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

LED LCD TV

Model No.	Brand
50K362G	Hisense
50K360GN	

FCC ID : W9HLCDF0020

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

Prepared By : Audix Technology (Shanghai) Co., Ltd.
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Report No. : ACI-F13063
Date of Test : Apr 25 – May 09, 2013
Date of Report : May 14, 2013

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TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Electric Co., Ltd.

Manufacturer : Hisense Electric Co., Ltd.

Factory #1 : Hisense Electric Co., Ltd.

Factory #2 : Tatung Mexico S.A. de C..V.

EUT Description : LED LCD TV

Model No.	Brand	Power Supply
50K362G	Hisense	120V/60Hz
50K360GN		

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2012 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 Sec2.1) which was tested in 3m anechoic chamber Apr 25 – May 09, 2013 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 functions are contained in No.F13064, a Verification report.

Date of Test : Apr 25 – May 09, 2013 Date of Report : May 13, 2013

Producer : Kathy Wang
KATHY WANG / Supervisor

Review : Wency Yang
WENCY YANG / Supervisor

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

Signatory : Sammy Chen
Authorized Signature EMC SAMMY CHEN / Deputy 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
EMISSION			
Conducted Disturbance at the Mains Terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2012 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2012 AND ANSI C63.4-2003	15.109(a) Class B	Pass

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description	:	LED LCD TV
Type of EUT	:	☐ Production ☑ Pre-product ☐ Pro-type
Model No.	:	50K362G, 50K360GN
Note	:	The above models are all the same except for the different model name. The 50K362G was tested and reported in the report.
Bread Name	:	Hisense
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
Factory #1	:	Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China
Factory #2	:	Tatung Mexico S.A. de C..V. Miguel Catalán 420, Parque Industrial Rio Bravo, Cd. Juarez, Chih., CP 32557
LCD Panel	:	Manufacturer : Hisense M/N : HE500HF-B52\PW2
Max Resolution	:	1024*768@60Hz
D-Sub Cable	:	Shielded, Detachable, 1.85m, with two cores on cable
HDMI Cable	:	Shielded, Detachable, 1.00m
Power Cord	:	Unshielded, Detachable, 1.80m

Remark:
The EUT is a LED LCD TV which input/output ports as follows:

Bottom Port:
(1) One DIGITAL AUDIO OUT Port
: Connected with PC
(2) One USB Port
: Connected with U-Disk
(3) One AUDIO OUT Port
: Connected with Earphone
(4) One component of Audio/YPbPr Audio Port
: Connected with DVD PLAYER
(5) One component of Video/YPbPr Port
: Connected with DVD PLAYER
(6) One HDMI3 Port
: Connected with DVD PLAYER

Side Port:
(1) One HDMI2 Port
: Connected with Smart Mobile Phone
(2) One HDMI1 Port
: Connected with PC
(3) One ANT/CABLE IN Port
: Connected with ATSC SG / TV SG
(4) One PC/DVI Audio In Port
: Connected with PC
(5) One VGA Port
: Connected with PC

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	:	1406
Serial Number	:	0200702302609
Data Cable	:	Shielded, undetachable ,1.8m
Certificate	:	CE/EMC, FCC DoC, VCCI, MIC, C-Tick, BSMI

2.2.4 Mouse

Manufacturer	:	Microsoft
Model Number	:	1405
Serial Number	:	0204603562213
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 PLAYER

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

2.2.10 Smart Mobile Phone

Manufacturer	:	SAMSUNG
Model Number	:	GT-I9100G
Serial Number	:	RV1C2250B7J
Certificate	:	CE/EMC, CCC

2.2.11 U-DISK

Manufacturer : LG
Model Number : 1GB

2.3 Description of Test Facility

Site Description (No.3 3m Chamber)	:	Sept. 17, 1998 file on Mar 16, 2012 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 = 3.42 dB
Radiated Emission Expanded Uncertainty (30-200MHz):
U = 4.14 dB (Horizontal)
U = 4.28 dB (Vertical)
Radiated Emission Expanded Uncertainty (200M-1GHz):
U = 4.18 dB (Horizontal)
U = 4.26 dB (Vertical)

