

# FCC Test Report

Product Name : 55" Dual-Sided LCD Signage Display

Model No. : DF-55\*, DS-55\* (\*=A-Z or 0-9)

Applicant : Associated Industries China, Inc.

Address : 5F-1, No.3-1, Park Street, Nangang District, Taipei, Taiwan

Date of Receipt : 2014/02/07

Report No. : 1560394R-ITUSP01V00

Issued Date : 2015/06/17

Report Version : V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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# Test Report Verification

Issued Date : 2015/06/17

Report No. : 1560394R-ITUSP01V00



Product Name : 55" Dual-Sided LCD Signage Display  
Applicant : Associated Industries China, Inc.  
Address : 5F-1, No.3-1, Park Street, Nangang District, Taipei,  
Taiwan  
Manufacturer : 1. AU Optonics (Longke) Corporation  
2. TOPFLY CORPORATION  
Model No. : DF-55\*, DS-55\* (\*=A-Z or 0-9)  
EUT Voltage : AC 100-240V, 50/60Hz  
Trade Name :   
Applicable Standard : FCC CFR Title 47 Part 15 Subpart B: 2014 Class A,  
CISPR 22: 2008, ANSI C63.4: 2014  
Test Result : Complied  
Performed Location : Hsinchu EMC Laboratory  
N0. 75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen,  
Qionglin Shiang, Hsinchu County 307, Taiwan  
TEL:+886-3-592-8858 / FAX:+886-3-592-8859

Documented By :   
\_\_\_\_\_  
( Carol Tsai / Engineering Adm. Specialist)  
Reviewed By :   
\_\_\_\_\_  
( Eden Chen / Engineer)  
Approved By :   
\_\_\_\_\_  
( Arthur Liu / Deputy Manager )

## Laboratory Information

We , **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scopes:

<b>Taiwan R.O.C.</b>	<b>:</b>	<b>BSMI, NCC, TAF</b>
<b>Germany</b>	<b>:</b>	<b>TUV Rheinland</b>
<b>Norway</b>	<b>:</b>	<b>DNV</b>
<b>USA</b>	<b>:</b>	<b>FCC</b>
<b>Japan</b>	<b>:</b>	<b>VCCI</b>

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://www.quietek.com/english/about/certificates.aspx?bval=5>  
The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : [http://www.quietek.com/index\\_en.aspx](http://www.quietek.com/index_en.aspx)

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

### **HsinChu Testing Laboratory :**

No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan  
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : [service@quietek.com](mailto:service@quietek.com)

### **LinKou Testing Laboratory :**


No. 5, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan  
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : [service@quietek.com](mailto:service@quietek.com)

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## 1. General Information

### 1.1. EUT Description

Product Name	55" Dual-Sided LCD Signage Display
Trade Name	
Model No.	DF-55*, DS-55* (*=A-Z or 0-9)

Component	
PSU (Mode 1)	AUO, P550HVF04.0 I/P: AC 110V~240V 50~60Hz 2.5A
Power Line (Mode 1)	Non-Shielded, 3.8m

Note:

1. This EUT is a 55" Dual-Sided LCD Signage Display.
2. The model number DF-55\*, DS-55\*; \* = A-Z or 0-9.

Model No.	Description
DF-55	Dual-side with Full Size Stand
DS-55	Dual-side without Stand

## 1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode	
Mode 1: HDMI (DS-55)	
Mode 2: HDMI (DF-55)	
Final Test Mode	
Emission	Mode 1: HDMI (DS-55) Mode 2: HDMI (DF-55)

### 1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Test Mode		Mode 1: HDMI (DS-55)				
Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	PC	DELL	DCSM	00144-562-218-245	DoC	Non-Shielded, 1.8m
2	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
3	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
4	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
5	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
6	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
7	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
8	Keyboard	Logitech	Y-SM46	SY525U17991	DoC	--
9	Mouse	Logitech	M-SBF83	HCA52200076	DoC	--
10	Modem	ACEEX	DM-1414	0102027535	DoC	Non-Shielded, 1.6m
11	Microphone & Earphone	Fujiei	SBZ-38	N/A	DoC	--
12	Microphone & Earphone	Fujiei	SBZ-38	N/A	DoC	--

