

Application for FCC Certificate  
On Behalf of  
Hisense Electric Co., Ltd.

LCD Monitor

Model No.	Serial No.	Brand
LCD47B29GPUS	--	Hisense
NVU47FX5	E2009060904	Nuvision

FCC ID : W9HNVU47FX5

Prepared For : Hisense Electric Co., Ltd.  
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Development Zone, Qingdao, China

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Date of Test : Jun 11 - 23, 2009  
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## TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Electric Co., Ltd.  
 Manufacturer : Hisense Electric Co., Ltd.  
 EUT Description : LCD Monitor

(A) Model No.	LCD47B29GPUS	NVU47FX5
(B) Serial No.	--	E2009060904
(C) Brand	Hisense	Nuvision
(D) Power Supply	120V/60Hz	

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2008  
AND ANSI C63.4-2003*

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B (Class B) limits both radiated and conducted emissions.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report shows that the EUT (M/N: Refer to Sec.2.1; S/N: Refer to Sec.2.1) which was tested in 3m anechoic chamber Jun 11 - 23, 2009 is technically compliance with the FCC official limits also.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

This report contains data that are not covered by the NVLAP accreditation.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Jun 11 - 23, 2009 Date of Report : Jun 24, 2009

Producer : Alan He  
ALAN HE / Assistant

Review : Byron Wu  
BYRON WU / Supervisor

**AUDIX**<sup>®</sup> For and on behalf of  
Audix Technology (Shanghai) Co., Ltd.

Signatory : Sammy Chen  
Authorized Signature EMC SAMMY CHEN / Assistant Manager

# 1 SUMMARY OF STANDARDS AND RESULTS

## 1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

<b>Description of Test Item</b>	<b>Standard</b>	<b>Limits</b>	<b>Results</b>
<b>EMISSION</b>			
Conducted Disturbance at the Mains Terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2008 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2008 AND ANSI C63.4-2003	15.109(a) Class B	Pass

## 2 GENERAL INFORMATION

### 2.1 Description of Equipment Under Test

Description	:	LCD Monitor
Type of EUT	:	<input checked="" type="checkbox"/> Production <input type="checkbox"/> Pre-product <input type="checkbox"/> Pro-type
Model No.	:	
Serial No.	:	
Brand	:	
Note 1	:	The above models are all the same except for the different model number and brand.
Note 2	:	The NVU47FX5 was tested and recorded in this report.
Applicant	:	Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China
Manufacturer	:	Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China
LCD Panel	:	Manufacturer : LG Display M/N : LC470WUD (SB) (C1)
Max Resolution	:	1920*1080@60Hz
D-Sub Cable	:	Shielded, Detachable, 1.85m, with two cores on cable
HDMI Cable	:	Shielded, Detachable, 1.85m, without core on cable
Power Cord	:	Unshielded, Detachable, 1.80m

**Remark:**

The EUT is a LCD Monitor which input/output ports as follows:

**Bottom Port:**

- (1) One Component of AV Port  
Connected with TV
- (2) One HD Two Component of AV Port  
Connected with DVD#1 and DVD#2

**Side Port:**

- (3) One RJ45 Port  
Connected with PC RS232
- (4) One S-Video Port  
Connected with PC
- (5) One component of YpbPr1 Port  
Connected with DVD#1
- (6) One component of YpbPr1 Audio Port  
Connected with DVD#1
- (7) One component of YpbPr2 Port  
Connected with DVD#2
- (8) One component of YpbPr2 Audio Port  
Connected with DVD#2
- (9) One HDMI1 Port  
Connected with DVD#1
- (10) One HDMI2 Port  
Connected with DVD#2
- (11) One HDMI3 Port  
Connected with PC
- (12) One VGA Port  
Connected with PC
- (13) One VGA Audio In Port  
Connected with PC
- (14) One Digital Audio Port  
Connected with TV

## 2.2 Peripherals

### 2.2.1 PC

Manufacturer : HP  
Model Number : dx7200MT  
Serial Number : CNG622017W  
Power Cord : Unshielded, Detachable, 1.8m  
Certificate : FCC DoC; CE/EMC; VCCI; C-Tick; UL  
BSMI (R33001) 3C (A000111)  
MIC (E-A011-04-2659(B))

### 2.2.2 Printer

Manufacturer : HP  
Model Number : C3990A  
Serial Number : JPZX020487  
Data Cable : Shielded, detachable, 1.5m  
Certificate : GS, CE/EMC, C-Tick, FCC DoC

### 2.2.3 Keyboard

Manufacturer : Microsoft  
Model Number : RT2300  
Serial Number : 7668200662248  
Data Cable : Shielded, undetachable ,1.8m  
Certificate : CE/EMC, FCC DoC, VCCI, MIC, C-Tick,  
BSMI

### 2.2.4 Mouse

Manufacturer : Microsoft  
Model Number : RT2300  
Serial Number : 6965712071551  
Data Cable : Shielded, undetachable, 1.8m.  
Certificate : CE/EMC, FCC DoC, VCCI, MIC, C-Tick,  
BSMI

### 2.2.5 TV

Manufacturer : SOYEA  
Model Number : V1453(M)  
Serial Number : N/A  
Certificate : CE/EMC, FCC DoC, CCC

### 2.2.6 DVD#1

Manufacturer : PHILIPS  
Model Number : DVP3986K/93  
Serial Number : KX1A0902120108  
Certificate : FCC DoC, CE/EMC, CCC

### 2.2.7 DVD#2

Manufacturer : PHILIPS  
Model Number : DVP3986K/93  
Serial Number : KX1A0902120082  
Certificate : FCC DoC, CE/EMC, CCC

### 2.2.8 DVD#3

Manufacturer : DGT  
Model Number : DV-A340  
Serial Number : 10004184-C  
Certificate : FCC DoC, CE/EMC, CCC

## 2.3 Description of Test Facility

Site Description (Semi-Anechoic Chamber) : Sept. 17, 1998 file on  
Apr 29, 2009 Renewed  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046, USA

Name of Firm : Audix Technology (Shanghai) Co., Ltd.

Site Location : 3F 34Bldg 680 Guiping Rd,  
Caohejing Hi-Tech Park,  
Shanghai 200233, China

NVLAP Lab Code : 200371-0

## 2.4 Measurement Uncertainty

Conducted Emission Expanded Uncertainty: U = 1.26 dB  
Radiated Emission Expanded Uncertainty : U = 3.02 dB



### 3 CONDUCTED EMISSION TEST

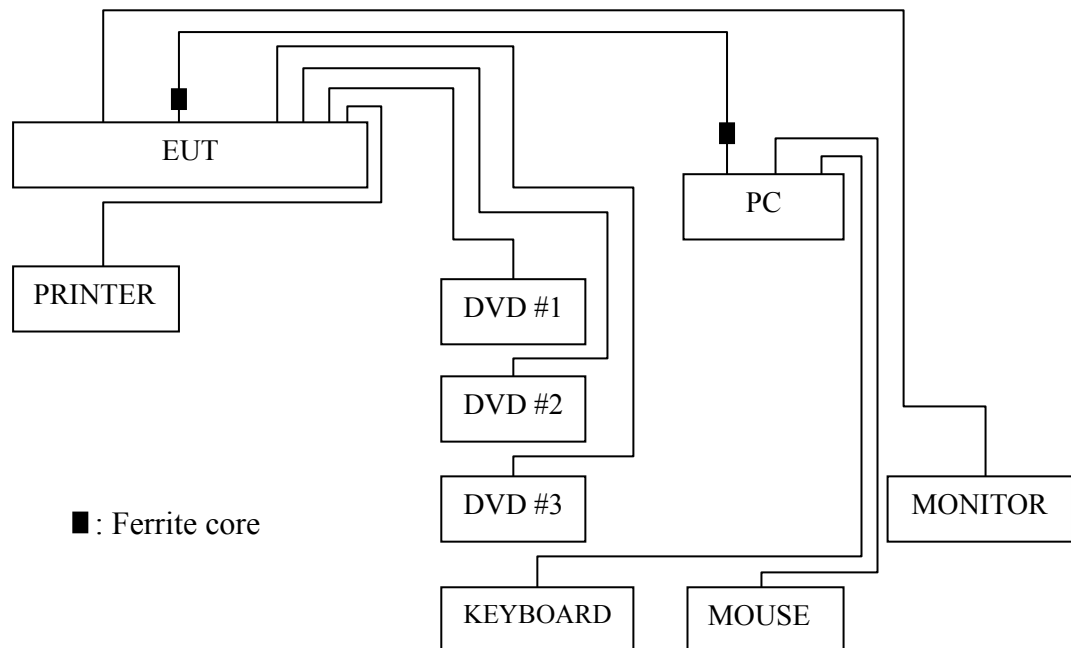
#### 3.1.1 Test Equipment

The following test equipments are used during the conducted emission test in a shielded room:

