

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

LCD TV

| Model No.    | Serial No.  | Brand   |
|--------------|-------------|---------|
| LTDN42V85GUS | E2009060905 | Hisense |
| NX4203S120   | --          | NEXUS   |

FCC ID : W9HLCDD0001

Prepared For : Hisense Electric Co., Ltd.  
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Report No. : ACI-F09055  
Date of Test : Jun 11 – 17, 2009  
Date of Report : Jun 23, 2009

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**TEST REPORT FOR FCC CERTIFICATE**

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

|                  |              |            |
|------------------|--------------|------------|
| (A) Model No.    | LTDN42V85GUS | NX4203S120 |
| (B) Serial No.   | E2009060905  | --         |
| (C) Brand        | Hisense      | NEXUS      |
| (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 – 17, 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.F09054, a Verification report.***

Date of Test : Jun 11 – 17, 2009 Date of Report : Jun 23, 2009

Producer : Alan He  
ALAN / Assistant

Review : Byron WU  
BYRON WU / Supervisor

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

Signatory : Sunny 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<br>at the Mains Terminal | FCC RULES AND REGULATIONS PART<br>15 SUBPART B OCTOBER 2008<br>AND ANSI C63.4-2003 | 15.107(a)<br>Class B | Pass    |
| Radiated Disturbance                           | FCC RULES AND REGULATIONS PART<br>15 SUBPART B OCTOBER 2008<br>AND ANSI C63.4-2003 | 15.109(a)<br>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

|              |            |
|--------------|------------|
| LTDN42V85GUS | NX4203S120 |
| E2009060905  | --         |
| Hisense      | NEXUS      |

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

Note 2 : The LTDN42V85GUS 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 : Chi Mei optoelectronics Corp.  
M/N : V420H1-LH5

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

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 TV which input/output ports as follows:

**Rear View:**

- |     |                                    |                          |
|-----|------------------------------------|--------------------------|
| (1) | One HDMI1 Port                     | Connected with DVD #1/PC |
| (2) | One HDMI2 Port                     | Connected with DVD #2/PC |
| (3) | One VGA Port                       | Connected with PC        |
| (4) | One VGA Audio In 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 component of Audio Port        | Connected with Speaker   |

**Side Port:**

- |      |                          |                              |
|------|--------------------------|------------------------------|
| (10) | One component of AV Port | Connected with DVD #1        |
| (11) | One S-Video Port         | Connected with TV SG/ATSC SG |
| (12) | One Earphone Port        | Connected with Earphone      |
| (13) | One RF Port Port         | Connected with TV SG/ATSC SG |
| (14) | One Coaxial Port         | Connected with TV            |
| (15) | One HDMI3 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 : 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 : DGT  
Model Number : DV-A340  
Serial Number : 10004184-C  
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 : 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

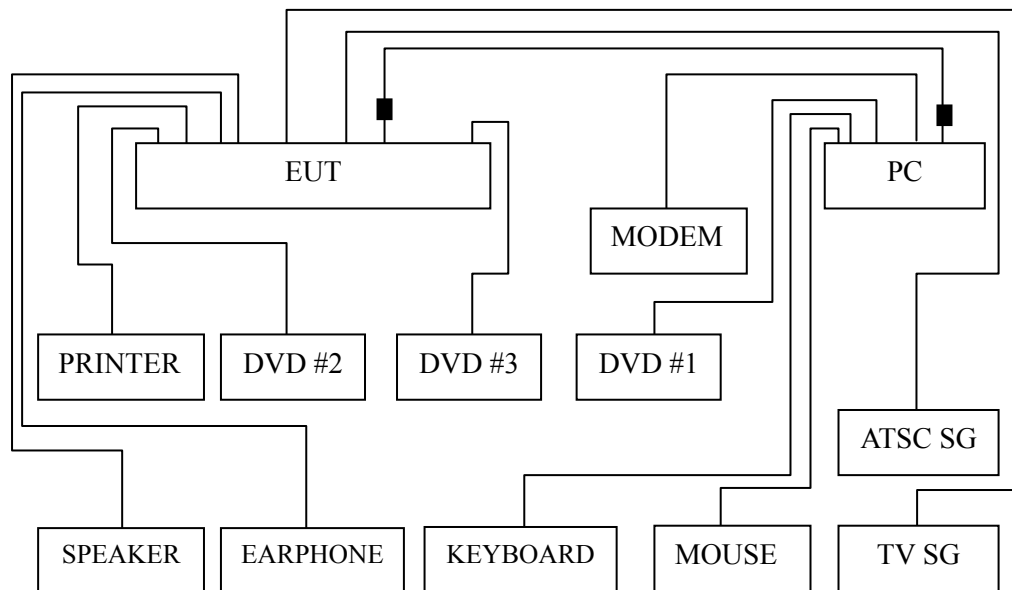
#### 3.1.1 Test Equipment

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

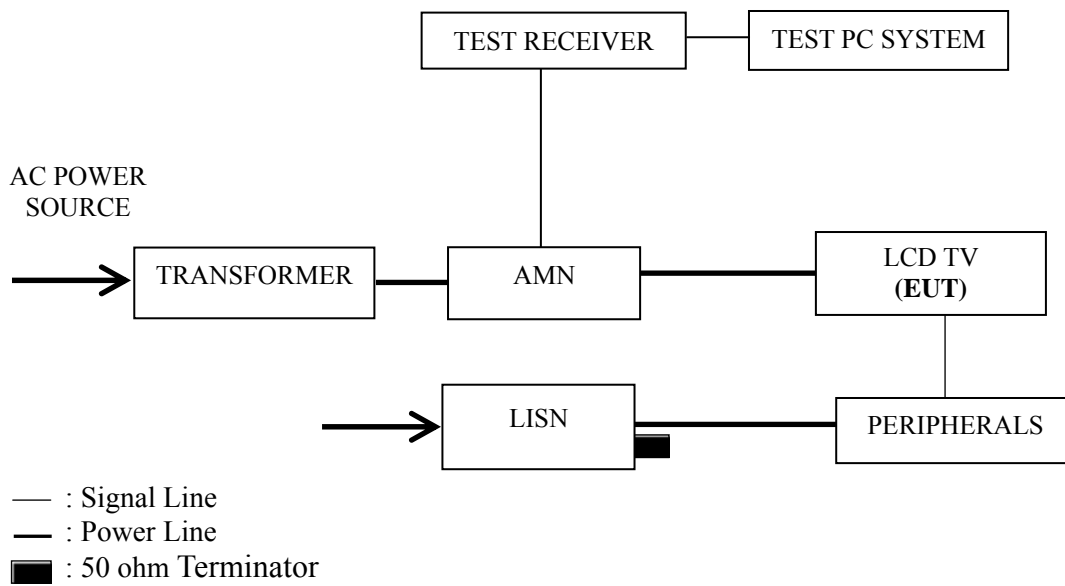
| Item | Type  | Manufacturer | Model No. | Serial No.           | Last Cal.    | Next Cal.    |
|------|---|--------------|-----------|----------------------|--------------|--------------|
| 1.   | Test Receiver                               | R&S          | ESCI      | 100841               | Nov 21, 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<br>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<br>(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.<br>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 1680*1050@60Hz |
| D-Sub 1920*1080@60Hz |
| HDMI 640*480@60Hz    |
| HDMI 1024*768@60Hz   |
| HDMI 1680*1050@60Hz  |
| HDMI 1920*1080@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 1680*1050@60Hz | P15       |
| D-Sub 1920*1080@60Hz | P16       |
| HDMI 640*480@60Hz    | P17       |
| HDMI 1024*768@60Hz   | P18       |
| HDMI 1680*1050@60Hz  | P19       |
| HDMI 1920*1080@60Hz  | P20       |

