

Application for FCC Certificate  
On Behalf of  
Cisco Systems (Shanghai) Video Technology Co., Ltd.

Digital Set-Top

Model No.: PDS2100

Serial No.: CS0000001

FCC ID : ZOO-C2130U

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Report No. : ACI-F12059  
Date of Test : Mar 28, 2012  
Date of Report : Apr 13, 2012

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## TEST REPORT FOR FCC CERTIFICATE

Applicant : Cisco Systems (Shanghai) Video Technology Co., Ltd.  
Manufacturer : Hong Fu Jin Precision Industry (Shenzhen) Co., Ltd.  
EUT Description : Digital Set-Top  
(A) Model No. : PDS2100  
(B) Serial No. : CS0000001  
(C) Power Supply : 100-240V~, 50-60Hz, 0.5A  
(D) Test Voltage : 120V/60Hz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2011  
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: PDS2100; S/N: CS0000001) which was tested in 3m anechoic chamber Mar 28, 2012 is technically compliance with the FCC official limits also.

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


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

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

Date of Test : Mar 28, 2012 Date of Report : Apr 13, 2012

Producer : Alan He  
ALAN HE / Assistant

Review : Dio Yang  
DIO YANG / Assistant Manager

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

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

# 1 SUMMARY OF STANDARDS AND RESULTS

## 1.1 Description of Standards and Results

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

Description of Test Item	Standard	Limits	Results
<b>EMISSION</b>			
Conducted Disturbance at the Mains Terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2011 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2011 AND ANSI C63.4-2003	15.109(a) Class B	Pass
Output and Spurious conducted level at RF output terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2011 AND ANSI C63.4-2003	15.115(b)	Pass
Incorporate circuitry to automatically prevent emanations	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2011 AND ANSI C63.4-2003	15.115(d)	Pass

## 2 GENERAL INFORMATION

### 2.1 Description of Equipment Under Test

Description	: Digital Set-Top
Type of EUT	: <input checked="" type="checkbox"/> Production <input type="checkbox"/> Pre-product <input type="checkbox"/> Pro-type
Model No.	: PDS2100
Serial No.	: CS0000001
Tuner	: Manufacturer : MAXLINEAR M/N : MxL241
	This tuner is a digital cable tuner which means the input / output signal is digital TV signal.
Applicant	: Cisco Systems (Shanghai) Video Technology Co., Ltd. 3-4F of Building 6, 1528 Gu Mei Rd., Caohejing Hi-tech Park, Shanghai, P.R.C.
Manufacturer	: Hong Fu Jin Precision Industry (Shenzhen) Co., Ltd. No.2, 2 <sup>nd</sup> Donghuan Road, 10 <sup>th</sup> Yousong Industrial District, Longhua Town, Baoan Shenzhen, Guangdong, China

**Remark:**

The EUT is a Digital Set-Top which input/output ports as follows:

- (1) One AC In Port : Connected with AC Power
- (2) One component of AV Out Ports : Connected with TV
- (3) One S/PDIF Port : Connected with TV
- (3) One IR in Port : Connected with terminator
- (5) One Cable In Port : Connected with BROADCAST TEST SYSTEM
- (6) One Cable Out Port : Connected with TV
- (6) One HDMI Port : Connected with TV
- (6) One USB Port : Connected with USB Driver
- (6) One Ethernet Port : Connected with Terminator

## 2.2 Peripherals

### 2.2.1 TV

Manufacturer : SONY  
Model Number : KDL-24EX520  
Serial Number : 6006358  
Certificate : FCC DoC, CCC

### 2.2.2 BROADCAST TEST SYSTEM

Manufacturer : ROHDE & SCHWARZ  
Model Number : SFU  
Serial Number : 2110.2500.02

## 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 = 3.43 dB

Radiated Emission Expanded Uncertainty (30-200MHz):  
U = 4.67 dB (horizontal)  
U = 4.72 dB (vertical)

Radiated Emission Expanded Uncertainty (200M-1GHz):  
U = 4.81 dB (horizontal)  
U = 4.69 dB (vertical)

Radiated Emission Expanded Uncertainty (Above 1GHz):  
U = 4.50 dB (Horizontal)  
U = 4.16 dB (Vertical)