3 CONDUCTED EMISSION TEST

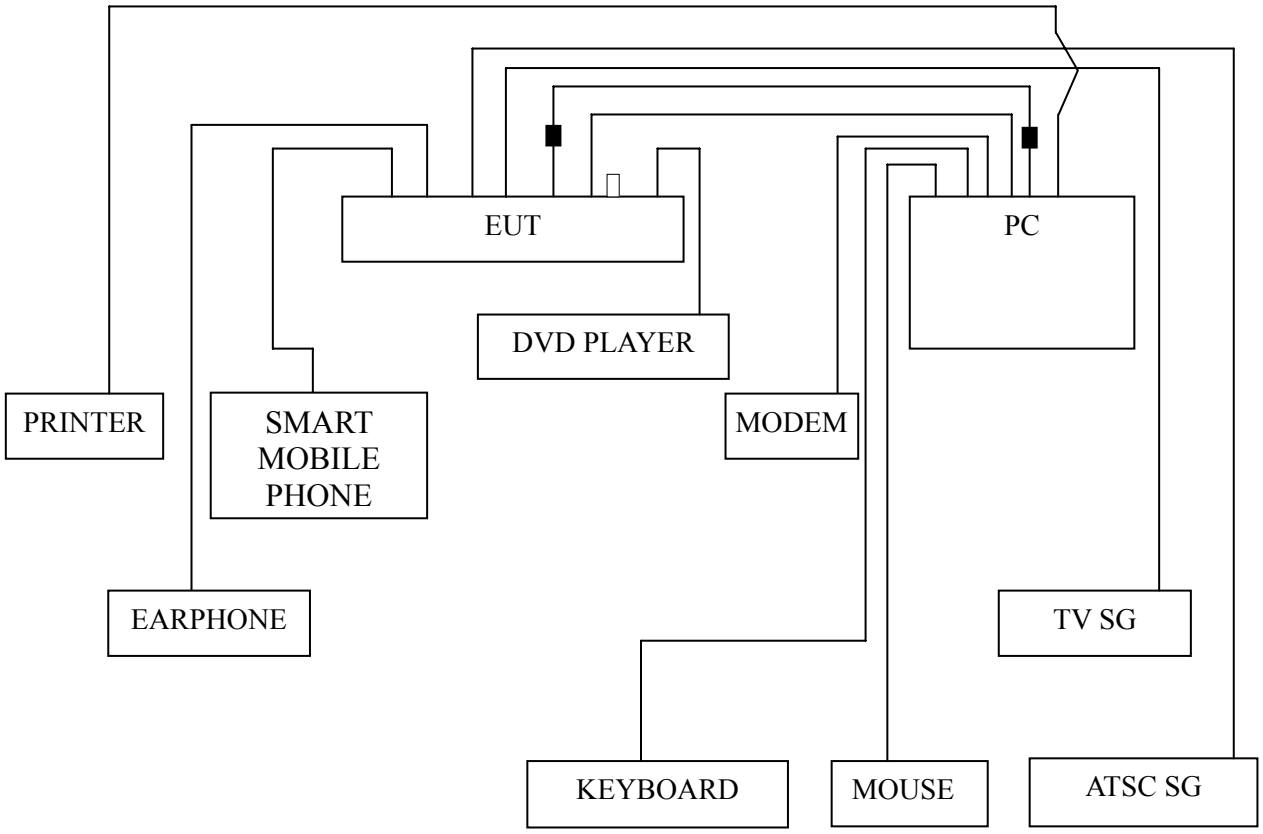
3.1 Test Equipment

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	Mar 20, 2013	Mar 20, 2014
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Feb 25, 2013	Feb 25, 2014
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 20, 2013	Mar 20, 2014
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Mar 18, 2013	Sep 18, 2013
5.	50Ω Terminator	Anritsu	BNC	001	Mar 20, 2013	Mar 20, 2014
6.	Software	Audix	E3	SET00200 9804M592	--	--