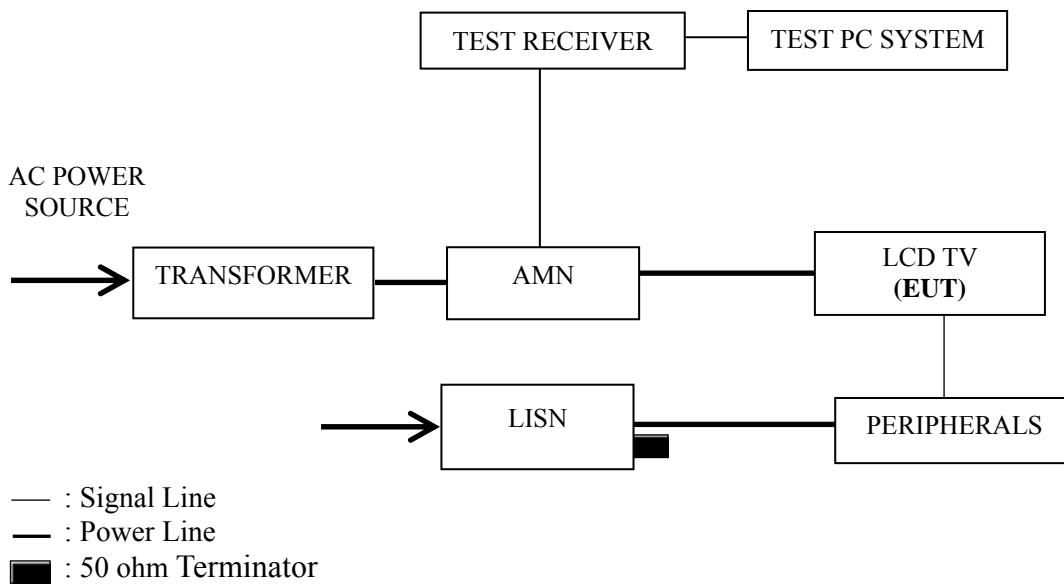
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Nov 21, 2008	Nov 21, 2009
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Apr 02, 2009	Apr 02, 2010
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Apr 02, 2009	Apr 02, 2010
4.	50 $\Omega$ Coaxial Switch	Anritsu	MP59B	6200426389	Mar 19, 2009	Sep 19, 2009
5.	50 $\Omega$ Terminator	Anritsu	BNC	001	Apr 02, 2009	Apr 02, 2010
6.	Software	Audix	E3	SET00200 9804M592	--	--

#### 3.2 Block Diagram of Test Setup

##### 3.2.1 EUT & Peripherals



### 3.2.2 Conducted Disturbance Test Setup



### 3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)]

Frequency Range (MHz)	Limits dB ( $\mu$ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66~56	56~46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE 1 – The lower limit shall apply at the transition frequencies.  
 NOTE 2 – The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz~0.50 MHz

### 3.4 Test Configuration

The EUT (listed in Sec.2.1) and the peripherals (listed in Sec 2.2) were installed as shown on Sec.3.2 to meet FCC requirement and operating in a manner that tends to maximize its emission level in a normal application.

### 3.5 Operating Condition of EUT

3.5.1 Setup the EUT and peripherals as shown in Sec. 3.2.

3.5.2 Turn on the power of all equipments and the EUT.

3.5.3 We added DVD Signal in AV, HDMI, S-Video & YPbPr test modes, and we added Color Bar & 1kHz sound signal in the ATSC, CATV, TV & test modes.

3.5.4 At the PC mode, we tested different resolution.

3.5.5 The other peripherals devices were driven and operated during the test.

3.5.6 The test modes are as follows:

Test Mode
D-Sub 640*480@60Hz
D-Sub 1024*768@60Hz
D-Sub 1600*1200@60Hz
D-Sub 1920*1080@60Hz
HDMI 640*480@60Hz
HDMI 1024*768@60Hz
HDMI 1600*1200@60Hz
HDMI 1920*1080@60Hz
AV
S-Video
HDMI
YPbPr

### 3.6 Test Procedures

The EUT and peripherals were connected to the power mains through an Artificial Mains Network (AMN). This provided a 50 ohm coupling impedance for the measuring equipment.

Both sides of AC line (Line & Neutral) were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed or manipulated according to ANSI C63.4:2003 during conducted emission test.

The bandwidth of R&S Test Receiver ESCI was set at 9 kHz.

The frequency range from 150 kHz to 30 MHz was checked.

The test modes were done on conducted disturbance test and all the test results are listed in Sec. 3.7.

### 3.7 Test Results

< **PASS** >

The frequency and amplitude of the highest conducted emission relative to the limit is reported. All emissions not reported below are too low against the prescribed limits.

Test Mode	Data Page
D-Sub 640*480@60Hz	P13
D-Sub 1024*768@60Hz	P14
D-Sub 1600*1200@60Hz	P15
D-Sub 1920*1080@60Hz	P16
HDMI 640*480@60Hz	P17
HDMI 1024*768@60Hz	P18
HDMI 1600*1200@60Hz	P19
HDMI 1920*1080@60Hz	P20
AV	P21
S-Video	P22
HDMI	P23
YPbPr	P24

NOTE 1 – Factor = Cable Loss + AMN Factor.

NOTE 2 – Emission Level = Meter Reading + Factor.

NOTE 3 – “QP” means “Quasi-Peak” values, “AV” means “Average” values.

NOTE 4 – The worst case is for HDMI 640\*480@60Hz test mode. The worst emission is detected at 19.740 MHz (Average value) with corrected signal level of 39.33 dB (μV) (limit is 50.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : D-Sub 640\*480@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.182	49.61	0.22	49.83	64.42	14.59	QP
	0.363	40.51	0.26	40.77	58.65	17.88	
	2.201	36.22	0.37	36.59	56.00	19.41	
	4.224	31.50	0.43	31.93	56.00	24.07	
	12.920	38.41	0.63	39.04	60.00	20.96	
	16.398	41.04	0.76	41.80	60.00	18.20	
	AV	0.182	39.82	0.22	40.04	54.42	14.38
		0.363	30.16	0.26	30.42	48.65	18.23
		2.201	26.51	0.37	26.88	46.00	19.12
		4.224	21.40	0.43	21.83	46.00	24.17
		12.920	28.94	0.63	29.57	50.00	20.43
		16.398	31.53	0.76	32.29	50.00	17.71
Neutral	<b>0.182</b>	<b>49.93</b>	<b>0.20</b>	<b>50.13</b>	<b>64.42</b>	<b>14.29</b>	QP
	0.363	40.18	0.24	40.42	58.65	18.23	
	0.735	32.60	0.28	32.88	56.00	23.12	
	2.993	30.72	0.41	31.13	56.00	24.87	
	13.408	37.29	0.62	37.91	60.00	22.09	
	15.885	40.80	0.71	41.51	60.00	18.49	
	AV	0.182	39.52	0.20	39.72	54.42	14.70
		0.363	30.15	0.24	30.39	48.65	18.26
		0.735	22.45	0.28	22.73	46.00	23.27
		2.993	20.15	0.41	20.56	46.00	25.44
		13.408	27.43	0.62	28.05	50.00	21.95
		15.885	30.15	0.71	30.86	50.00	19.14