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 1024\*768@60Hz test mode. The worst emission is detected at 13.695 MHz (Quasi-Peak value) with corrected signal level of 49.26 dB (μV) (limit is 60.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 48%RH

Serial No. : E2009060905 Date of Test : Jun 11, 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           | 42.03                | 0.23        | 42.26                 | 66.00         | 23.74        | QP     |
|           | 0.192           | 31.08                | 0.22        | 31.30                 | 63.93         | 32.63        |        |
|           | 1.269           | 16.26                | 0.32        | 16.58                 | 56.00         | 39.42        |        |
|           | 3.720           | 25.66                | 0.42        | 26.08                 | 56.00         | 29.92        |        |
|           | <b>13.841</b>   | <b>46.86</b>         | <b>0.67</b> | <b>47.53</b>          | <b>60.00</b>  | <b>12.47</b> |        |
|           | 25.321          | 41.83                | 0.80        | 42.63                 | 60.00         | 17.37        |        |
|           | 0.150           | 32.68                | 0.23        | 32.91                 | 56.00         | 23.09        | AV     |
|           | 0.192           | 21.75                | 0.22        | 21.97                 | 53.93         | 31.96        |        |
|           | 1.269           | 6.84                 | 0.32        | 7.16                  | 46.00         | 38.84        |        |
|           | 3.720           | 15.97                | 0.42        | 16.39                 | 46.00         | 29.61        |        |
|           | 13.841          | 36.52                | 0.67        | 37.19                 | 50.00         | 12.81        |        |
|           | 25.321          | 31.26                | 0.80        | 32.06                 | 50.00         | 17.94        |        |
| Neutral   | 0.150           | 40.51                | 0.20        | 40.71                 | 66.00         | 25.29        | QP     |
|           | 0.192           | 31.88                | 0.20        | 32.08                 | 63.93         | 31.85        |        |
|           | 1.236           | 16.70                | 0.32        | 17.02                 | 56.00         | 38.98        |        |
|           | 3.681           | 26.30                | 0.43        | 26.73                 | 56.00         | 29.27        |        |
|           | 13.841          | 44.77                | 0.64        | 45.41                 | 60.00         | 14.59        |        |
|           | 24.790          | 40.20                | 0.74        | 40.94                 | 60.00         | 19.06        |        |
|           | 0.150           | 30.36                | 0.20        | 30.56                 | 56.00         | 25.44        | AV     |
|           | 0.192           | 21.84                | 0.20        | 22.04                 | 53.93         | 31.89        |        |
|           | 1.236           | 6.25                 | 0.32        | 6.57                  | 46.00         | 39.43        |        |
|           | 3.681           | 16.53                | 0.43        | 16.96                 | 46.00         | 29.04        |        |
|           | 13.841          | 34.85                | 0.64        | 35.49                 | 50.00         | 14.51        |        |
|           | 24.790          | 30.74                | 0.74        | 31.48                 | 50.00         | 18.52        |        |

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 48%RH

Serial No. : E2009060905 Date of Test : Jun 11, 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           | 43.47                | 0.23        | 43.70                 | 66.00         | 22.30        | QP     |
|           | 0.192           | 30.06                | 0.22        | 30.28                 | 63.93         | 33.65        |        |
|           | 1.236           | 15.32                | 0.32        | 15.64                 | 56.00         | 40.36        |        |
|           | 3.720           | 25.91                | 0.42        | 26.33                 | 56.00         | 29.67        |        |
|           | 13.989          | 46.62                | 0.67        | 47.29                 | 60.00         | 12.71        |        |
|           | 24.790          | 40.38                | 0.81        | 41.19                 | 60.00         | 18.81        |        |
|           | 0.150           | 33.64                | 0.23        | 33.87                 | 56.00         | 22.13        | AV     |
|           | 0.192           | 20.37                | 0.22        | 20.59                 | 53.93         | 33.34        |        |
|           | 1.236           | 5.26                 | 0.32        | 5.58                  | 46.00         | 40.42        |        |
|           | 3.720           | 15.84                | 0.42        | 16.26                 | 46.00         | 29.74        |        |
|           | 13.989          | 36.64                | 0.67        | 37.31                 | 50.00         | 12.69        |        |
|           | 24.790          | 30.35                | 0.81        | 31.16                 | 50.00         | 18.84        |        |
| Neutral   | 0.150           | 42.62                | 0.20        | 42.82                 | 66.00         | 23.18        | QP     |
|           | 0.192           | 30.82                | 0.20        | 31.02                 | 63.93         | 32.91        |        |
|           | 1.262           | 17.55                | 0.32        | 17.87                 | 56.00         | 38.13        |        |
|           | 3.642           | 25.68                | 0.43        | 26.11                 | 56.00         | 29.89        |        |
|           | <b>13.695</b>   | <b>48.62</b>         | <b>0.64</b> | <b>49.26</b>          | <b>60.00</b>  | <b>10.74</b> |        |
|           | 22.298          | 39.26                | 0.80        | 40.06                 | 60.00         | 19.94        |        |
|           | 0.150           | 32.14                | 0.20        | 32.34                 | 56.00         | 23.66        | AV     |
|           | 0.192           | 20.35                | 0.20        | 20.55                 | 53.93         | 33.38        |        |
|           | 1.262           | 8.04                 | 0.32        | 8.36                  | 46.00         | 37.64        |        |
|           | 3.642           | 15.63                | 0.43        | 16.06                 | 46.00         | 29.94        |        |
|           | 13.695          | 38.48                | 0.64        | 39.12                 | 50.00         | 10.88        |        |
|           | 22.298          | 29.80                | 0.80        | 30.60                 | 50.00         | 19.40        |        |