3.2 Block Diagram of Test Setup

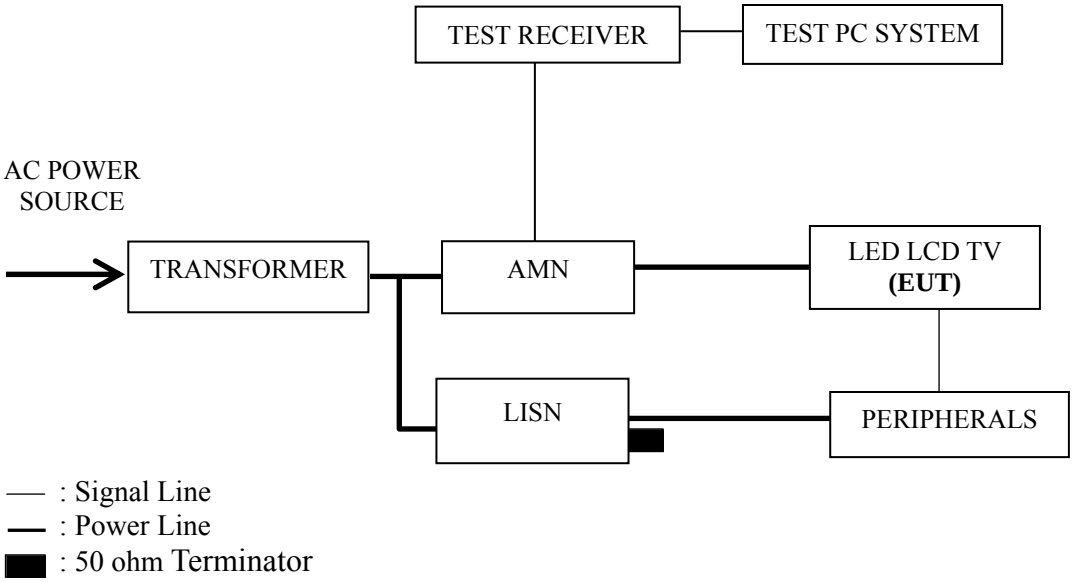
3.2.1 EUT & Peripherals



■: Ferrite core

: U-Disk

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 (μV)	
	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 In USB Play mode, set the EUT play digital media from U-Disk.

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 1024*768@60Hz
HDMI 1024*768@60Hz
HDMI 800*600@60Hz
HDMI 640*480@60Hz
USB Play

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 1024*768@60Hz	P13
HDMI 1024*768@60Hz	P14
HDMI 800*600@60Hz	P15
HDMI 640*480@60Hz	P16
USB Play	P17

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 HDMI 1080p mode was tested and recorded in a FCC Verification test report (No. F13064).
NOTE 5 – The worst case is for HDMI 1024*768@60Hz test mode. The worst emission is detected at 0.634 MHz (Average Value) with corrected signal level of 26.97 dB (μV) (limit is 46.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	50K362G	Humidity	:	48%RH
Test Mode	:	D-Sub 1024*768@60Hz	Date of Test	:	Apr 24, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.172	37.96	0.24	38.20	64.86	26.66	QP
	0.627	**35.82**	**0.21**	**36.03**	**56.00**	**19.97**	
	1.262	32.00	0.34	32.34	56.00	23.66	
	2.110	31.67	0.39	32.06	56.00	23.94	
	6.056	35.65	0.59	36.24	60.00	23.76	
	19.532	32.57	0.92	33.49	60.00	26.51	
	0.172	27.00	0.24	27.24	54.86	27.62	AV
	0.627	25.65	0.21	25.86	46.00	20.14	
	1.262	22.63	0.34	22.97	46.00	23.03	
	2.110	21.66	0.39	22.05	46.00	23.95	
	6.056	25.66	0.59	26.25	50.00	23.75	
	19.532	22.55	0.92	23.47	50.00	26.53	
Neutral	0.170	42.74	0.12	42.86	64.94	22.08	QP
	0.634	35.45	0.19	35.64	56.00	20.36	
	1.262	32.58	0.22	32.80	56.00	23.20	
	2.809	32.10	0.21	32.31	56.00	23.69	
	5.419	33.48	0.44	33.92	60.00	26.08	
	20.162	28.69	0.82	29.51	60.00	30.49	
	0.170	32.15	0.12	32.27	54.94	22.67	AV
	0.634	25.34	0.19	25.53	46.00	20.47	
	1.262	22.94	0.22	23.16	46.00	22.84	
	2.809	22.08	0.21	22.29	46.00	23.71	
	5.419	23.20	0.44	23.64	50.00	26.36	
	20.162	18.68	0.82	19.50	50.00	30.50	

