

DECLARATION OF CONFORMITY

We; Hanwha Techwin Company Limited
DECLARE UNDER OUR SOLE RESPONSIBILITY THAT THE PRODUCT;

Report No: KES-E1-15T0276

**Type of
equipment:** LCD MONITOR

Model Name:
SMT-2233

Applicant: Hanwha Techwin Company Limited

Address: 1204,Changwon-daero, Seongsan-gu, Chang-
won-si, Gyeongsangnam-do,Korea

Manufacturer : Weihai Daewoo Electronics Co.,Ltd.

Address: No.26, Hongkong Road, Economic &
Technical Development Zone, 264205
Weihai City, Shandong Province, China

Test standards : AS/NZS CISPR22:2009+A1:2010

Classification: C-Tick

The above equipment was tested by EMC compliance Testing Laboratory for with the requirements of C-tick Rules and Regulations. The results of testing in this report apply to the product / system which was tested only.

October. 07. 2015
(Date of issue)

(Name and signature of authorized person)



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AS/NZS EMI Test Report

Test Report No. : KES-E1-15T0276
Date of Issue : 10. 07. 2015
Description of Product : LCD MONITOR
Model No. : SMT-2233
Variant Model : -
Applicant : Hanwha Techwin Company Limited
Address : 1204, Changwon-daero, Seongsan-gu, Chang-won-si, Gyeongsangnam-do, Korea
Manufacturer : Weihai Daewoo Electronics Co., Ltd.
Address : No.26, Hongkong Road, Economic & Technical Development Zone, 264205 Weihai City, Shandong Province, China
Applicable Regulation : AS/NZS CISPR22:2009 + A1:2010

Date of Receipt : 09. 14. 2015
Test Date : 10. 02. 2015

Tested by:

Kang Hyeon, Kim
Test Engineer

Reviewed by:

Dong Hun, Jang
Technical Manager



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Revision history

Revision	Date of issue	Test report No.	Description
-	10. 07. 2015	KES-E1-15T0276	Initial

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1. General Information

1.1 Introduction

The EMI Test Report for CE Declaration of Conformity is prepared on behalf of named applicant in accordance with the EMC Directive(2004/108/EC) of the European Economic Community. The test results reported in this document relate only to the item that was tested.

All radiated emission, conducted emission measurements required by the EMC Directive were performed manually at KES Co., Ltd. (here in after called KES), 473-29, Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Korea

The radiated emission measurements performed on 10 meter, Open Area Test Site, test range maintained by KES. Complete ANSI63.4;2009 description and site attenuation measurement data records are maintained at the test facility and have been placed on file with the Federal Communications Commission.

The KES EMC test facilities in and Yeoju-si are designated testing laboratory according to ISO/IEC 17025 by Radio Research Agency(RRA), Korea Communication Commission.



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1.2 Product Description for Equipment Under Test (EUT)

Hanwha Techwin Company Limited, LCD MONITOR, Model No: SMT-2233 or the "E.U.T". as referred to in this report is base model.

Main Specifications of EUT are:

Model Name		SMT-2233	Remark
Display		LED	
Screen Size		22"	
Max. Resolution		1920 x 1080	
Brightness		250cd/m2	
Contrast Ratio		1,000 : 1	
Aspect Ratio		16:9	
Display		LED	
Screen size		22	
Viewing Angle (H/V)		170°/160°	
Display Color		16.7Million	
Response Time		5ms	
Video System		NTSC / PAL	
Panel Life		30,000 hours	
Filter Type		3D Combfilter	
Interface			
Video	Connector	BNC types: (2 in/2 out)	
RGB	Connector	One(1) Analog RGB 15-pin D-sub	
	Input signal	0.7 Vp-p ±5 %	
HDMI	Connector	One(1) HDMI input (type A connector)	
Audio	Connector	Two(2) RCA type (2 stereo inputs)	
	Output signal	Speakers: two(2) x 1 W	
Application Support		Remote Controller	
On Screen Display		Samsung UI	
Functions		VESA™ DPM Compatible	
Language		English, Spanish, French, German, Italian, Portuguese, Russian Swedish, Turkish, Thai,Dutch,Danish,Arabic,Chinese, Japanese, Korea	
General			
Electrical	Input Voltage	AC100 ~ 240V (50/60Hz)	
	Power consumption	24w	
Environmenta	Operating Temperature	0 ~ +40°C (+32°F ~ +104°F)	
	Humidity	20% – 90% (non-condensing)	
Mechanical	Dimensions with Stand (WxHxD)	515mm x 391.8mm x 217.4mm	
	Dimensions without Stand (WxHxD)	515mm x 316mm x 59.9mm	
	Weight	5.2kg	
	LCD Protection Glass	Yes	
	Cabinet Color	Black	
VESA Mounts Interface		100mm x 100mm	

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1.3 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
LCD MONITOR	SMT-2233	-	Weihai Daewoo Electronics Co.,Ltd.	EUT
Remote control	-	-	SAMSUNG	

1.4 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Notebook	NT63025J	JK9091EF400432X	SAMSUNG	-
Switching Adapter	A13-040N2A	CN60BA4400313AD0N8 43KO243	Chicony Power Techology (suzhou) Co., Ltd.	-
Camera	-	-	-	-
Adapter	JPW115KA1200M03	-	MANUFACTURED BY Bridge power Corp.	-
Monitor	SMT-1935	-	Weihai Daewoo Electronics Co.,Ltd.	-

1.5 External I/O Cabling

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
LCD MONITOR (E.U.T)	D-SUB	Notebook	D-SUB	1.4	Shielded
	HDMI	Notebook	HDMI	1.2	Shielded
	BNC	Camera	BNC	1.0	Shielded
	BNC	Monitor	BNC	4.0	Shielded
	Audio	Cable Termination	Audio	1.0	Unshielded

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1.6 Special Accessories

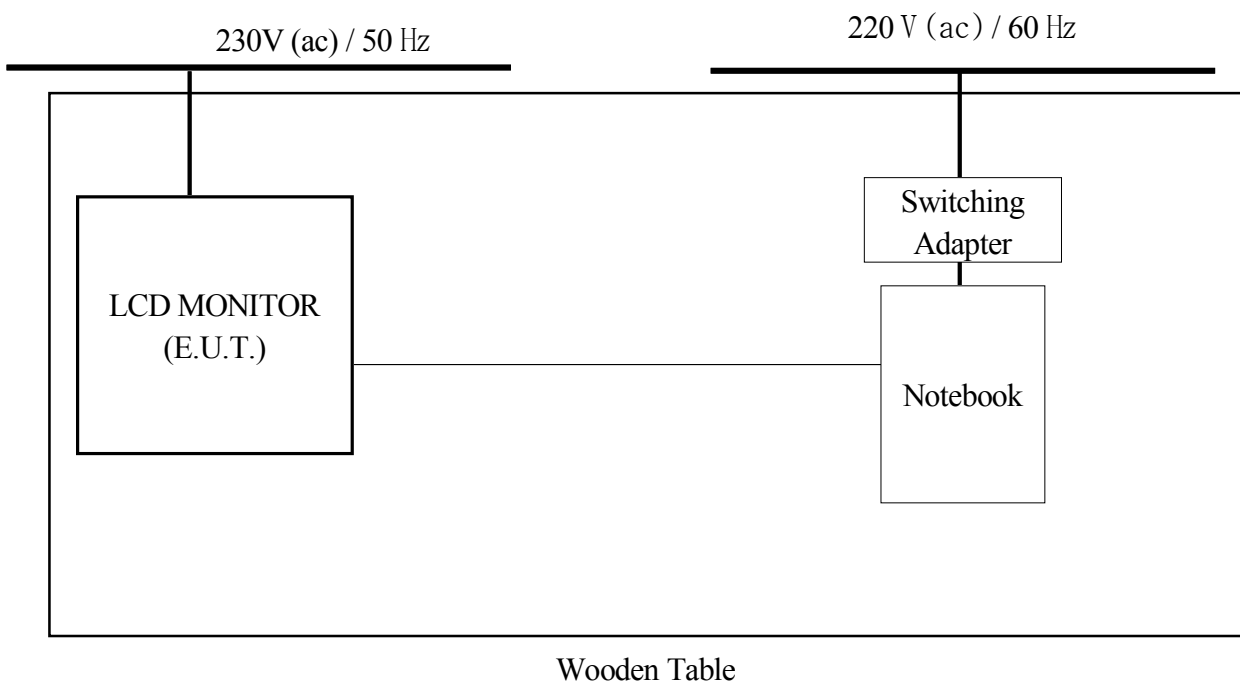
As shown in section 1.8, all interface cables used for compliance testing are shielded as normally supplied or by use respective component manufacturers.

1.7 EUT Modifications

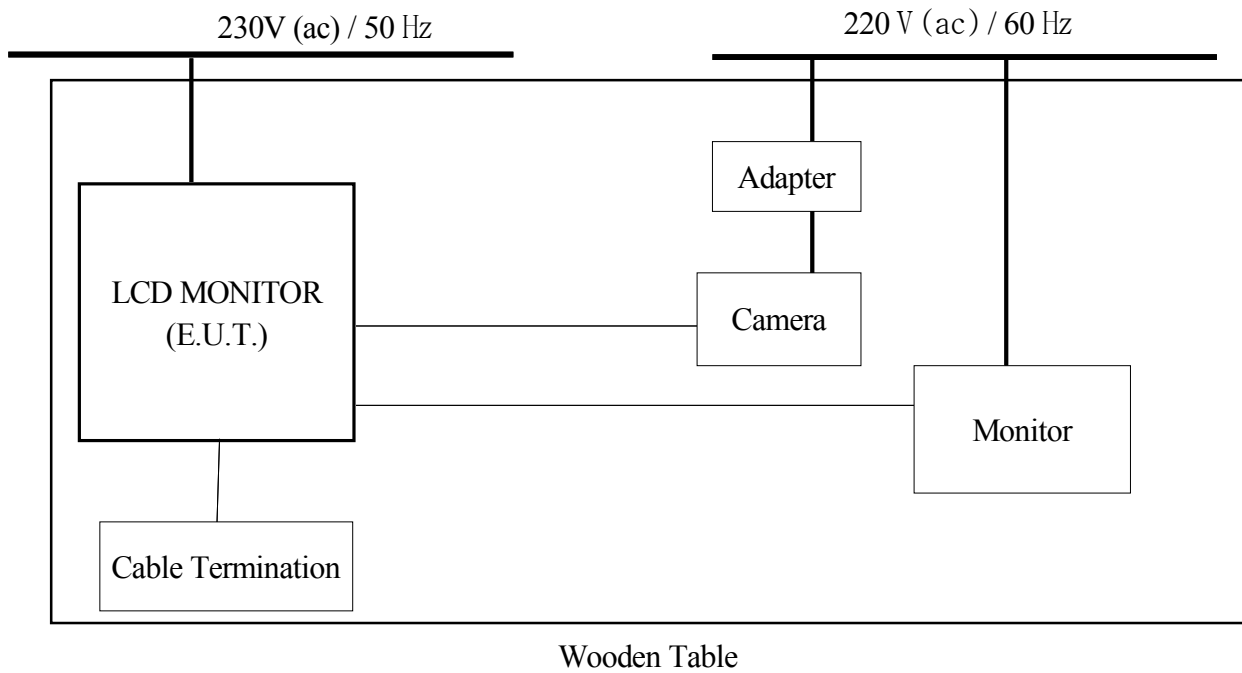
No modifications were made to the EUT in order to achieve and maintain compliance to the standards described in this report.

1.8 Configuration of Test System

■ D-SUB, HDMI Mode



■ Video Mode



1.9 Operating condition

- D-SUB, HDMI Mode

Normal operation

- Video Mode

Normal operation

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2. Test standards and results

Specifications	Description	Test Point	Remark
CISPR22, Class A	Conducted Emission	AC Input Port	C
CISPR22, Class A	Radiated Emission	Enclosure	C

Note : C=Complies N/C=Not Complies N/T=Not Tested N/A=Not Applicable

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3. Test Performed

3.1 Conducted Emission Measurements

3.1.1 Test Description

The power line conducted emission measurements were performed in a shielded enclosure. The EUT was placed on a wooden table, 80 centimeters height above the floor. Power was fed to the EUT through a 50 ohm/ 50 micro henry Line Impedance Stabilization Network (LISN). The ground plane that was electrically bonded to the shield room ground system and all power lines entering the shield room were filtered.

3.1.2 Test Equipments

Description	Manufacturer	Model Number	Serial Number	Cal. Due
EMI Test Receiver	R&S	ESR3	101783	05. 06. 2016
LISN	R&S	ENV216	101137	02. 10. 2016
LISN	R&S	ENV216	101786	05. 06. 2016
Electro wave Shieldroom	SEMITEC	-	-	-

3.1.3 Test Environments

Ambient Temperatures : see the data

Relative Humidity : see the data

3.1.4 Test Limits

Frequency (MHz)	CISPR Publication 22			
	Class B		Class A	
	QP	AV	QP	AV
0.15 to 0.50	66 to 56	56 to 46	79	66
0.50 to 5.00	56	46	73	60
5.00 to 30.00	60	50	73	60

- Telecommunication

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Frequency (MHz)	CISPR 22(Voltage)			
	Class B (dB μ V)		Class A (dB μ V)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 to 0.50	84.0 to 74.0	74.0 to 64.0	97.0 to 87.0	84.0 to 74.0
0.50 to 30.00	74.0	64.0	87.0	74.0

Frequency (MHz)	CISPR 22(Current)			
	Class B (dB μ A)		Class A (dB μ A)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 to 0.50	40.0 to 30.0	30.0 to 20.0	53.0 to 43.0	40.0 to 30.0
0.50 to 30.00	30.0	20.0	43.0	30.0

3.1.5 Test Procedure

The conducted emission levels were measured on each current-carrying line with the spectrum analyzer operating in the CISPR quasi-peak mode (or peak mode if applicable). The analyzer's 6 dB bandwidth was set to 9 kHz. The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. If the conducted emission exceed the average limit with the instrument set to the quasi-peak mode, the measurements are made in the average mode. The emission spectrum was scanned from 150 kHz to 30 MHz. The highest emission amplitudes relative to the appropriate limits were measured and have been recorded. Quasi-peak readings are distinguished with a "QP".

The conducted emission test was performed with the EUT exercise program loaded, and the emissions were scanned between 150 kHz to 30 MHz on the HOT side and NEUTRAL side, herein referred to as H and N, respectively.