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 48%RH

Serial No. : E2009060905 Date of Test : Jun 11, 2009

Test Mode : D-Sub 1680\*1050@60Hz

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB)  | Remark |
|-----------|-----------------|----------------------|-------------|-----------------------|---------------|--------------|--------|
| Line      | 0.150           | 43.34                | 0.23        | 43.57                 | 66.00         | 22.43        | QP     |
|           | 0.192           | 30.96                | 0.22        | 31.18                 | 63.93         | 32.75        |        |
|           | 1.262           | 16.48                | 0.32        | 16.80                 | 56.00         | 39.20        |        |
|           | 3.720           | 27.01                | 0.42        | 27.43                 | 56.00         | 28.57        |        |
|           | 14.063          | 45.81                | 0.68        | 46.49                 | 60.00         | 13.51        |        |
|           | 24.529          | 41.08                | 0.81        | 41.89                 | 60.00         | 18.11        |        |
|           | 0.150           | 33.15                | 0.23        | 33.38                 | 56.00         | 22.62        | AV     |
|           | 0.192           | 20.34                | 0.22        | 20.56                 | 53.93         | 33.37        |        |
|           | 1.262           | 6.28                 | 0.32        | 6.60                  | 46.00         | 39.40        |        |
|           | 3.720           | 18.03                | 0.42        | 18.45                 | 46.00         | 27.55        |        |
|           | 14.063          | 35.91                | 0.68        | 36.59                 | 50.00         | 13.41        |        |
|           | 24.529          | 31.48                | 0.81        | 32.29                 | 50.00         | 17.71        |        |
| Neutral   | 0.150           | 40.82                | 0.20        | 41.02                 | 66.00         | 24.98        | QP     |
|           | 0.192           | 31.96                | 0.20        | 32.16                 | 63.93         | 31.77        |        |
|           | 0.974           | 14.96                | 0.30        | 15.26                 | 56.00         | 40.74        |        |
|           | 3.642           | 25.84                | 0.43        | 26.27                 | 56.00         | 29.73        |        |
|           | 13.551          | 46.86                | 0.64        | 47.50                 | 60.00         | 12.50        |        |
|           | 25.864          | 38.15                | 0.75        | 38.90                 | 60.00         | 21.10        |        |
|           | 0.150           | 30.48                | 0.20        | 30.68                 | 56.00         | 25.32        | AV     |
|           | 0.192           | 21.58                | 0.20        | 21.78                 | 53.93         | 32.15        |        |
|           | 0.974           | 4.15                 | 0.30        | 4.45                  | 46.00         | 41.55        |        |
|           | 3.642           | 15.04                | 0.43        | 15.47                 | 46.00         | 30.53        |        |
|           | <b>13.551</b>   | <b>36.93</b>         | <b>0.64</b> | <b>37.57</b>          | <b>50.00</b>  | <b>12.43</b> |        |
|           | 25.864          | 28.94                | 0.75        | 29.69                 | 50.00         | 20.31        |        |

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 48%RH

Serial No. : E2009060905 Date of Test : Jun 11, 2009

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

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB)  | Remark |
|-----------|-----------------|----------------------|-------------|-----------------------|---------------|--------------|--------|
| Line      | 0.150           | 44.36                | 0.23        | 44.59                 | 66.00         | 21.41        | QP     |
|           | 0.192           | 32.07                | 0.22        | 32.29                 | 63.93         | 31.64        |        |
|           | 1.249           | 14.64                | 0.32        | 14.96                 | 56.00         | 41.04        |        |
|           | 3.720           | 25.92                | 0.42        | 26.34                 | 56.00         | 29.66        |        |
|           | 13.695          | 45.87                | 0.66        | 46.53                 | 60.00         | 13.47        |        |
|           | 25.591          | 40.93                | 0.81        | 41.74                 | 60.00         | 18.26        |        |
|           | 0.150           | 34.15                | 0.23        | 34.38                 | 56.00         | 21.62        | AV     |
|           | 0.192           | 22.35                | 0.22        | 22.57                 | 53.93         | 31.36        |        |
|           | 1.249           | 4.28                 | 0.32        | 4.60                  | 46.00         | 41.40        |        |
|           | 3.720           | 15.68                | 0.42        | 16.10                 | 46.00         | 29.90        |        |
|           | 13.695          | 35.84                | 0.66        | 36.50                 | 50.00         | 13.50        |        |
|           | 25.591          | 30.25                | 0.81        | 31.06                 | 50.00         | 18.94        |        |
| Neutral   | 0.150           | 42.56                | 0.20        | 42.76                 | 66.00         | 23.24        | QP     |
|           | 0.192           | 32.29                | 0.20        | 32.49                 | 63.93         | 31.44        |        |
|           | 1.324           | 15.71                | 0.32        | 16.03                 | 56.00         | 39.97        |        |
|           | 3.720           | 24.88                | 0.43        | 25.31                 | 56.00         | 30.69        |        |
|           | 13.695          | 45.79                | 0.64        | 46.43                 | 60.00         | 13.57        |        |
|           | 22.896          | 39.33                | 0.78        | 40.11                 | 60.00         | 19.89        |        |
|           | 0.150           | 32.41                | 0.20        | 32.61                 | 56.00         | 23.39        | AV     |
|           | 0.192           | 22.68                | 0.20        | 22.88                 | 53.93         | 31.05        |        |
|           | 1.324           | 5.85                 | 0.32        | 6.17                  | 46.00         | 39.83        |        |
|           | 3.720           | 14.82                | 0.43        | 15.25                 | 46.00         | 30.75        |        |
|           | <b>13.695</b>   | <b>35.96</b>         | <b>0.64</b> | <b>36.60</b>          | <b>50.00</b>  | <b>13.40</b> |        |
|           | 22.896          | 29.48                | 0.78        | 30.26                 | 50.00         | 19.74        |        |

TEST ENGINEER: HUGH HUANG



EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 48%RH

Serial No. : E2009060905 Date of Test : Jun 11, 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      | 0.192           | 32.05                | 0.22        | 32.27                 | 63.93         | 31.66        | QP     |
|           | 0.253           | 21.19                | 0.24        | 21.43                 | 61.64         | 40.21        |        |
|           | 1.282           | 16.67                | 0.32        | 16.99                 | 56.00         | 39.01        |        |
|           | 3.603           | 27.84                | 0.42        | 28.26                 | 56.00         | 27.74        |        |
|           | 13.841          | 33.61                | 0.67        | 34.28                 | 60.00         | 25.72        |        |
|           | 23.888          | 40.74                | 0.82        | 41.56                 | 60.00         | 18.44        |        |
|           | 0.192           | 22.58                | 0.22        | 22.80                 | 53.93         | 31.13        | AV     |
|           | 0.253           | 11.48                | 0.24        | 11.72                 | 51.64         | 39.92        |        |
|           | 1.282           | 6.80                 | 0.32        | 7.12                  | 46.00         | 38.88        |        |
|           | 3.603           | 18.18                | 0.42        | 18.60                 | 46.00         | 27.40        |        |
|           | 13.841          | 23.10                | 0.67        | 23.77                 | 50.00         | 26.23        |        |
|           | 23.888          | 30.43                | 0.82        | 31.25                 | 50.00         | 18.75        |        |
| Neutral   | 0.192           | 32.94                | 0.20        | 33.14                 | 63.93         | 30.79        | QP     |
|           | 0.253           | 21.86                | 0.22        | 22.08                 | 61.64         | 39.56        |        |
|           | 1.269           | 16.06                | 0.32        | 16.38                 | 56.00         | 39.62        |        |
|           | 3.799           | 29.57                | 0.43        | 30.00                 | 56.00         | 26.00        |        |
|           | 14.063          | 38.57                | 0.65        | 39.22                 | 60.00         | 20.78        |        |
|           | 22.063          | 45.04                | 0.81        | 45.85                 | 60.00         | 14.15        |        |
|           | 0.192           | 22.64                | 0.20        | 22.84                 | 53.93         | 31.09        | AV     |
|           | 0.253           | 11.16                | 0.22        | 11.38                 | 51.64         | 40.26        |        |
|           | 1.269           | 6.48                 | 0.32        | 6.80                  | 46.00         | 39.20        |        |
|           | 3.799           | 19.43                | 0.43        | 19.86                 | 46.00         | 26.14        |        |
|           | 14.063          | 28.56                | 0.65        | 29.21                 | 50.00         | 20.79        |        |
|           | <b>22.063</b>   | <b>35.45</b>         | <b>0.81</b> | <b>36.26</b>          | <b>50.00</b>  | <b>13.74</b> |        |