### 3 CONDUCTED EMISSION TEST

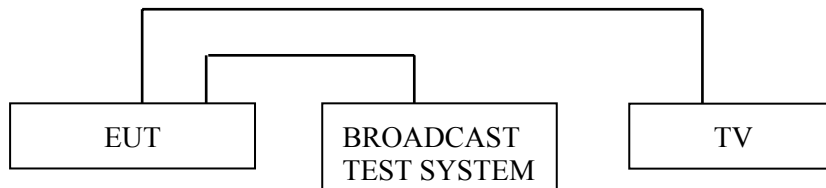
#### 3.1 Test Equipment

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

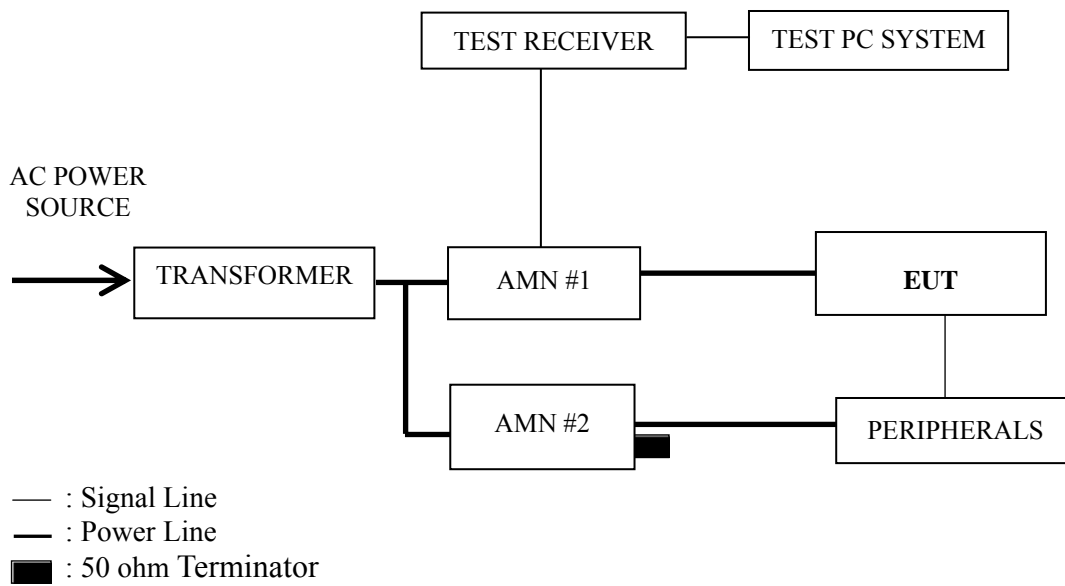
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Mar 22, 2012	Mar 22, 2013
2.	Artificial Mains Network (AMN #1)	R&S	ESH2-Z5	843890/011	Feb 13, 2012	Feb 13, 2013
3.	Artificial Mains Network (AMN #2)	R&S	ENV4200	100125	Mar 22, 2012	Mar 22, 2013
4.	50 $\Omega$ Coaxial Switch	Anritsu	MP59B	6200426389	Mar 18, 2012	Sep 18, 2012
5.	50 $\Omega$ Terminator	Anritsu	BNC	001	Mar 22, 2012	Mar 22, 2013
6.	Software	Audix	E3	SET00200 9804M592	--	--

#### 3.2 Block Diagram of Test Setup

##### 3.2.1 EUT & Peripherals



### 3.2.2 Conducted Disturbance Test Setup



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

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

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

### 3.4 Test Configuration

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



### 3.5 Operating Condition of EUT

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

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

3.5.3 Set the EUT on the test mode and then test.

### 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.

Model Number	Page
PDS2100	P10 – P11

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 emission is detected at 0.150 MHz (QP Value) with corrected signal level of 54.98 dB ( $\mu$ V) (limit is 66.00 dB ( $\mu$ V)), when the Line of the EUT is connected to AMN.

