

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

LCD TV

Model No.	Serial No.	Brand
LHDN26W57US	--	Hisense
LHDN26W60US	--	
LHDN26W58US	--	
LHDN26W61US	--	
LHD26V68US	--	
ELCHS262	E2009073101	Element
ELCHW261	--	

FCC ID : W9HLCDB0001

Prepared For : Hisense Electric Co., Ltd.  
No.218 Qianwangang Road, Economy & Technology  
Development Zone, Qingdao, China

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Report No. : ACI-F09072  
Date of Test : Jul 31, 2009  
Date of Report : Aug 03, 2009

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## TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Electric Co., Ltd.

Manufacturer : Hisense Electric Co., Ltd.

EUT Description : LCD TV

Model No.	Serial No.	Brand	Power Supply
LHDN26W57US	--	Hisense	120V/60Hz
LHDN26W60US	--		
LHDN26W58US	--		
LHDN26W61US	--		
LHD26V68US	--		
ELCHS262	E2009073101	Element	
ELCHW261	--		

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 Jul 31, 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.

***The test results for EUT's TV function are contained in No.F09071, a Verification report.***

Date of Test : Jul 31, 2009 Date of Report : Aug 03, 2009

Producer : Zeno Gu  
ZENO GU / AssistantReview : Byron Wu  
BYRON WU / Supervisor

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

Signatory : Samy Chen  
Authorized Signature EMCSAMMY 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:

Description of Test Item	Standard	Limits	Results
<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 TV

Type of EUT : ☒ Production ☐ Pre-product ☐ Pro-type

Model No.	Serial No.	Brand
LHDN26W57US	--	Hisense
LHDN26W60US	--	
LHDN26W58US	--	
LHDN26W61US	--	
LHD26V68US	--	
ELCHS262	E2009073101	Element
ELCHW261	--	

Note 1 : The above models are all the same except for the different model number and brand.

Note 2 : The ELCHS262 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 : Hisense Electric Co., Ltd  
M/N : HC260BH-D\*\*

Tuner : Manufacturer : XuGuang Tech Co., Ltd.  
M/N : DVT-8ADC1/W41F2/ROH

Max Resolution : 1360\*768@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 TV which input/output ports as follows:

**Rear View:**

- |                   |                                    |                                     |
|-------------------|------------------------------------|-------------------------------------|
| (1)               | One component of YPbPr1 Port       | Connected with DVD #1               |
| (2)               | One component of YPbPr1 Audio Port | Connected with DVD #1               |
| (3)               | One component of YpbPr2 Port       | Connected with DVD #2               |
| (4)               | One component of YPbPr2 Audio Port | Connected with DVD #2               |
| (5)               | One HDMI1 Port                     | Connected with DVD #1               |
| (6)               | One HDMI2 Port                     | Connected with DVD #2               |
| (7)               | One VGA Port                       | Connected with PC                   |
| (8)               | One VGA Audio Port                 | Connected with PC                   |
| (9)               | One Audio Out Port                 | Connected with Speaker              |
| <b>Side Port:</b> |                                    |                                     |
| (10)              | One S-Video Port                   | Connected with TV SG                |
| (11)              | One ANT Port                       | Connected with TV SG/ATSC SG        |
| (12)              | One component of AV In Port        | Connected with DVD #1               |
| (13)              | One COAXIAL Port                   | Connected with DVD #1               |
| (14)              | One Earphone Port                  | Connected with Earphone             |
| (15)              | One USB (Service) Port             | Connected with U-Disk as Terminator |

## 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 Modem

Manufacturer : TP-LINK  
Model Number : TM-EC5658V  
Serial Number : 07123301053  
Data Cable : Shielded, Detachable, 1.8m  
Certificate : FCC DoC, CE/EMC, CCC

### 2.2.6 Earphone

Manufacturer : SONY  
Model Number : MDR-E808  
Serial Number : 1808030805305506

### 2.2.7 TV Signal Generator

Manufacturer : FLUKE  
Model Number : 54200m01  
Serial Number : 814008  
Data Cable : Shielded, detachable, 2.0m  
Power Cord : Unshielded, detachable, 2.0m  
Certificate : CE/EMC, FCC DoC, CCC