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : D-Sub 1024\*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark	
Line	<b>0.182</b>	<b>50.89</b>	<b>0.22</b>	<b>51.11</b>	<b>64.42</b>	<b>13.31</b>	QP	
	0.367	38.31	0.26	38.57	58.56	19.99		
	0.552	33.32	0.28	33.60	56.00	22.40		
	0.751	32.24	0.28	32.52	56.00	23.48		
	13.989	40.35	0.67	41.02	60.00	18.98		
	17.755	41.68	0.82	42.50	60.00	17.50		
	0.182	40.16	0.22	40.38	54.42	14.04	AV	
	0.367	28.50	0.26	28.76	48.56	19.80		
	0.552	23.43	0.28	23.71	46.00	22.29		
	0.751	22.45	0.28	22.73	46.00	23.27		
	13.989	30.10	0.67	30.77	50.00	19.23		
	17.755	31.42	0.82	32.24	50.00	17.76		
	Neutral	0.182	48.13	0.20	48.33	64.42	16.09	QP
		0.363	40.22	0.24	40.46	58.65	18.19	
0.546		33.97	0.26	34.23	56.00	21.77		
0.933		31.62	0.30	31.92	56.00	24.08		
14.517		37.58	0.66	38.24	60.00	21.76		
16.398		41.37	0.73	42.10	60.00	17.90		
0.182		38.48	0.20	38.68	54.42	15.74	AV	
0.363		30.17	0.24	30.41	48.65	18.24		
0.546		23.15	0.26	23.41	46.00	22.59		
0.933		21.42	0.30	21.72	46.00	24.28		
14.517		27.46	0.66	28.12	50.00	21.88		
16.398		31.42	0.73	32.15	50.00	17.85		

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : D-Sub 1600\*1200@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark	
Line	0.183	49.54	0.22	49.76	64.33	14.57	QP	
	0.363	38.33	0.26	38.59	58.65	20.06		
	0.546	35.23	0.29	35.52	56.00	20.48		
	0.751	32.32	0.28	32.60	56.00	23.40		
	14.517	39.70	0.69	40.39	60.00	19.61		
	16.226	41.17	0.75	41.92	60.00	18.08		
	0.183	39.85	0.22	40.07	54.33	14.26	AV	
	0.363	28.65	0.26	28.91	48.65	19.74		
	0.546	25.64	0.29	25.93	46.00	20.07		
	0.751	22.34	0.28	22.62	46.00	23.38		
	14.517	29.45	0.69	30.14	50.00	19.86		
	16.226	31.46	0.75	32.21	50.00	17.79		
	Neutral	<b>0.182</b>	<b>50.62</b>	<b>0.20</b>	<b>50.82</b>	<b>64.42</b>	<b>13.60</b>	QP
		0.363	38.30	0.24	38.54	58.65	20.11	
0.546		34.97	0.26	35.23	56.00	20.77		
3.840		28.62	0.43	29.05	56.00	26.95		
13.551		38.96	0.64	39.60	60.00	20.40		
16.661		42.23	0.73	42.96	60.00	17.04		
0.182		40.16	0.20	40.36	54.42	14.06	AV	
0.363		28.94	0.24	29.18	48.65	19.47		
0.546		24.95	0.26	25.21	46.00	20.79		
3.840		18.67	0.43	19.10	46.00	26.90		
13.551		28.47	0.64	29.11	50.00	20.89		
16.661		32.65	0.73	33.38	50.00	16.62		

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : D-Sub 1920\*1080@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark	
Line	0.182	49.38	0.22	49.60	64.42	14.82	QP	
	0.367	40.83	0.26	41.09	58.56	17.47		
	0.546	33.80	0.29	34.09	56.00	21.91		
	0.751	32.33	0.28	32.61	56.00	23.39		
	14.517	39.23	0.69	39.92	60.00	20.08		
	15.885	39.40	0.74	40.14	60.00	19.86		
	<b>0.182</b>	<b>43.15</b>	<b>0.22</b>	<b>43.37</b>	<b>54.42</b>	<b>11.05</b>	AV	
	0.367	31.82	0.26	32.08	48.56	16.48		
	0.546	27.06	0.29	27.35	46.00	18.65		
	0.751	24.65	0.28	24.93	46.00	21.07		
	14.517	32.88	0.69	33.57	50.00	16.43		
	15.885	31.08	0.74	31.82	50.00	18.18		
	Neutral	0.182	49.60	0.20	49.80	64.42	14.62	QP
		0.363	39.35	0.24	39.59	58.65	19.06	
0.546		34.86	0.26	35.12	56.00	20.88		
3.720		29.81	0.43	30.24	56.00	25.76		
14.517		39.61	0.66	40.27	60.00	19.73		
17.199		42.83	0.75	43.58	60.00	16.42		
0.182		39.48	0.20	39.68	54.42	14.74	AV	
0.363		29.84	0.24	30.08	48.65	18.57		
0.546		25.17	0.26	25.43	46.00	20.57		
3.720		19.84	0.43	20.27	46.00	25.73		
14.517		29.48	0.66	30.14	50.00	19.86		
17.199		32.46	0.75	33.21	50.00	16.79		

TEST ENGINEER: HUGH HUANG



EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : HDMI 640\*480@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.183	47.96	0.22	48.18	64.33	16.15	QP
	0.371	40.93	0.27	41.20	58.47	17.27	
	2.044	31.03	0.36	31.39	56.00	24.61	
	2.993	32.35	0.40	32.75	56.00	23.25	
	15.885	40.15	0.74	40.89	60.00	19.11	
	19.224	37.48	0.87	38.35	60.00	21.65	
	0.183	37.48	0.22	37.70	54.33	16.63	AV
	0.371	30.16	0.27	30.43	48.47	18.04	
	2.044	20.15	0.36	20.51	46.00	25.49	
	2.993	22.40	0.40	22.80	46.00	23.20	
	15.885	30.16	0.74	30.90	50.00	19.10	
	19.224	27.94	0.87	28.81	50.00	21.19	
Neutral	0.183	49.34	0.20	49.54	64.33	14.79	QP
	0.367	38.97	0.24	39.21	58.56	19.35	
	0.546	36.98	0.26	37.24	56.00	18.76	
	3.759	30.24	0.43	30.67	56.00	25.33	
	14.364	40.41	0.65	41.06	60.00	18.94	
	19.740	48.16	0.85	49.01	60.00	10.99	
	0.183	39.58	0.20	39.78	54.33	14.55	AV
	0.367	28.49	0.24	28.73	48.56	19.83	
	0.546	26.58	0.26	26.84	46.00	19.16	
	3.759	20.15	0.43	20.58	46.00	25.42	
	14.364	30.15	0.65	30.80	50.00	19.20	
	<b>19.740</b>	<b>38.48</b>	<b>0.85</b>	<b>39.33</b>	<b>50.00</b>	<b>10.67</b>	