EUT : Digital Set-Top Temperature : 22°C

Model No. : PDS2100 Humidity : 48%RH

Serial No. : CS0000001 Date of Test : Mar 28, 2012

Test Mode : TV mode

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	<b>0.150</b>	<b>54.76</b>	<b>0.22</b>	<b>54.98</b>	<b>66.00</b>	<b>11.02</b>	QP
	0.184	46.67	0.23	46.90	64.28	17.38	
	0.258	36.26	0.23	36.49	61.51	25.02	
	0.381	29.86	0.29	30.15	58.25	28.10	
	3.642	26.95	0.52	27.47	56.00	28.53	
	12.716	29.87	0.83	30.70	60.00	29.30	
	0.150	43.10	0.22	43.32	56.00	12.68	AV
	0.184	35.90	0.23	36.13	54.28	18.15	
	0.258	25.60	0.23	25.83	51.51	25.68	
	0.381	20.30	0.29	20.59	48.25	27.66	
	3.642	17.30	0.52	17.82	46.00	28.18	
	12.716	21.06	0.83	21.89	50.00	28.11	
Neutral	0.151	54.33	0.18	54.51	65.97	11.46	QP
	0.183	48.71	0.19	48.90	64.34	15.44	
	0.220	41.65	0.18	41.83	62.83	21.00	
	0.442	29.21	0.24	29.45	57.02	27.57	
	3.603	27.06	0.71	27.77	56.00	28.23	
	13.197	28.91	1.14	30.05	60.00	29.95	
	0.151	42.10	0.18	42.28	55.97	13.69	AV
	0.183	36.90	0.19	37.09	54.34	17.25	
	0.220	33.60	0.18	33.78	52.83	19.05	
	0.442	20.10	0.24	20.34	47.02	26.68	
	3.603	18.40	0.71	19.11	46.00	26.89	
	13.197	19.60	1.14	20.74	50.00	29.26	

TEST ENGINEER: WENCY YANG

## 4 RADIATED EMISSION TEST

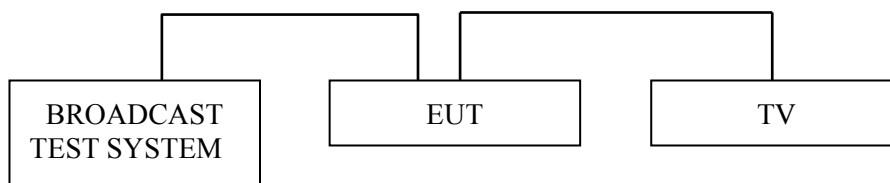
### 4.1 Test Equipment

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 22, 2012	Mar 22, 2013
2.	Preamplifier	Agilent	8447D	2944A10548	Mar 18, 2012	Sep 18, 2012
3.	Preamplifier	HP	8449B	3008A00864	Mar 22, 2012	Mar 22, 2013
4.	Bi-log Antenna	TESEQ	CBL6112D	23192	Dec 01, 2011	Dec 01, 2012
5.	Horn Antenna	EMCO	3115	9607-4878	May 06, 2011	May 06, 2012
6.	Spectrum	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013
7.	50 $\Omega$ Coaxial Switch	Anritsu	MP59B	6200426390	Mar 18, 2012	Sep 18, 2012
8.	Software	Audix	E3	SET00200 9912M295-2	--	--