### 2.2.8 ATSC Signal Generator

Manufacturer : SENCORE  
Model Number : ATSC997  
Serial Number : 6790071

### 2.2.9 DVD#1

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

### 2.2.10 DVD#2

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

### 2.2.11 Speaker

Manufacturer : DIBA  
Model Number : T520  
Serial Number : 10628

## 2.3 Description of Test Facility

Site Description : Sept. 17, 1998 file on  
(Semi-Anechoic Chamber) 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

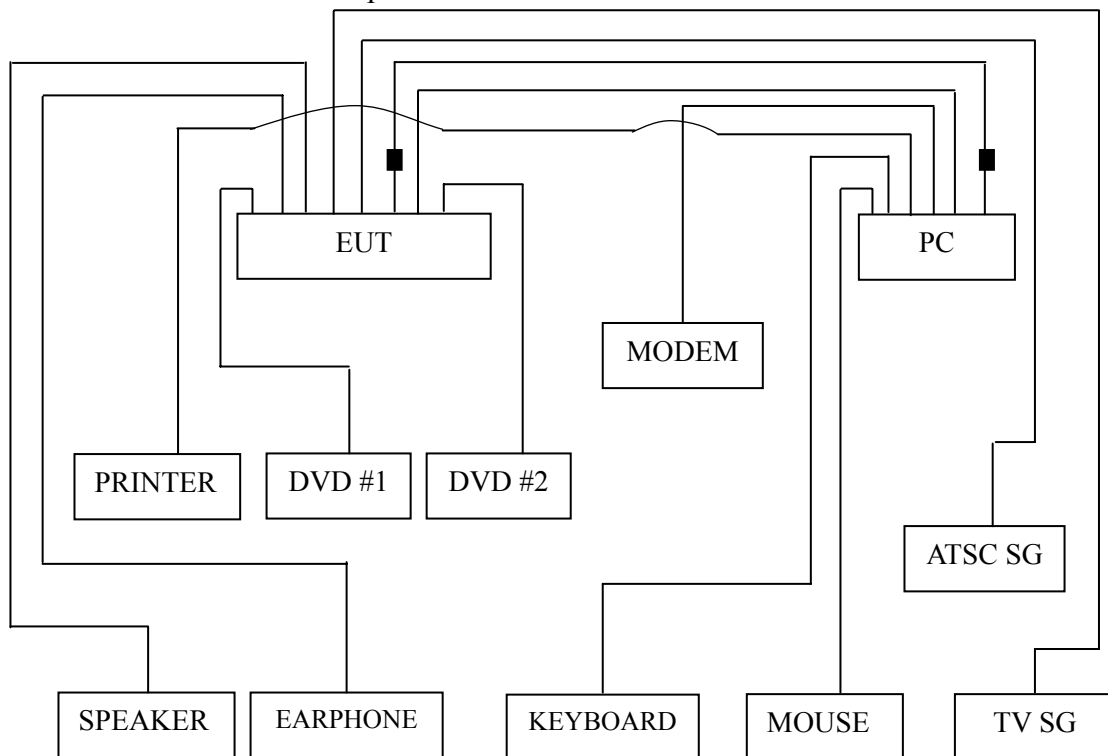
#### 3.1.1 Test Equipment

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	--	--

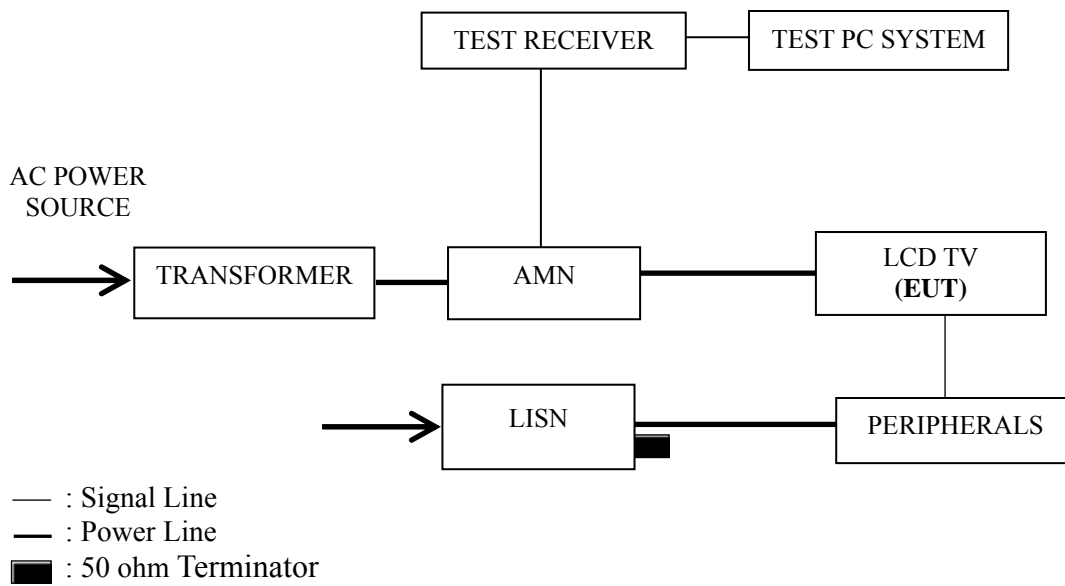
#### 3.2 Block Diagram of Test Setup

##### 3.2.1 EUT & Peripherals



■ : Ferrite core

### 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 Set the contrast & brightness of EUT to maximum.

3.5.4 PC system ran the self-test program “EMC Test” by windows XP and sent “H” characters to EUT through graphic card, the EUT’s screen displayed and filled with “H” pattern by its resolution (Via D-Sub & HDMI Input).

3.5.5 Repeat above procedure from 3.5.3 to 3.5.4 for difference test mode.

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

3.5.7 The test modes are as follows:

Test Mode
D-Sub 640*480@60Hz
D-Sub 1024*768@60Hz
D-Sub 1360*768@60Hz
HDMI 640*480@60Hz
HDMI 1024*768@60Hz
HDMI 1360*768@60Hz

### 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 1360*768@60Hz	P15
HDMI 640*480@60Hz	P16
HDMI 1024*768@60Hz	P17
HDMI 1360*768@60Hz	P18

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 D-Sub 1360\*768@60Hz test mode. The worst emission is detected at 0.516 MHz (Average) with corrected signal level of 40.63 dB (μV) (limit is 46.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 48%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

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

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.164	30.97	0.23	31.20	65.25	34.05	QP
	0.389	39.90	0.28	40.18	58.08	17.90	