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 48%RH

Serial No. : E2009060905 Date of Test : Jun 11, 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           | 45.60                | 0.23        | 45.83                 | 66.00         | 20.17        | QP     |
|           | 0.192           | 32.19                | 0.22        | 32.41                 | 63.93         | 31.52        |        |
|           | 1.210           | 16.47                | 0.32        | 16.79                 | 56.00         | 39.21        |        |
|           | 3.799           | 28.92                | 0.42        | 29.34                 | 56.00         | 26.66        |        |
|           | 16.661          | 39.96                | 0.77        | 40.73                 | 60.00         | 19.27        |        |
|           | 22.063          | 43.13                | 0.85        | 43.98                 | 60.00         | 16.02        |        |
|           | 0.150           | 35.92                | 0.23        | 36.15                 | 56.00         | 19.85        | AV     |
|           | 0.192           | 22.64                | 0.22        | 22.86                 | 53.93         | 31.07        |        |
|           | 1.210           | 6.85                 | 0.32        | 7.17                  | 46.00         | 38.83        |        |
|           | 3.799           | 18.42                | 0.42        | 18.84                 | 46.00         | 27.16        |        |
|           | 16.661          | 29.85                | 0.77        | 30.62                 | 50.00         | 19.38        |        |
|           | <b>22.063</b>   | <b>33.50</b>         | <b>0.85</b> | <b>34.35</b>          | <b>50.00</b>  | <b>15.65</b> |        |
| Neutral   | 0.150           | 40.32                | 0.20        | 40.52                 | 66.00         | 25.48        | QP     |
|           | 0.192           | 32.00                | 0.20        | 32.20                 | 63.93         | 31.73        |        |
|           | 2.066           | 14.31                | 0.36        | 14.67                 | 56.00         | 41.33        |        |
|           | 3.720           | 27.64                | 0.43        | 28.07                 | 56.00         | 27.93        |        |
|           | 13.841          | 36.84                | 0.64        | 37.48                 | 60.00         | 22.52        |        |
|           | 22.063          | 42.49                | 0.81        | 43.30                 | 60.00         | 16.70        |        |
|           | 0.150           | 30.15                | 0.20        | 30.35                 | 56.00         | 25.65        | AV     |
|           | 0.192           | 21.48                | 0.20        | 21.68                 | 53.93         | 32.25        |        |
|           | 2.066           | 4.84                 | 0.36        | 5.20                  | 46.00         | 40.80        |        |
|           | 3.720           | 17.88                | 0.43        | 18.31                 | 46.00         | 27.69        |        |
|           | 13.841          | 26.24                | 0.64        | 26.88                 | 50.00         | 23.12        |        |
|           | 22.063          | 32.63                | 0.81        | 33.44                 | 50.00         | 16.56        |        |

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 48%RH

Serial No. : E2009060905 Date of Test : Jun 11, 2009

Test Mode : HDMI 1680\*1050@60Hz

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB)  | Remark |
|-----------|-----------------|----------------------|-------------|-----------------------|---------------|--------------|--------|
| Line      | 0.150           | 41.89                | 0.23        | 42.12                 | 66.00         | 23.88        | QP     |
|           | 0.192           | 32.02                | 0.22        | 32.24                 | 63.93         | 31.69        |        |
|           | 1.269           | 17.16                | 0.32        | 17.48                 | 56.00         | 38.52        |        |
|           | 3.642           | 26.95                | 0.42        | 27.37                 | 56.00         | 28.63        |        |
|           | 13.989          | 36.10                | 0.67        | 36.77                 | 60.00         | 23.23        |        |
|           | 22.298          | 46.14                | 0.85        | 46.99                 | 60.00         | 13.01        |        |
|           | 0.150           | 31.54                | 0.23        | 31.77                 | 56.00         | 24.23        | AV     |
|           | 0.192           | 22.41                | 0.22        | 22.63                 | 53.93         | 31.30        |        |
|           | 1.269           | 7.18                 | 0.32        | 7.50                  | 46.00         | 38.50        |        |
|           | 3.642           | 16.55                | 0.42        | 16.97                 | 46.00         | 29.03        |        |
|           | 13.989          | 26.58                | 0.67        | 27.25                 | 50.00         | 22.75        |        |
|           | <b>22.298</b>   | <b>36.60</b>         | <b>0.85</b> | <b>37.45</b>          | <b>50.00</b>  | <b>12.55</b> |        |
| Neutral   | 0.150           | 40.98                | 0.20        | 41.18                 | 66.00         | 24.82        | QP     |
|           | 0.192           | 31.96                | 0.20        | 32.16                 | 63.93         | 31.77        |        |
|           | 1.210           | 15.14                | 0.32        | 15.46                 | 56.00         | 40.54        |        |
|           | 3.642           | 26.53                | 0.43        | 26.96                 | 56.00         | 29.04        |        |
|           | 13.841          | 38.17                | 0.64        | 38.81                 | 60.00         | 21.19        |        |
|           | 22.063          | 44.27                | 0.81        | 45.08                 | 60.00         | 14.92        |        |
|           | 0.150           | 30.35                | 0.20        | 30.55                 | 56.00         | 25.45        | AV     |
|           | 0.192           | 21.48                | 0.20        | 21.68                 | 53.93         | 32.25        |        |
|           | 1.210           | 5.48                 | 0.32        | 5.80                  | 46.00         | 40.20        |        |
|           | 3.642           | 16.57                | 0.43        | 17.00                 | 46.00         | 29.00        |        |
|           | 13.841          | 28.95                | 0.64        | 29.59                 | 50.00         | 20.41        |        |
|           | 22.063          | 34.12                | 0.81        | 34.93                 | 50.00         | 15.07        |        |