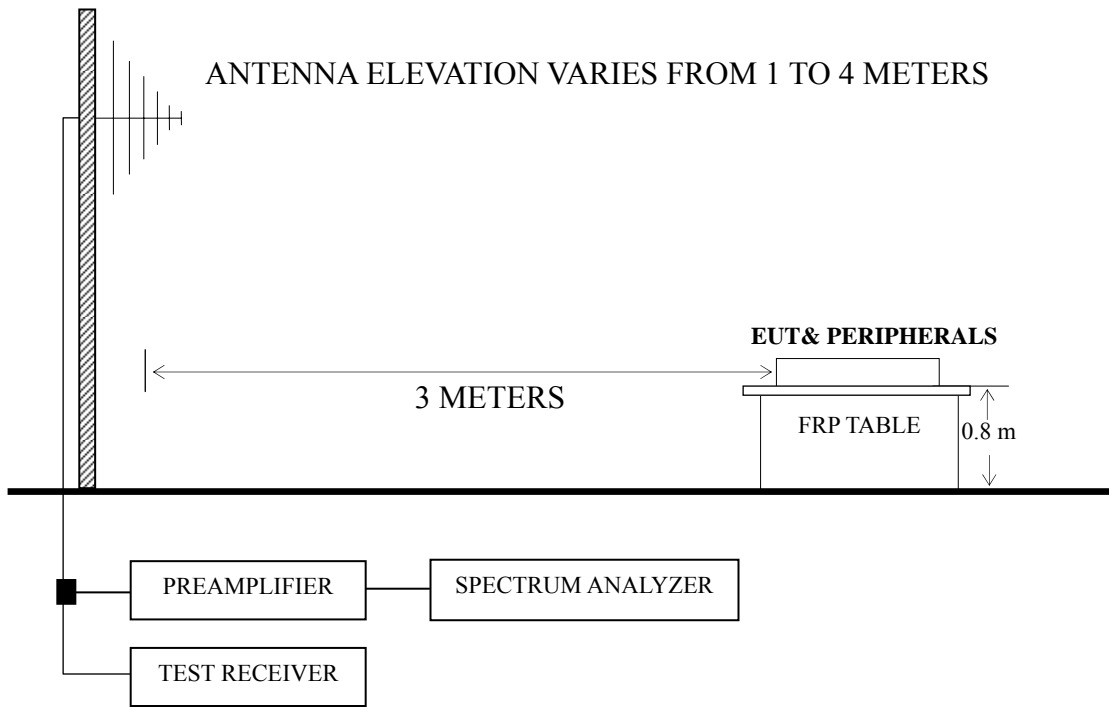
### 4.2 Block Diagram of Test Setup

#### 4.2.1 EUT and Peripherals



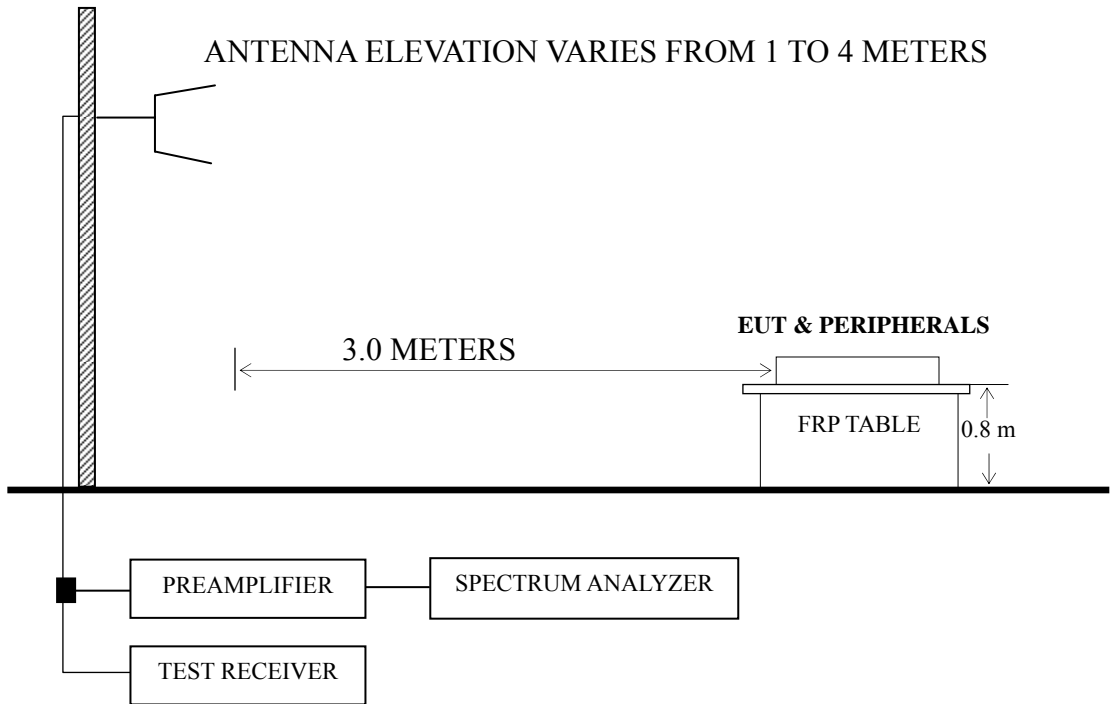
### 4.2.2 Radiated emission test setup

#### 4.2.2.1 Below 1GHz



■ : 50 ohm Coaxial Switch

#### 4.2.2.2 Above 1GHz



■ : 50 ohm Coaxial Switch

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

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

### 4.4 Test Configuration

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

Please refer to Sec.3.4.