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : HDMI 1024\*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.183	50.45	0.22	50.67	64.33	13.66	QP
	0.367	40.86	0.26	41.12	58.56	17.44	
	0.546	35.38	0.29	35.67	56.00	20.33	
	0.953	32.36	0.30	32.66	56.00	23.34	
	2.993	32.46	0.40	32.86	56.00	23.14	
	15.885	41.17	0.74	41.91	60.00	18.09	
	0.183	40.15	0.22	40.37	54.33	13.96	AV
	0.367	30.11	0.26	30.37	48.56	18.19	
	0.546	25.84	0.29	26.13	46.00	19.87	
	0.953	22.48	0.30	22.78	46.00	23.22	
	2.993	22.48	0.40	22.88	46.00	23.12	
	15.885	31.77	0.74	32.51	50.00	17.49	
Neutral	0.183	49.64	0.20	49.84	64.33	14.49	QP
	0.367	39.94	0.24	40.18	58.56	18.38	
	0.552	35.61	0.26	35.87	56.00	20.13	
	0.953	33.37	0.30	33.67	56.00	22.33	
	3.681	30.91	0.43	31.34	56.00	24.66	
	19.740	46.22	0.85	47.07	60.00	12.93	
	0.183	39.85	0.20	40.05	54.33	14.28	AV
	0.367	29.68	0.24	29.92	48.56	18.64	
	0.552	25.48	0.26	25.74	46.00	20.26	
	0.953	23.48	0.30	23.78	46.00	22.22	
	3.681	20.30	0.43	20.73	46.00	25.27	
	<b>19.740</b>	<b>36.15</b>	<b>0.85</b>	<b>37.00</b>	<b>50.00</b>	<b>13.00</b>	

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : HDMI 1600\*1200@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark	
Line	0.183	50.45	0.22	50.67	64.33	13.66	QP	
	0.371	40.57	0.27	40.84	58.47	17.63		
	0.552	34.96	0.28	35.24	56.00	20.76		
	1.928	32.56	0.36	32.92	56.00	23.08		
	14.517	41.79	0.69	42.48	60.00	17.52		
	17.755	41.31	0.82	42.13	60.00	17.87		
	0.183	40.15	0.22	40.37	54.33	13.96	AV	
	0.371	30.15	0.27	30.42	48.47	18.05		
	0.552	24.99	0.28	25.27	46.00	20.73		
	1.928	22.48	0.36	22.84	46.00	23.16		
	14.517	31.15	0.69	31.84	50.00	18.16		
	17.755	31.48	0.82	32.30	50.00	17.70		
	Neutral	<b>0.184</b>	<b>50.47</b>	<b>0.20</b>	<b>50.67</b>	<b>64.28</b>	<b>13.61</b>	QP
		0.367	40.72	0.24	40.96	58.56	17.60	
0.552		35.38	0.26	35.64	56.00	20.36		
1.324		30.18	0.32	30.50	56.00	25.50		
3.681		29.95	0.43	30.38	56.00	25.62		
18.820		43.03	0.83	43.86	60.00	16.14		
0.184		40.15	0.20	40.35	54.28	13.93	AV	
0.367		30.51	0.24	30.75	48.56	17.81		
0.552		25.94	0.26	26.20	46.00	19.80		
1.324		20.36	0.32	20.68	46.00	25.32		
3.681		19.68	0.43	20.11	46.00	25.89		
18.820		33.47	0.83	34.30	50.00	15.70		

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : HDMI 1920\*1080@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.183	49.35	0.22	49.57	64.33	14.76	QP
	0.371	41.05	0.27	41.32	58.47	17.15	
	0.552	35.03	0.28	35.31	56.00	20.69	
	2.044	31.41	0.36	31.77	56.00	24.23	
	3.509	31.66	0.41	32.07	56.00	23.93	
	16.661	39.91	0.77	40.68	60.00	19.32	
	0.183	38.94	0.22	39.16	54.33	15.17	AV
	0.371	31.54	0.27	31.81	48.47	16.66	
	0.552	25.95	0.28	26.23	46.00	19.77	
	2.044	21.48	0.36	21.84	46.00	24.16	
	3.509	21.54	0.41	21.95	46.00	24.05	
	16.661	29.42	0.77	30.19	50.00	19.81	
Neutral	0.183	50.34	0.20	50.54	64.33	13.79	QP
	0.367	39.35	0.24	39.59	58.56	18.97	
	0.546	35.62	0.26	35.88	56.00	20.12	
	1.403	29.10	0.33	29.43	56.00	26.57	
	3.681	31.25	0.43	31.68	56.00	24.32	
	<b>17.755</b>	<b>45.86</b>	<b>0.79</b>	<b>46.65</b>	<b>60.00</b>	<b>13.35</b>	
	0.183	40.15	0.20	40.35	54.33	13.98	AV
	0.367	29.84	0.24	30.08	48.56	18.48	
	0.546	25.94	0.26	26.20	46.00	19.80	
	1.403	19.84	0.33	20.17	46.00	25.83	
	3.681	21.83	0.43	22.26	46.00	23.74	
	17.755	35.47	0.79	36.26	50.00	13.74	

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : AV

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.183	49.36	0.22	49.58	64.33	14.75	QP
	0.367	40.13	0.26	40.39	58.56	18.17	
	0.552	36.95	0.28	37.23	56.00	18.77	
	2.033	36.86	0.36	37.22	56.00	18.78	
	4.407	40.62	0.44	41.06	56.00	14.94	
	18.820	42.81	0.86	43.67	60.00	16.33	
	0.183	39.49	0.22	39.71	54.33	14.62	AV
	0.367	30.16	0.26	30.42	48.56	18.14	
	0.552	26.85	0.28	27.13	46.00	18.87	
	2.033	26.84	0.36	27.20	46.00	18.80	
	4.407	30.14	0.44	30.58	46.00	15.42	
	18.820	32.75	0.86	33.61	50.00	16.39	
Neutral	0.183	49.00	0.20	49.20	64.33	15.13	QP
	0.367	39.59	0.24	39.83	58.56	18.73	
	2.044	36.07	0.36	36.43	56.00	19.57	
	4.407	39.07	0.45	39.52	56.00	16.48	
	8.916	34.62	0.50	35.12	60.00	24.88	
	<b>18.820</b>	<b>47.99</b>	<b>0.83</b>	<b>48.82</b>	<b>60.00</b>	<b>11.18</b>	
	0.183	39.48	0.20	39.68	54.33	14.65	AV
	0.367	29.68	0.24	29.92	48.56	18.64	
	2.044	26.18	0.36	26.54	46.00	19.46	
	4.407	29.67	0.45	30.12	46.00	15.88	
	8.916	24.69	0.50	25.19	50.00	24.81	
	18.820	37.47	0.83	38.30	50.00	11.70	

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : S-Video

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.183	48.05	0.22	48.27	64.33	16.06	QP
	0.377	36.24	0.27	36.51	58.34	21.83	
	2.033	33.23	0.36	33.59	56.00	22.41	
	2.794	35.00	0.39	35.39	56.00	20.61	
	9.552	37.43	0.49	37.92	60.00	22.08	
	19.326	42.19	0.87	43.06	60.00	16.94	
	0.183	38.49	0.22	38.71	54.33	15.62	AV
	0.377	26.58	0.27	26.85	48.34	21.49	
	2.033	23.64	0.36	24.00	46.00	22.00	
	2.794	24.48	0.39	24.87	46.00	21.13	
	9.552	27.98	0.49	28.47	50.00	21.53	
	19.326	32.64	0.87	33.51	50.00	16.49	
Neutral	0.183	48.17	0.20	48.37	64.33	15.96	QP
	0.206	47.17	0.20	47.37	63.36	15.99	
	0.546	32.22	0.26	32.48	56.00	23.52	
	2.066	33.04	0.36	33.40	56.00	22.60	
	9.451	38.91	0.51	39.42	60.00	20.58	
	<b>19.950</b>	<b>46.60</b>	<b>0.86</b>	<b>47.46</b>	<b>60.00</b>	<b>12.54</b>	
	0.183	38.49	0.20	38.69	54.33	15.64	AV
	0.206	37.49	0.20	37.69	53.36	15.67	
	0.546	22.48	0.26	22.74	46.00	23.26	
	2.066	23.48	0.36	23.84	46.00	22.16	
	9.451	28.91	0.51	29.42	50.00	20.58	
	19.950	36.12	0.86	36.98	50.00	13.02	