	0.516	39.48	0.29	39.77	56.00	16.23	
	1.610	35.28	0.34	35.62	56.00	20.38	
	6.121	42.17	0.45	42.62	60.00	17.38	
	18.039	26.60	0.83	27.43	60.00	32.57	
	0.164	30.81	0.23	31.04	55.25	24.21	AV
	0.389	36.22	0.28	36.50	48.08	11.58	
	0.516	39.79	0.29	40.08	46.00	5.92	
	1.610	31.54	0.34	31.88	46.00	14.12	
	6.121	32.94	0.45	33.39	50.00	16.61	
	18.039	14.28	0.83	15.11	50.00	34.89	
Neutral	0.277	34.00	0.22	34.22	60.90	26.68	QP
	0.389	40.11	0.25	40.36	58.08	17.72	
	0.516	40.02	0.26	40.28	56.00	15.72	
	2.448	31.86	0.39	32.25	56.00	23.75	
	6.121	43.62	0.46	44.08	60.00	15.92	
	16.486	25.94	0.73	26.67	60.00	33.33	
	0.277	31.23	0.22	31.45	50.90	19.45	AV
	0.389	36.55	0.25	36.80	48.08	11.28	
	<b>0.516</b>	<b>40.05</b>	<b>0.26</b>	<b>40.31</b>	<b>46.00</b>	<b>5.69</b>	
	2.448	27.22	0.39	27.61	46.00	18.39	
	6.121	30.67	0.46	31.13	50.00	18.87	
	16.486	17.46	0.73	18.19	50.00	31.81	

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 48%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

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

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.164	34.92	0.23	35.15	65.25	30.10	QP
	0.389	39.96	0.28	40.24	58.08	17.84	
	1.160	38.76	0.32	39.08	56.00	16.92	
	1.610	38.28	0.34	38.62	56.00	17.38	
	6.121	40.20	0.45	40.65	60.00	19.35	
	17.568	26.94	0.82	27.76	60.00	32.24	
	0.164	30.83	0.23	31.06	55.25	24.19	AV
	0.389	35.97	0.28	36.25	48.08	11.83	
	1.160	33.90	0.32	34.22	46.00	11.78	
	1.610	31.87	0.34	32.21	46.00	13.79	
	6.121	31.40	0.45	31.85	50.00	18.15	
	17.568	15.33	0.82	16.15	50.00	33.85	
Neutral	0.277	35.51	0.22	35.73	60.90	25.17	QP
	0.389	40.13	0.25	40.38	58.08	17.70	
	0.516	41.99	0.26	42.25	56.00	13.75	
	2.448	36.60	0.39	36.99	56.00	19.01	
	6.121	44.30	0.46	44.76	60.00	15.24	
	11.996	25.07	0.58	25.65	60.00	34.35	
	0.277	31.19	0.22	31.41	50.90	19.49	AV
	0.389	36.65	0.25	36.90	48.08	11.18	
	<b>0.516</b>	<b>40.34</b>	<b>0.26</b>	<b>40.60</b>	<b>46.00</b>	<b>5.40</b>	
	2.448	27.47	0.39	27.86	46.00	18.14	
	6.121	33.51	0.46	33.97	50.00	16.03	
	11.996	18.10	0.58	18.68	50.00	31.32	