### 4.5 Operating Condition of EUT

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

### 4.6 Test Procedures

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

The I.F. bandwidth of Test Receiver R&S 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 5000MHz 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.

Model Number	Page
PDS2100	P15 – P16

- 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 – All readings are Quasi-Peak values below or equal to 1GHz, Peak values above 1GHz.  
(according to ANSI C63.4-2003 8.3.1.2 NOTES 1:  
Where limits are specified by agencies for both average and peak (or quasi-peak) detection, if the peak (or quasipeak) measured value complies with the average limit, it is unnecessary to perform an average measurement.)
- NOTE 4 – The emission levels that are 20dB below the official limit are not reported.
- NOTE 5 – 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.
- NOTE 6 – The worst emission at horizontal polarization was detected at 800.000MHz with corrected signal level of 43.78 dB ( $\mu\text{V}/\text{m}$ ) (limit is 46.00 dB ( $\mu\text{V}/\text{m}$ )), when the antenna was 1.00 m height and the turntable was at 155°. The worst emission at vertical polarization was detected at 800.180 MHz with corrected signal level of 39.08 dB ( $\mu\text{V}/\text{m}$ ) (limit is 46.00 dB ( $\mu\text{V}/\text{m}$ )), when the antenna was 1.00 m height and the turntable was at 200°.

EUT : Digital Set-Top      Temperature : 22°C

Model No. : PDS2100      Humidity : 60%RH

Serial No. : CS0000001      Date of Test : Mar 28, 2012

Test Mode : TV mode

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	66.860	9.72	9.63	1.34	--	20.69	40.00	19.31	QP
	92.080	13.51	11.08	1.75	--	26.34	43.50	17.16	
	199.750	19.14	9.81	2.43	--	31.38	43.50	12.12	
	399.570	20.89	16.30	2.99	--	40.18	46.00	5.82	
	651.770	11.35	18.89	3.58	--	33.82	46.00	12.18	
	<b>800.000</b>	<b>19.30</b>	<b>20.60</b>	<b>3.88</b>	--	<b>43.78</b>	<b>46.00</b>	<b>2.22</b>	
	1200.000	51.68	25.82	5.35	37.76	45.09	74.00	28.91	PK
	1600.000	53.52	27.08	5.93	36.76	49.77	74.00	24.23	
	1995.000	50.72	27.40	6.41	36.21	48.32	74.00	25.68	
	2400.000	49.85	29.25	6.89	36.09	49.90	74.00	24.10	
	3995.000	43.96	33.28	8.13	35.70	49.67	74.00	24.33	
4625.000	42.70	34.58	8.92	35.40	50.80	74.00	23.20		

TEST ENGINEER: RAVEN JIN

EUT : Digital Set-Top      Temperature : 22°C

Model No. : PDS2100      Humidity : 60%RH

Serial No. : CS0000001      Date of Test : Mar 28, 2012

Test Mode : TV mode

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Vertical	43.580	20.06	10.86	0.89	--	31.81	40.00	8.19	QP
	166.770	14.89	10.16	2.30	--	27.35	43.50	16.15	
	216.240	16.14	10.45	2.49	--	29.08	46.00	16.92	
	399.570	14.39	16.30	2.99	--	33.68	46.00	12.32	
	702.210	7.04	19.53	3.68	--	30.25	46.00	15.75	
	<b>800.180</b>	<b>14.60</b>	<b>20.60</b>	<b>3.88</b>	--	<b>39.08</b>	<b>46.00</b>	<b>6.92</b>	PK
	1200.000	54.82	25.82	5.35	37.76	48.23	74.00	25.77	
	1600.000	52.50	27.08	5.93	36.76	48.75	74.00	25.25	
	2000.000	54.42	27.40	6.44	36.20	52.06	74.00	21.94	
	2400.000	52.04	29.25	6.89	36.09	52.09	74.00	21.91	
	3995.000	45.30	33.28	8.13	35.70	51.01	74.00	22.99	
4725.000	42.11	35.16	9.03	35.35	50.95	74.00	23.05		