TEST ENGINEER: VEIGAR ZHOU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	50K362G	Humidity	:	48%RH
Test Mode	:	HDMI 1024*768@60Hz	Date of Test	:	Apr 24, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.170	37.28	0.24	37.52	64.94	27.42	QP
	0.634	36.19	0.21	36.40	56.00	19.60	
	1.269	31.90	0.34	32.24	56.00	23.76	
	2.110	31.71	0.39	32.10	56.00	23.90	
	6.056	34.13	0.59	34.72	60.00	25.28	
	19.532	32.18	0.92	33.10	60.00	26.90	
	0.170	27.26	0.24	27.50	54.94	27.44	AV
	0.634	26.26	0.21	26.47	46.00	19.53	
	1.269	21.29	0.34	21.63	46.00	24.37	
	2.110	21.26	0.39	21.65	46.00	24.35	
	6.056	24.67	0.59	25.26	50.00	24.74	
	19.532	22.09	0.92	23.01	50.00	26.99	
Neutral	0.170	42.65	0.12	42.77	64.94	22.17	QP
	0.634	36.51	0.19	36.70	56.00	19.30	
	1.262	32.47	0.22	32.69	56.00	23.31	
	2.110	32.44	0.17	32.61	56.00	23.39	
	6.056	35.59	0.51	36.10	60.00	23.90	
	22.063	28.11	0.90	29.01	60.00	30.99	
	0.170	32.15	0.12	32.27	54.94	22.67	AV
	0.634	**26.78**	**0.19**	**26.97**	**46.00**	**19.03**	
	1.262	22.36	0.22	22.58	46.00	23.42	
	2.110	22.46	0.17	22.63	46.00	23.37	
	6.056	25.50	0.51	26.01	50.00	23.99	
	22.063	18.26	0.90	19.16	50.00	30.84	

TEST ENGINEER: VEIGAR ZHOU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	50K362G	Humidity	:	48%RH
Test Mode	:	HDMI 800*600@60Hz	Date of Test	:	Apr 24, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.170	37.33	0.24	37.57	64.94	27.37	QP
	0.634	35.55	0.21	35.76	56.00	20.24	
	1.269	31.28	0.34	31.62	56.00	24.38	
	2.044	31.57	0.39	31.96	56.00	24.04	
	6.056	32.78	0.59	33.37	60.00	26.63	
	18.820	32.20	0.92	33.12	60.00	26.88	
	0.170	27.15	0.24	27.39	54.94	27.55	AV
	0.634	25.61	0.21	25.82	46.00	20.18	
	1.269	21.10	0.34	21.44	46.00	24.56	
	2.044	21.18	0.39	21.57	46.00	24.43	
	6.056	22.15	0.59	22.74	50.00	27.26	
	18.820	22.17	0.92	23.09	50.00	26.91	
Neutral	0.172	43.61	0.12	43.73	64.86	21.13	QP
	0.634	35.51	0.19	35.70	56.00	20.30	
	1.269	32.15	0.22	32.37	56.00	23.63	
	2.765	32.06	0.21	32.27	56.00	23.73	
	6.056	34.48	0.51	34.99	60.00	25.01	
	19.740	28.23	0.82	29.05	60.00	30.95	
	0.172	33.10	0.12	33.22	54.86	21.64	AV
	0.634	**25.64**	**0.19**	**25.83**	**46.00**	**20.17**	
	1.269	22.18	0.22	22.40	46.00	23.60	
	2.765	22.04	0.21	22.25	46.00	23.75	
	6.056	25.46	0.51	25.97	50.00	24.03	
	19.740	18.23	0.82	19.05	50.00	30.95	