3.1.6 Test Results

According to the data in section 2.1.7, the EUT complied with the CISPR22 standards.



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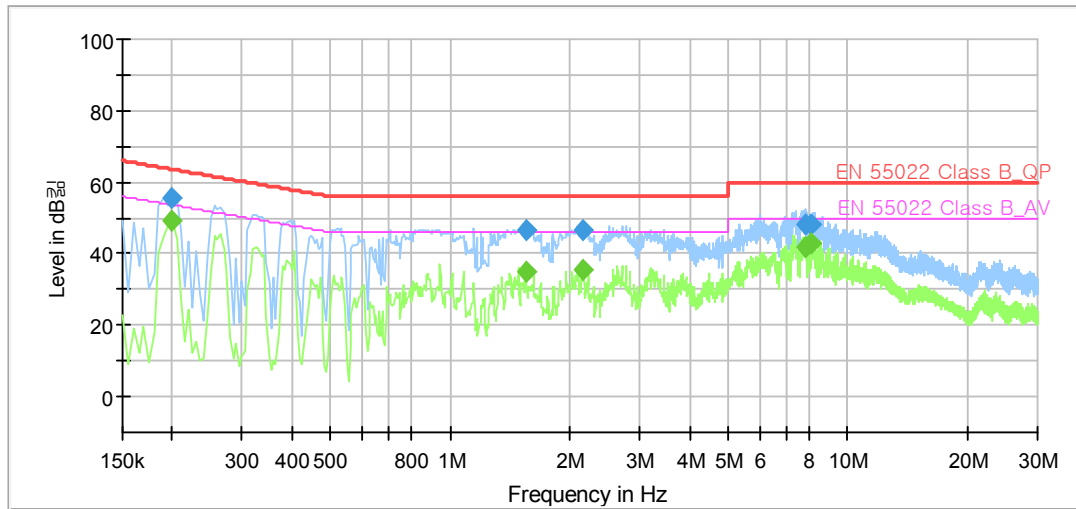
3.1.7 Test Data

Temperature: 22.8 °C Humidity: 38.5 % R.H. Test Date: 10. 02. 2015 Tested by: Kang Hyeon, Kim

■ D-SUB Mode

Polarization: HOT

Test Description: Conducted Emission
Model No.: SMT-2233
Mode: D-SUB
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.200000	---	49.24	53.61	4.37	1000.0	9.000	L1	9.7
0.200000	55.52	---	63.61	8.09	1000.0	9.000	L1	9.7
1.555000	---	34.97	46.00	11.03	1000.0	9.000	L1	9.7
1.555000	46.47	---	56.00	9.53	1000.0	9.000	L1	9.7
2.165000	---	35.33	46.00	10.67	1000.0	9.000	L1	9.7
2.165000	46.68	---	56.00	9.32	1000.0	9.000	L1	9.7
7.840000	---	41.62	50.00	8.38	1000.0	9.000	L1	9.9
7.840000	48.21	---	60.00	11.79	1000.0	9.000	L1	9.9
8.050000	---	43.04	50.00	6.96	1000.0	9.000	L1	9.9
8.050000	48.20	---	60.00	11.80	1000.0	9.000	L1	9.9

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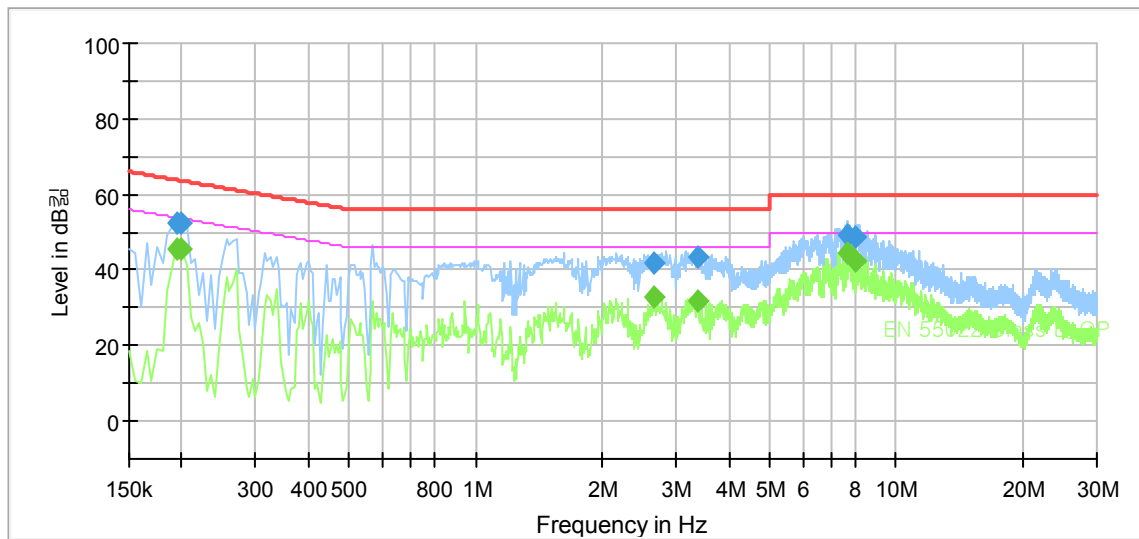
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Polarization: NEUTRAL

Test Description: Conducted Emission
Model No.: SMT-2233
Mode: D-SUB
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.195000	---	45.55	53.82	8.27	1000.0	9.000	N	9.7
0.195000	52.54	---	63.82	11.28	1000.0	9.000	N	9.7
0.200000	---	45.28	53.61	8.33	1000.0	9.000	N	9.7
0.200000	52.45	---	63.61	11.16	1000.0	9.000	N	9.7
2.640000	---	32.60	46.00	13.40	1000.0	9.000	N	9.7
2.640000	42.00	---	56.00	14.00	1000.0	9.000	N	9.7
3.385000	---	31.75	46.00	14.25	1000.0	9.000	N	9.8
3.385000	43.26	---	56.00	12.74	1000.0	9.000	N	9.8
7.660000	---	44.52	50.00	5.48	1000.0	9.000	N	9.9
7.660000	49.48	---	60.00	10.52	1000.0	9.000	N	9.9
8.010000	---	42.24	50.00	7.76	1000.0	9.000	N	9.9
8.010000	48.68	---	60.00	11.32	1000.0	9.000	N	9.9

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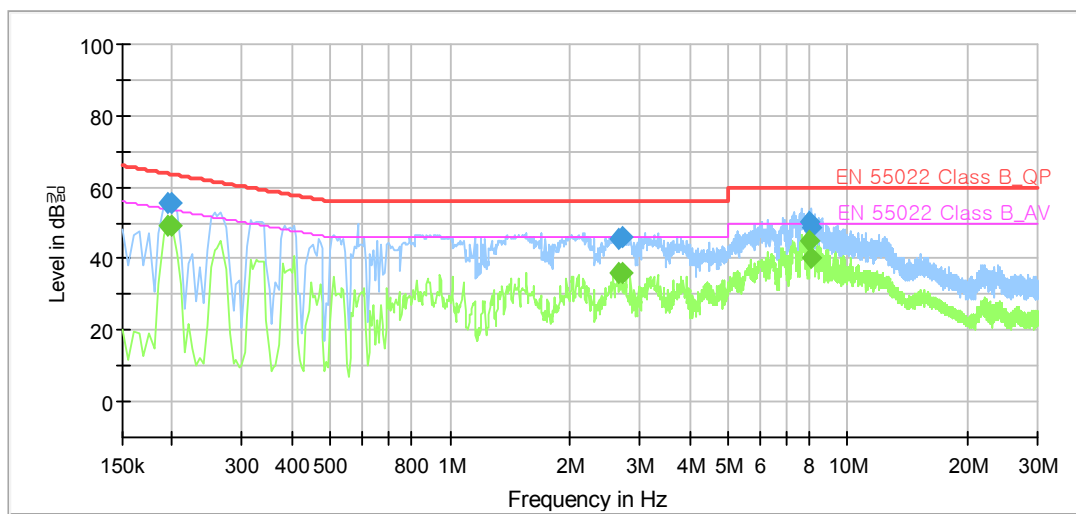
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■ HDMI Mode

Polarization: HOT

Test Description: Conducted Emission
Model No.: SMT-2233
Mode: HDMI
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.195000	---	49.28	53.82	4.54	1000.0	9.000	L1	9.7
0.195000	55.36	---	63.82	8.46	1000.0	9.000	L1	9.7
0.200000	---	49.22	53.61	4.39	1000.0	9.000	L1	9.7
0.200000	55.38	---	63.61	8.23	1000.0	9.000	L1	9.7
2.640000	---	35.83	46.00	10.17	1000.0	9.000	L1	9.7
2.640000	45.31	---	56.00	10.69	1000.0	9.000	L1	9.7
2.710000	---	35.89	46.00	10.11	1000.0	9.000	L1	9.7
2.710000	46.16	---	56.00	9.84	1000.0	9.000	L1	9.7
8.015000	---	45.26	50.00	4.74	1000.0	9.000	L1	9.9
8.015000	50.17	---	60.00	9.83	1000.0	9.000	L1	9.9
8.065000	---	40.47	50.00	9.53	1000.0	9.000	L1	9.9
8.065000	48.69	---	60.00	11.31	1000.0	9.000	L1	9.9

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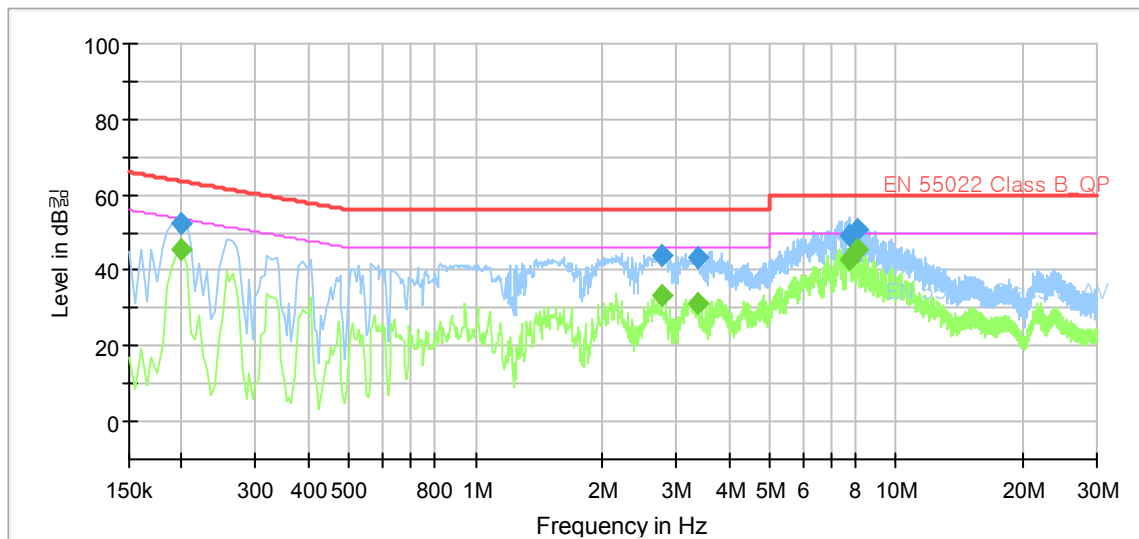
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Polarization: NEUTRAL

Test Description: Conducted Emission
Model No.: SMT-2233
Mode: HDMI
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.200000	---	45.30	53.61	8.31	1000.0	9.000	N	9.7
0.200000	52.44	---	63.61	11.17	1000.0	9.000	N	9.7
2.775000	---	33.24	46.00	12.76	1000.0	9.000	N	9.7
2.775000	43.83	---	56.00	12.17	1000.0	9.000	N	9.7
3.385000	---	31.48	46.00	14.52	1000.0	9.000	N	9.8
3.385000	43.27	---	56.00	12.73	1000.0	9.000	N	9.8
7.770000	---	43.03	50.00	6.97	1000.0	9.000	N	9.9
7.770000	49.40	---	60.00	10.60	1000.0	9.000	N	9.9
8.045000	---	45.70	50.00	4.30	1000.0	9.000	N	9.9
8.045000	50.63	---	60.00	9.37	1000.0	9.000	N	9.9

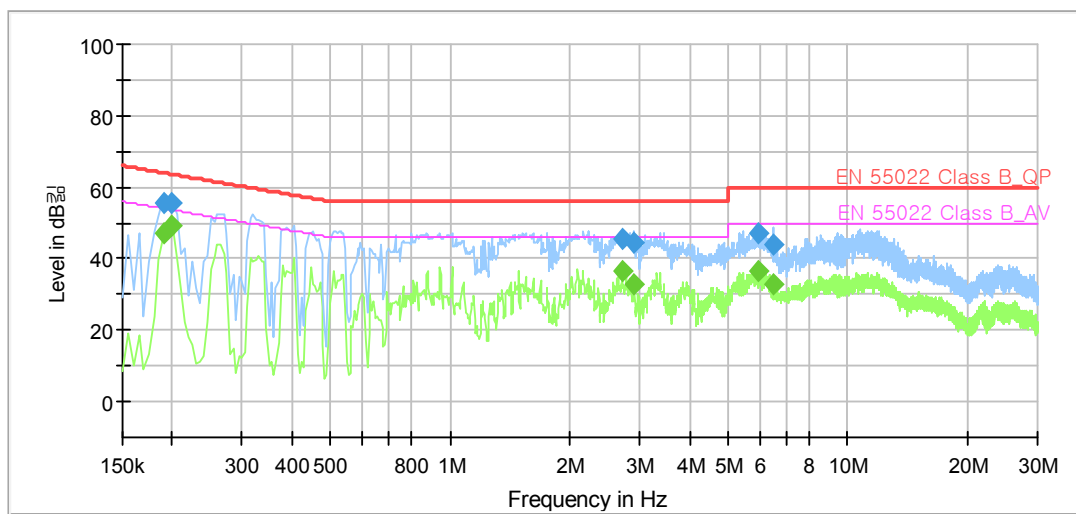
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Video Mode