TEST ENGINEER: RAVEN JIN



## 5 OUTPUT SIGNAL LEVEL MEASUREMENT

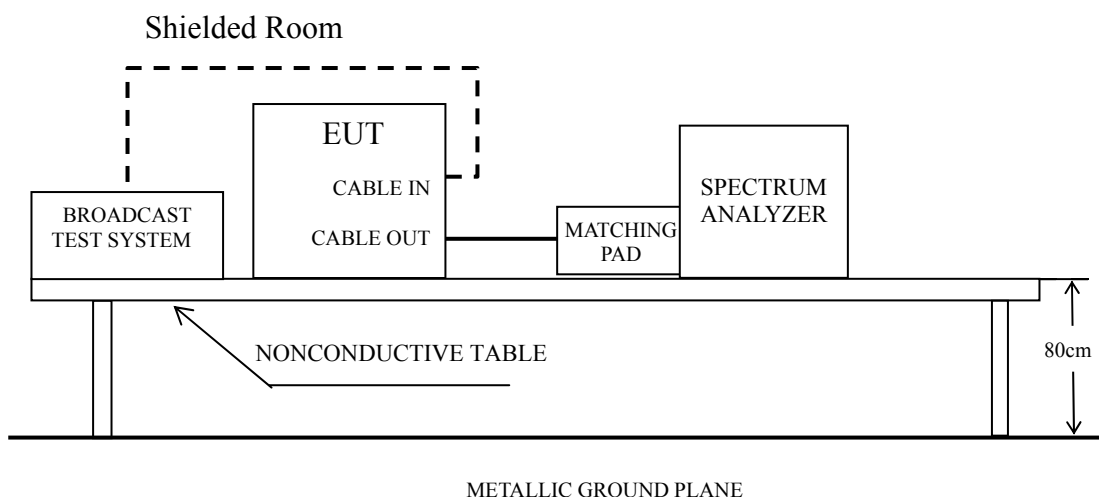
### 5.1 Test Equipment

The following test equipments are used during the output signal level measurement in a shielded room:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013
2.	Matching PAD (75Ω - 50Ω)	Anritsu	12N50-75B	1664	NCR	NCR

### 5.2 Block Diagram of Test Setup

TV mode (TV Signal Input)



Note: The Broadcast Test System was connected with the EUT to make it normal working, and then removed during reading the level from the EUT cable out port.

### 5.3 Output Signal Limit

FCC Rule Part 15, § 15.115 (b) (1) (ii)

## 5.4 Test Procedure

- (a) Configure the EUT System in accordance with ANSI C63.4-2003 section 12.2.

see also the block diagram and the photographs of EUT System configuration in this report.

- (b) Unused RF input/output terminals are terminated in the proper impedance.
- (c) Activate the EUT system.
- (d) Set the spectrum analyzer as follows.

Frequency Span	: 1 MHz
Resolution bandwidth	: 100 kHz
Video bandwidth	: 3 MHz
Detector function	: Peak mode

- (e) The RF output terminal is connected to the spectrum analyzer through the matching transformer.
- (f) Then, the RF output signal level is measured under the EUT condition produced the maximum signal level.

## 5.5 Test Results

**<PASS>**

NOTE 1 – The correction factor consist of the factor of the impedance matching PAD and the coaxial cable used for the test.

NOTE 2 – Signal Level = Spectrum Analyzer Reading + Correction Factor

NOTE 3 – The worst emission was at Test Channel 858MHz.  
The Minimum margin was 2.37 dB.

EUT : Digital Set-Top Temperature : 26°C  
Model No. : PDS2100 Humidity : 43%  
Test Mode : TV mode Date of Test : Mar 28, 2012

Emission Frequency (MHz)	Correction Factor (dB)	Spectrum Analyzer Reading (dB $\mu$ V)	Signal Level (dB $\mu$ V)	Limits (dB $\mu$ V)	Margin (dB)
<b><u>Test Channel</u></b> <b><u>115MHz</u></b>					
115	6.85	45.63	52.48	56.5	4.02
<b><u>Test Channel</u></b> <b><u>858MHz</u></b>					
858	8.94	45.19	54.13	56.5	2.37