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 48%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

Test Mode : D-Sub 1360\*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.166	32.70	0.23	32.93	65.16	32.23	QP
	0.389	41.03	0.28	41.31	58.08	16.77	
	0.516	41.62	0.29	41.91	56.00	14.09	
	1.610	38.40	0.34	38.74	56.00	17.26	
	6.121	40.67	0.45	41.12	60.00	18.88	
	17.755	30.40	0.82	31.22	60.00	28.78	
	0.166	33.29	0.23	33.52	55.16	21.64	AV
	0.389	36.31	0.28	36.59	48.08	11.49	
	0.516	39.79	0.29	40.08	46.00	5.92	
	1.610	31.86	0.34	32.20	46.00	13.80	
	6.121	33.24	0.45	33.69	50.00	16.31	
	17.755	21.93	0.82	22.75	50.00	27.25	
Neutral	0.277	36.03	0.22	36.25	60.90	24.65	QP
	0.385	38.54	0.24	38.78	58.17	19.39	
	0.516	42.07	0.26	42.33	56.00	13.67	
	2.448	36.37	0.39	36.76	56.00	19.24	
	6.121	42.69	0.46	43.15	60.00	16.85	
	11.996	23.12	0.58	23.70	60.00	36.30	
	0.277	31.71	0.22	31.93	50.90	18.97	AV
	0.385	35.21	0.24	35.45	48.17	12.72	
	<b>0.516</b>	<b>40.37</b>	<b>0.26</b>	<b>40.63</b>	<b>46.00</b>	<b>5.37</b>	
	2.448	28.43	0.39	28.82	46.00	17.18	
	6.121	32.36	0.46	32.82	50.00	17.18	
	11.996	14.94	0.58	15.52	50.00	34.48	

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 48%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

Test Mode : HDMI 640\*480@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.164	34.89	0.23	35.12	65.25	30.13	QP
	0.389	41.80	0.28	42.08	58.08	16.00	
	1.160	38.34	0.32	38.66	56.00	17.34	
	1.610	37.76	0.34	38.10	56.00	17.90	
	6.056	42.29	0.45	42.74	60.00	17.26	
	19.326	29.14	0.87	30.01	60.00	29.99	
	0.164	31.00	0.23	31.23	55.25	24.02	AV
	0.389	36.03	0.28	36.31	48.08	11.77	
	1.160	33.30	0.32	33.62	46.00	12.38	
	1.610	33.30	0.34	33.64	46.00	12.36	
	6.056	32.04	0.45	32.49	50.00	17.51	
	19.326	18.37	0.87	19.24	50.00	30.76	
Neutral	0.277	36.34	0.22	36.56	60.90	24.34	QP
	0.389	40.94	0.25	41.19	58.08	16.89	
	1.032	40.47	0.30	40.77	56.00	15.23	
	4.454	39.76	0.45	40.21	56.00	15.79	
	6.121	40.78	0.46	41.24	60.00	18.76	
	11.933	20.80	0.57	21.37	60.00	38.63	
	0.277	32.57	0.22	32.79	50.90	18.11	AV
	0.389	36.26	0.25	36.51	48.08	11.57	
	<b>1.032</b>	<b>38.23</b>	<b>0.30</b>	<b>38.53</b>	<b>46.00</b>	<b>7.47</b>	
	4.454	35.20	0.45	35.65	46.00	10.35	
	6.121	34.94	0.46	35.40	50.00	14.60	
	11.933	13.49	0.57	14.06	50.00	35.94	

TEST ENGINEER: HUGH HUANG



EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 48%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