Polarization: HOT

Test Description: Conducted Emission
Model No.: SMT-2233
Mode: VIDEO
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.190000	---	47.04	54.04	7.00	1000.0	9.000	L1	9.7
0.190000	55.46	---	64.04	8.58	1000.0	9.000	L1	9.7
0.200000	---	49.16	53.61	4.45	1000.0	9.000	L1	9.7
0.200000	55.42	---	63.61	8.19	1000.0	9.000	L1	9.7
2.705000	---	36.56	46.00	9.44	1000.0	9.000	L1	9.7
2.705000	45.64	---	56.00	10.36	1000.0	9.000	L1	9.7
2.905000	---	32.94	46.00	13.06	1000.0	9.000	L1	9.8
2.905000	44.54	---	56.00	11.46	1000.0	9.000	L1	9.8
5.950000	---	36.45	50.00	13.55	1000.0	9.000	L1	9.9
5.950000	47.16	---	60.00	12.84	1000.0	9.000	L1	9.9
6.495000	---	32.82	50.00	17.18	1000.0	9.000	L1	9.9
6.495000	44.15	---	60.00	15.85	1000.0	9.000	L1	9.9



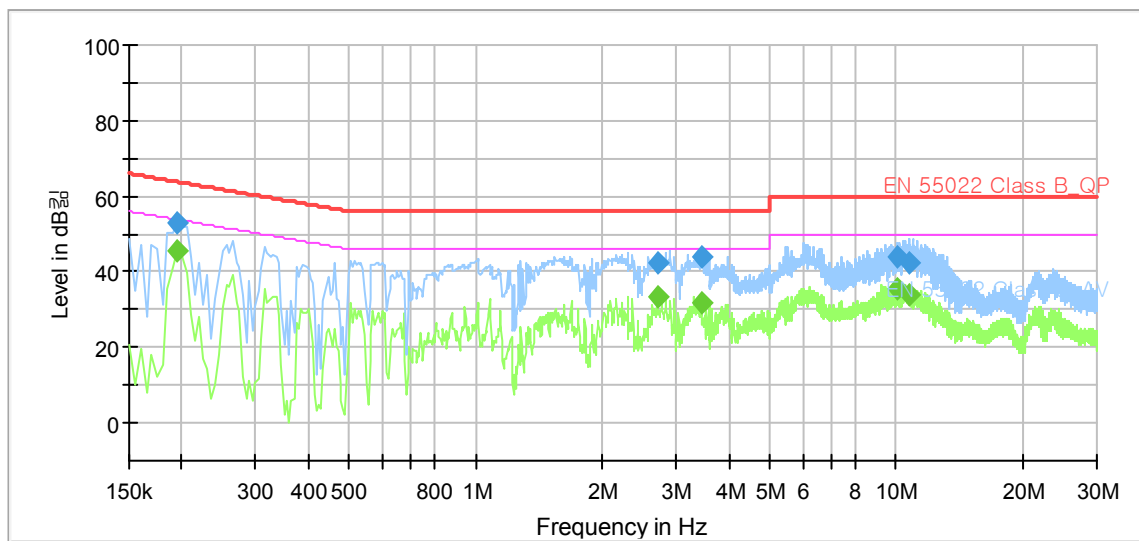
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Polarization: NEUTRAL

Test Description: Conducted Emission
Model No.: SMT-2233
Mode: VIDEO
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.195000	---	45.70	53.82	8.12	1000.0	9.000	N	9.7
0.195000	52.68	---	63.82	11.14	1000.0	9.000	N	9.7
2.705000	---	33.46	46.00	12.54	1000.0	9.000	N	9.7
2.705000	42.10	---	56.00	13.90	1000.0	9.000	N	9.7
3.450000	---	32.02	46.00	13.98	1000.0	9.000	N	9.8
3.450000	44.16	---	56.00	11.84	1000.0	9.000	N	9.8
10.010000	---	35.32	50.00	14.68	1000.0	9.000	N	10.0
10.010000	43.84	---	60.00	16.16	1000.0	9.000	N	10.0
10.750000	---	33.68	50.00	16.32	1000.0	9.000	N	10.0
10.750000	42.40	---	60.00	17.60	1000.0	9.000	N	10.0

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- Telecommunication

Temperature: °C Humidity: % R.H. Test Date: Tested by:

[10 Mbps]

N/A

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[100 Mbps]

N/A

3.2 Radiated Emission Measurements

3.2.1 Test Description

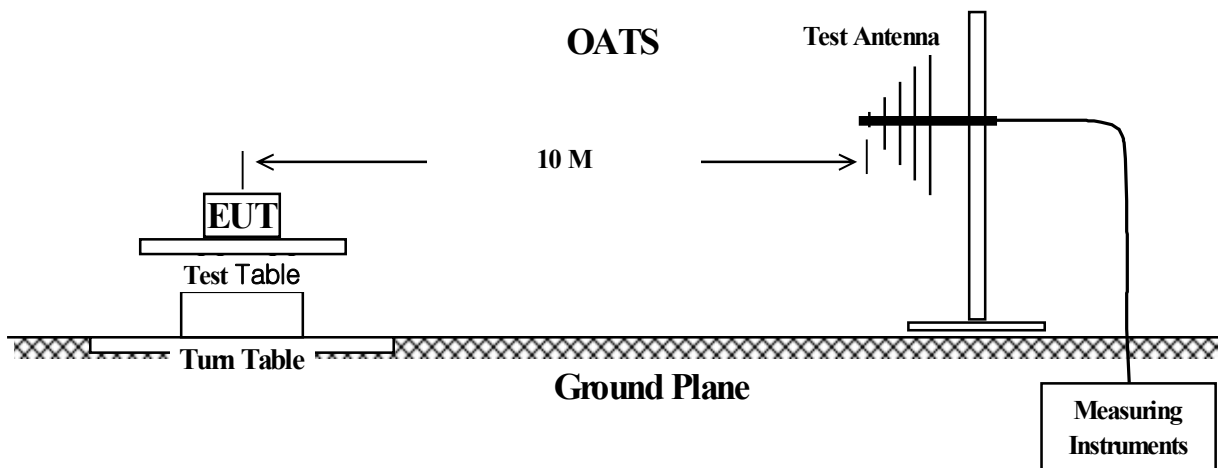
The radiated emissions measurements were performed on the ten-meter, open-field test site. The EUT was placed on a nonconductive turntable approximately 0.8 meters above the ground plane.

The frequency spectrum from 30 MHz to 1 000 MHz and 1 000 MHz to 6 000 MHz was scanned and maximum emission levels at each frequency recorded.

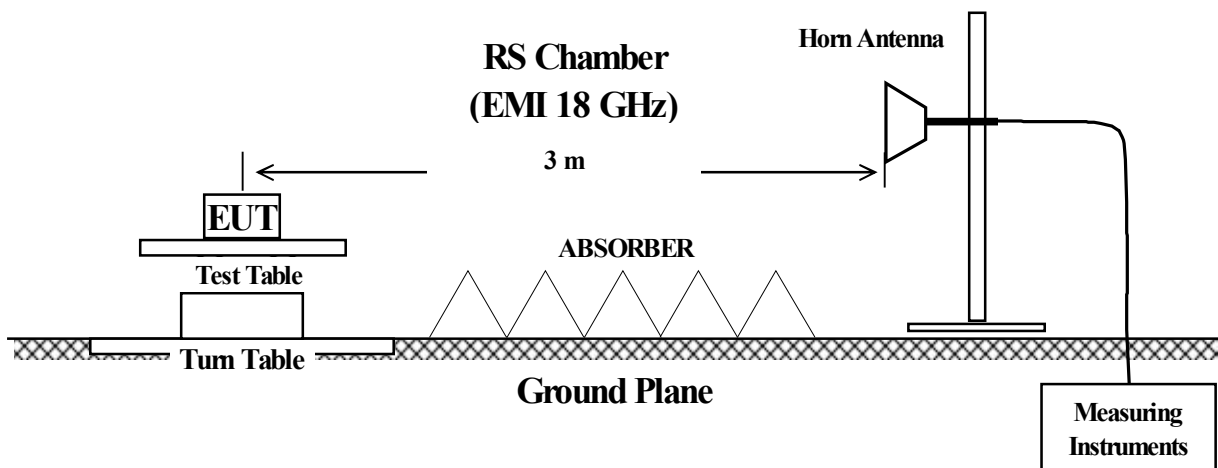
The system was rotated 360°, and the antenna was varied in the height between 1.0 and 4.0 meters in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

- above 1 GHz : Antenna height is fixed to 1.0 m

* Below 1 GHz



* Above 1 GHz



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3.2.2 Test Equipments

Description	Manufacturer	Model Number	Serial Number	Cal. Due
EMI TEST Receiver	R & S	ESR3	101781	05. 06. 2016
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9163	9163-713	05. 15. 2017
EMI TEST Receiver	R & S	ESU26	100552	05. 06. 2016
BroadbandCoaxial Premplifier	A-H-SYSTEM,INC	SAS-571	781	05. 07. 2017
DOUBLE RIDGED HORN ANTENNA	Schwarzbeck Mess - Elektronik	BBV 9718	9718-246	10. 23. 2015
RS Chamber (EMI 18GHz)	SEMITEC	-	-	-
Antenna Mast	AUDIX	-	-	-
Turn Table	AUDIX	-	-	-

3.2.3 Test Environments

Temperatures : see the data

Humidity : see the data

3.2.4 Test Limits*** Below 1 GHz**

Frequency (MHz)	CISPR Publication 22	
	Class B	Class A
	Quasi-peak dB(uV/m)	Quasi-peak dB(uV/m)
0,15 to 30	Under consideration	Under consideration
30 to 230	30	40
230 to 1 000	37	47

*** Above 1 GHz**

Frequency (MHz)	CISPR Publication 22			
	Class B @ 3 m (dB μ V/m)		Class A @ 3 m (dB μ V/m)	
	PK	AV	PK	AV
1 000 to 3 000	70	50	76	56
3 000 to 6 000	74	54	80	60

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3.2.5 Test Procedure

Before final measurements of radiated emission were made on the OATS, the EUT was scanned in semi-anechoic chamber in order to determine its emission spectrum signature. The physical arrangement of the test system and associated cabling was varied in order to determine the effect on the EUT's emission in amplitude, direction and frequency. This process was repeated during final radiated emission measurements on the OATS range, at each frequency, in order to ensure that maximum emissions amplitudes were attained.

The radiated emission test was performed with EUT exercise program loaded, and the emissions were scanned between 30 MHz to 1 000 MHz and 1 000 MHz to 6 000 MHz using the spectrum analyzer. The spectrum analyzer's 6 dB bandwidth was set to 120 kHz(1 MHz), and the analyzer was operated in the CISPR quasi-peak (Peak) detection mode.

Measurements were taken using both HORIZONTAL and VERTICAL antenna polarization, herein referred to as H and V, respectively.

Field Strength Calculation

The Field Strength (FS) is calculated by adding the Antenna Factor (AF) and Cable Factor (CF) and Amplifier Gain(AG) from the Measured Reading (MR). The basic equation with a sample calculation is as follows:

$$\text{* Below 1 GHz : FS(dB}\mu\text{V/m)} = \text{MR(dB}\mu\text{V)} + [\text{AF(dB/m)} + \text{CF(dB)}]$$

$$\text{* Above 1 GHz : FS(dB}\mu\text{V/m)} = \text{MR(dB}\mu\text{V)} + [\text{AF(dB/m)} + \text{CF(dB)}] - \text{AG}$$



3.2.6 Test Results

According to the data in section 3.2.7, the EUT complied with the CISPR22 standards.

3.2.7 Test Data

* Below 1 GHz

Temperature: 20.0 °C Humidity: 54.0 % R.H. Test Date: 10. 02. 2016 Tested by: Kang Hyeon, Kim

■ D-SUB Mode

Frequency (MHz)	Amplitude (dB μ V/m)	Antenna		Correction Factor		Corrected Amplitude (dB μ V/m)	Applicable Limit (dB μ V/m)	Margin (dB)
		Polar. (H/V)	Height (m)	Ant. (dB)	Cable (dB)			
51.34	9.22	V	1.36	13.78	1.77	24.77	30.00	5.23
152.22	11.62	H	4.00	8.28	3.21	23.11	30.00	6.89
245.34	12.57	H	3.85	12.31	4.24	29.12	37.00	7.88
263.77	12.89	H	3.70	12.68	4.46	30.03	37.00	6.97
405.39	9.62	V	1.25	15.78	5.82	31.22	37.00	5.78
427.70	6.69	V	1.99	16.09	6.00	28.78	37.00	8.22

■ HDMI Mode

Frequency (MHz)	Amplitude (dB μ V/m)	Antenna		Correction Factor		Corrected Amplitude (dB μ V/m)	Applicable Limit (dB μ V/m)	Margin (dB)
		Polar. (H/V)	Height (m)	Ant. (dB)	Cable (dB)			
149.31	12.08	V	1.00	8.18	3.16	23.42	30.00	6.58
208.48	10.49	H	3.28	11.49	3.96	25.94	30.00	4.06
247.28	12.90	H	4.00	12.35	4.26	29.51	37.00	7.49
445.04	10.42	V	1.70	16.33	6.14	32.89	37.00	4.11

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■ Video Mode

Frequency (MHz)	Amplitude (dB μ V/m)	Antenna		Correction Factor		Corrected Amplitude (dB μ V/m)	Applicable Limit (dB μ V/m)	Margin (dB)
		Polar. (H/V)	Height (m)	Ant. (dB)	Cable (dB)			
49.42	7.72	V	1.63	13.92	1.74	23.38	30.00	6.62
152.22	11.29	H	3.70	8.28	3.21	22.78	30.00	7.22
245.34	12.35	H	4.00	12.31	4.24	28.90	37.00	8.10
360.77	9.78	H	3.81	14.79	5.32	29.89	37.00	7.11
423.82	8.06	V	1.79	16.03	5.97	30.06	37.00	6.94
515.97	8.50	V	1.00	17.45	6.71	32.66	37.00	4.34

