

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

LCD TV

Model No.	Serial No.	Brand
LTND42T18GUS	E2009120408	Hisense
42LED55SA	--	PROSCAN

FCC ID : W9HLCDC0002

Prepared For : Hisense Electric Co., Ltd.
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Report No. : ACI-F09126
Date of Test : Dec 10 – 16, 2009
Date of Report : Dec 18, 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
LTND42T18GUS	E2009120408	Hisense	120V/60Hz
42LED55SA	--	PROSCAN	

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 Dec 10 – 16, 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 functions are contained in No.F09125, a Verification report.

Date of Test : Dec 10 – 16, 2009 Date of Report : Dec 09, 2009

Producer : Kathy Wang
KATHY WANG / Assistant

Review : Byron Wu
BYRON WU / Supervisor



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

Signatory : Dio Yang
Authorized Signature EMC DIO YANG / Deputy 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
EMISSION			
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
LTND42T18GUS	E2009120408	Hisense
42LED55SA	--	PROSCAN

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

Note 2 : The LTND42T18GUS 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 : LC420WUL (SB) (T1)

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

Max Resolution : 1024*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:

Side View:

- | | | |
|-----|-------------------------------|------------------------------|
| (1) | One component of Audio Port | Connected with Speaker |
| (2) | One ANT Port | Connected with TV SG/ATSC SG |
| (3) | One component of YPbPr#1 Port | Connected with DVD#1 |

- | | | |
|-----|--------------------|----------------------|
| (4) | One VGA Port | Connected with PC |
| (5) | One VGA Audio Port | Connected with PC |
| (6) | One HDMI#1 Port | Connected with DVD#1 |
| (7) | One HDMI#2 Port | Connected with DVD#2 |
| (8) | One HDMI#3 Port | Connected with DVD#3 |

Bottom View:

- | | | |
|------|-------------------------------|-------------------------|
| (9) | One component of YPbPr#2 Port | Connected with DVD#2 |
| (10) | One Coaxial Port | Connected with DVD#2 |
| (11) | One Headphone Port | Connected with Earphone |
| (12) | One Service Port | Do not open to Customer |
| (13) | One HDMI#4 Port | Connected with PC |

2.2 Peripherals

2.2.1 PC

Manufacturer :	HP
Model Number :	dx7400MT
Serial Number :	CNG8130K89
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 DVD#3

Manufacturer : LG
Model Number : DF9921N
Serial Number : 3850R-N846W
Certificate : FCC DoC, CE/EMC, CCC