Test Mode		Mode 2: HDMI (DF-55)				
Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Microphone & Earphone	Fujiei	SBZ-38	N/A	DoC	--
2	Microphone & Earphone	Fujiei	SBZ-38	N/A	DoC	--
3	Modem	ACEEX	DM-1414	0102027535	DoC	Non-Shielded, 1.6m
4	PC	DELL	DCSM	00144-562-218-245	DoC	Non-Shielded, 1.8m
5	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
6	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
7	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
8	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
9	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
10	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
11	Keyboard	Logitech	Y-SM46	SY525U17991	DoC	--
12	Mouse	Logitech	M-SBF83	HCA52200076	DoC	--

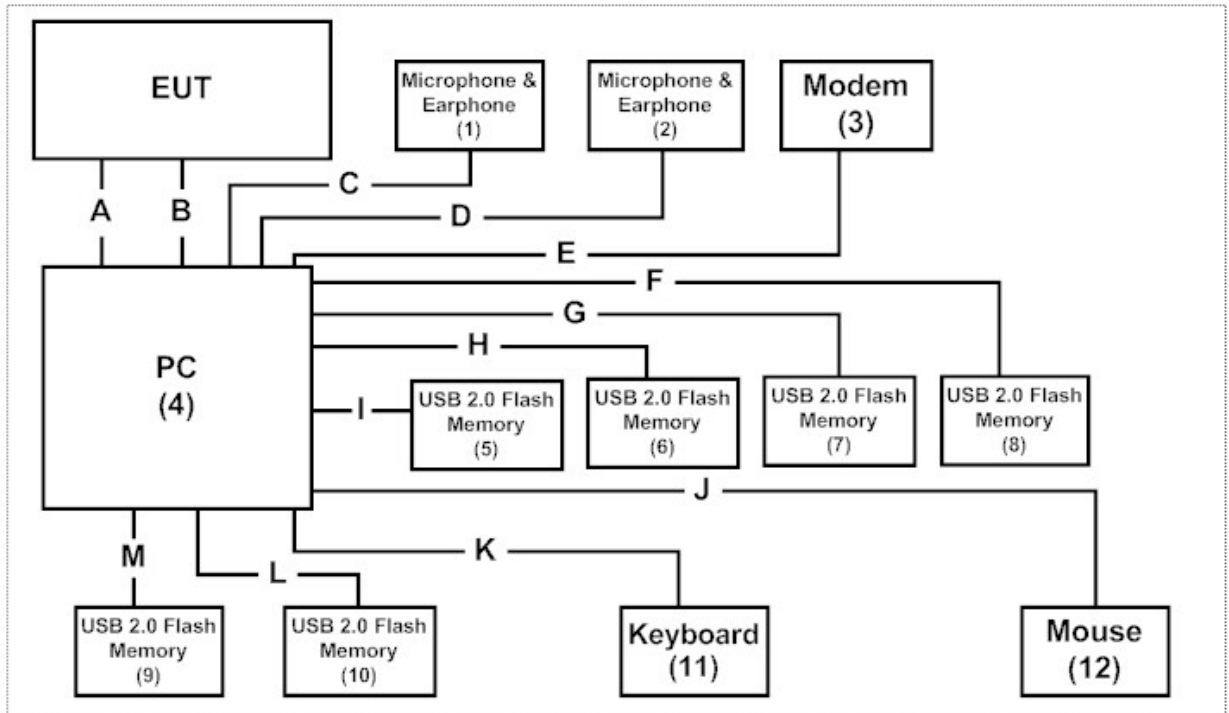
### 1.4. Configuration of Tested System

Test Mode		Mode 1: HDMI (DS-55)
Connection Diagram		
Signal Cable Type	Signal cable Description	
A	HDMI Cable	Shielded, 1.9m
B	HDMI to DVI Cable	Shielded, 1.9m
C	Microphone & Earphone Cable	Non-Shielded, 1.9m
D	Microphone & Earphone Cable	Non-Shielded, 1.9m
E	Modem Cable	Shielded, 1.2m
F	USB 2.0 Flash Memory Cable	Shielded, 0.9m
G	USB 2.0 Flash Memory Cable	Shielded, 0.9m
H	USB 2.0 Flash Memory Cable	Shielded, 0.9m
I	USB 2.0 Flash Memory Cable	Shielded, 0.9m
J	USB 2.0 Flash Memory Cable	Shielded, 0.9m
K	USB 2.0 Flash Memory Cable	Shielded, 0.9m
L	Mouse Cable	Shielded, 1.8m
M	Keyboard Cable	Shielded, 1.4m
N	Power Cable	Shielded, 3.8m