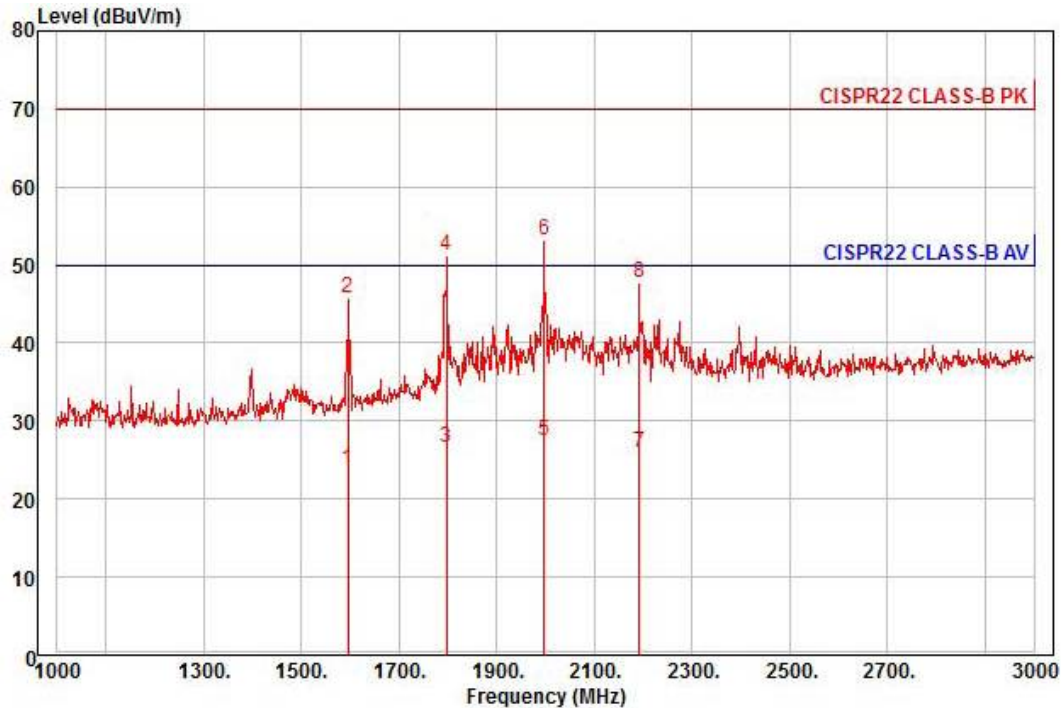
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*** Above 1 GHz**

Temperature: 22.8 °C Humidity: 38.5 % R.H. Test Date: 10. 02. 2015 Tested by: Kang Hyeon, Kim

■ D-SUB Mode



Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : D-SUB
Memo : 230

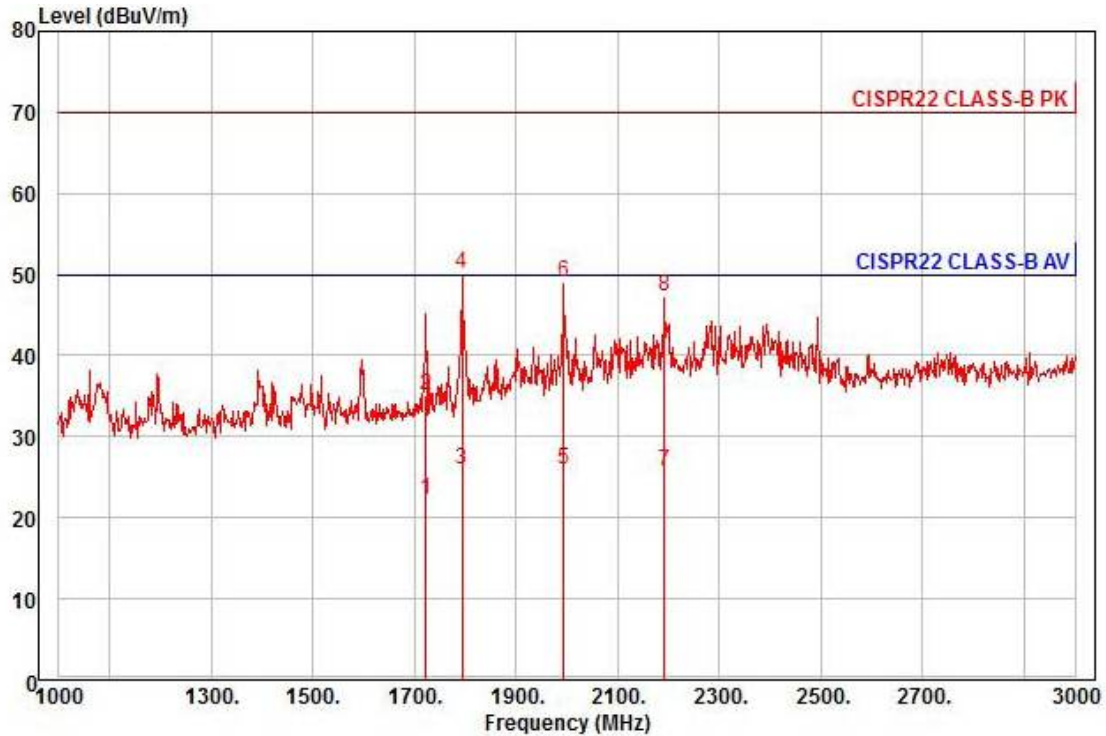
	Freq	Read Level	Ant Factor	Cable Loss	Preamplifier Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1596.00	29.62	26.28	7.76	39.88	157	50.00	-26.22	horizontal	Average
2	1596.00	51.56	26.28	7.76	39.88	157	70.00	-24.28	horizontal	Peak
3	1798.00	30.88	27.08	8.34	39.79	131	50.00	-23.49	horizontal	Average
4	1798.00	55.61	27.08	8.34	39.79	131	70.00	-18.76	horizontal	Peak
5 av	1998.00	30.38	27.87	8.91	39.70	114	50.00	-22.54	horizontal	Average
6 pp	1998.00	56.09	27.87	8.91	39.70	114	70.00	-16.83	horizontal	Peak
7	2192.00	27.95	28.35	9.45	39.76	117	50.00	-24.01	horizontal	Average
8	2192.00	49.72	28.35	9.45	39.76	117	70.00	-22.24	horizontal	Peak



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Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : D-SUB
Memo : 230

	Freq	Read Level	Ant Factor	Cable Loss	Preamplifier Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1722.00	27.23	26.78	8.12	39.83	44	50.00	-27.70	vertical	Average
2	1722.00	40.11	26.78	8.12	39.83	44	70.00	-34.82	vertical	Peak
3 av	1794.00	30.27	27.06	8.33	39.79	136	50.00	-24.13	vertical	Average
4 pp	1794.00	54.56	27.06	8.33	39.79	136	70.00	-19.84	vertical	Peak
5	1994.00	28.78	27.86	8.90	39.70	174	50.00	-24.16	vertical	Average
6	1994.00	52.05	27.86	8.90	39.70	174	70.00	-20.89	vertical	Peak
7	2192.00	27.71	28.35	9.45	39.76	85	50.00	-24.25	vertical	Average
8	2192.00	49.22	28.35	9.45	39.76	85	70.00	-22.74	vertical	Peak

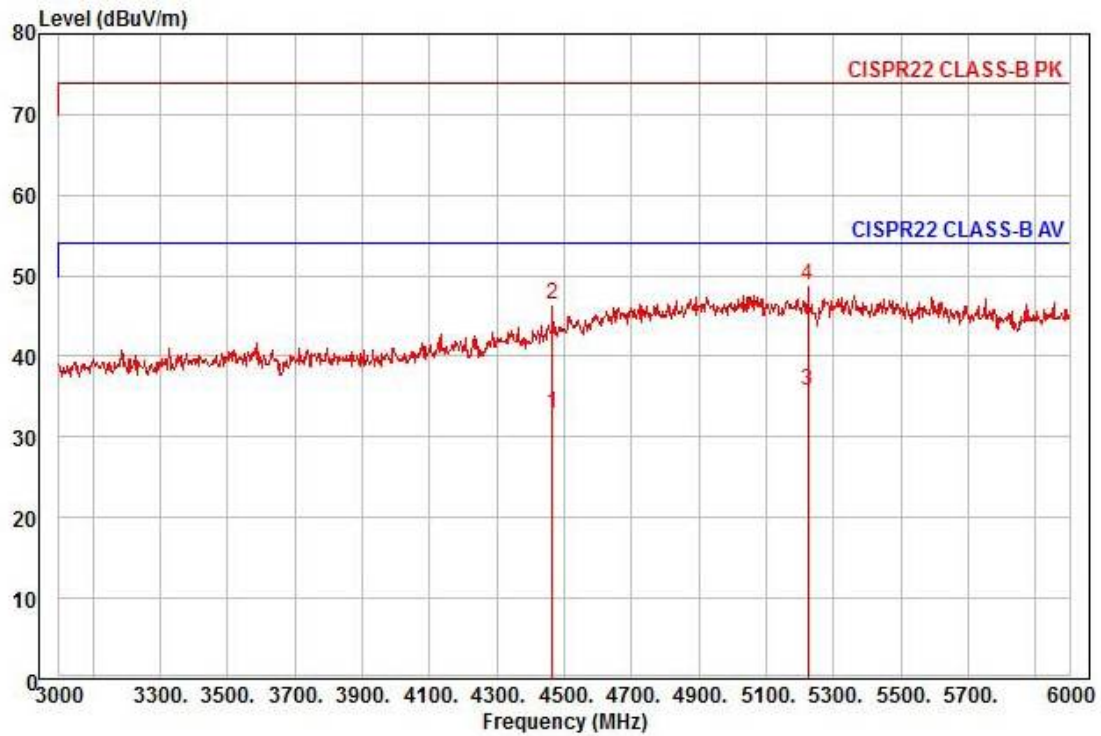
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Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : D-SUB
Memo : 230

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	4464.00	24.80	34.66	13.88	40.38	226	54.00	-21.04	horizontal	Average
2	4464.00	38.20	34.66	13.88	40.38	226	74.00	-27.64	horizontal	Peak
3 pp	5223.00	23.44	37.27	15.28	40.18	180	54.00	-18.19	horizontal	Average
4 pk	5223.00	36.47	37.27	15.28	40.18	180	74.00	-25.16	horizontal	Peak

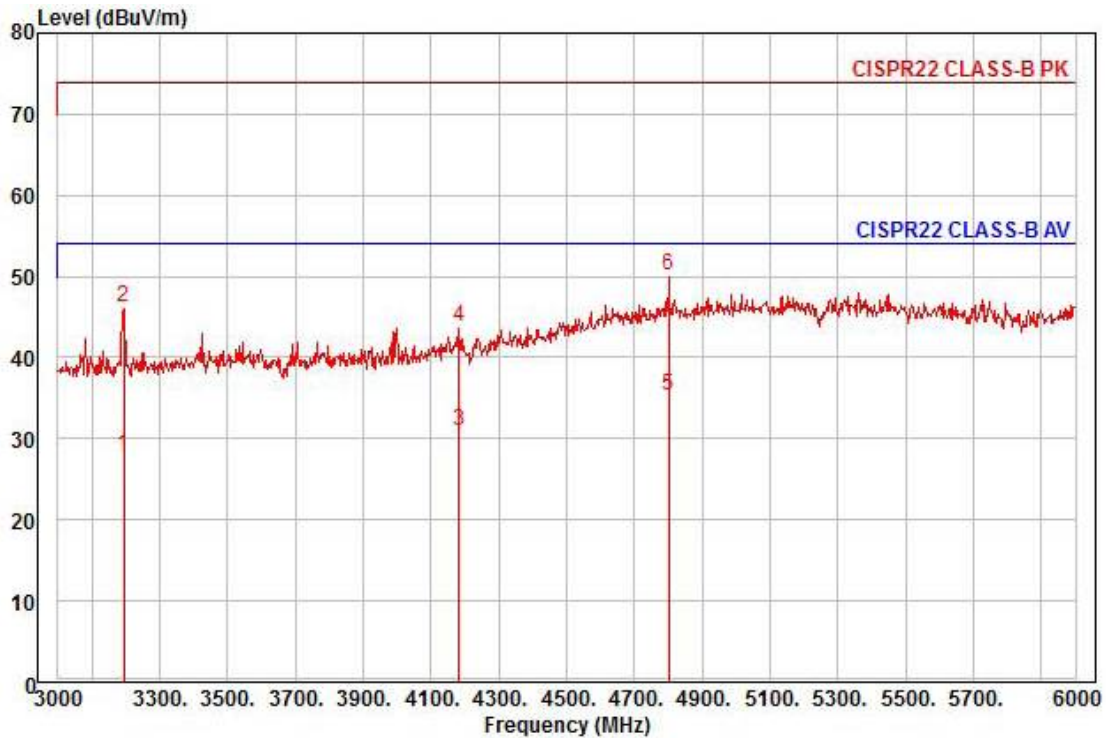
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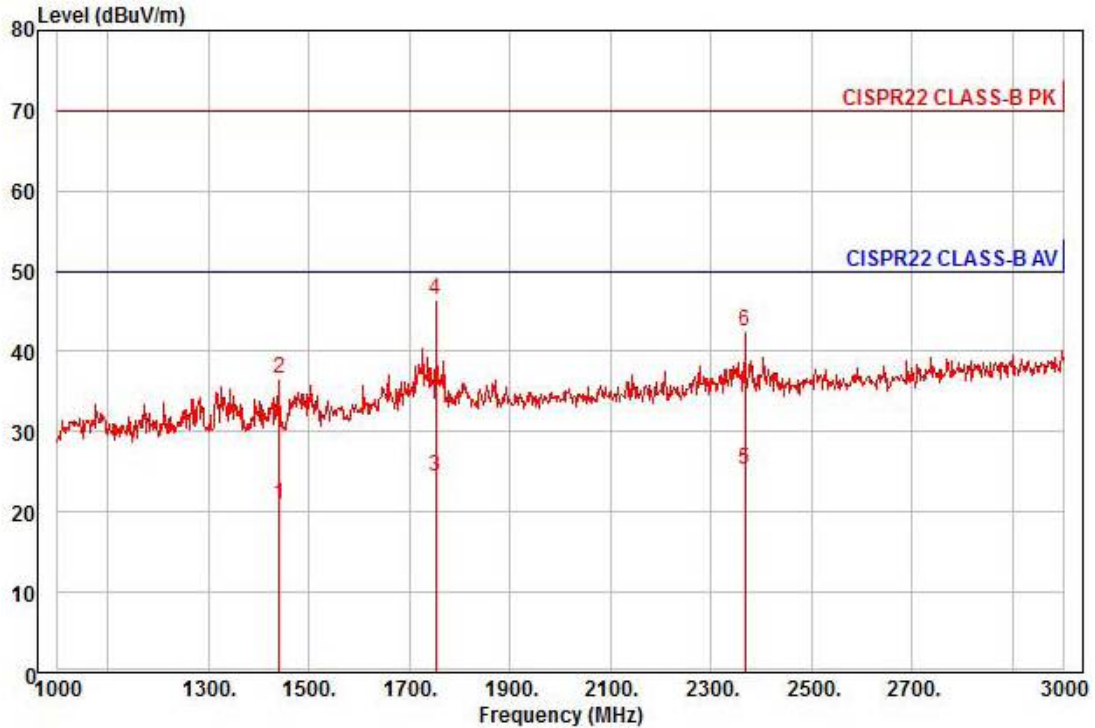


Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : D-SUB
Memo : 230

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3195.00	25.35	30.66	11.96	40.11	314	54.00	-26.14	vertical	Average
2	3195.00	43.64	30.66	11.96	40.11	314	74.00	-27.85	vertical	Peak
3	4182.00	25.14	33.05	13.36	40.51	50	54.00	-22.96	vertical	Average
4	4182.00	38.02	33.05	13.36	40.51	50	74.00	-30.08	vertical	Peak
5 pp	4800.00	24.41	36.58	14.50	40.22	42	54.00	-18.73	vertical	Average
6 pk	4800.00	39.28	36.58	14.50	40.22	42	74.00	-23.86	vertical	Peak

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■ HDMI Mode



Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : video
Memo : 230

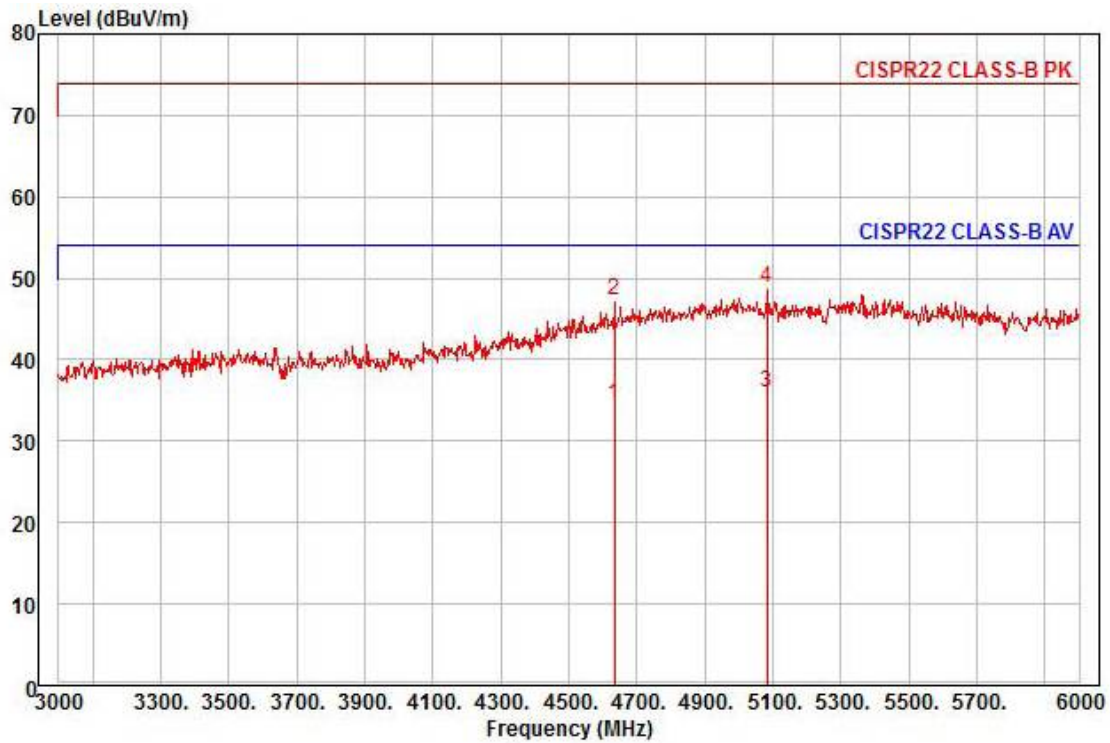
	Freq	Read Level	Ant Factor	Cable Loss	Preamplifier Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1440.00	27.99	25.66	7.31	39.95	40	50.00	-28.99	horizontal	Average
2	1440.00	43.65	25.66	7.31	39.95	40	70.00	-33.33	horizontal	Peak
3	1752.00	29.03	26.90	8.21	39.81	10	50.00	-25.67	horizontal	Average
4 pp	1752.00	51.12	26.90	8.21	39.81	10	70.00	-23.58	horizontal	Peak
5 av	2368.00	26.32	28.78	9.94	39.81	40	50.00	-24.77	horizontal	Average
6	2368.00	43.58	28.78	9.94	39.81	40	70.00	-27.51	horizontal	Peak



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Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : video
Memo : 230

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	4635.00	24.82	35.64	14.20	40.30	259	54.00	-19.64	horizontal	Average
2	4635.00	37.68	35.64	14.20	40.30	259	74.00	-26.78	horizontal	Peak
3 pp	5082.00	23.51	37.55	15.02	40.14	268	54.00	-18.06	horizontal	Average
4 pk	5082.00	36.35	37.55	15.02	40.14	268	74.00	-25.22	horizontal	Peak

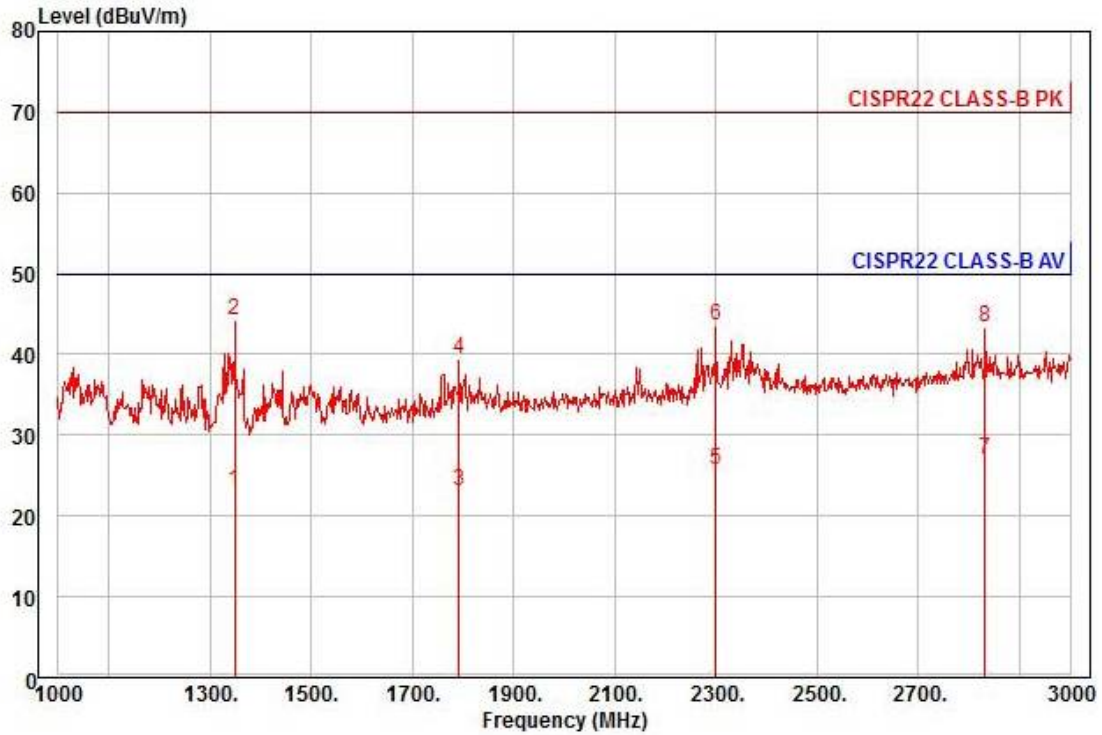
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Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : video
Memo : 230

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1348.00	30.75	25.29	7.05	39.99	16	50.00	-26.90	vertical	Average
2 pk	1348.00	51.83	25.29	7.05	39.99	16	70.00	-25.82	vertical	Peak
3	1792.00	27.55	27.05	8.32	39.79	22	50.00	-26.87	vertical	Average
4	1792.00	43.84	27.05	8.32	39.79	22	70.00	-30.58	vertical	Peak
5	2300.00	27.10	28.61	9.75	39.79	360	50.00	-24.33	vertical	Average
6	2300.00	45.00	28.61	9.75	39.79	360	70.00	-26.43	vertical	Peak
7 pp	2832.00	25.79	29.92	11.23	39.94	16	50.00	-23.00	vertical	Average
8	2832.00	42.06	29.92	11.23	39.94	16	70.00	-26.73	vertical	Peak

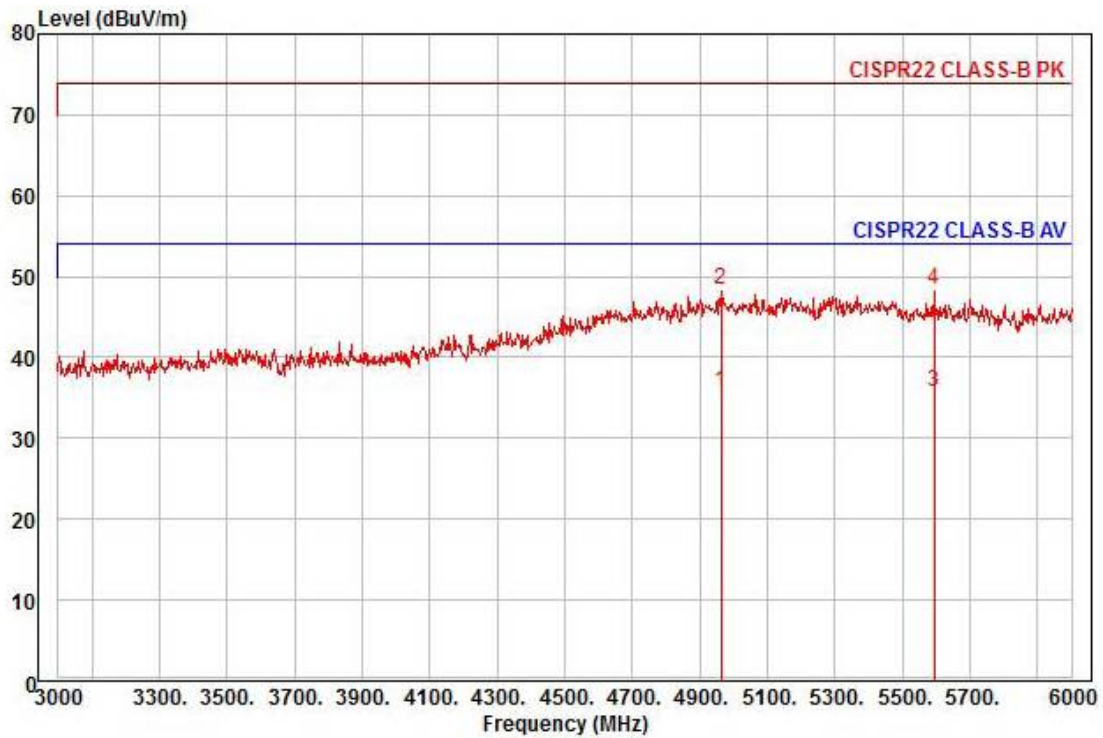
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Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : video
Memo : 230

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1 pp	4962.00	23.58	37.50	14.80	40.14	307	54.00	-18.26	vertical	Average
2	4962.00	36.21	37.50	14.80	40.14	307	74.00	-25.63	vertical	Peak
3	5595.00	23.52	36.52	15.95	40.27	259	54.00	-18.28	vertical	Average
4 pk	5595.00	36.25	36.52	15.95	40.27	259	74.00	-25.55	vertical	Peak

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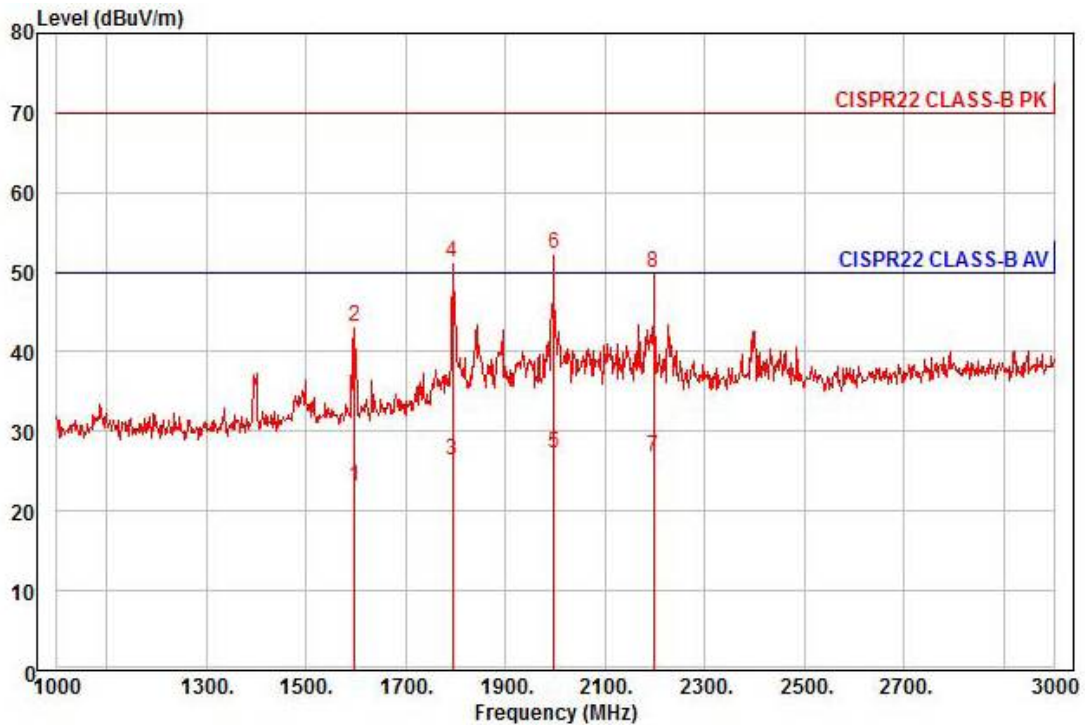


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Video Mode



Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) horizontal
RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : HDMI
Memo : 230