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : HDMI

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.184	45.90	0.22	46.12	64.28	18.16	QP
	0.204	46.77	0.22	46.99	63.45	16.46	
	0.371	39.27	0.27	39.54	58.47	18.93	
	2.033	42.14	0.36	42.50	56.00	13.50	
	9.654	38.97	0.49	39.46	60.00	20.54	
	18.820	44.07	0.86	44.93	60.00	15.07	
	0.184	35.49	0.22	35.71	54.28	18.57	AV
	0.204	36.55	0.22	36.77	53.45	16.68	
	0.371	29.84	0.27	30.11	48.47	18.36	
	2.033	32.42	0.36	32.78	46.00	13.22	
	9.654	28.94	0.49	29.43	50.00	20.57	
	18.820	34.42	0.86	35.28	50.00	14.72	
Neutral	0.183	47.31	0.20	47.51	64.33	16.82	QP
	0.367	36.33	0.24	36.57	58.56	21.99	
	1.324	33.89	0.32	34.21	56.00	21.79	
	2.033	39.86	0.36	40.22	56.00	15.78	
	9.757	38.72	0.51	39.23	60.00	20.77	
	<b>19.950</b>	<b>47.52</b>	<b>0.86</b>	<b>48.38</b>	<b>60.00</b>	<b>11.62</b>	
	0.183	37.48	0.20	37.68	54.33	16.65	AV
	0.367	26.85	0.24	27.09	48.56	21.47	
	1.324	23.16	0.32	23.48	46.00	22.52	
	2.033	29.84	0.36	30.20	46.00	15.80	
	9.757	28.72	0.51	29.23	50.00	20.77	
	19.950	37.49	0.86	38.35	50.00	11.65	

TEST ENGINEER: HUGH HUANG

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 48%RH

Serial No. : E2009060904 Date of Test : Jun 11, 2009

Test Mode : YPbPr

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.183	47.16	0.22	47.38	64.33	16.95	QP
	0.371	39.47	0.27	39.74	58.47	18.73	
	0.708	31.53	0.28	31.81	56.00	24.19	
	2.033	38.19	0.36	38.55	56.00	17.45	
	9.552	39.07	0.49	39.56	60.00	20.44	
	18.820	46.65	0.86	47.51	60.00	12.49	
	0.183	37.41	0.22	37.63	54.33	16.70	AV
	0.371	29.68	0.27	29.95	48.47	18.52	
	0.708	21.45	0.28	21.73	46.00	24.27	
	2.033	29.05	0.36	29.41	46.00	16.59	
	9.552	29.48	0.49	29.97	50.00	20.03	
	18.820	36.26	0.86	37.12	50.00	12.88	
Neutral	0.184	48.34	0.20	48.54	64.28	15.74	QP
	0.375	36.63	0.24	36.87	58.39	21.52	
	0.953	30.20	0.30	30.50	56.00	25.50	
	2.033	42.04	0.36	42.40	56.00	13.60	
	9.757	41.64	0.51	42.15	60.00	17.85	
	<b>18.820</b>	<b>46.76</b>	<b>0.83</b>	<b>47.59</b>	<b>60.00</b>	<b>12.41</b>	
	0.184	38.49	0.20	38.69	54.28	15.59	AV
	0.375	26.48	0.24	26.72	48.39	21.67	
	0.953	20.10	0.30	20.40	46.00	25.60	
	2.033	32.46	0.36	32.82	46.00	13.18	
	9.757	31.46	0.51	31.97	50.00	18.03	
	18.820	35.67	0.83	36.50	50.00	13.50	

TEST ENGINEER: HUGH HUANG



## 4 RADIATED EMISSION TEST

### 4.1 Test Equipment

The following test equipments are used during the radiated emission test in a semi-anechoic chamber:

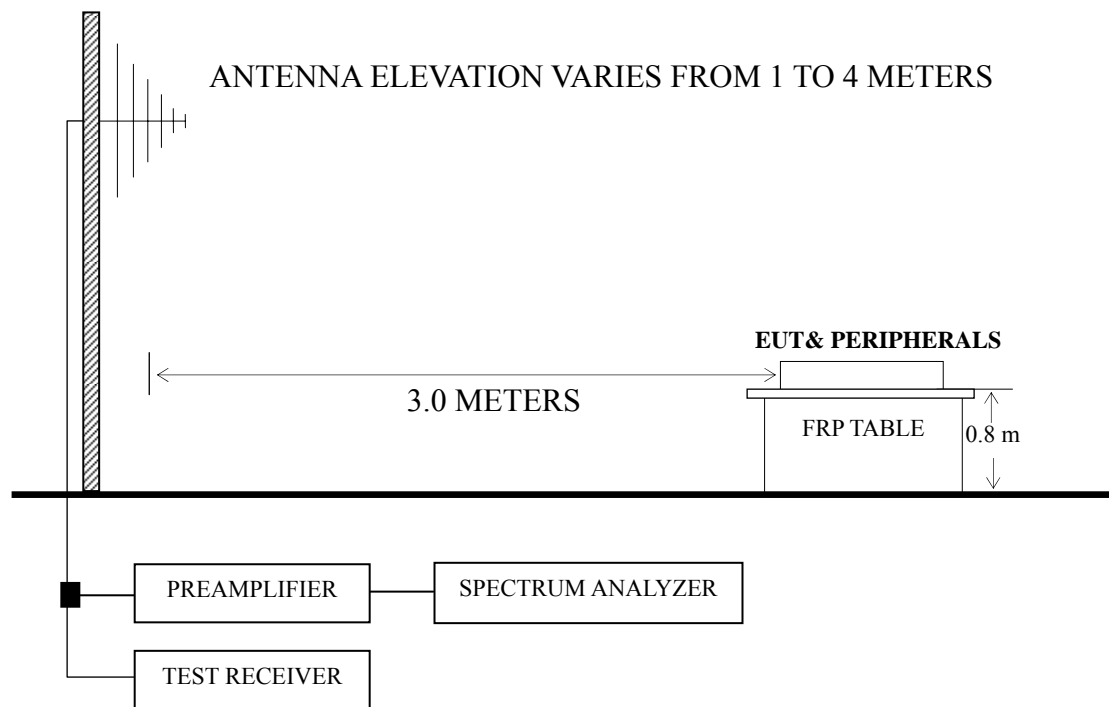
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESVS10	844594/001	Mar 07, 2009	Mar 07, 2010
2.	Preamplifier	Agilent	8447D	2944A10548	Mar 19, 2009	Sep 19, 2009
3.	Preamplifier	HP	8449B	3008A00864	May 19, 2009	May 19, 2010
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 14, 2008	May 14, 2010
5.	Spectrum	Agilent	E7405A	MY45106600	May 19, 2009	May 19, 2010
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

### 4.2 Block Diagram of Test Setup

#### 4.2.1 EUT and Peripherals

Same as Sec.3.2.1

#### 4.2.2 Radiated emission test setup



■ : 50 ohm Coaxial Switch

### 4.3 Radiated Emission Limit [FCC Part 15 Subpart B 15.109(a)]

Frequency (MHz)	Distance (m)	Field strength limits	
		( $\mu\text{V/m}$ )	dB ( $\mu\text{V/m}$ )
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

NOTE 1 - Emission Level dB ( $\mu\text{V/m}$ ) = 20 log Emission Level ( $\mu\text{V/m}$ )  
NOTE 2 - The tighter limit applies at the band edges.  
NOTE 3 - Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.  
NOTE 4 - The limits shown are based on Quasi-peak value detector below or equal to 1GHz and Average value detector above 1GHz.  
NOTE 5 - Above 1 GHz, the limit on peak emission is 20 dB above the maximum permitted average emission limit applicable to the EUT

### 4.4 Test Configuration

The configuration of the EUT and peripherals are same as those used in conducted emission test.