TEST ENGINEER: HUGH HUANG

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 48%RH

Serial No. : E2009060905 Date of Test : Jun 11, 2009

Test Mode : HDMI 1920\*1080@60Hz

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB)  | Remark |
|-----------|-----------------|----------------------|-------------|-----------------------|---------------|--------------|--------|
| Line      | 0.150           | 44.37                | 0.23        | 44.60                 | 66.00         | 21.40        | QP     |
|           | 0.192           | 31.29                | 0.22        | 31.51                 | 63.93         | 32.42        |        |
|           | 1.262           | 16.55                | 0.32        | 16.87                 | 56.00         | 39.13        |        |
|           | 3.759           | 27.93                | 0.42        | 28.35                 | 56.00         | 27.65        |        |
|           | 16.226          | 38.81                | 0.75        | 39.56                 | 60.00         | 20.44        |        |
|           | <b>22.063</b>   | <b>45.23</b>         | <b>0.85</b> | <b>46.08</b>          | <b>60.00</b>  | <b>13.92</b> |        |
|           | 0.150           | 34.28                | 0.23        | 34.51                 | 56.00         | 21.49        | AV     |
|           | 0.192           | 21.45                | 0.22        | 21.67                 | 53.93         | 32.26        |        |
|           | 1.262           | 6.81                 | 0.32        | 7.13                  | 46.00         | 38.87        |        |
|           | 3.759           | 17.84                | 0.42        | 18.26                 | 46.00         | 27.74        |        |
|           | 16.226          | 28.16                | 0.75        | 28.91                 | 50.00         | 21.09        |        |
|           | 22.063          | 34.25                | 0.85        | 35.10                 | 50.00         | 14.90        |        |
| Neutral   | 0.150           | 43.46                | 0.20        | 43.66                 | 66.00         | 22.34        | QP     |
|           | 0.190           | 30.64                | 0.20        | 30.84                 | 64.02         | 33.18        |        |
|           | 1.282           | 16.51                | 0.32        | 16.83                 | 56.00         | 39.17        |        |
|           | 3.759           | 28.40                | 0.43        | 28.83                 | 56.00         | 27.17        |        |
|           | 16.398          | 40.73                | 0.73        | 41.46                 | 60.00         | 18.54        |        |
|           | 22.063          | 42.56                | 0.81        | 43.37                 | 60.00         | 16.63        |        |
|           | 0.150           | 33.40                | 0.20        | 33.60                 | 56.00         | 22.40        | AV     |
|           | 0.190           | 20.37                | 0.20        | 20.57                 | 54.02         | 33.45        |        |
|           | 1.282           | 6.00                 | 0.32        | 6.32                  | 46.00         | 39.68        |        |
|           | 3.759           | 18.47                | 0.43        | 18.90                 | 46.00         | 27.10        |        |
|           | 16.398          | 30.35                | 0.73        | 31.08                 | 50.00         | 18.92        |        |
|           | 22.063          | 32.64                | 0.81        | 33.45                 | 50.00         | 16.55        |        |

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:

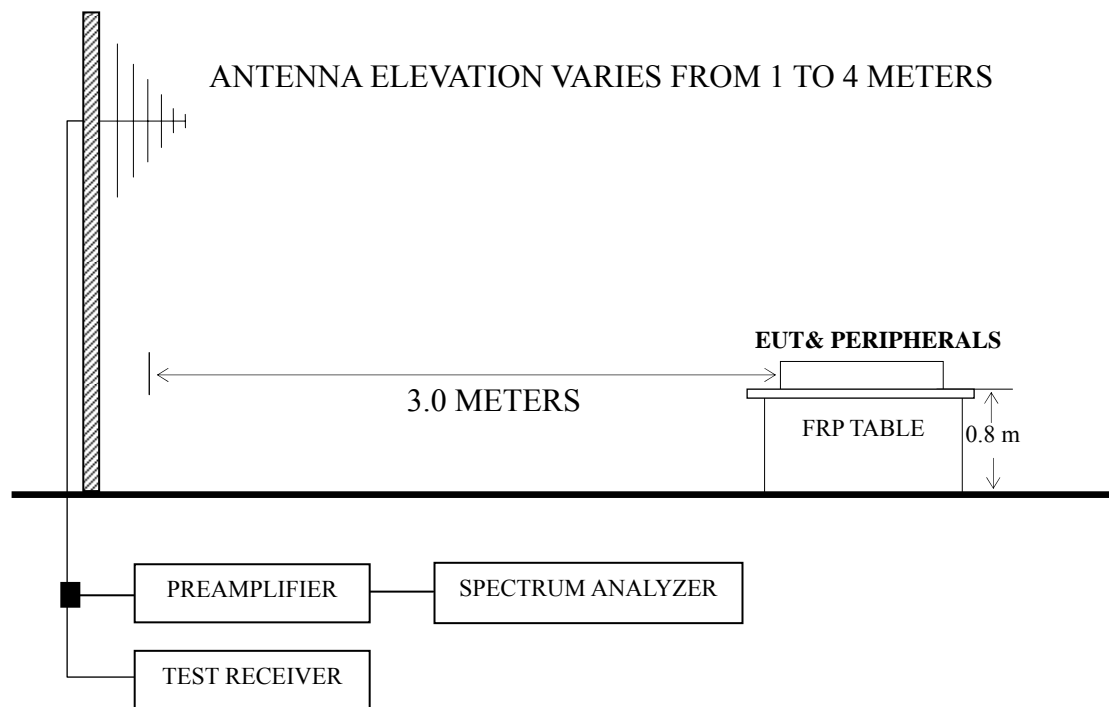
| Item | Type           | Manufacturer | Model No. | Serial No.             | Last Cal.    | Next Cal.    |
|------|----------------|--------------|-----------|------------------------|--------------|--------------|
| 1.   | Test Receiver  | R&S          | ESVS10    | 844594/001             | Mar 07, 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<br>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<br>(MHz)   | Distance<br>(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 ( $\mu\text{V/m}$ )<br>NOTE 2 - The tighter limit applies at the band edges.<br>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.<br>NOTE 4 - The limits shown are based on Quasi-peak value detector below or equal to 1GHz and Average value detector above 1GHz.<br>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 1680\*1050@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   | P24       |
| D-Sub 1024*768@60Hz  | P25       |
| D-Sub 1680*1050@60Hz | P26       |
| D-Sub 1920*1080@60Hz | P27       |
| HDMI 640*480@60Hz    | P28       |
| HDMI 1024*768@60Hz   | P29       |
| HDMI 1680*1050@60Hz  | P30       |
| HDMI 1920*1080@60Hz  | P31       |

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 1024\*768@60Hz test mode. The worst emission at horizontal polarization was detected at 812.790 MHz with corrected signal level of 37.50 dB (μV/m) (limit is 46.00dB (μV/m)), when the antenna was 2.00 m height and the turntable was at 145°. The worst emission at vertical polarization was detected at 87.230 MHz with corrected signal level of 36.92 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 2.00 m height and the turntable was at 30°.

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 60%RH

Serial No. : E2009060905 Date of Test : Jun 17, 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   | 30.970          | 11.88                 | 19.03                 | 0.63            | 31.54                    | 40.00            | 8.46        |
|              | 54.250          | 15.59                 | 7.92                  | 0.74            | 24.25                    | 40.00            | 15.75       |
|              | 118.270         | 16.54                 | 12.91                 | 1.14            | 30.59                    | 43.50            | 12.91       |
|              | 279.290         | 20.80                 | 13.52                 | 1.80            | 36.12                    | 46.00            | 9.88        |
|              | <b>519.850</b>  | <b>20.62</b>          | <b>18.15</b>          | <b>2.49</b>     | <b>41.26</b>             | <b>46.00</b>     | <b>4.74</b> |
|              | 813.760         | 17.13                 | 20.84                 | 3.24            | 41.21                    | 46.00            | 4.79        |
| Vertical     | 41.640          | 15.30                 | 13.02                 | 0.67            | 28.99                    | 40.00            | 11.01       |
|              | 112.450         | 17.56                 | 12.51                 | 1.12            | 31.19                    | 43.50            | 12.31       |
|              | 279.290         | 20.37                 | 13.52                 | 1.80            | 35.69                    | 46.00            | 10.31       |
|              | 421.880         | 19.83                 | 16.79                 | 2.26            | 38.88                    | 46.00            | 7.12        |
|              | 608.120         | 19.09                 | 19.25                 | 2.76            | 41.10                    | 46.00            | 4.90        |
|              | <b>842.860</b>  | <b>18.37</b>          | <b>21.12</b>          | <b>3.32</b>     | <b>42.81</b>             | <b>46.00</b>     | <b>3.19</b> |