2.2.12 Speaker

Manufacturer : DIBA
Model Number : T520
Serial Number : 10628

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

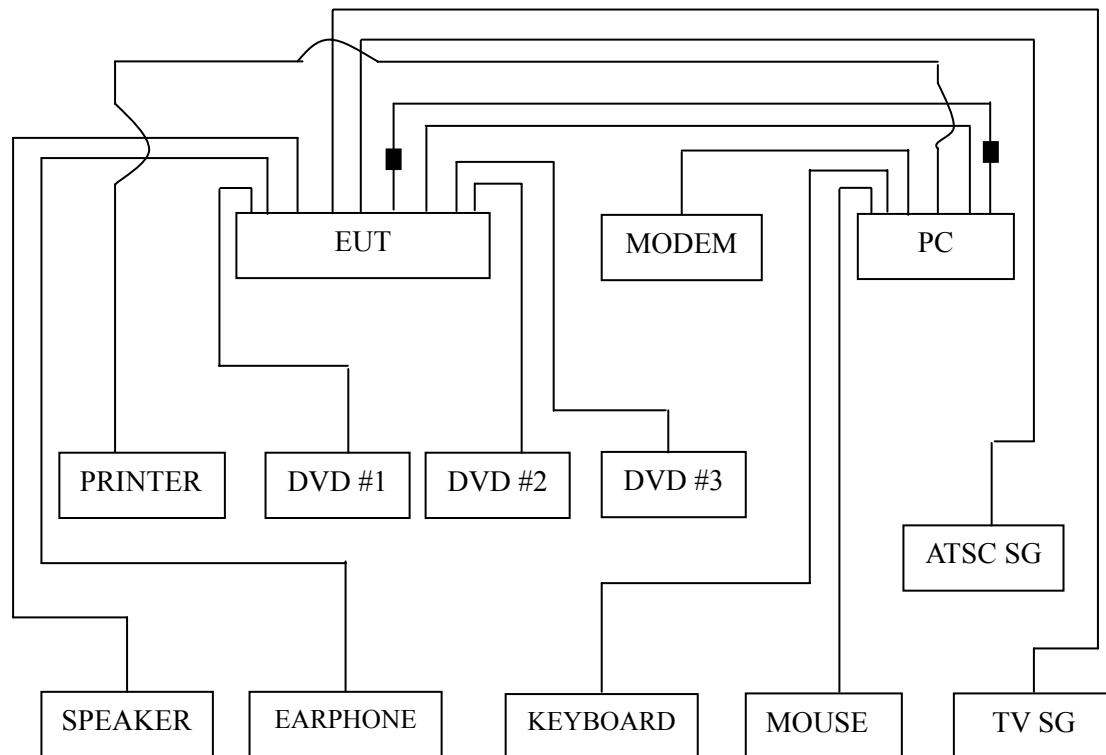
3.1.1 Test Equipment

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	Oct 15, 2009	Oct 15, 2010
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 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Sep 19, 2009	Mar 19, 2010
5.	50 Ω Terminator	Anritsu	BNC	001	Apr 02, 2009	Apr 02, 2010
6.	Software	Audix	E3	SET00200 9804M592	--	--

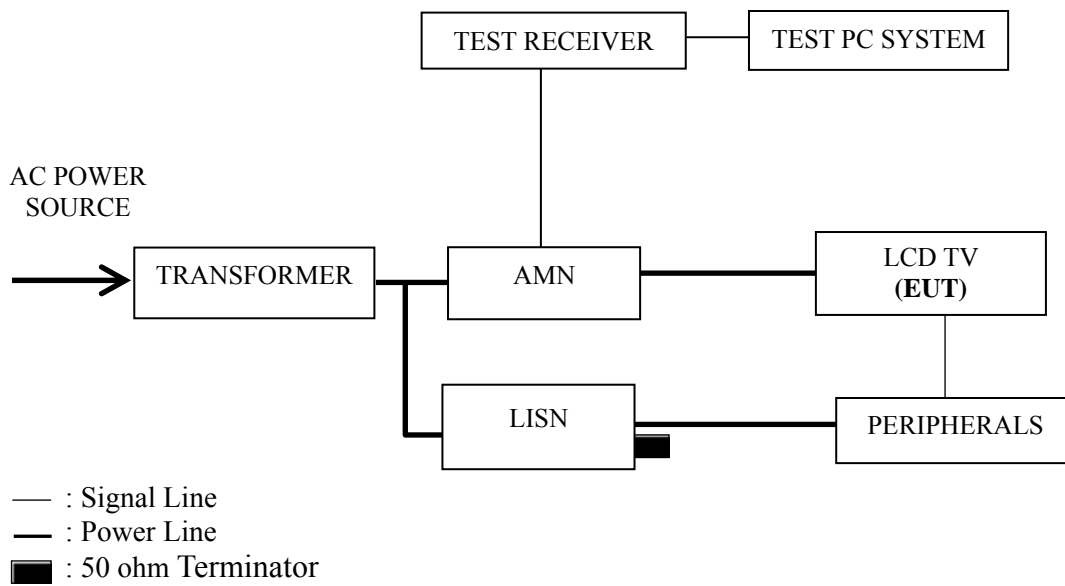
3.2 Block Diagram of Test Setup

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 (μ 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 800*600@60Hz
D-Sub 1024*768@60Hz
HDMI 640*480@60Hz
HDMI 800*600@60Hz
HDMI 1024*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 800*600@60Hz	P14
D-Sub 1024*768@60Hz	P15
HDMI 640*480@60Hz	P16
HDMI 800*600@60Hz	P17
HDMI 1024*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 800*600@60Hz test mode. The worst emission is detected at 12.770 MHz (Average Value) with corrected signal level of 37.91 dB (μV) (limit is 50.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 48%RH