Please refer to Sec.3.4.

### 4.5 Operating Condition of EUT

Same as conducted emission test which is listed in Sec.3.5, except for the test setup replaced by Sec.4.2.

## 4.6 Test Procedures

The EUT and peripherals were placed on a FRP turntable that is 0.8 meter above ground. The FRP turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. Broadband antenna (Calibrated Bilog Antenna) was used as receiving antenna. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C63.4:2003 requirements during radiated emission test.

The bandwidth of Test Receiver R&S ESVS10 was set at 120 kHz below 1GHz and The Spectrum Agilent E7405A was set at 1MHz above 1GHz.

The frequency range from 30 MHz to 1000MHz was checked for all test modes.

The frequency range from 1 GHz to 2 GHz was checked for D-Sub/HDMI 1600\*1200@60Hz and 1920\*1080@60Hz mode.

The test modes were done on radiated disturbance test and all the test results are listed in Sec.4.7.

## 4.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

Test Mode	Data Page
D-Sub 640*480@60Hz	P29
D-Sub 1024*768@60Hz	P30
D-Sub 1600*1200@60Hz	P31
D-Sub 1920*1080@60Hz	P32
HDMI 640*480@60Hz	P33
HDMI 1024*768@60Hz	P34
HDMI 1600*1200@60Hz	P35
HDMI 1920*1080@60Hz	P36
AV	P37
S-Video	P38
HDMI	P39
YPbPr	P40

- NOTE 1 – Emission Level = Antenna Factor + Cable Loss + Meter Reading. (< 1GHz)
- NOTE 2 – Emission Level = Antenna Factor + Cable Loss – Preamp Factor + Meter Reading.(> 1GHz)
- NOTE 3 – The emission levels that are 20dB below the official limit are not reported.
- NOTE 4 – 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.
- NOTE 5 – All reading are Quasi-Peak values below or equal to 1GHz and Peak values above 1GHz. For measurements above 1 GHz, the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.
- NOTE 6 – The worst case is for D-Sub 640\*480@60Hz test mode. The worst emission at horizontal polarization was detected at 664.380 MHz with corrected signal level of 43.96 dB ( $\mu\text{V}/\text{m}$ ) (limit is 46.00dB ( $\mu\text{V}/\text{m}$ )), when the antenna was 2.00 m height and the turntable was at 120°. The worst emission at vertical polarization was detected at 152.220 MHz with corrected signal level of 40.44 dB ( $\mu\text{V}/\text{m}$ ) (limit is 43.50 dB ( $\mu\text{V}/\text{m}$ )), when the antenna was 1.00 m height and the turntable was at 260°.

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 60%RH

Serial No. : E2009060904 Date of Test : Jun 23, 2009

Test Mode : D-Sub 640\*480@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	152.220	28.66	11.09	1.25	41.00	43.50	2.50
	159.010	27.18	10.59	1.28	39.05	43.50	4.45
	172.590	28.24	10.11	1.38	39.73	43.50	3.77
	467.470	24.08	17.49	2.36	43.93	46.00	2.07
	639.160	21.18	19.39	2.82	43.39	46.00	2.61
	<b>664.380</b>	<b>21.55</b>	<b>19.54</b>	<b>2.87</b>	<b>43.96</b>	<b>46.00</b>	<b>2.04</b>
Vertical	87.230	26.95	8.96	1.00	36.91	40.00	3.09
	107.600	23.76	12.10	1.10	36.96	43.50	6.54
	116.330	23.14	12.78	1.13	37.05	43.50	6.45
	<b>152.220</b>	<b>28.10</b>	<b>11.09</b>	<b>1.25</b>	<b>40.44</b>	<b>43.50</b>	<b>3.06</b>
	181.320	23.10	9.93	1.43	34.46	43.50	9.04
	217.210	25.01	11.48	1.60	38.09	46.00	7.91

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 60%RH

Serial No. : E2009060904 Date of Test : Jun 23, 2009

Test Mode : D-Sub1024\*768@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	152.220	28.81	11.09	1.25	41.15	43.50	2.35
	172.590	28.42	10.11	1.38	39.91	43.50	3.59
	295.780	25.24	13.84	1.86	40.94	46.00	5.06
	<b>467.470</b>	<b>23.81</b>	<b>17.49</b>	<b>2.36</b>	<b>43.66</b>	<b>46.00</b>	<b>2.34</b>
	<b>664.380</b>	<b>21.25</b>	<b>19.54</b>	<b>2.87</b>	<b>43.66</b>	<b>46.00</b>	<b>2.34</b>
	877.780	18.55	21.49	3.39	43.43	46.00	2.57
Vertical	87.230	27.38	8.96	1.00	37.34	40.00	2.66
	92.080	29.53	9.82	1.03	40.38	43.50	3.12
	152.220	28.81	11.09	1.25	41.15	43.50	2.35
	172.590	28.42	10.11	1.38	39.91	43.50	3.59
	295.780	25.24	13.84	1.86	40.94	46.00	5.06
	<b>467.470</b>	<b>23.81</b>	<b>17.49</b>	<b>2.36</b>	<b>43.66</b>	<b>46.00</b>	<b>2.34</b>

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 60%RH

Serial No. : E2009060904 Date of Test : Jun 23, 2009

Test Mode : D-Sub 1600\*1200@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	152.220	25.46	11.09	1.25	--	37.80	43.50	5.70	QP
	159.010	22.08	10.59	1.28	--	33.95	43.50	9.55	
	172.590	21.69	10.11	1.38	--	33.18	43.50	10.32	
	217.210	22.82	11.48	1.60	--	35.90	46.00	10.10	
	237.580	24.66	12.44	1.67	--	38.77	46.00	7.23	
	<b>877.780</b>	<b>16.74</b>	<b>21.49</b>	<b>3.39</b>	<b>--</b>	<b>41.62</b>	<b>46.00</b>	<b>4.38</b>	PK
	1122.000	56.80	23.24	4.07	37.37	46.74	74.00	27.26	
	1201.000	61.87	23.74	4.21	37.17	52.65	74.00	21.35	
	1271.000	51.56	24.27	4.33	37.01	43.15	74.00	30.85	
	1386.000	49.90	25.13	4.54	36.76	42.81	74.00	31.19	
	1544.000	52.31	26.07	4.81	36.44	46.75	74.00	27.25	
1704.000	50.08	26.67	5.11	36.16	45.70	74.00	28.30		
Vertical	<b>30.970</b>	<b>17.35</b>	<b>19.03</b>	<b>0.63</b>	<b>--</b>	<b>37.01</b>	<b>40.00</b>	<b>2.99</b>	QP
	44.550	24.05	11.38	0.69	--	36.12	40.00	3.88	
	92.080	29.53	9.82	1.03	--	40.38	43.50	3.12	
	152.220	25.46	11.09	1.25	--	37.80	43.50	5.70	
	237.580	24.66	12.44	1.67	--	38.77	46.00	7.23	
	877.780	16.74	21.49	3.39	--	41.62	46.00	4.38	PK
	1046.000	58.41	22.72	3.96	37.57	47.52	74.00	26.48	
	1122.000	62.35	23.24	4.07	37.37	52.29	74.00	21.71	
	1181.000	62.00	23.62	4.18	37.22	52.58	74.00	21.42	
	1495.000	58.77	25.80	4.71	36.54	52.74	74.00	21.26	
	1644.000	58.14	26.50	5.02	36.26	53.40	74.00	20.60	
1679.000	56.59	26.59	5.08	36.20	52.06	74.00	21.94		