TEST ENGINEER: RAVEN JIN



EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 60%RH

Serial No. : E2009060905 Date of Test : Jun 17, 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   | 47.460          | 18.14                 | 10.09                 | 0.69            | 28.92                    | 40.00            | 11.08       |
|              | 107.600         | 19.56                 | 12.10                 | 1.10            | 32.76                    | 43.50            | 10.74       |
|              | 237.580         | 21.19                 | 12.44                 | 1.67            | 35.30                    | 46.00            | 10.70       |
|              | 389.870         | 18.72                 | 16.30                 | 2.18            | 37.20                    | 46.00            | 8.80        |
|              | 544.100         | 16.22                 | 18.49                 | 2.58            | 37.29                    | 46.00            | 8.71        |
|              | <b>812.790</b>  | <b>13.42</b>          | <b>20.84</b>          | <b>3.24</b>     | <b>37.50</b>             | <b>46.00</b>     | <b>8.50</b> |
| Vertical     | 42.610          | 18.79                 | 12.39                 | 0.68            | 31.86                    | 40.00            | 8.14        |
|              | <b>87.230</b>   | <b>26.96</b>          | <b>8.96</b>           | <b>1.00</b>     | <b>36.92</b>             | <b>40.00</b>     | <b>3.08</b> |
|              | 279.290         | 19.51                 | 13.52                 | 1.80            | 34.83                    | 46.00            | 11.17       |
|              | 407.330         | 20.53                 | 16.59                 | 2.22            | 39.34                    | 46.00            | 6.66        |
|              | 519.850         | 21.00                 | 18.15                 | 2.49            | 41.64                    | 46.00            | 4.36        |
|              | 812.790         | 15.52                 | 20.84                 | 3.24            | 39.60                    | 46.00            | 6.40        |

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 60%RH

Serial No. : E2009060905 Date of Test : Jun 17, 2009

Test Mode : D-Sub 1680\*1050@60Hz

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) | Remark |
|--------------|-----------------|-----------------------|-----------------------|-----------------|--------------------------|--------------------------|------------------|-------------|--------|
| Horizontal   | 51.340          | 19.53                 | 8.61                  | 0.71            | --                       | 28.85                    | 40.00            | 11.15       | QP     |
|              | 107.600         | 20.75                 | 12.10                 | 1.10            | --                       | 33.95                    | 43.50            | 9.55        |        |
|              | 237.580         | 21.76                 | 12.44                 | 1.67            | --                       | 35.87                    | 46.00            | 10.13       |        |
|              | 279.290         | 19.85                 | 13.52                 | 1.80            | --                       | 35.17                    | 46.00            | 10.83       |        |
|              | <b>519.850</b>  | <b>20.71</b>          | <b>18.15</b>          | <b>2.49</b>     | <b>--</b>                | <b>41.35</b>             | <b>46.00</b>     | <b>4.65</b> |        |
|              | 812.790         | 16.93                 | 20.84                 | 3.24            | --                       | 41.01                    | 46.00            | 4.99        |        |
|              | 1012.000        | 58.60                 | 24.16                 | 3.88            | 37.67                    | 48.97                    | 74.00            | 25.03       | PK     |
|              | 1167.000        | 53.96                 | 24.68                 | 4.16            | 37.25                    | 45.55                    | 74.00            | 28.45       |        |
|              | 1215.000        | 52.58                 | 24.86                 | 4.24            | 37.14                    | 44.54                    | 74.00            | 29.46       |        |
|              | 1327.000        | 51.94                 | 25.24                 | 4.42            | 36.89                    | 44.71                    | 74.00            | 29.29       |        |
|              | 1549.000        | 51.37                 | 26.15                 | 4.81            | 36.44                    | 45.89                    | 74.00            | 28.11       |        |
|              | 1823.000        | 52.81                 | 27.23                 | 5.21            | 35.97                    | 49.28                    | 74.00            | 24.72       |        |
| Vertical     | 43.580          | 17.97                 | 11.88                 | 0.68            | --                       | 30.53                    | 40.00            | 9.47        | QP     |
|              | 87.230          | 22.81                 | 8.96                  | 1.00            | --                       | 32.77                    | 40.00            | 7.23        |        |
|              | 279.290         | 19.67                 | 13.52                 | 1.80            | --                       | 34.99                    | 46.00            | 11.01       |        |
|              | 407.330         | 18.48                 | 16.59                 | 2.22            | --                       | 37.29                    | 46.00            | 8.71        |        |
|              | 519.850         | 17.89                 | 18.15                 | 2.49            | --                       | 38.53                    | 46.00            | 7.47        |        |
|              | <b>842.860</b>  | <b>16.77</b>          | <b>21.12</b>          | <b>3.32</b>     | <b>--</b>                | <b>41.21</b>             | <b>46.00</b>     | <b>4.79</b> |        |
|              | 1023.000        | 52.83                 | 24.16                 | 3.88            | 37.63                    | 43.24                    | 74.00            | 30.76       | PK     |
|              | 1208.000        | 49.45                 | 24.80                 | 4.21            | 37.15                    | 41.31                    | 74.00            | 32.69       |        |
|              | 1316.000        | 49.98                 | 25.24                 | 4.42            | 36.90                    | 42.74                    | 74.00            | 31.26       |        |
|              | 1511.000        | 48.40                 | 26.00                 | 4.74            | 36.51                    | 42.63                    | 74.00            | 31.37       |        |
|              | 1632.000        | 48.05                 | 26.50                 | 4.99            | 36.28                    | 43.26                    | 74.00            | 30.74       |        |
|              | 1823.000        | 49.58                 | 27.23                 | 5.21            | 35.97                    | 46.05                    | 74.00            | 27.95       |        |