Serial No. : E2009120408 Date of Test : Dec 16, 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	0.150	40.83	0.23	41.06	66.00	24.94	QP
	0.804	31.97	0.29	32.26	56.00	23.74	
	0.974	32.67	0.30	32.97	56.00	23.03	
	3.118	30.00	0.40	30.40	56.00	25.60	
	8.592	30.77	0.48	31.25	60.00	28.75	
	12.253	42.74	0.60	43.34	60.00	16.66	
	0.150	28.29	0.23	28.52	56.00	27.48	AV
	0.804	18.70	0.29	18.99	46.00	27.01	
	0.974	17.44	0.30	17.74	46.00	28.26	
	3.118	16.19	0.40	16.59	46.00	29.41	
	8.592	20.43	0.48	20.91	50.00	29.09	
	12.253	34.63	0.60	35.23	50.00	14.77	
Neutral	0.150	40.64	0.20	40.84	66.00	25.16	QP
	0.389	24.16	0.25	24.41	58.08	33.67	
	0.974	32.94	0.30	33.24	56.00	22.76	
	2.940	29.99	0.41	30.40	56.00	25.60	
	4.786	29.50	0.45	29.95	56.00	26.05	
	12.750	46.00	0.61	46.61	60.00	13.39	
	0.150	30.71	0.20	30.91	56.00	25.09	AV
	0.389	18.81	0.25	19.06	48.08	29.02	
	0.974	15.97	0.30	16.27	46.00	29.73	
	2.940	16.84	0.41	17.25	46.00	28.75	
	4.786	18.44	0.45	18.89	46.00	27.11	
	12.750	36.52	0.61	37.13	50.00	12.87	

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 48%RH

Serial No. : E2009120408 Date of Test : Dec 16, 2009

Test Mode : D-Sub 800*600@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	40.94	0.23	41.17	66.00	24.83	QP
	0.402	25.94	0.28	26.22	57.81	31.59	
	0.974	32.54	0.30	32.84	56.00	23.16	
	1.184	30.39	0.32	30.71	56.00	25.29	
	3.107	29.41	0.40	29.81	56.00	26.19	
	12.890	45.80	0.63	46.43	60.00	13.57	
	0.150	31.07	0.23	31.30	56.00	24.70	AV
	0.402	18.94	0.28	19.22	47.81	28.59	
	0.974	16.71	0.30	17.01	46.00	28.99	
	1.184	16.32	0.32	16.64	46.00	29.36	
	3.107	17.04	0.40	17.44	46.00	28.56	
	12.890	36.50	0.63	37.13	50.00	12.87	
Neutral	0.150	40.77	0.20	40.97	66.00	25.03	QP
	0.804	32.23	0.29	32.52	56.00	23.48	
	1.461	27.99	0.34	28.33	56.00	27.67	
	2.996	29.49	0.41	29.90	56.00	26.10	
	4.721	26.10	0.45	26.55	56.00	29.45	
	12.770	46.50	0.61	47.11	60.00	12.89	
	0.150	30.60	0.20	30.80	56.00	25.20	AV
	0.804	16.12	0.29	16.41	46.00	29.59	
	1.461	19.41	0.34	19.75	46.00	26.25	
	2.996	15.44	0.41	15.85	46.00	30.15	
	4.721	12.76	0.45	13.21	46.00	32.79	
	12.770	37.30	0.61	37.91	50.00	12.09	