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1598.00	28.86	26.28	7.77	39.88	154	50.00	-26.97	horizontal	Average
2	1598.00	49.07	26.28	7.77	39.88	154	70.00	-26.76	horizontal	Peak
3	1794.00	30.73	27.06	8.33	39.79	76	50.00	-23.67	horizontal	Average
4	1794.00	55.56	27.06	8.33	39.79	76	70.00	-18.84	horizontal	Peak
5 av	1998.00	30.12	27.87	8.91	39.70	84	50.00	-22.80	horizontal	Average
6 pp	1998.00	55.22	27.87	8.91	39.70	84	70.00	-17.70	horizontal	Peak
7	2198.00	28.64	28.37	9.47	39.76	76	50.00	-23.28	horizontal	Average
8	2198.00	51.88	28.37	9.47	39.76	76	70.00	-20.04	horizontal	Peak

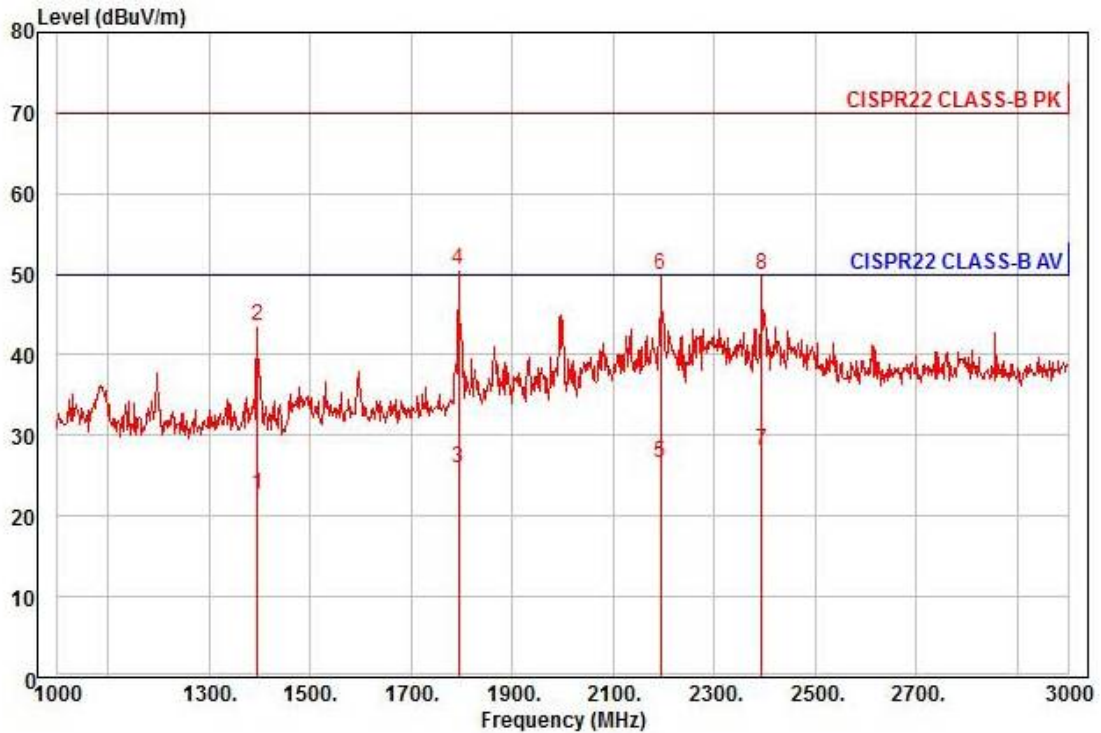
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Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : HDMI
Memo : 230

	Freq	Read Level	Ant Factor	Cable Loss	Preamplifier Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1396.00	30.05	25.48	7.19	39.97	51	50.00	-27.25	vertical	Average
2	1396.00	50.90	25.48	7.19	39.97	51	70.00	-26.40	vertical	Peak
3	1794.00	30.40	27.06	8.33	39.79	69	50.00	-24.00	vertical	Average
4 pp	1794.00	55.02	27.06	8.33	39.79	69	70.00	-19.38	vertical	Peak
5	2194.00	28.50	28.36	9.46	39.76	147	50.00	-23.44	vertical	Average
6	2194.00	51.75	28.36	9.46	39.76	147	70.00	-20.19	vertical	Peak
7 av	2394.00	28.99	28.85	10.02	39.81	359	50.00	-21.95	vertical	Average
8	2394.00	50.79	28.85	10.02	39.81	359	70.00	-20.15	vertical	Peak

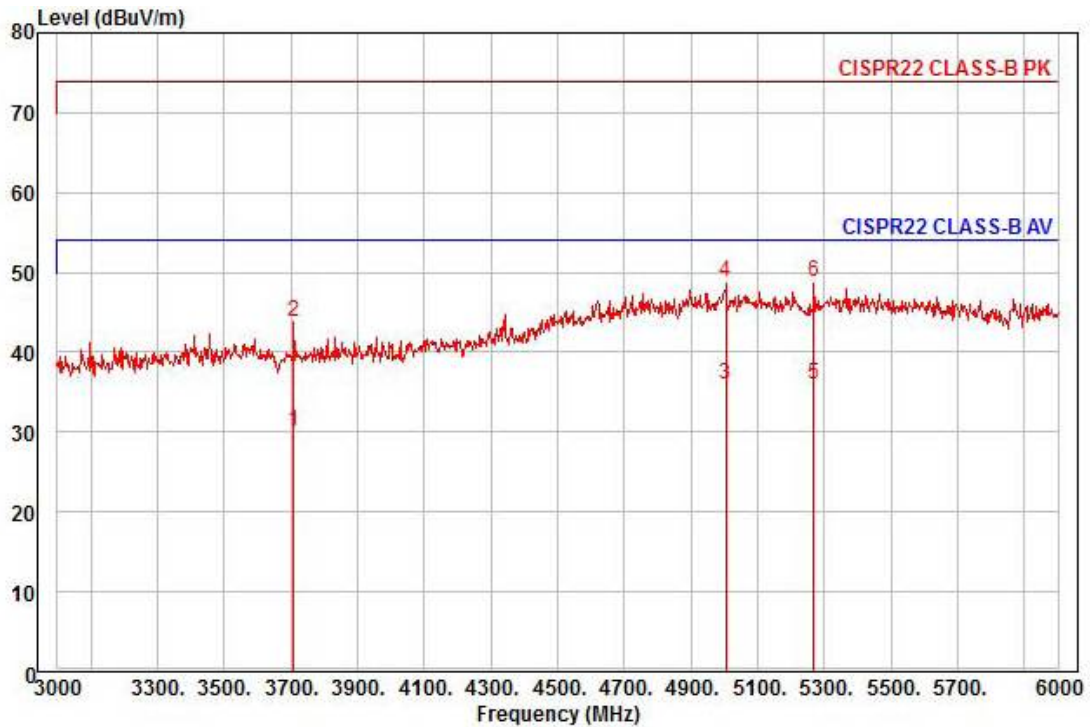
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Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : HDMI
Memo : 230

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3708.00	26.24	31.52	12.64	40.42	174	54.00	-24.02	horizontal	Average
2	3708.00	40.00	31.52	12.64	40.42	174	74.00	-30.26	horizontal	Peak
3 pp	5004.00	23.60	37.71	14.88	40.12	160	54.00	-17.93	horizontal	Average
4 pk	5004.00	36.46	37.71	14.88	40.12	160	74.00	-25.07	horizontal	Peak
5	5268.00	23.63	37.18	15.36	40.19	64	54.00	-18.02	horizontal	Average
6	5268.00	36.43	37.18	15.36	40.19	64	74.00	-25.22	horizontal	Peak

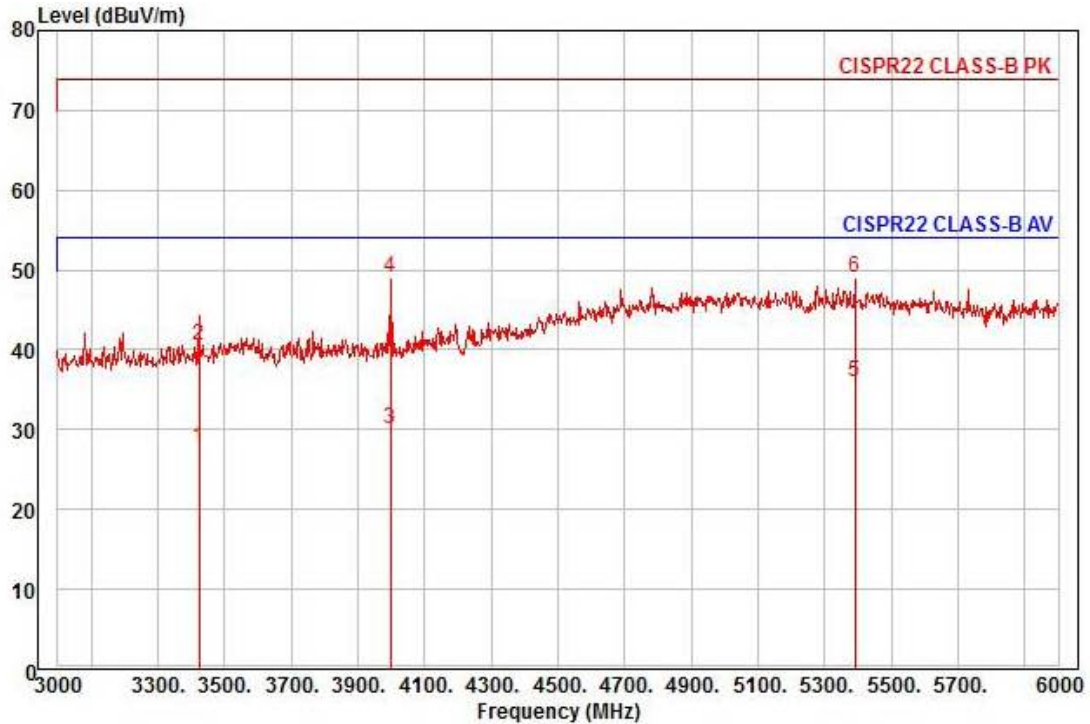
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Site : chamber
Condition: CISPR22 CLASS-B PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : LCD MONITOR
Model : SMT-2233
Mode : HDMI
Memo : 230

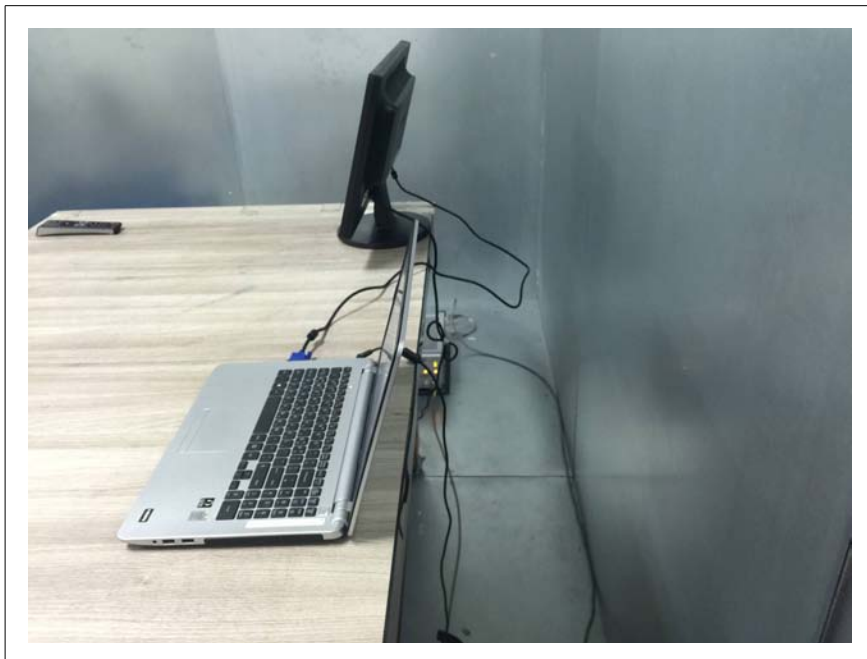
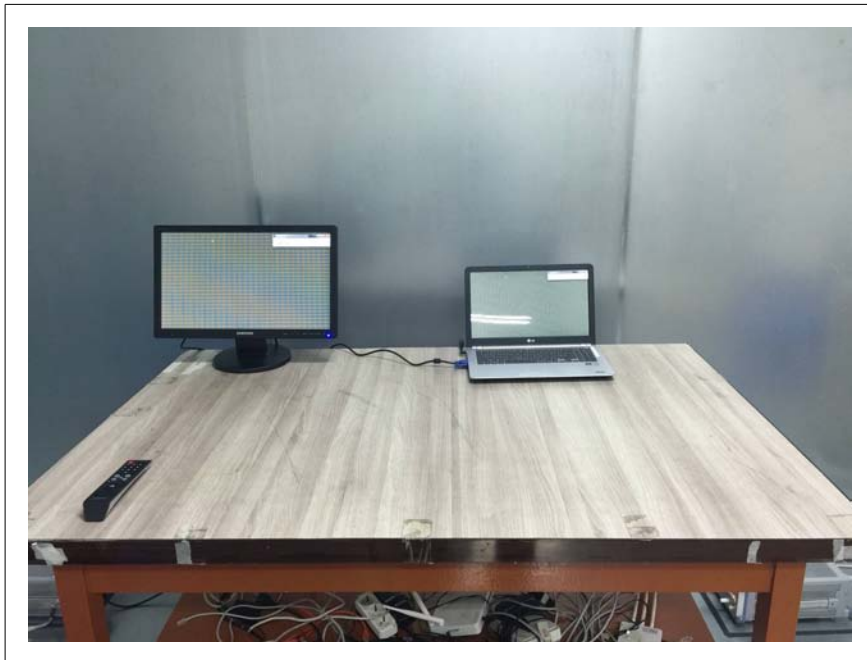
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3423.00	24.63	31.04	12.26	40.25	157	54.00	-26.32	vertical	Average
2	3423.00	37.56	31.04	12.26	40.25	157	74.00	-33.39	vertical	Peak
3	3999.00	25.65	32.01	13.03	40.60	163	54.00	-23.91	vertical	Average
4 pk	3999.00	44.68	32.01	13.03	40.60	163	74.00	-24.88	vertical	Peak
5 pp	5391.00	23.58	36.93	15.58	40.22	282	54.00	-18.13	vertical	Average
6	5391.00	36.68	36.93	15.58	40.22	282	74.00	-25.03	vertical	Peak