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 60%RH

Serial No. : E2009060905 Date of Test : Jun 17, 2009

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

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) | Remark |
|--------------|-----------------|-----------------------|-----------------------|-----------------|--------------------------|--------------------------|------------------|-------------|--------|
| Horizontal   | <b>87.230</b>   | <b>22.80</b>          | <b>8.96</b>           | <b>1.00</b>     | --                       | <b>32.76</b>             | <b>40.00</b>     | <b>7.24</b> | QP     |
|              | 107.600         | 21.77                 | 12.10                 | 1.10            | --                       | 34.97                    | 43.50            | 8.53        |        |
|              | 237.580         | 20.71                 | 12.44                 | 1.67            | --                       | 34.82                    | 46.00            | 11.18       |        |
|              | 279.290         | 19.35                 | 13.52                 | 1.80            | --                       | 34.67                    | 46.00            | 11.33       |        |
|              | 519.850         | 15.56                 | 18.15                 | 2.49            | --                       | 36.20                    | 46.00            | 9.80        |        |
|              | <b>813.760</b>  | <b>14.68</b>          | <b>20.84</b>          | <b>3.24</b>     | --                       | <b>38.76</b>             | <b>46.00</b>     | <b>7.24</b> |        |
|              | 1064.000        | 57.86                 | 24.33                 | 3.99            | 37.52                    | 48.66                    | 74.00            | 25.34       | PK     |
|              | 1180.000        | 51.57                 | 24.74                 | 4.18            | 37.22                    | 43.27                    | 74.00            | 30.73       |        |
|              | 1384.000        | 58.25                 | 25.51                 | 4.54            | 36.76                    | 51.54                    | 74.00            | 22.46       |        |
|              | 1569.000        | 51.47                 | 26.22                 | 4.85            | 36.40                    | 46.14                    | 74.00            | 27.86       |        |
|              | 1697.000        | 51.18                 | 26.78                 | 5.11            | 36.17                    | 46.90                    | 74.00            | 27.10       |        |
|              | 1823.000        | 51.53                 | 27.23                 | 5.21            | 35.97                    | 48.00                    | 74.00            | 26.00       |        |
| Vertical     | 36.790          | 14.13                 | 15.80                 | 0.66            | --                       | 30.59                    | 40.00            | 9.41        | QP     |
|              | 87.230          | 23.31                 | 8.96                  | 1.00            | --                       | 33.27                    | 40.00            | 6.73        |        |
|              | 279.290         | 19.50                 | 13.52                 | 1.80            | --                       | 34.82                    | 46.00            | 11.18       |        |
|              | 389.870         | 18.23                 | 16.30                 | 2.18            | --                       | 36.71                    | 46.00            | 9.29        |        |
|              | 519.850         | 19.17                 | 18.15                 | 2.49            | --                       | 39.81                    | 46.00            | 6.19        |        |
|              | <b>842.860</b>  | <b>17.58</b>          | <b>21.12</b>          | <b>3.32</b>     | --                       | <b>42.02</b>             | <b>46.00</b>     | <b>3.98</b> |        |
|              | 1020.000        | 56.03                 | 24.16                 | 3.88            | 37.64                    | 46.43                    | 74.00            | 27.57       | PK     |
|              | 1056.000        | 55.91                 | 24.27                 | 3.96            | 37.54                    | 46.60                    | 74.00            | 27.40       |        |
|              | 1167.000        | 52.88                 | 24.68                 | 4.16            | 37.25                    | 44.47                    | 74.00            | 29.53       |        |
|              | 1359.000        | 51.23                 | 25.38                 | 4.48            | 36.82                    | 44.27                    | 74.00            | 29.73       |        |
|              | 1530.000        | 50.03                 | 26.07                 | 4.78            | 36.47                    | 44.41                    | 74.00            | 29.59       |        |
|              | 1823.000        | 44.55                 | 27.23                 | 5.21            | 35.97                    | 41.02                    | 74.00            | 32.98       |        |

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 60%RH

Serial No. : E2009060905 Date of Test : Jun 17, 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   | 87.230          | 23.36                 | 8.96                  | 1.00            | 33.32                    | 40.00            | 6.68        |
|              | 107.600         | 21.36                 | 12.10                 | 1.10            | 34.56                    | 43.50            | 8.94        |
|              | 237.580         | 19.96                 | 12.44                 | 1.67            | 34.07                    | 46.00            | 11.93       |
|              | 279.290         | 19.71                 | 13.52                 | 1.80            | 35.03                    | 46.00            | 10.97       |
|              | <b>519.850</b>  | <b>20.10</b>          | <b>18.15</b>          | <b>2.49</b>     | <b>40.74</b>             | <b>46.00</b>     | <b>5.26</b> |
|              | 842.860         | 14.96                 | 21.12                 | 3.32            | 39.40                    | 46.00            | 6.60        |
| Vertical     | <b>87.230</b>   | <b>24.43</b>          | <b>8.96</b>           | <b>1.00</b>     | <b>34.39</b>             | <b>40.00</b>     | <b>5.61</b> |
|              | 202.660         | 19.90                 | 10.81                 | 1.55            | 32.26                    | 43.50            | 11.24       |
|              | 279.290         | 19.36                 | 13.52                 | 1.80            | 34.68                    | 46.00            | 11.32       |
|              | 389.870         | 18.27                 | 16.30                 | 2.18            | 36.75                    | 46.00            | 9.25        |
|              | 519.850         | 17.94                 | 18.15                 | 2.49            | 38.58                    | 46.00            | 7.42        |
|              | 738.100         | 13.95                 | 20.10                 | 3.04            | 37.09                    | 46.00            | 8.91        |

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 60%RH

Serial No. : E2009060905 Date of Test : Jun 17, 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   | 87.230          | 22.91                 | 8.96                  | 1.00            | 32.87                    | 40.00            | 7.13        |
|              | 107.600         | 20.93                 | 12.10                 | 1.10            | 34.13                    | 43.50            | 9.37        |
|              | 279.290         | 19.91                 | 13.52                 | 1.80            | 35.23                    | 46.00            | 10.77       |
|              | 389.870         | 17.47                 | 16.30                 | 2.18            | 35.95                    | 46.00            | 10.05       |
|              | <b>519.850</b>  | <b>20.16</b>          | <b>18.15</b>          | <b>2.49</b>     | <b>40.80</b>             | <b>46.00</b>     | <b>5.20</b> |
|              | 833.160         | 11.85                 | 21.01                 | 3.29            | 36.15                    | 46.00            | 9.85        |
| Vertical     | 87.230          | 21.66                 | 8.96                  | 1.00            | 31.62                    | 40.00            | 8.38        |
|              | 166.770         | 17.88                 | 10.31                 | 1.34            | 29.53                    | 43.50            | 13.97       |
|              | 279.290         | 19.21                 | 13.52                 | 1.80            | 34.53                    | 46.00            | 11.47       |
|              | 411.210         | 14.94                 | 16.64                 | 2.23            | 33.81                    | 46.00            | 12.19       |
|              | 738.100         | 13.25                 | 20.10                 | 3.04            | 36.39                    | 46.00            | 9.61        |
|              | <b>842.860</b>  | <b>16.66</b>          | <b>21.12</b>          | <b>3.32</b>     | <b>41.10</b>             | <b>46.00</b>     | <b>4.90</b> |