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 48%RH

Serial No. : E2009120408 Date of Test : Dec 16, 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	0.150	41.05	0.23	41.28	66.00	24.72	QP
	0.393	27.59	0.28	27.87	57.99	30.12	
	0.974	32.16	0.30	32.46	56.00	23.54	
	2.707	29.75	0.39	30.14	56.00	25.86	
	8.592	31.00	0.48	31.48	60.00	28.52	
	12.240	45.30	0.60	45.90	60.00	14.10	
	0.150	29.75	0.23	29.98	56.00	26.02	AV
	0.393	24.40	0.28	24.68	47.99	23.31	
	0.974	16.35	0.30	16.65	46.00	29.35	
	2.707	12.01	0.39	12.40	46.00	33.60	
	8.592	20.67	0.48	21.15	50.00	28.85	
	12.240	34.82	0.60	35.42	50.00	14.58	
Neutral	0.150	40.79	0.20	40.99	66.00	25.01	QP
	0.913	33.50	0.29	33.79	56.00	22.21	
	1.185	30.99	0.32	31.31	56.00	24.69	
	2.939	30.49	0.41	30.90	56.00	25.10	
	8.170	28.10	0.49	28.59	60.00	31.41	
	12.210	44.50	0.59	45.09	60.00	14.91	
	0.150	26.93	0.20	27.13	56.00	28.87	AV
	0.913	19.95	0.29	20.24	46.00	25.76	
	1.185	19.62	0.32	19.94	46.00	26.06	
	2.939	14.94	0.41	15.35	46.00	30.65	
	8.170	17.41	0.49	17.90	50.00	32.10	
	12.210	35.92	0.59	36.51	50.00	13.49	

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 48%RH

Serial No. : E2009120408 Date of Test : Dec 16, 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	0.150	41.17	0.23	41.40	65.99	24.59	QP
	0.398	28.67	0.28	28.95	57.89	28.94	
	0.912	35.01	0.29	35.30	56.00	20.70	
	2.633	31.39	0.39	31.78	56.00	24.22	
	4.681	30.22	0.44	30.66	56.00	25.34	
	12.520	41.97	0.61	42.58	60.00	17.42	
	0.150	30.62	0.23	30.85	55.99	25.14	AV
	0.398	22.61	0.28	22.89	47.89	25.00	
	0.912	21.59	0.29	21.88	46.00	24.12	
	2.633	19.00	0.39	19.39	46.00	26.61	
	4.681	19.06	0.44	19.50	46.00	26.50	
	12.520	33.91	0.61	34.52	50.00	15.48	
Neutral	0.150	41.00	0.20	41.20	65.99	24.79	QP
	0.398	26.54	0.25	26.79	57.90	31.11	
	0.909	33.18	0.29	33.47	56.00	22.53	
	2.993	30.59	0.41	31.00	56.00	25.00	
	4.672	30.80	0.45	31.25	56.00	24.75	
	12.784	42.36	0.61	42.97	60.00	17.03	
	0.150	15.21	0.20	15.41	55.99	40.58	AV
	0.398	20.19	0.25	20.44	47.90	27.46	
	0.909	22.06	0.29	22.35	46.00	23.65	
	2.993	15.97	0.41	16.38	46.00	29.62	
	4.672	11.91	0.45	12.36	46.00	33.64	
	12.784	33.71	0.61	34.32	50.00	15.68	

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 48%RH

Serial No. : E2009120408 Date of Test : Dec 16, 2009

Test Mode : HDMI 800*600@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	41.15	0.23	41.38	65.99	24.61	QP
	0.395	28.25	0.28	28.53	57.95	29.42	
	0.911	34.88	0.29	35.17	56.00	20.83	
	2.633	31.37	0.39	31.76	56.00	24.24	
	4.723	29.91	0.44	30.35	56.00	25.65	
	12.490	41.67	0.61	42.28	60.00	17.72	
	0.150	31.32	0.23	31.55	55.99	24.44	AV
	0.395	24.40	0.28	24.68	47.95	23.27	
	0.911	22.27	0.29	22.56	46.00	23.44	
	2.633	19.45	0.39	19.84	46.00	26.16	
	4.723	14.59	0.44	15.03	46.00	30.97	
	12.490	33.29	0.61	33.90	50.00	16.10	
Neutral	0.150	40.98	0.20	41.18	66.00	24.82	QP
	0.909	32.89	0.29	33.18	56.00	22.82	
	1.464	28.96	0.34	29.30	56.00	26.70	
	2.634	31.33	0.39	31.72	56.00	24.28	
	4.407	28.74	0.45	29.19	56.00	26.81	
	12.384	44.80	0.59	45.39	60.00	14.61	
	0.150	23.96	0.20	24.16	56.00	31.84	AV
	0.909	21.45	0.29	21.74	46.00	24.26	
	1.464	17.36	0.34	17.70	46.00	28.30	
	2.634	16.28	0.39	16.67	46.00	29.33	
	4.407	13.22	0.45	13.67	46.00	32.33	
	12.384	33.53	0.59	34.12	50.00	15.88	