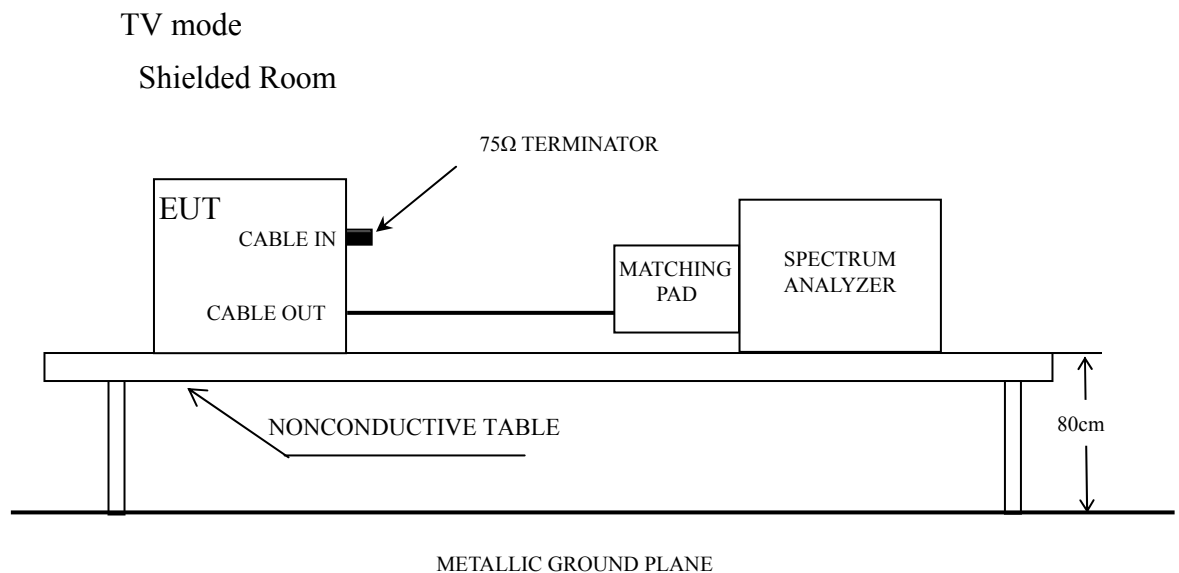
TEST ENGINEER: RAVEN JIN

## 6 OUTPUT TERMINAL CONDUCTED SPURIOUS EMISSION MEASUREMENT

### 6.1 Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013
2.	Matching PAD (75Ω - 50Ω)	Anritsu	12N50-75B	1664	NCR	NCR

### 6.2 Block Diagram of Test Setup



### 6.3 Output Signal Limits

FCC Rule Part 15, § 15.115 (b) (2) (ii)

## 6.4 Test Procedure

- (a) Configure the EUT System in accordance with ANSI C63.4-2003 section 12.2.

See also the block diagram and the photographs of EUT System configuration in this report.

- (b) Unused RF input/output terminals in the proper impedance.

- (c) Activate the EUT system.

- (d) Set the spectrum analyzer as follows.

Frequency Span : 1 MHz  
Resolution bandwidth : 100 kHz  
Video bandwidth : 3 MHz  
Detector function : Peak mode

- (e) The RF output terminal is connected to the spectrum analyzer through the matching transformer.

- (f) The spectrum was scanned from 30 MHz to more than 4.6 MHz below the visual carrier frequency, and from more than 7.4 MHz above the visual carrier frequency to 1000 MHz, and the three highest emissions are selected under the EUT condition produced the maximum signal level at each frequency range.

- (g) Then, the RF output terminal conducted spurious emission level is measured under the EUT condition produced the maximum signal level.

## 6.5 Test Results

**<PASS>**

NOTE 1 – The correction factor consist of the factor of the impedance matching PAD and the coaxial cable used for the test.

NOTE 2 – The spectrum was checked in each test mode, and the maximum measured data was reported.

NOTE 3 – Signal Level = Spectrum Analyzer Reading + Correction Factor

NOTE 4 – The worst emission was at Test Channel 115MHz.  
The Minimum margin was 1.51 dB at 750.20 MHz.