Test Mode : HDMI 1024\*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.164	34.43	0.23	34.66	65.25	30.59	QP
	0.389	40.99	0.28	41.27	58.08	16.81	
	1.160	38.98	0.32	39.30	56.00	16.70	
	1.610	37.72	0.34	38.06	56.00	17.94	
	6.056	41.05	0.45	41.50	60.00	18.50	
	19.740	29.80	0.88	30.68	60.00	29.32	
	0.164	30.99	0.23	31.22	55.25	24.03	AV
	0.389	35.99	0.28	36.27	48.08	11.81	
	1.160	34.18	0.32	34.50	46.00	11.50	
	1.610	31.78	0.34	32.12	46.00	13.88	
	6.056	31.06	0.45	31.51	50.00	18.49	
	19.740	17.55	0.88	18.43	50.00	31.57	
Neutral	0.277	36.37	0.22	36.59	60.90	24.31	QP
	0.389	41.86	0.25	42.11	58.08	15.97	
	1.032	40.36	0.30	40.66	56.00	15.34	
	1.610	37.21	0.34	37.55	56.00	18.45	
	6.121	39.78	0.46	40.24	60.00	19.76	
	11.933	19.43	0.57	20.00	60.00	40.00	
	0.277	31.14	0.22	31.36	50.90	19.54	AV
	0.389	36.31	0.25	36.56	48.08	11.52	
	<b>1.032</b>	<b>37.99</b>	<b>0.30</b>	<b>38.29</b>	<b>46.00</b>	<b>7.71</b>	
	1.610	32.74	0.34	33.08	46.00	12.92	
	6.121	33.05	0.46	33.51	50.00	16.49	
	11.933	13.39	0.57	13.96	50.00	36.04	

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 48%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

Test Mode : HDMI 1360\*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.164	32.71	0.23	32.94	65.25	32.31	QP
	0.389	40.70	0.28	40.98	58.08	17.10	
	0.516	41.02	0.29	41.31	56.00	14.69	
	1.610	37.14	0.34	37.48	56.00	18.52	
	6.121	41.44	0.45	41.89	60.00	18.11	
	17.755	28.58	0.82	29.40	60.00	30.60	
	0.164	30.89	0.23	31.12	55.25	24.13	AV
	0.389	35.84	0.28	36.12	48.08	11.96	
	<b>0.516</b>	<b>39.25</b>	<b>0.29</b>	<b>39.54</b>	<b>46.00</b>	<b>6.46</b>	
	1.610	31.31	0.34	31.65	46.00	14.35	
	6.121	32.82	0.45	33.27	50.00	16.73	
	17.755	22.59	0.82	23.41	50.00	26.59	
Neutral	0.277	36.37	0.22	36.59	60.90	24.31	QP
	0.389	41.79	0.25	42.04	58.08	16.04	
	1.160	37.51	0.32	37.83	56.00	18.17	
	1.610	38.09	0.34	38.43	56.00	17.57	
	6.056	41.88	0.46	42.34	60.00	17.66	
	11.933	22.07	0.57	22.64	60.00	37.36	
	0.277	31.29	0.22	31.51	50.90	19.39	AV
	0.389	36.14	0.25	36.39	48.08	11.69	
	1.160	33.89	0.32	34.21	46.00	11.79	
	1.610	32.00	0.34	32.34	46.00	13.66	
	6.056	31.97	0.46	32.43	50.00	17.57	
	11.933	14.67	0.57	15.24	50.00	34.76	