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 48%RH

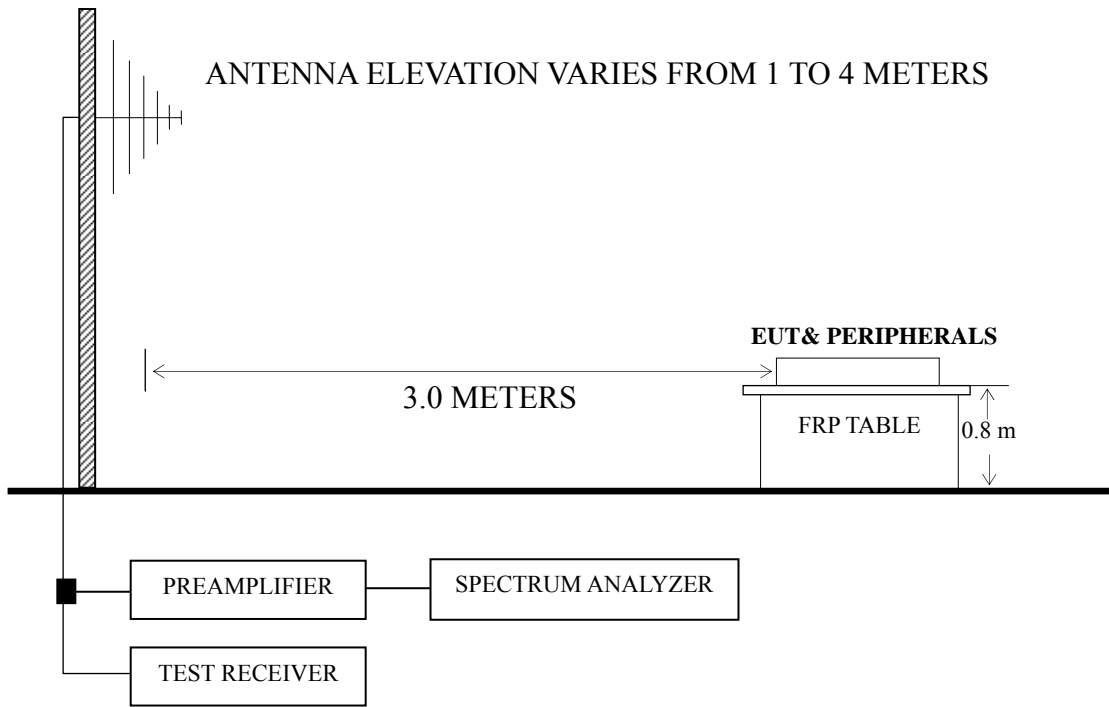
Serial No. : E2009120408 Date of Test : Dec 16, 2009