EUT : Digital Set-Top Temperature : 26°C

Model No. : PDS2100 Humidity : 43%

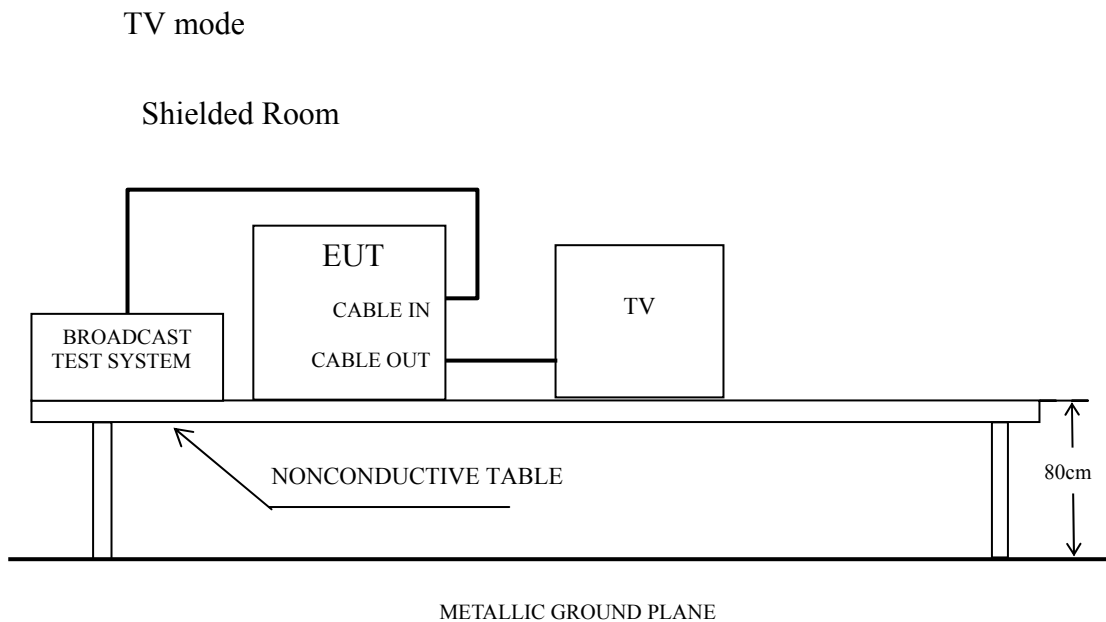
Test Mode : TV mode Date of Test : Mar 28, 2012

Emission Frequency (MHz)	Correction Factor (dB)	Spectrum Analyzer Reading (dB $\mu$ V)	Signal Level (dB $\mu$ V)	Limits (dB $\mu$ V)	Margin (dB)
<b>Test Channel 115MHz</b>					
243.40	7.49	28.13	35.62	39.50	3.88
684.80	8.58	28.79	37.37	39.50	2.13
750.20	8.88	29.11	37.99	39.50	1.51
<b>Test Channel 858MHz</b>					
277.40	7.53	27.64	35.17	39.50	4.33
522.30	8.28	28.27	36.55	39.50	2.95
716.30	8.74	29.11	37.85	39.50	1.65

TEST ENGINEER: RAVEN JIN

## 7 INCORPORATE CIRCUITRY TO AUTOMATICALLY PREVENT EMANATIONS

### 7.1 Block Diagram of Test Setup



### 7.2 Requirements

FCC Rule Part 15, § 15.115 (d)

A TV interface device, including a cable system terminal device, shall incorporate circuitry to automatically prevent emanations from the device from exceeding the technical specifications in this part. These circuits shall be adequate to accomplish their functions when the TV interface device is presented, if applicable, with video input signal levels in the range of one to five volts. For devices that contain provisions for an external signal source but do not contain provisions for the input of an external baseband signal, e.g., some cable system terminal devices, compliance with the provisions of this paragraph shall be demonstrated with a radio frequency input signal of 0 to 25 dBmV.

### 7.3 Test Procedure

- (a) Configure the EUT System as sec. 7.1.
- (b) Activate the EUT system.
- (c) Set the SG to output radio frequency signal levels from 0 to 25 dBmV to the EUT.
- (d) Check the effects of the test.

### 7.4 Test Results

**<PASS>**

The EUT meets the requirements of 15.115(d), these circuits could accomplish their function when input a radio frequency input signal levels from 0 to 25 dBmV.



## **8 DEVIATION TO TEST SPECIFICATIONS**

None.