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4. Test Setup Photographs

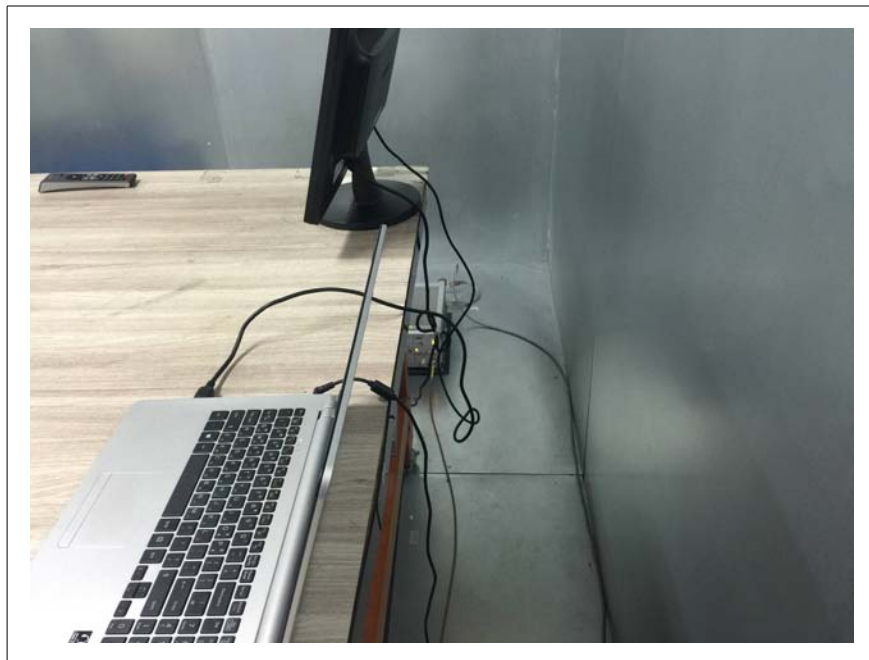
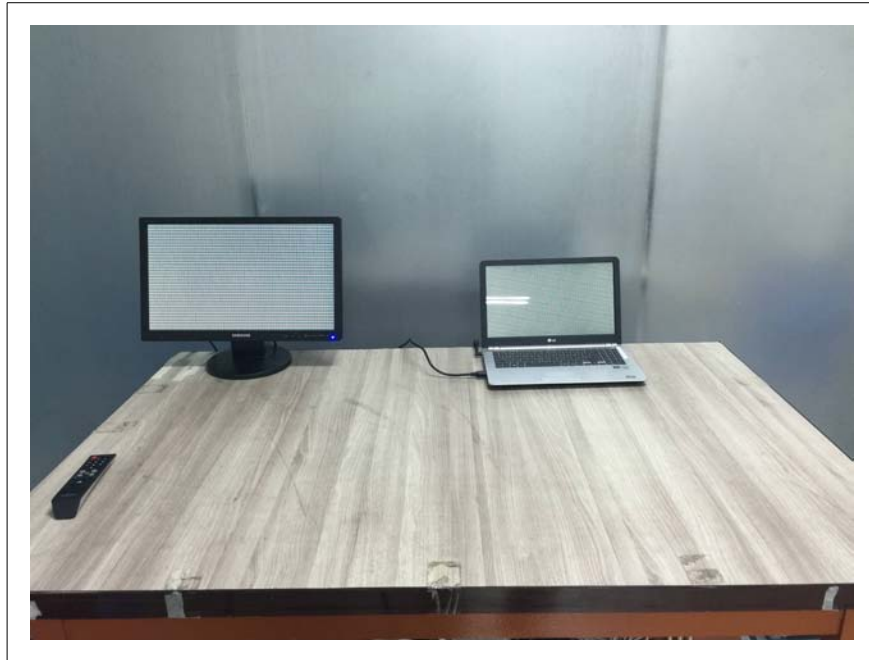
4.1 Conducted Emission

■ D-SUB Mode

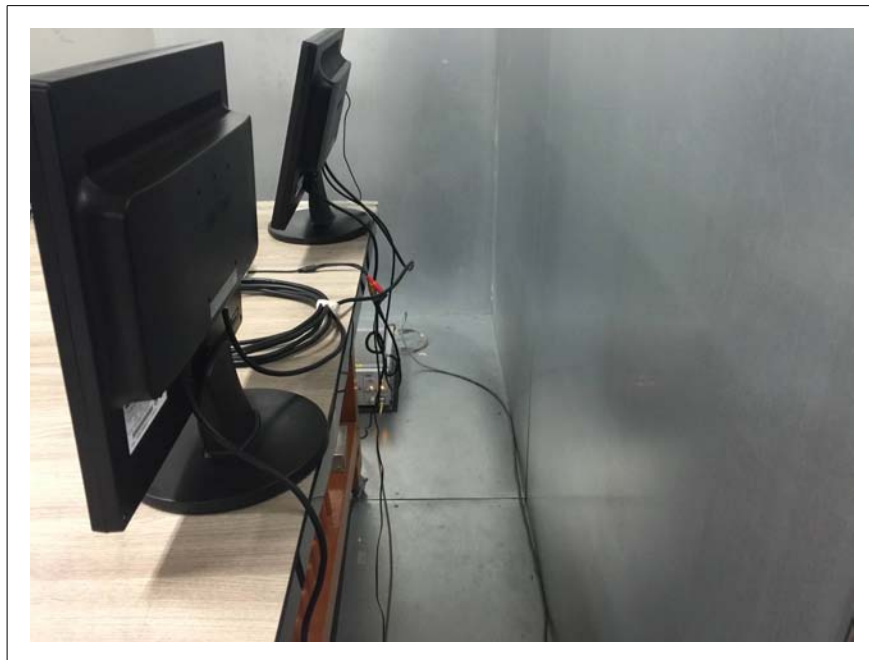
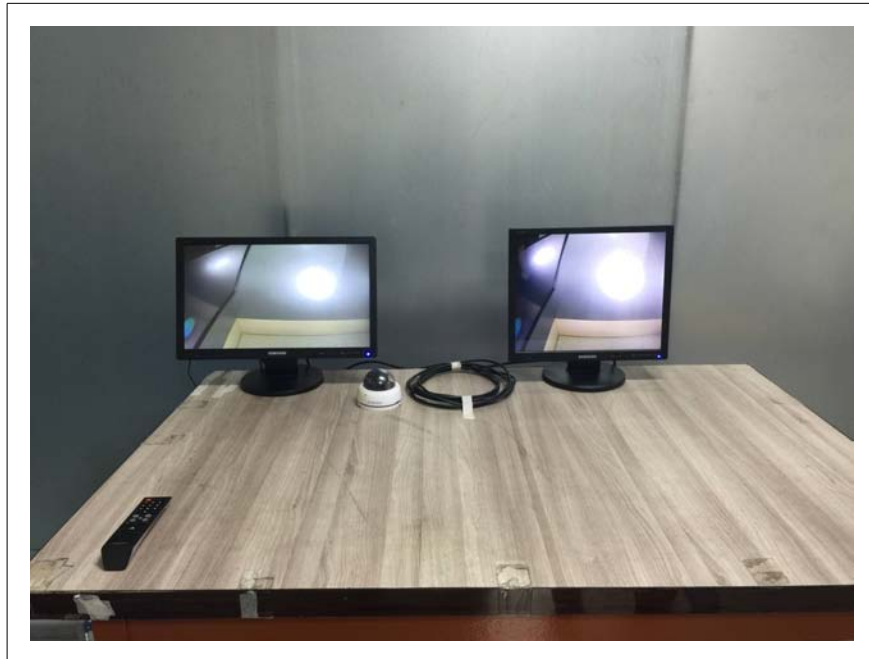


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■ HDMI Mode



■ Video Mode



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- Telecommunication Emission

N/A

N/A

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4.2 Radiated Emission

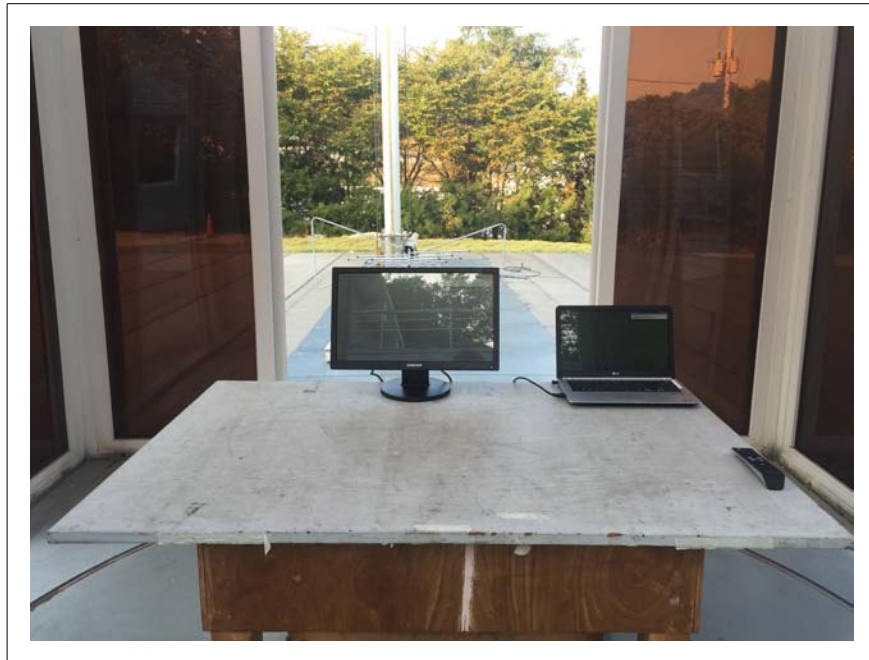
* Blow 1 GHz

■ D-SUB Mode



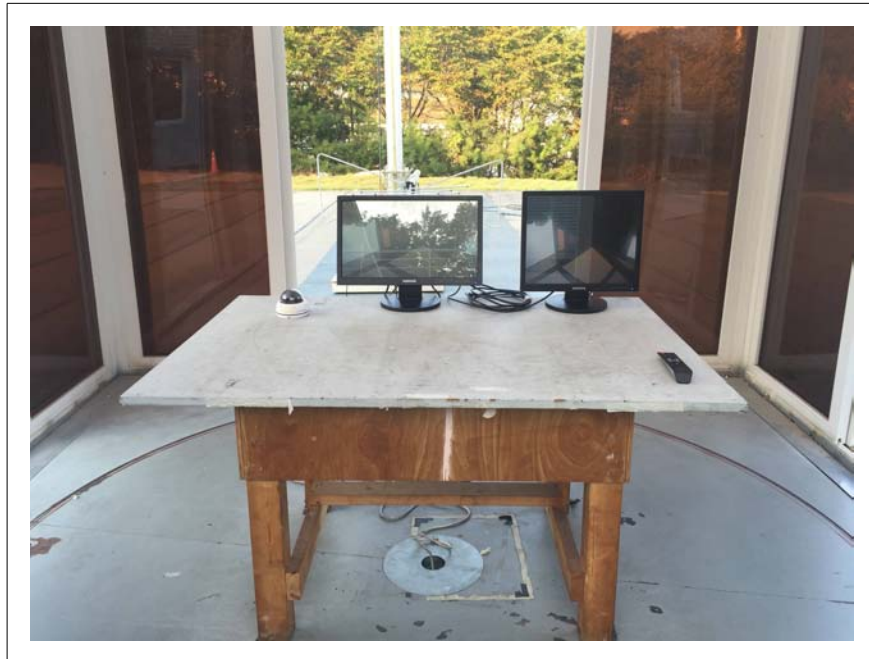
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■ HDMI Mode



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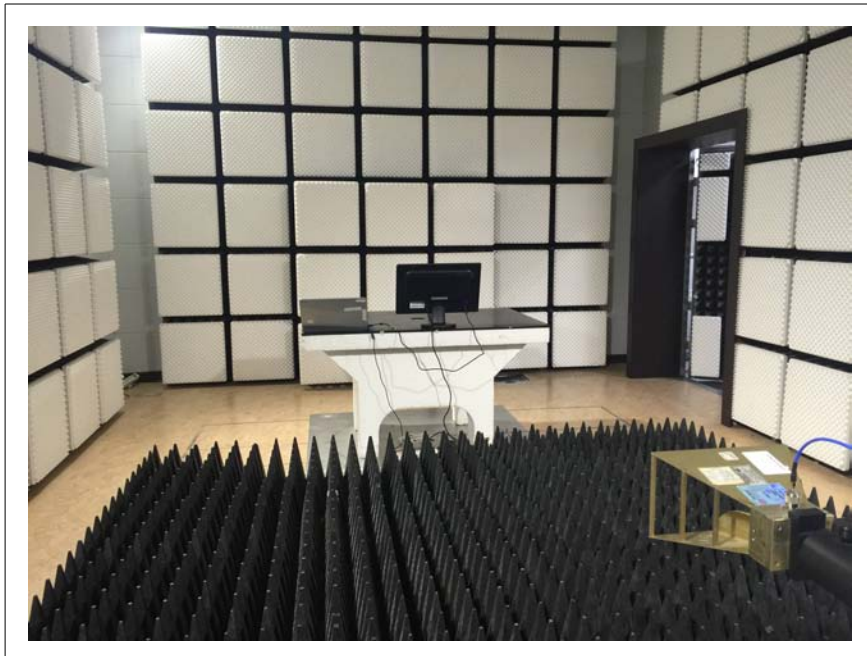
■ Video Mode



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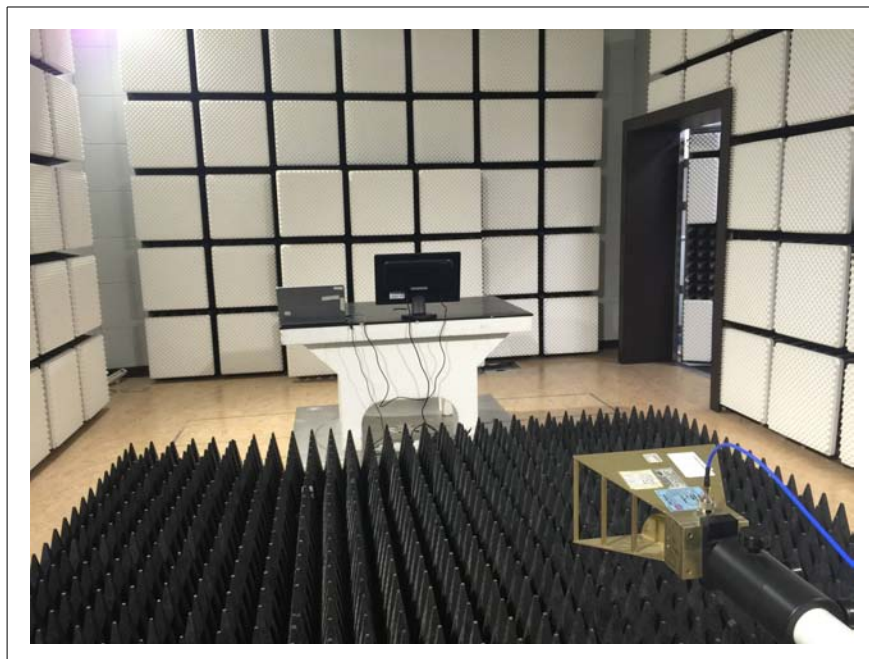
* Above 1 GHz