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 60%RH

Serial No. : E2009060904 Date of Test : Jun 23, 2009

Test Mode : D-Sub 1920\*1080@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	152.220	27.46	11.09	1.25	--	39.80	43.50	3.70	QP
	172.590	27.19	10.11	1.38	--	38.68	43.50	4.82	
	295.780	25.52	13.84	1.86	--	41.22	46.00	4.78	
	467.470	23.15	17.49	2.36	--	43.00	46.00	3.00	
	639.160	20.78	19.39	2.82	--	42.99	46.00	3.01	
	<b>664.380</b>	<b>20.96</b>	<b>19.54</b>	<b>2.87</b>	<b>--</b>	<b>43.37</b>	<b>46.00</b>	<b>2.63</b>	
	1046.000	60.67	22.72	3.96	37.57	49.78	74.00	24.22	PK
	1122.000	59.10	23.24	4.07	37.37	49.04	74.00	24.96	
	1196.000	57.09	23.70	4.21	37.18	47.82	74.00	26.18	
	1533.000	55.33	26.04	4.78	36.46	49.69	74.00	24.31	
	1644.000	55.07	26.50	5.02	36.26	50.33	74.00	23.67	
1720.000	52.51	26.71	5.14	36.13	48.23	74.00	25.77		
Vertical	<b>30.970</b>	<b>17.47</b>	<b>19.03</b>	<b>0.63</b>	<b>--</b>	<b>37.13</b>	<b>40.00</b>	<b>2.87</b>	QP
	87.230	24.66	8.96	1.00	--	34.62	40.00	5.38	
	107.600	20.74	12.10	1.10	--	33.94	43.50	9.56	
	127.970	21.01	12.63	1.17	--	34.81	43.50	8.69	
	152.220	27.53	11.09	1.25	--	39.87	43.50	3.63	
	217.210	25.57	11.48	1.60	--	38.65	46.00	7.35	
	1043.000	63.40	22.69	3.96	37.58	52.47	74.00	21.53	PK
	1122.000	62.88	23.24	4.07	37.37	52.82	74.00	21.18	
	1196.000	60.82	23.70	4.21	37.18	51.55	74.00	22.45	
	1498.000	58.87	25.80	4.71	36.53	52.85	74.00	21.15	
	1690.000	56.92	26.63	5.11	36.18	52.48	74.00	21.52	
1756.000	56.66	26.80	5.18	36.07	52.57	74.00	21.43		

TEST ENGINEER: RAVEN JIN



EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 60%RH

Serial No. : E2009060904 Date of Test : Jun 23, 2009

Test Mode : HDMI 640\*480@60Hz

Polarization	Frequency (MHz)	Meter Reading dB ( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB ( $\mu$ V/m)	Limits dB ( $\mu$ V/m)	Margin (dB)
Horizontal	152.220	24.50	11.09	1.25	36.84	43.50	6.66
	237.580	23.21	12.44	1.67	37.32	46.00	8.68
	346.220	15.83	15.20	2.03	33.06	46.00	12.94
	593.570	12.02	19.14	2.72	33.88	46.00	12.12
	664.380	12.61	19.54	2.87	35.02	46.00	10.98
	<b>877.780</b>	<b>16.05</b>	<b>21.49</b>	<b>3.39</b>	<b>40.93</b>	<b>46.00</b>	<b>5.07</b>
Vertical	<b>30.970</b>	<b>17.45</b>	<b>19.03</b>	<b>0.63</b>	<b>37.11</b>	<b>40.00</b>	<b>2.89</b>
	44.550	21.60	11.38	0.69	33.67	40.00	6.33
	94.020	28.99	10.27	1.05	40.31	43.50	3.19
	152.220	22.95	11.09	1.25	35.29	43.50	8.21
	295.780	20.86	13.84	1.86	36.56	46.00	9.44
	583.870	17.64	19.03	2.70	39.37	46.00	6.63

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 60%RH

Serial No. : E2009060904 Date of Test : Jun 23, 2009

Test Mode : HDMI 1024\*768@60Hz

Polarization	Frequency (MHz)	Meter Reading dB ( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB ( $\mu$ V/m)	Limits dB ( $\mu$ V/m)	Margin (dB)
Horizontal	152.220	28.63	11.09	1.25	40.97	43.50	2.53
	172.590	27.14	10.11	1.38	38.63	43.50	4.87
	295.780	23.49	13.84	1.86	39.19	46.00	6.81
	467.470	23.28	17.49	2.36	43.13	46.00	2.87
	664.380	21.19	19.54	2.87	43.60	46.00	2.40
	<b>877.780</b>	<b>18.74</b>	<b>21.49</b>	<b>3.39</b>	<b>43.62</b>	<b>46.00</b>	<b>2.38</b>
Vertical	87.230	27.56	8.96	1.00	37.52	40.00	2.48
	152.220	28.63	11.09	1.25	40.97	43.50	2.53
	172.590	27.14	10.11	1.38	38.63	43.50	4.87
	295.780	23.49	13.84	1.86	39.19	46.00	6.81
	467.470	23.28	17.49	2.36	43.13	46.00	2.87
	<b>664.380</b>	<b>21.19</b>	<b>19.54</b>	<b>2.87</b>	<b>43.60</b>	<b>46.00</b>	<b>2.40</b>

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 60%RH

Serial No. : E2009060904 Date of Test : Jun 23, 2009

Test Mode : HDMI 1600\*1200@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	152.220	23.46	11.09	1.25	--	35.80	43.50	7.70	QP
	237.580	23.11	12.44	1.67	--	37.22	46.00	8.78	
	<b>518.880</b>	<b>20.44</b>	<b>18.15</b>	<b>2.49</b>	--	<b>41.08</b>	<b>46.00</b>	<b>4.92</b>	
	664.380	17.20	19.54	2.87	--	39.61	46.00	6.39	
	813.760	16.73	20.84	3.24	--	40.81	46.00	5.19	
	877.780	15.41	21.49	3.39	--	40.29	46.00	5.71	PK
	1046.000	60.54	22.72	3.96	37.57	49.65	74.00	24.35	
	1122.000	63.80	23.24	4.07	37.37	53.74	74.00	20.26	
	1271.000	57.56	24.27	4.33	37.01	49.15	74.00	24.85	
	1386.000	55.90	25.13	4.54	36.76	48.81	74.00	25.19	
	1544.000	58.31	26.07	4.81	36.44	52.75	74.00	21.25	
1704.000	56.08	26.67	5.11	36.16	51.70	74.00	22.30	Vertical	
<b>30.970</b>	<b>16.94</b>	<b>19.03</b>	<b>0.63</b>	--	<b>36.60</b>	<b>40.00</b>	<b>3.40</b>		QP
107.600	21.69	12.10	1.10	--	34.89	43.50	8.61		
116.330	21.62	12.78	1.13	--	35.53	43.50	7.97		
152.220	26.87	11.09	1.25	--	39.21	43.50	4.29		
172.590	22.86	10.11	1.38	--	34.35	43.50	9.15		
217.210	23.98	11.48	1.60	--	37.06	46.00	8.94		PK
1046.000	55.41	22.72	3.96	37.57	44.52	74.00	29.48		
1122.000	52.35	23.24	4.07	37.37	42.29	74.00	31.71		
1181.000	53.00	23.62	4.18	37.22	43.58	74.00	30.42		
1495.000	58.77	25.80	4.71	36.54	52.74	74.00	21.26		
1644.000	53.14	26.50	5.02	36.26	48.40	74.00	25.60		
1679.000	57.59	26.59	5.08	36.20	53.06	74.00	20.94		