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	0.150	41.11	0.23	41.34	66.00	24.66	QP
	0.398	28.79	0.28	29.07	57.90	28.83	
	0.797	32.48	0.29	32.77	56.00	23.23	
	2.999	30.11	0.40	30.51	56.00	25.49	
	4.935	29.11	0.44	29.55	56.00	26.45	
	12.790	45.40	0.62	46.02	60.00	13.98	
	0.150	33.33	0.23	33.56	56.00	22.44	AV
	0.398	23.45	0.28	23.73	47.90	24.17	
	0.797	17.31	0.29	17.60	46.00	28.40	
	2.999	14.96	0.40	15.36	46.00	30.64	
	4.935	17.54	0.44	17.98	46.00	28.02	
	12.790	35.24	0.62	35.86	50.00	14.14	
Neutral	0.150	40.94	0.20	41.14	66.00	24.86	QP
	0.672	27.72	0.27	27.99	56.00	28.01	
	0.909	32.41	0.29	32.70	56.00	23.30	
	2.533	30.13	0.39	30.52	56.00	25.48	
	4.982	30.00	0.45	30.45	56.00	25.55	
	12.640	45.70	0.60	46.30	60.00	13.70	
	0.150	27.52	0.20	27.72	56.00	28.28	AV
	0.672	15.22	0.27	15.49	46.00	30.51	
	0.909	20.50	0.29	20.79	46.00	25.21	
	2.533	18.84	0.39	19.23	46.00	26.77	
	4.982	17.86	0.45	18.31	46.00	27.69	
	12.640	36.53	0.60	37.13	50.00	12.87	

TEST ENGINEER: HUGH HUANG

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 800*600@60Hz	P23
D-Sub 1024*768@60Hz	P24
HDMI 640*480@60Hz	P25
HDMI 800*600@60Hz	P26
HDMI 1024*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 640*480@60Hz test mode. The worst emission at horizontal polarization was detected at 816.510 MHz with corrected signal level of 41.88 dB (μV/m) (limit is 46.00dB (μV/m)), when the antenna was 1.60 m height and the turntable was at 70°. The worst emission at vertical polarization was detected at 639.160 MHz with corrected signal level of 41.69 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.50 m height and the turntable was at 150°.

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 60%RH

Serial No. : E2009120408 Date of Test : Dec 10, 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	75.590	26.34	7.24	0.91	34.49	40.00	5.51
	123.120	24.44	12.86	1.16	38.46	43.50	5.04
	149.310	24.59	11.35	1.23	37.17	43.50	6.33
	365.620	20.89	15.73	1.96	38.58	46.00	7.42
	519.500	19.00	18.15	2.31	39.46	46.00	6.54
	816.510	18.10	20.87	2.91	41.88	46.00	4.12
Vertical	44.550	16.55	11.38	0.71	28.64	40.00	11.36
	112.450	24.18	12.51	1.10	37.79	43.50	5.71
	130.880	23.59	12.47	1.16	37.22	43.50	6.28
	188.110	22.25	10.20	1.39	33.84	43.50	9.66
	454.860	16.56	17.29	2.15	36.00	46.00	10.00
	639.160	19.72	19.39	2.58	41.69	46.00	4.31

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 60%RH

Serial No. : E2009120408 Date of Test : Dec 10, 2009

Test Mode : D-Sub 800*600@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	74.620	27.58	7.11	0.91	35.60	40.00	4.40
	123.120	24.24	12.86	1.16	38.26	43.50	5.24
	149.310	26.78	11.35	1.23	39.36	43.50	4.14
	365.620	23.73	15.73	1.96	41.42	46.00	4.58
	747.800	17.95	20.20	2.78	40.93	46.00	5.07
	823.460	17.74	20.94	2.94	41.62	46.00	4.38
Vertical	33.880	14.83	17.44	0.64	32.91	40.00	7.09
	74.620	26.10	7.11	0.91	34.12	40.00	5.88
	121.180	22.15	12.95	1.18	36.28	43.50	7.22
	364.650	22.46	15.73	1.97	40.16	46.00	5.84
	523.730	15.07	18.21	2.32	35.60	46.00	10.40
	823.460	17.15	20.94	2.94	41.03	46.00	4.97