TEST ENGINEER: VEIGAR ZHOU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	50K362G	Humidity	:	48%RH
Test Mode	:	HDMI 640*480@60Hz	Date of Test	:	Apr 24, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.170	37.85	0.24	38.09	64.94	26.85	QP
	0.641	**36.20**	**0.21**	**36.41**	**56.00**	**19.59**	
	1.352	32.19	0.34	32.53	56.00	23.47	
	2.133	32.25	0.39	32.64	56.00	23.36	
	6.186	35.13	0.59	35.72	60.00	24.28	
	19.021	34.02	0.92	34.94	60.00	25.06	
	0.170	27.56	0.24	27.80	54.94	27.14	AV
	0.641	26.20	0.21	26.41	46.00	19.59	
	1.352	22.26	0.34	22.60	46.00	23.40	
	2.133	22.14	0.39	22.53	46.00	23.47	
	6.186	25.10	0.59	25.69	50.00	24.31	
	19.021	24.04	0.92	24.96	50.00	25.04	
Neutral	0.170	42.58	0.12	42.70	64.94	22.24	QP
	0.641	35.34	0.20	35.54	56.00	20.46	
	1.262	32.43	0.22	32.65	56.00	23.35	
	2.201	32.21	0.18	32.39	56.00	23.61	
	6.056	33.03	0.51	33.54	60.00	26.46	
	19.950	28.92	0.82	29.74	60.00	30.26	
	0.170	32.41	0.12	32.53	54.94	22.41	AV
	0.641	25.17	0.20	25.37	46.00	20.63	
	1.262	22.26	0.22	22.48	46.00	23.52	
	2.201	22.16	0.18	22.34	46.00	23.66	
	6.056	23.64	0.51	24.15	50.00	25.85	
	19.950	18.64	0.82	19.46	50.00	30.54	

TEST ENGINEER: VEIGAR ZHOU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	50K362G	Humidity	:	48%RH
Test Mode	:	USB Play	Date of Test	:	Apr 24, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.170	37.38	0.24	37.62	64.94	27.32	QP
	0.634	**35.72**	**0.21**	**35.93**	**56.00**	**20.07**	
	1.262	32.36	0.34	32.70	56.00	23.30	
	1.970	31.91	0.39	32.30	56.00	23.70	
	6.056	33.91	0.59	34.50	60.00	25.50	
	19.326	32.32	0.92	33.24	60.00	26.76	
	0.170	27.16	0.24	27.40	54.94	27.54	AV
	0.634	25.61	0.21	25.82	46.00	20.18	
	1.262	22.14	0.34	22.48	46.00	23.52	
	1.970	21.63	0.39	22.02	46.00	23.98	
	6.056	23.61	0.59	24.20	50.00	25.80	
	19.326	22.15	0.92	23.07	50.00	26.93	
Neutral	0.170	42.69	0.12	42.81	64.94	22.13	QP
	0.634	35.56	0.19	35.75	56.00	20.25	
	1.338	32.47	0.21	32.68	56.00	23.32	
	2.736	32.29	0.21	32.50	56.00	23.50	
	6.121	34.09	0.52	34.61	60.00	25.39	
	19.326	28.33	0.82	29.15	60.00	30.85	
	0.170	32.15	0.12	32.27	54.94	22.67	AV
	0.634	25.31	0.19	25.50	46.00	20.50	
	1.338	22.36	0.21	22.57	46.00	23.43	
	2.736	22.31	0.21	22.52	46.00	23.48	
	6.121	24.61	0.52	25.13	50.00	24.87	
	19.326	19.36	0.82	20.18	50.00	29.82	