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 60%RH

Serial No. : E2009060904 Date of Test : Jun 23, 2009

Test Mode : HDMI 1920\*1080@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	95.960	18.67	10.70	1.05	--	30.42	43.50	13.08	QP
	<b>152.220</b>	<b>22.17</b>	<b>11.09</b>	<b>1.25</b>	--	<b>34.51</b>	<b>43.50</b>	<b>8.99</b>	
	237.580	19.21	12.44	1.67	--	33.32	46.00	12.68	
	295.780	17.20	13.84	1.86	--	32.90	46.00	13.10	
	467.470	14.66	17.49	2.36	--	34.51	46.00	11.49	
	590.660	12.88	19.11	2.72	--	34.71	46.00	11.29	PK
	1122.000	58.10	23.24	4.07	37.37	48.04	74.00	25.96	
	1196.000	58.09	23.70	4.21	37.18	48.82	74.00	25.18	
	1533.000	54.33	26.04	4.78	36.46	48.69	74.00	25.31	
	1560.000	53.16	26.19	4.85	36.42	47.78	74.00	26.22	
	1644.000	55.07	26.50	5.02	36.26	50.33	74.00	23.67	
1720.000	52.51	26.71	5.14	36.13	48.23	74.00	25.77	Vertical	
<b>87.230</b>	<b>26.97</b>	<b>8.96</b>	<b>1.00</b>	--	<b>36.93</b>	<b>40.00</b>	<b>3.07</b>		
107.600	23.59	12.10	1.10	--	36.79	43.50	6.71		QP
152.220	26.94	11.09	1.25	--	39.28	43.50	4.22		
172.590	23.90	10.11	1.38	--	35.39	43.50	8.11		
209.450	23.85	11.13	1.57	--	36.55	43.50	6.95		
217.210	25.43	11.48	1.60	--	38.51	46.00	7.49		
1043.000	53.40	22.69	3.96	37.58	42.47	74.00	31.53		PK
1122.000	61.88	23.24	4.07	37.37	51.82	74.00	22.18		
1196.000	54.82	23.70	4.21	37.18	45.55	74.00	28.45		
1498.000	57.87	25.80	4.71	36.53	51.85	74.00	22.15		
1690.000	56.92	26.63	5.11	36.18	52.48	74.00	21.52		
1756.000	49.66	26.80	5.18	36.07	45.57	74.00	28.43		

TEST ENGINEER: RAVEN JIN

EUT :         LCD Monitor              Temperature :         22°C        

Model No. :         NVU47FX5              Humidity :         60%RH        

Serial No. :         E2009060904              Date of Test :         Jun 23, 2009        

Test Mode :         AV        

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	<b>152.220</b>	<b>28.67</b>	<b>11.09</b>	<b>1.25</b>	<b>41.01</b>	<b>43.50</b>	<b>2.49</b>
	172.590	27.48	10.11	1.38	38.97	43.50	4.53
	297.720	23.27	13.86	1.88	39.01	46.00	6.99
	467.470	23.23	17.49	2.36	43.08	46.00	2.92
	639.160	20.87	19.39	2.82	43.08	46.00	2.92
	664.380	20.71	19.54	2.87	43.12	46.00	2.88
Vertical	<b>152.220</b>	<b>28.67</b>	<b>11.09</b>	<b>1.25</b>	<b>41.01</b>	<b>43.50</b>	<b>2.49</b>
	172.590	27.48	10.11	1.38	38.97	43.50	4.53
	297.720	23.27	13.86	1.88	39.01	46.00	6.99
	467.470	23.23	17.49	2.36	43.08	46.00	2.92
	639.160	20.87	19.39	2.82	43.08	46.00	2.92
	664.380	20.71	19.54	2.87	43.12	46.00	2.88

TEST ENGINEER: RAVEN JIN

EUT :           LCD Monitor                Temperature :           22°C          

Model No. :           NVU47FX5                Humidity :           60%RH          

Serial No. :           E2009060904                Date of Test :           Jun 23, 2009          

Test Mode :           S-Video          

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	<b>152.220</b>	<b>24.92</b>	<b>11.09</b>	<b>1.25</b>	<b>37.26</b>	<b>43.50</b>	<b>6.24</b>
	237.580	23.36	12.44	1.67	37.47	46.00	8.53
	347.190	15.92	15.24	2.05	33.21	46.00	12.79
	518.880	13.03	18.15	2.49	33.67	46.00	12.33
	639.160	12.41	19.39	2.82	34.62	46.00	11.38
	877.780	14.82	21.49	3.39	39.70	46.00	6.30
Vertical	<b>87.230</b>	<b>27.17</b>	<b>8.96</b>	<b>1.00</b>	<b>37.13</b>	<b>40.00</b>	<b>2.87</b>
	93.050	26.23	10.09	1.04	37.36	43.50	6.14
	152.220	24.92	11.09	1.25	37.26	43.50	6.24
	237.580	23.36	12.44	1.67	37.47	46.00	8.53
	347.190	15.92	15.24	2.05	33.21	46.00	12.79
	664.380	12.81	19.54	2.87	35.22	46.00	10.78

TEST ENGINEER: RAVEN JIN

EUT :           LCD Monitor                Temperature :           22°C          

Model No. :           NVU47FX5                Humidity :           60%RH          

Serial No. :           E2009060904                Date of Test :           Jun 23, 2009          

Test Mode :           HDMI          

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	152.220	28.54	11.09	1.25	40.88	43.50	2.62
	172.590	27.39	10.11	1.38	38.88	43.50	4.62
	219.150	27.27	11.57	1.60	40.44	46.00	5.56
	295.780	23.70	13.84	1.86	39.40	46.00	6.60
	517.910	21.33	18.12	2.49	41.94	46.00	4.06
	<b>664.380</b>	<b>21.01</b>	<b>19.54</b>	<b>2.87</b>	<b>43.42</b>	<b>46.00</b>	<b>2.58</b>
Vertical	152.220	28.54	11.09	1.25	40.88	43.50	2.62
	172.590	27.39	10.11	1.38	38.88	43.50	4.62
	219.150	27.27	11.57	1.60	40.44	46.00	5.56
	295.780	23.70	13.84	1.86	39.40	46.00	6.60
	467.470	23.21	17.49	2.36	43.06	46.00	2.94
	<b>664.380</b>	<b>21.01</b>	<b>19.54</b>	<b>2.87</b>	<b>43.42</b>	<b>46.00</b>	<b>2.58</b>

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : NVU47FX5 Humidity : 60%RH

Serial No. : E2009060904 Date of Test : Jun 23, 2009

Test Mode : YPbPr

Polarization	Frequency (MHz)	Meter Reading dB ( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB ( $\mu$ V/m)	Limits dB ( $\mu$ V/m)	Margin (dB)
Horizontal	152.220	23.80	11.09	1.25	36.14	43.50	7.36
	217.210	21.22	11.48	1.60	34.30	46.00	11.70
	237.580	23.09	12.44	1.67	37.20	46.00	8.80
	517.910	14.73	18.12	2.49	35.34	46.00	10.66
	639.160	12.65	19.39	2.82	34.86	46.00	11.14
	<b>877.780</b>	<b>16.67</b>	<b>21.49</b>	<b>3.39</b>	<b>41.55</b>	<b>46.00</b>	<b>4.45</b>
Vertical	<b>30.970</b>	<b>18.03</b>	<b>19.03</b>	<b>0.63</b>	<b>37.69</b>	<b>40.00</b>	<b>2.31</b>
	42.610	19.87	12.39	0.68	32.94	40.00	7.06
	87.230	27.40	8.96	1.00	37.36	40.00	2.64
	94.990	26.39	10.45	1.05	37.89	43.50	5.61
	100.810	22.87	11.57	1.08	35.52	43.50	7.98
	152.220	21.26	11.09	1.25	33.60	43.50	9.90

TEST ENGINEER: RAVEN JIN



## **5 DEVIATION TO TEST SPECIFICATIONS**

None.


## 6 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Specifications (mm)	Manufacturer	Location
Ferrite Core	ZCAT2132-1130	21*32*11	ROH	See Internal Photo Figure 26
Ferrite Core	ZCAT1519-0830	15*19*08	ROH	See Internal Photo Figure 27

Note: We had required the applicant and manufacturer that all electrical and mechanical devices employed for spurious radiation suppression, including any modifications made during certification testing, must be incorporated in each unit marked

TEST ENGINEER:



**(RAVEN JIN)**