■ D-SUB Mode



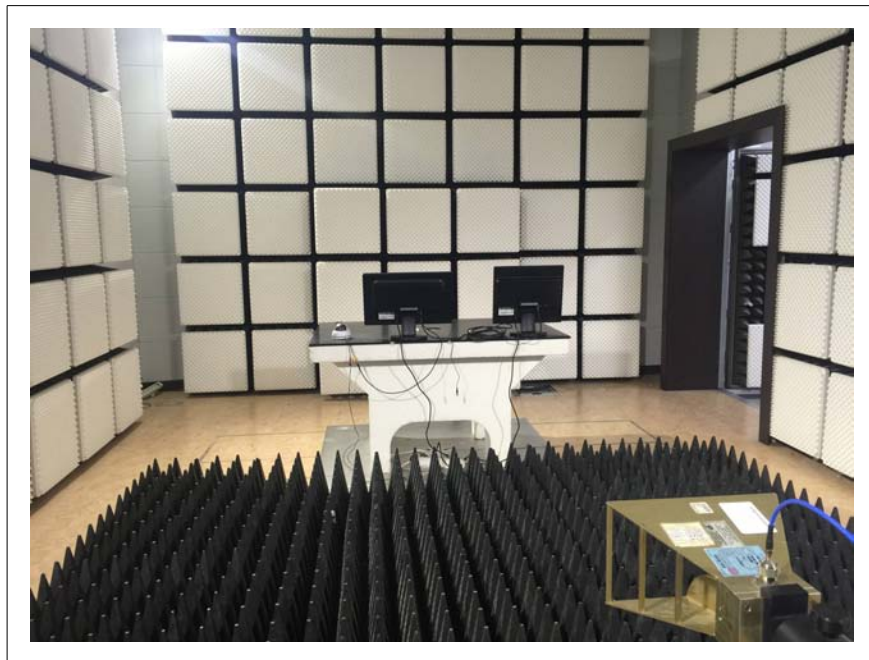
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■ HDMI Mode



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■ Video Mode



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5. External Photographs



[FRONT VIEW]



[REAR VIEW]

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6. Internal Photographs

E.U.T: Internal View



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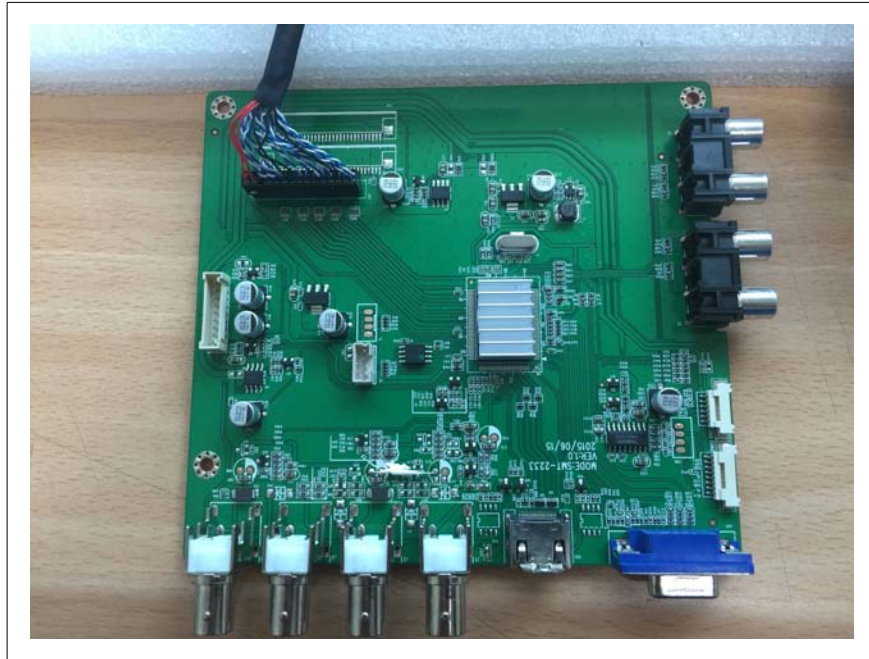


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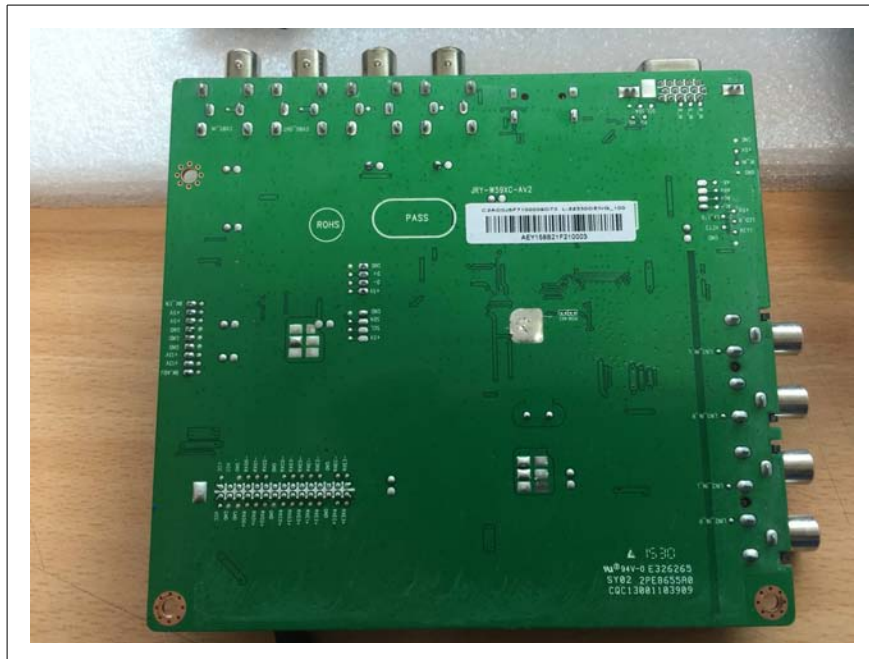
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E.U.T: Internal View(Top) - Main Board



E.U.T: Internal View(Bottom) - Main Board



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E.U.T: Internal View(Top) - LED Board

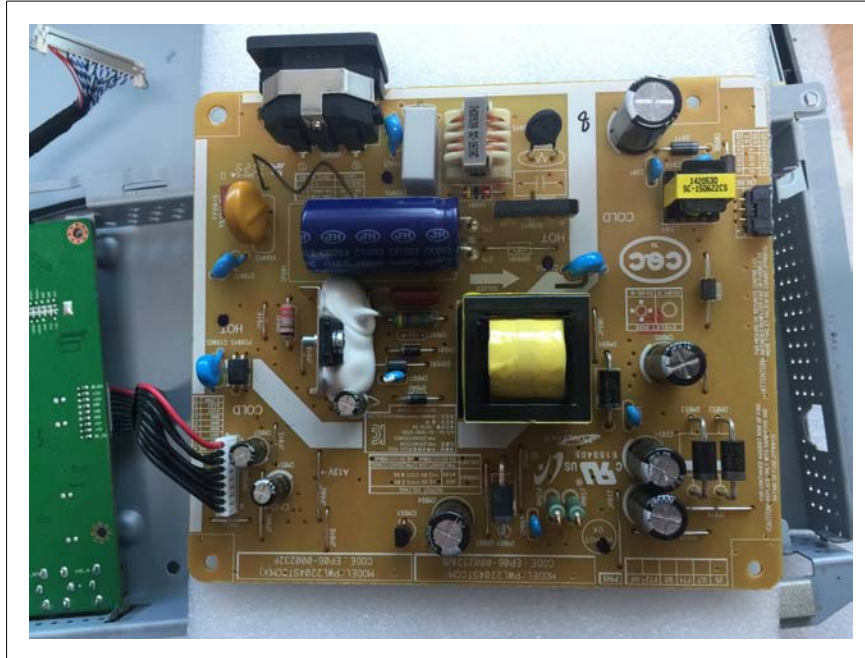


E.U.T: Internal View(Bottom) - LED Board

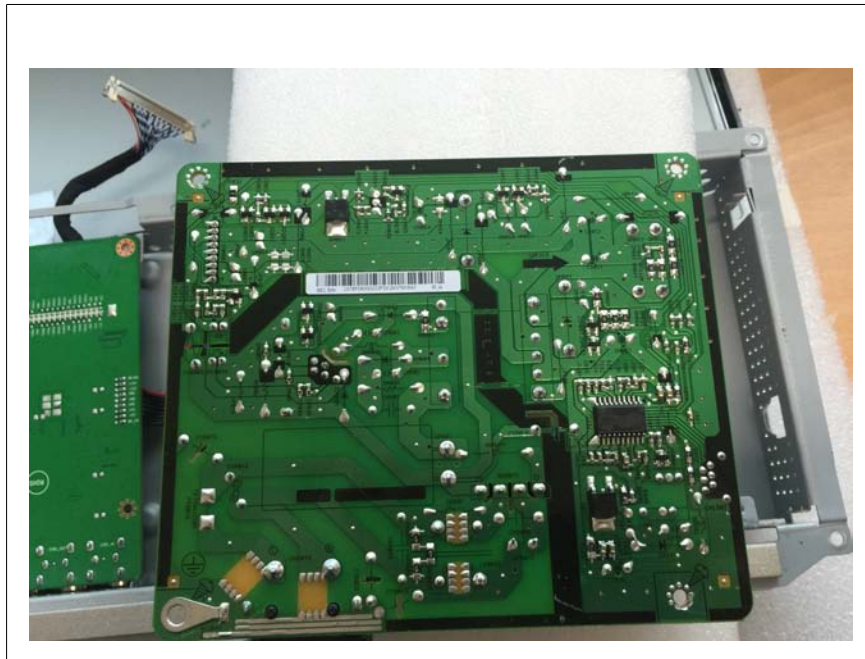


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E.U.T: Internal View(Top) - Power Board

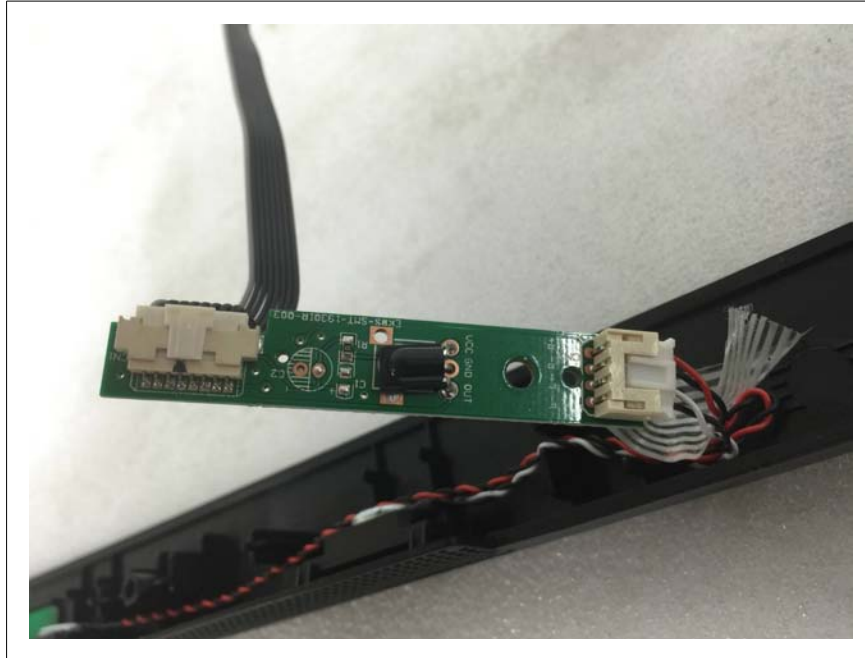


E.U.T: Internal View(Bottom) - Power Board

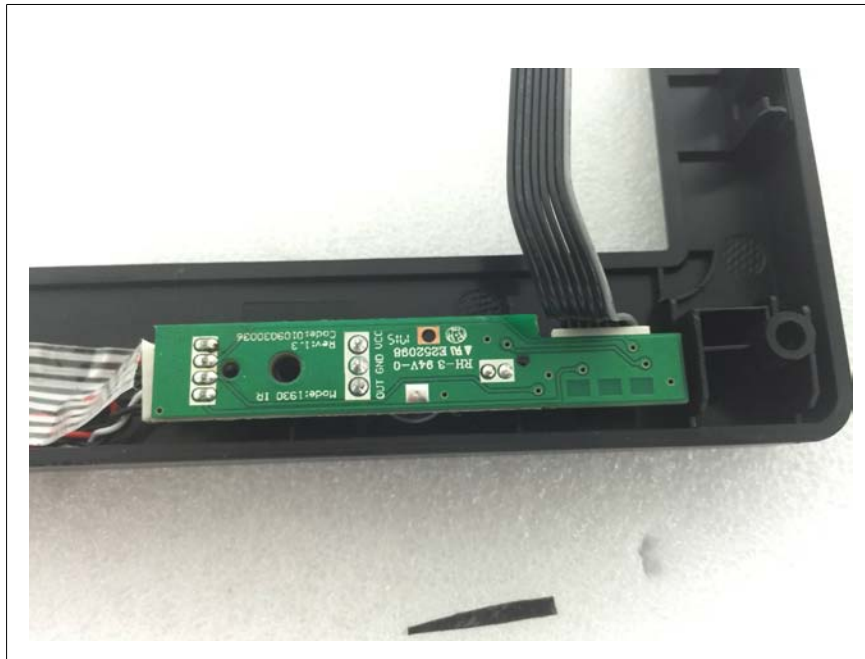


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E.U.T: Internal View(Top) - Infrared receiver



E.U.T: Internal View(Bottom) - Infrared receiver



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E.U.T: Internal View(Top) - LCD



E.U.T: Internal View(Bottom) - LCD



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