TEST ENGINEER: VEIGAR ZHOU

4 RADIATED EMISSION TEST

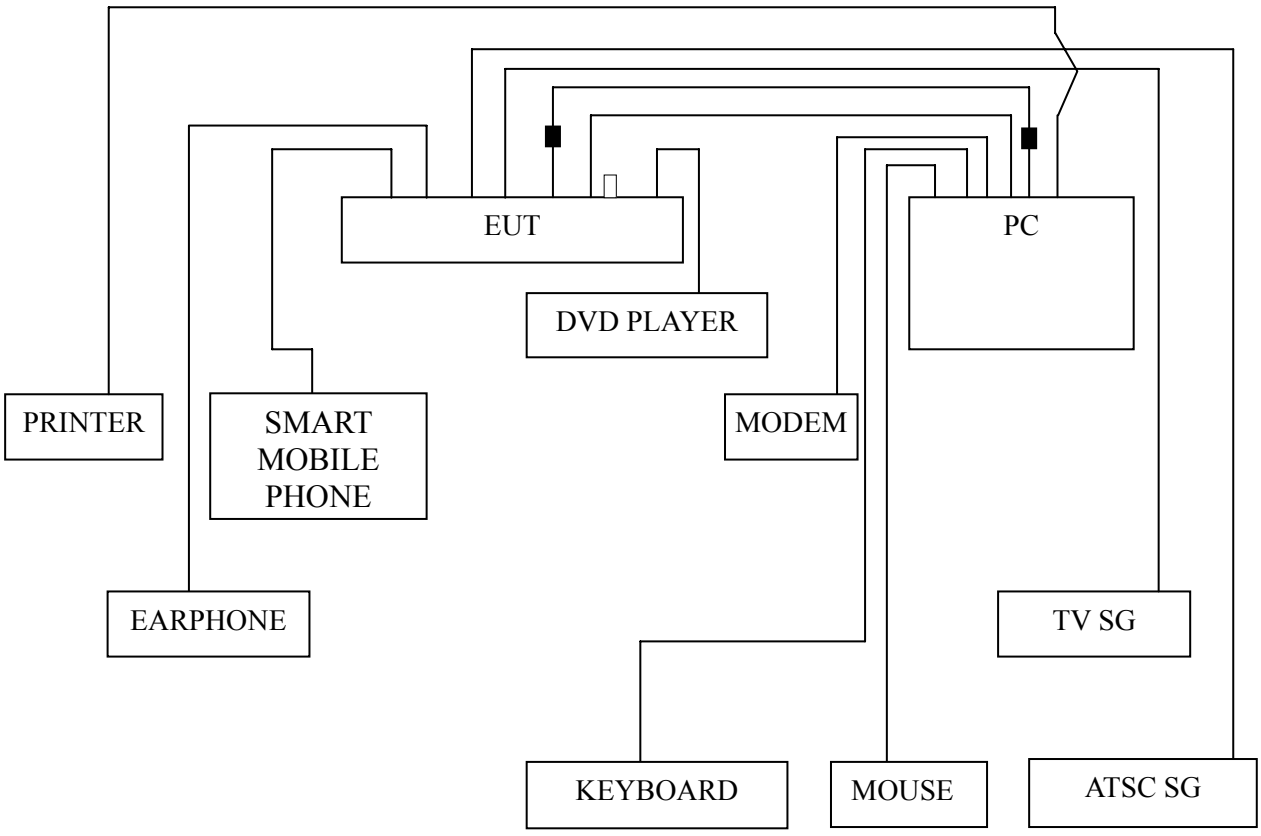
4.1 Test Equipment

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	ESCI	101302	Sep 11, 2012	Sep 11, 2013
2.	Preamplifier	Agilent	8447D	2944A10548	Mar 18, 2013	Sep 18, 2013
3.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 03, 2012	May 03, 2013
4.	Spectrum	Agilent	E7405A	MY45106600	Dec 17, 2012	Dec 17, 2013
5.	50Ω Coaxial Switch	Anritsu	MP59B	6200426390	Mar 18, 2013	Sep 18, 2013
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup

