8. | Unit partially Disassembled |
| 9. Photo EUT 9. | Unit partially Disassembled |
| 10. Photo EUT 10. | Power Supply Unit partially Disassembled |
| 11. Photo EUT 11. | Power Supply Unit partially Disassembled |