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 60%RH

Serial No. : E2009120408 Date of Test : Dec 10, 2009

Test Mode : D-Sub 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	74.620	25.47	7.11	0.91	33.49	40.00	6.51
	149.310	26.02	11.35	1.23	38.60	43.50	4.90
	362.710	22.76	15.65	1.92	40.33	46.00	5.67
	519.850	14.22	18.15	2.31	34.68	46.00	11.32
	741.980	15.00	20.13	2.78	37.91	46.00	8.09
	816.670	17.73	20.87	2.91	41.51	46.00	4.49
Vertical	32.910	14.29	17.95	0.62	32.86	40.00	7.14
	75.590	26.31	7.24	0.91	34.46	40.00	5.54
	121.180	20.88	12.95	1.18	35.01	43.50	8.49
	365.620	23.26	15.73	1.96	40.95	46.00	5.05
	519.850	15.59	18.15	2.31	36.05	46.00	9.95
	816.670	16.69	20.87	2.91	40.47	46.00	5.53

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 60%RH

Serial No. : E2009120408 Date of Test : Dec 10, 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	41.640	16.23	13.02	0.70	29.95	40.00	10.05
	76.560	25.56	7.36	0.91	33.83	40.00	6.17
	129.910	23.08	12.52	1.13	36.73	43.50	6.77
	154.160	24.29	10.94	1.27	36.50	43.50	7.00
	486.870	17.40	17.75	2.22	37.37	46.00	8.63
	741.980	18.39	20.13	2.78	41.30	46.00	4.70
Vertical	73.650	24.59	6.98	0.91	32.48	40.00	7.52
	115.360	21.91	12.71	1.12	35.74	43.50	7.76
	147.370	26.55	11.51	1.24	39.30	43.50	4.20
	292.870	18.53	13.79	1.75	34.07	46.00	11.93
	519.850	13.49	18.15	2.31	33.95	46.00	12.05
	741.980	18.33	20.13	2.78	41.24	46.00	4.76

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 60%RH

Serial No. : E2009120408 Date of Test : Dec 10, 2009

Test Mode : HDMI 800*600@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	75.590	20.20	7.24	0.91	28.35	40.00	11.65
	128.940	23.55	12.58	1.14	37.27	43.50	6.23
	147.370	25.64	11.51	1.24	38.39	43.50	5.11
	362.710	24.29	15.65	1.92	41.86	46.00	4.14
	747.800	15.63	20.20	2.78	38.61	46.00	7.39
	823.460	17.61	20.94	2.94	41.49	46.00	4.51
Vertical	31.940	14.42	18.49	0.62	33.53	40.00	6.47
	83.350	25.08	8.30	0.98	34.36	40.00	5.64
	117.300	24.26	12.84	1.14	38.24	43.50	5.26
	364.650	23.61	15.73	1.97	41.31	46.00	4.69
	489.780	8.11	17.78	2.23	28.12	46.00	17.88
	747.800	13.81	20.20	2.78	36.79	46.00	9.21

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42T18GUS Humidity : 60%RH

Serial No. : E2009120408 Date of Test : Dec 10, 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	43.580	9.58	11.88	0.69	22.15	40.00	17.85
	75.590	27.36	7.24	0.91	35.51	40.00	4.49
	149.310	25.20	11.35	1.23	37.78	43.50	5.72
	362.710	21.52	15.65	1.92	39.09	46.00	6.91
	519.850	13.77	18.15	2.31	34.23	46.00	11.77
	741.980	13.49	20.13	2.78	36.40	46.00	9.60
Vertical	33.880	17.36	17.44	0.64	35.44	40.00	4.56
	76.560	25.62	7.36	0.91	33.89	40.00	6.11
	121.180	23.77	12.95	1.18	37.90	43.50	5.60
	188.110	21.47	10.20	1.39	33.06	43.50	10.44
	228.850	16.51	12.07	1.56	30.14	46.00	15.86
	519.850	16.33	18.15	2.31	36.79	46.00	9.21

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	Manufacturer	Location
Gasket	DAA1001\ROH	QDJOINSET S&T CO., LTD	See Internal Photo Figure 16
Gasket	20X20X\ROH	QDJOINSET S&T CO., LTD	See Internal Photo Figure 16
Aluminum foil	DBA40X100\ROH	QDJOINSET S&T CO., LTD	See Internal Photo Figure 16

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)