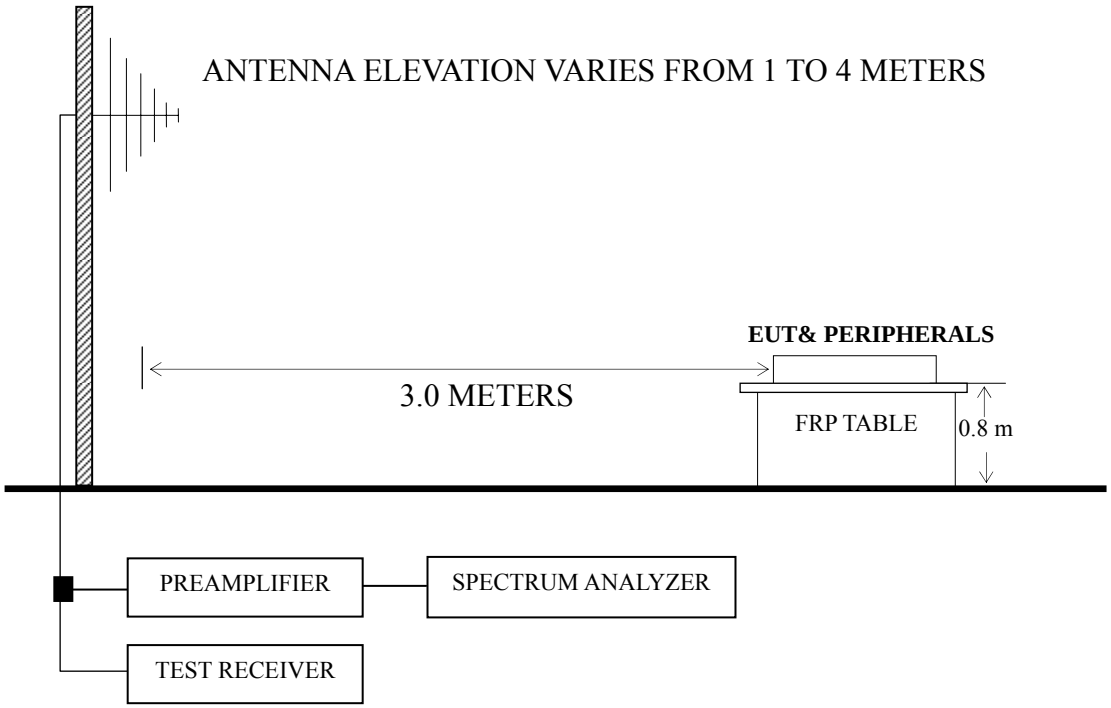
4.2.1 EUT and Peripherals



■: Ferrite core

□: U-Disk

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	
		(μV/m)	dB (μV/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 (μV/m) = 20 log Emission Level (μV/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.
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 I.F. bandwidth of Test Receiver R&S ESCI 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 1024*768@60Hz	P21
HDMI 1024*768@60Hz	P22
D-Sub 800*600@60Hz	P23
D-Sub 640*480@60Hz	P24
USB Play	P25

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

NOTE 2 – All readings are Quasi-Peak values.

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

NOTE 4 – The HDMI 1080p mode was tested and recorded in a FCC Verification test report (No. F13064).

NOTE 5 – The worst case is for D-Sub 640*480@60Hz test mode. The worst emission at horizontal polarization was detected at 688.600 MHz with corrected signal level of 43.89 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.80 m height and the turntable was at 125°. The worst emission at vertical polarization was detected at 519.850 MHz with corrected signal level of 39.13 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.70 m height and the turntable was at 245°.

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	50K362G	Humidity :	60%RH
Test Mode	:	D-Sub 1024*768@60Hz	Date of Test :	May 09, 2013

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	72.680	20.46	6.20	0.97	27.63	40.00	12.37
	149.310	23.13	10.12	1.64	34.89	43.50	8.61
	223.030	23.43	8.43	2.06	33.92	46.00	12.08
	372.410	17.68	14.90	2.66	35.24	46.00	10.76
	669.400	20.51	19.45	3.44	43.40	46.00	2.60
	816.600	**19.40**	**20.53**	**3.80**	**43.73**	**46.00**	**2.27**
Vertical	51.340	25.96	7.20	0.86	34.02	40.00	5.98
	123.120	26.58	11.46	1.49	39.53	43.50	3.97
	155.130	27.84	9.60	1.67	39.11	43.50	4.39
	446.130	17.00	17.07	2.82	36.89	46.00	9.11
	593.500	21.10	18.50	3.20	42.80	46.00	3.20
	817.600	**19.40**	**20.53**	**3.80**	**43.73**	**46.00**	**2.27**

TEST ENGINEER: RAVEN JIN

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	50K362G	Humidity :	60%RH
Test Mode	:	HDMI 1024*768@60Hz	Date of Test :	May 09, 2013

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	120.210	17.84	11.41	1.48	30.73	43.50	12.77
	359.800	13.84	15.00	2.63	31.47	46.00	14.53
	519.850	**15.54**	**18.30**	**3.03**	**36.87**	**46.00**	**9.13**
	592.600	12.57	18.60	3.20	34.37	46.00	11.63
	772.050	11.78	18.20	3.60	33.58	46.00	12.42
	818.610	10.93	20.53	3.80	35.26	46.00	10.74
Vertical	72.680	21.75	6.20	0.97	28.92	40.00	11.08
	120.210	19.94	11.41	1.48	32.83	43.50	10.67
	156.100	20.65	9.60	1.68	31.93	43.50	11.57
	219.150	15.22	8.13	2.04	25.39	46.00	20.61
	359.800	8.54	15.00	2.63	26.17	46.00	19.83
	593.570	**15.23**	**18.50**	**3.20**	**36.93**	**46.00**	**9.07**