TEST ENGINEER: HUGH HUANG

## 4 RADIATED EMISSION TEST

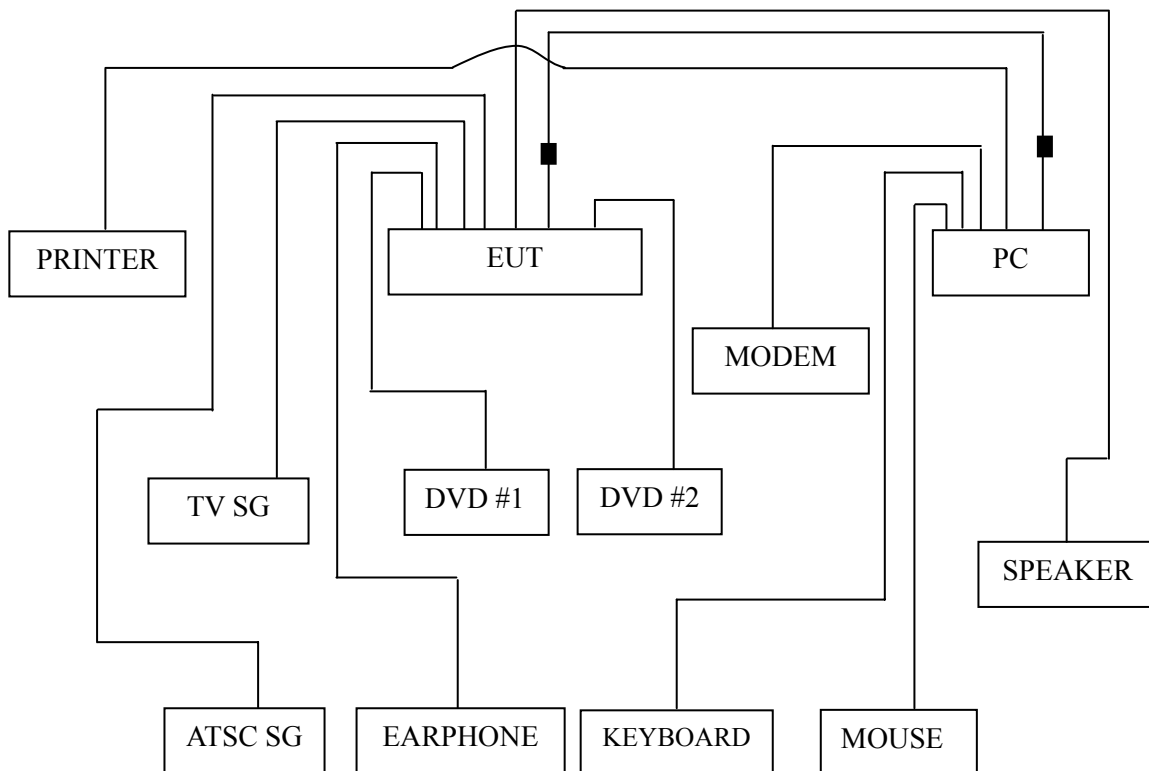
### 4.1 Test Equipment

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.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 14, 2008	May 14, 2010
4.	Spectrum	Agilent	E7405A	MY45106600	May 19, 2009	May 19, 2010
5.	Software	Audix	E3	SET00200 9912M295-2	--	--