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 60%RH

Serial No. : E2009060905 Date of Test : Jun 17, 2009

Test Mode : HDMI 1680\*1050@60Hz

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) | Remark |
|--------------|-----------------|-----------------------|-----------------------|-----------------|--------------------------|--------------------------|------------------|-------------|--------|
| Horizontal   | 30.970          | 12.50                 | 19.03                 | 0.63            | --                       | 32.16                    | 40.00            | 7.84        | QP     |
|              | 87.230          | 23.58                 | 8.96                  | 1.00            | --                       | 33.54                    | 40.00            | 6.46        |        |
|              | 107.600         | 20.34                 | 12.10                 | 1.10            | --                       | 33.54                    | 43.50            | 9.96        |        |
|              | 279.290         | 19.53                 | 13.52                 | 1.80            | --                       | 34.85                    | 46.00            | 11.15       |        |
|              | 519.850         | 19.72                 | 18.15                 | 2.49            | --                       | 40.36                    | 46.00            | 5.64        |        |
|              | <b>812.790</b>  | <b>17.67</b>          | <b>20.84</b>          | <b>3.24</b>     | <b>--</b>                | <b>41.75</b>             | <b>46.00</b>     | <b>4.25</b> |        |
|              | 1063.000        | 59.25                 | 24.33                 | 3.99            | 37.53                    | 50.04                    | 74.00            | 23.96       | PK     |
|              | 1200.000        | 52.46                 | 24.80                 | 4.21            | 37.17                    | 44.30                    | 74.00            | 29.70       |        |
|              | 1386.000        | 57.11                 | 25.51                 | 4.54            | 36.76                    | 50.40                    | 74.00            | 23.60       |        |
|              | 1549.000        | 53.75                 | 26.15                 | 4.81            | 36.44                    | 48.27                    | 74.00            | 25.73       |        |
|              | 1697.000        | 50.65                 | 26.78                 | 5.11            | 36.17                    | 46.37                    | 74.00            | 27.63       |        |
|              | 1823.000        | 52.71                 | 27.23                 | 5.21            | 35.97                    | 49.18                    | 74.00            | 24.82       |        |
| Vertical     | 42.610          | 17.29                 | 12.39                 | 0.68            | --                       | 30.36                    | 40.00            | 9.64        | QP     |
|              | 87.230          | 23.13                 | 8.96                  | 1.00            | --                       | 33.09                    | 40.00            | 6.91        |        |
|              | 279.290         | 19.02                 | 13.52                 | 1.80            | --                       | 34.34                    | 46.00            | 11.66       |        |
|              | 407.330         | 20.07                 | 16.59                 | 2.22            | --                       | 38.88                    | 46.00            | 7.12        |        |
|              | 519.850         | 17.70                 | 18.15                 | 2.49            | --                       | 38.34                    | 46.00            | 7.66        |        |
|              | <b>842.860</b>  | <b>17.29</b>          | <b>21.12</b>          | <b>3.32</b>     | <b>--</b>                | <b>41.73</b>             | <b>46.00</b>     | <b>4.27</b> |        |
|              | 1007.000        | 57.39                 | 24.10                 | 3.84            | 37.68                    | 47.65                    | 74.00            | 26.35       | PK     |
|              | 1082.000        | 59.51                 | 24.38                 | 4.02            | 37.47                    | 50.44                    | 74.00            | 23.56       |        |
|              | 1348.000        | 50.57                 | 25.31                 | 4.45            | 36.83                    | 43.50                    | 74.00            | 30.50       |        |
|              | 1549.000        | 54.91                 | 26.15                 | 4.81            | 36.44                    | 49.43                    | 74.00            | 24.57       |        |
|              | 1675.000        | 50.39                 | 26.71                 | 5.08            | 36.21                    | 45.97                    | 74.00            | 28.03       |        |
|              | 1823.000        | 50.56                 | 27.23                 | 5.21            | 35.97                    | 47.03                    | 74.00            | 26.97       |        |

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V85GUS Humidity : 60%RH

Serial No. : E2009060905 Date of Test : Jun 17, 2009

Test Mode : HDMI 1920\*1080@60Hz

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) | Remark |
|--------------|-----------------|-----------------------|-----------------------|-----------------|--------------------------|--------------------------|------------------|-------------|--------|
| Horizontal   | 87.230          | 23.53                 | 8.96                  | 1.00            | --                       | 33.49                    | 40.00            | 6.51        | QP     |
|              | 107.600         | 22.01                 | 12.10                 | 1.10            | --                       | 35.21                    | 43.50            | 8.29        |        |
|              | 237.580         | 19.93                 | 12.44                 | 1.67            | --                       | 34.04                    | 46.00            | 11.96       |        |
|              | 389.870         | 14.43                 | 16.30                 | 2.18            | --                       | 32.91                    | 46.00            | 13.09       |        |
|              | 519.850         | 18.84                 | 18.15                 | 2.49            | --                       | 39.48                    | 46.00            | 6.52        |        |
|              | <b>813.760</b>  | <b>16.61</b>          | <b>20.84</b>          | <b>3.24</b>     | <b>--</b>                | <b>40.69</b>             | <b>46.00</b>     | <b>5.31</b> |        |
|              | 1063.000        | 59.25                 | 24.33                 | 3.99            | 37.53                    | 50.04                    | 74.00            | 23.96       | PK     |
|              | 1200.000        | 52.46                 | 24.80                 | 4.21            | 37.17                    | 44.30                    | 74.00            | 29.70       |        |
|              | 1386.000        | 57.11                 | 25.51                 | 4.54            | 36.76                    | 50.40                    | 74.00            | 23.60       |        |
|              | 1549.000        | 53.75                 | 26.15                 | 4.81            | 36.44                    | 48.27                    | 74.00            | 25.73       |        |
|              | 1697.000        | 50.65                 | 26.78                 | 5.11            | 36.17                    | 46.37                    | 74.00            | 27.63       |        |
|              | 1823.000        | 52.71                 | 27.23                 | 5.21            | 35.97                    | 49.18                    | 74.00            | 24.82       |        |
| Vertical     | 42.610          | 17.46                 | 12.39                 | 0.68            | --                       | 30.53                    | 40.00            | 9.47        | QP     |
|              | 87.230          | 23.08                 | 8.96                  | 1.00            | --                       | 33.04                    | 40.00            | 6.96        |        |
|              | 279.290         | 19.50                 | 13.52                 | 1.80            | --                       | 34.82                    | 46.00            | 11.18       |        |
|              | 421.880         | 18.33                 | 16.79                 | 2.26            | --                       | 37.38                    | 46.00            | 8.62        |        |
|              | 519.850         | 19.65                 | 18.15                 | 2.49            | --                       | 40.29                    | 46.00            | 5.71        |        |
|              | <b>842.860</b>  | <b>16.89</b>          | <b>21.12</b>          | <b>3.32</b>     | <b>--</b>                | <b>41.33</b>             | <b>46.00</b>     | <b>4.67</b> |        |
|              | 1020.000        | 59.03                 | 24.16                 | 3.88            | 37.64                    | 49.43                    | 74.00            | 24.57       | PK     |
|              | 1057.000        | 57.44                 | 24.27                 | 3.96            | 37.54                    | 48.13                    | 74.00            | 25.87       |        |
|              | 1166.000        | 49.65                 | 24.68                 | 4.16            | 37.26                    | 41.23                    | 74.00            | 32.77       |        |
|              | 1328.000        | 48.41                 | 25.24                 | 4.42            | 36.88                    | 41.19                    | 74.00            | 32.81       |        |
|              | 1530.000        | 46.71                 | 26.07                 | 4.78            | 36.47                    | 41.09                    | 74.00            | 32.91       |        |
|              | 1700.000        | 49.85                 | 26.78                 | 5.11            | 36.17                    | 45.57                    | 74.00            | 28.43       |        |

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<br>(mm) | Manufacturer | Location                             |
|---------------|---------------|------------------------|--------------|--------------------------------------|
| Ferrite Core  | ZCAT3035-1330 | 30*35*13               | ROH          | See Internal Photo Figure 19         |
| Ferrite Core  | ZCAT1519-0830 | 15*19*08               | ROH          | See Internal Photo Figure 18, 20     |
| Ferrite Core  | ZCAT2132-1130 | 21*32*11               | ROH          | See Internal Photo Figure 20, 21, 22 |
| Aluminum foil | DBA40X100     | 40*100                 | ROH          | See Internal Photo Figure 16, 17, 18 |

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)