TEST ENGINEER: RAVEN JIN

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	50K362G	Humidity :	60%RH	
Test Mode	:	D-Sub 800*600@60Hz	Date of Test :	May 09, 2013	

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	75.590	20.26	6.54	1.01	27.81	40.00	12.19
	149.310	23.70	10.12	1.64	35.46	43.50	8.04
	223.030	25.22	8.43	2.06	35.71	46.00	10.29
	296.750	18.72	12.55	2.52	33.79	46.00	12.21
	372.410	16.48	14.90	2.66	34.04	46.00	11.96
	688.000	**19.10**	**19.98**	**3.51**	**42.59**	**46.00**	**3.41**
Vertical	30.970	13.06	17.65	0.67	31.38	40.00	8.62
	49.400	22.23	7.93	0.85	31.01	40.00	8.99
	156.100	26.81	9.60	1.68	38.09	43.50	5.41
	359.800	16.37	15.00	2.63	34.00	46.00	12.00
	446.130	17.36	17.07	2.82	37.25	46.00	8.75
	816.600	**19.40**	**20.53**	**3.80**	**43.73**	**46.00**	**2.27**

TEST ENGINEER: RAVEN JIN

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	50K362G	Humidity	:	60%RH
Test Mode	:	D-Sub 640*480@60Hz	Date of Test	:	May 09, 2013

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	149.310	23.64	10.12	1.64	35.40	43.50	8.10
	223.030	22.99	8.43	2.06	33.48	46.00	12.52
	372.410	17.23	14.90	2.66	34.79	46.00	11.21
	519.850	17.41	18.30	3.03	38.74	46.00	7.26
	593.570	18.23	18.50	3.20	39.93	46.00	6.07
	688.600	**20.40**	**19.98**	**3.51**	**43.89**	**46.00**	**2.11**
Vertical	36.790	14.00	14.92	0.74	29.66	40.00	10.34
	52.310	19.28	6.83	0.86	26.97	40.00	13.03
	118.270	21.90	11.46	1.47	34.83	43.50	8.67
	156.100	23.63	9.60	1.68	34.91	43.50	8.59
	446.130	12.12	17.07	2.82	32.01	46.00	13.99
	519.850	**17.80**	**18.30**	**3.03**	**39.13**	**46.00**	**6.87**

TEST ENGINEER: RAVEN JIN

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	50K362G	Humidity :	60%RH
Test Mode	:	USB Play	Date of Test :	May 09, 2013

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	79.470	21.08	6.76	1.06	28.90	40.00	11.10
	168.710	23.08	8.40	1.76	33.24	43.50	10.26
	223.030	23.29	8.43	2.06	33.78	46.00	12.22
	372.410	15.44	14.90	2.66	33.00	46.00	13.00
	518.880	16.15	18.30	3.03	37.48	46.00	8.52
	593.570	**16.04**	**18.50**	**3.20**	**37.74**	**46.00**	**8.26**
Vertical	77.530	21.36	6.65	1.05	29.06	40.00	10.94
	127.970	21.52	11.74	1.52	34.78	43.50	8.72
	519.850	14.26	18.30	3.03	35.59	46.00	10.41
	593.570	**16.16**	**18.50**	**3.20**	**37.86**	**46.00**	**8.14**
	668.260	12.79	19.45	3.44	35.68	46.00	10.32
	816.670	12.14	20.53	3.80	36.47	46.00	9.53

TEST ENGINEER: RAVEN JIN

5 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Manufacturer	Location
Gasket	35X0.7X41mm\VGA\ROH	Qingdao Joinset S&T Co., Ltd.	See Internal Photos Figure 18
Ferrite core	BNF-12\ZCAT1519-0830\ROH	FEELUX	See Internal Photos Figure 19
		Rui Feng Electronic Co., Ltd.	
		Hai An Magnetic Material No.2 Factory	
		JIANGSU LETTALL ELECTRONICS CO., LTD.	

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

(RAVEN JIN)

6 DEVIATION TO TEST SPECIFICATIONS

None.