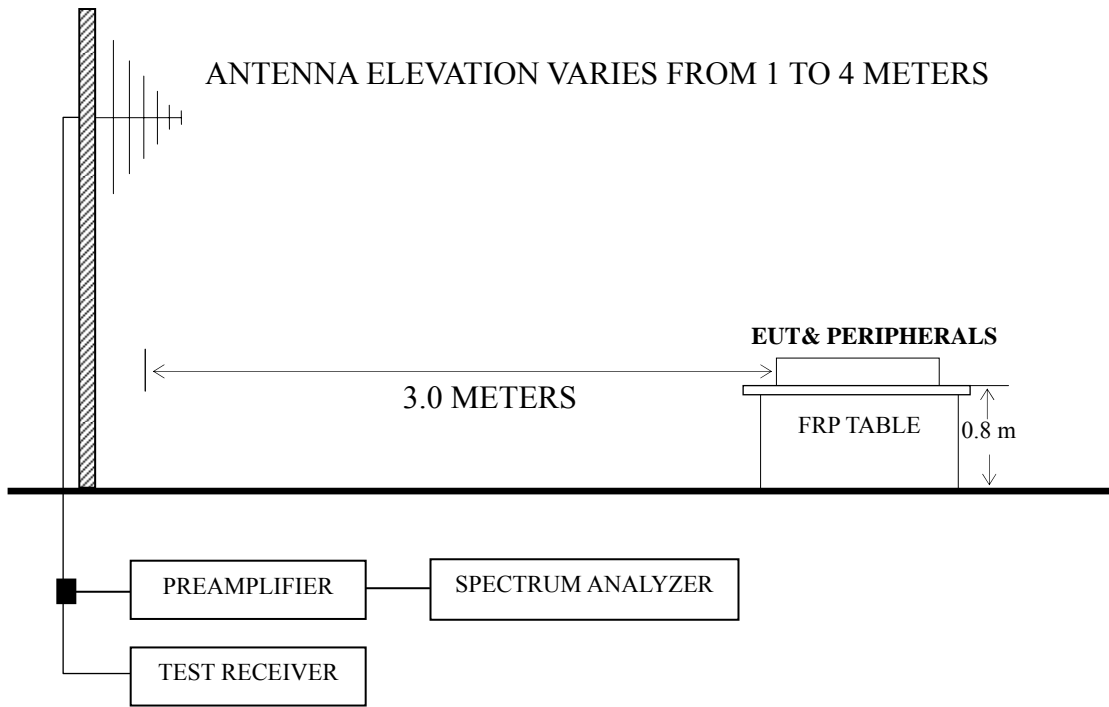
### 4.2 Block Diagram of Test Setup

#### 4.2.1 EUT and Peripherals



■ : Ferrite core

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.

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.

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

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	P22
D-Sub 1024*768@60Hz	P23
D-Sub 1360*768@60Hz	P24
HDMI 640*480@60Hz	P25
HDMI 1024*768@60Hz	P26
HDMI 1360*768@60Hz	P27

NOTE 1 – Emission Level = Antenna Factor + Cable Loss + Meter Reading.

NOTE 2 – The emission levels that are 20dB below the official limit are not reported.

NOTE 3 – 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

NOTE 4 – The worst case is for D-Sub 1024\*768@60Hz test mode. The worst emission at horizontal polarization was detected at 809.880 MHz with corrected signal level of 43.42 dB (μV/m) (limit is 46.00dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 45°. The worst emission at vertical polarization was detected at 809.880 MHz with corrected signal level of 42.19 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 260°.

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 60%RH

Serial No. : E2009073101 Date of Test : Jul 31, 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	97.900	15.54	11.11	1.07	27.72	43.50	15.78
	152.220	20.00	11.09	1.25	32.34	43.50	11.16
	237.580	19.49	12.44	1.67	33.60	46.00	12.40
	302.570	14.73	13.97	1.89	30.59	46.00	15.41
	579.990	10.29	18.97	2.68	31.94	46.00	14.06
	<b>809.880</b>	<b>19.13</b>	<b>20.80</b>	<b>3.21</b>	<b>43.14</b>	<b>46.00</b>	<b>2.86</b>
Vertical	30.000	14.67	19.60	0.63	34.90	40.00	5.10
	152.220	18.25	11.09	1.25	30.59	43.50	12.91
	217.210	18.27	11.48	1.60	31.35	46.00	14.65
	346.220	10.34	15.20	2.03	27.57	46.00	18.43
	506.270	12.84	17.98	2.44	33.26	46.00	12.74
	<b>996.120</b>	<b>19.06</b>	<b>22.37</b>	<b>3.62</b>	<b>45.05</b>	<b>54.00</b>	<b>8.95</b>

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 60%RH

Serial No. : E2009073101 Date of Test : Jul 31, 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	96.930	15.12	10.87	1.06	27.05	43.50	16.45
	107.600	18.79	12.10	1.10	31.99	43.50	11.51
	237.580	22.18	12.44	1.67	36.29	46.00	9.71
	302.570	13.54	13.97	1.89	29.40	46.00	16.60
	579.020	10.03	18.97	2.68	31.68	46.00	14.32
	<b>809.880</b>	<b>19.41</b>	<b>20.80</b>	<b>3.21</b>	<b>43.42</b>	<b>46.00</b>	<b>2.58</b>
Vertical	30.000	12.90	19.60	0.63	33.13	40.00	6.87
	153.190	18.54	11.04	1.25	30.83	43.50	12.67
	217.210	17.16	11.48	1.60	30.24	46.00	15.76
	302.570	11.06	13.97	1.89	26.92	46.00	19.08
	519.850	11.34	18.15	2.49	31.98	46.00	14.02
	<b>809.880</b>	<b>18.18</b>	<b>20.80</b>	<b>3.21</b>	<b>42.19</b>	<b>46.00</b>	<b>3.81</b>

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 60%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

Test Mode : D-Sub1360\*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	97.900	15.66	11.11	1.07	27.84	43.50	15.66
	152.220	19.62	11.09	1.25	31.96	43.50	11.54
	237.580	22.13	12.44	1.67	36.24	46.00	9.76
	302.570	14.73	13.97	1.89	30.59	46.00	15.41
	590.660	10.33	19.11	2.72	32.16	46.00	13.84
	<b>809.880</b>	<b>19.25</b>	<b>20.80</b>	<b>3.21</b>	<b>43.26</b>	<b>46.00</b>	<b>2.74</b>
Vertical	<b>30.000</b>	<b>13.76</b>	<b>19.60</b>	<b>0.63</b>	<b>33.99</b>	<b>40.00</b>	<b>6.01</b>
	153.190	18.92	11.04	1.25	31.21	43.50	12.29
	217.210	16.72	11.48	1.60	29.80	46.00	16.20
	346.220	11.78	15.20	2.03	29.01	46.00	16.99
	519.850	11.57	18.15	2.49	32.21	46.00	13.79
	988.360	16.45	22.32	3.60	42.37	54.00	11.63

TEST ENGINEER: RAVEN JIN



EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 60%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

Test Mode : HDMI 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	97.900	13.54	11.11	1.07	25.72	43.50	17.78
	152.220	19.00	11.09	1.25	31.34	43.50	12.16
	237.580	17.49	12.44	1.67	31.60	46.00	14.40
	302.570	12.73	13.97	1.89	28.59	46.00	17.41
	579.990	9.29	18.97	2.68	30.94	46.00	15.06
	<b>809.880</b>	<b>18.13</b>	<b>20.80</b>	<b>3.21</b>	<b>42.14</b>	<b>46.00</b>	<b>3.86</b>
Vertical	<b>30.000</b>	<b>15.67</b>	<b>19.60</b>	<b>0.63</b>	<b>35.90</b>	<b>40.00</b>	<b>4.10</b>
	152.220	21.25	11.09	1.25	33.59	43.50	9.91
	217.210	22.27	11.48	1.60	35.35	46.00	10.65
	302.570	14.19	13.97	1.89	30.05	46.00	15.95
	506.270	14.84	17.98	2.44	35.26	46.00	10.74
	996.120	20.06	22.37	3.62	46.05	54.00	7.95

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 60%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

Test Mode : HDMI 1024\*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	96.930	14.12	10.87	1.06	26.05	43.50	17.45
	131.850	21.05	12.42	1.18	34.65	43.50	8.85
	237.580	22.18	12.44	1.67	36.29	46.00	9.71
	302.570	13.54	13.97	1.89	29.40	46.00	16.60
	579.020	8.03	18.97	2.68	29.68	46.00	16.32
	<b>809.880</b>	<b>17.41</b>	<b>20.80</b>	<b>3.21</b>	<b>41.42</b>	<b>46.00</b>	<b>4.58</b>
Vertical	87.230	24.88	8.96	1.00	34.84	40.00	5.16
	153.190	20.54	11.04	1.25	32.83	43.50	10.67
	217.210	15.16	11.48	1.60	28.24	46.00	17.76
	302.570	10.06	13.97	1.89	25.92	46.00	20.08
	519.850	10.34	18.15	2.49	30.98	46.00	15.02
	<b>809.880</b>	<b>16.18</b>	<b>20.80</b>	<b>3.21</b>	<b>40.19</b>	<b>46.00</b>	<b>5.81</b>

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : ELCHS262 Humidity : 60%RH

Serial No. : E2009073101 Date of Test : Jul 31, 2009

Test Mode : HDMI 1360\*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	97.900	16.66	11.11	1.07	28.84	43.50	14.66
	152.220	20.62	11.09	1.25	32.96	43.50	10.54
	237.580	22.13	12.44	1.67	36.24	46.00	9.76
	302.570	14.73	13.97	1.89	30.59	46.00	15.41
	590.660	8.33	19.11	2.72	30.16	46.00	15.84
	<b>809.880</b>	<b>17.25</b>	<b>20.80</b>	<b>3.21</b>	<b>41.26</b>	<b>46.00</b>	<b>4.74</b>
Vertical	<b>87.230</b>	<b>25.33</b>	<b>8.96</b>	<b>1.00</b>	<b>35.29</b>	<b>40.00</b>	<b>4.71</b>
	153.190	21.92	11.04	1.25	34.21	43.50	9.29
	282.200	17.35	13.59	1.81	32.75	46.00	13.25
	346.220	16.78	15.20	2.03	34.01	46.00	11.99
	519.850	13.57	18.15	2.49	34.21	46.00	11.79
	988.360	17.45	22.32	3.60	43.37	54.00	10.63

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	BNF-12\ZCAT1 519-0830	15*19*8	ROH	See Internal Photo Figure 13
Ferrite Core	ZCAT3035-1330	30*35*13	ROH	See Internal Photo Figure 13

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)**