Test Mode Mode 2: HDMI (DF-55)

Connection Diagram



Signal Cable Type	Signal cable Description
A	HDMI Cable Shielded, 1.9m
B	HDMI to DVI Cable Shielded, 1.9m
C	Microphone & Earphone Cable Non-Shielded, 1.9m
D	Microphone & Earphone Cable Non-Shielded, 1.9m
E	Modem Cable Shielded, 1.2m
F	USB 2.0 Flash Memory Cable Shielded, 0.9m
G	USB 2.0 Flash Memory Cable Shielded, 0.9m
H	USB 2.0 Flash Memory Cable Shielded, 0.9m
I	USB 2.0 Flash Memory Cable Shielded, 0.9m
J	Mouse Cable Shielded, 1.8m
K	Keyboard Cable Shielded, 1.4m
L	USB 2.0 Flash Memory Cable Shielded, 0.9m
M	USB 2.0 Flash Memory Cable Shielded, 0.9m

### 1.5. EUT Exercise Software

1	Test system is in accord with EUT user manual (refer to 1.4 configuration of tested system)
2	Turn on the power of all equipment.
3	Notebook reads data from disk.
4	Notebook sends "H" pattern to monitor.

## 2. Technical Test

### 2.1. Summary of Test Result

- No deviations from the test standards  
 Deviations from the test standards as below description:

Emission			
Performed Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart B: 2014 ANSI C63.4: 2014	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart B: 2014 ANSI C63.4: 2014	Yes	No

## 2.2. List of Test Equipment

### Conducted Emission / SR2

Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2015/02/09
Coaxial Cable	Harbour	RG-400	SR2	2014/08/14
LISN	R&S	ENV216	100092	2014/08/08
Test Receiver	R&S	ESCS 30	825442/014	2014/07/30
Quietek EMI system	Quietek	Version 2.2	SR2	N/A

### Radiated Emission / Site1 (Under 1GHz)(Mode 1)

Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date
Bilog Antenna	Schaffner	CBL6112B	2915	2014/08/14
Spectrum Analyzer	Advantest	R3162C	91700283	2014/10/28
Test Receiver	R&S	ESCS 30	100122	2015/02/20
Coaxial Switch	Anritsu	MP59B	6200410245	2014/08/14
Coaxial Cable	Suhner	RG-214U	Site1	2014/08/14
Quietek EMI system	Quietek	Version 2.2	Site1	N/A

### Radiated Emission / Site2 (Under 1GHz)(Mode 2)

Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date
Bilog Antenna	Schaffner	CBL6112B	2891	2014/08/14
Spectrum Analyzer	Advantest	R3162	121200166	2015/02/10
Test Receiver	R&S	ESCS 30	836858/023	2015/02/25
Coaxial Switch	Anritsu	MP59B	6200410246	2014/03/31
Coaxial Cable	Suhner	RG-214U	Site2-1	2014/03/31
Quietek EMI system	Quietek	Version 2.2	Site2	N/A

### Radiated Emission / CB1 (Above 1GHz)

Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date
k Type Cable	Huber Suhner	Sucoflex 102	25623/2	2015/02/10
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120	D743	2015/02/12
Pre-Amplifier	MITEQ	JS41-00104000-58-5P	1438359	2014/04/21
PSA Series Spectrum analyzer	Agilent	E4440A	MY46187335	2015/01/12
Quietek EMI system	Quietek	Version 2.2	CB1	N/A

### 2.3. Measurement Uncertainty

#### Conducted Emission

The measurement uncertainty is evaluated as  $\pm 2.26$  dB.

#### Radiated Emission (Under 1GHz)

The measurement uncertainty is evaluated as  $\pm 3.43$  dB.

#### Radiated Emission (Above 1GHz)

The measurement uncertainty is evaluated as  $\pm 3.65$  dB.

### 2.4. Test Environment

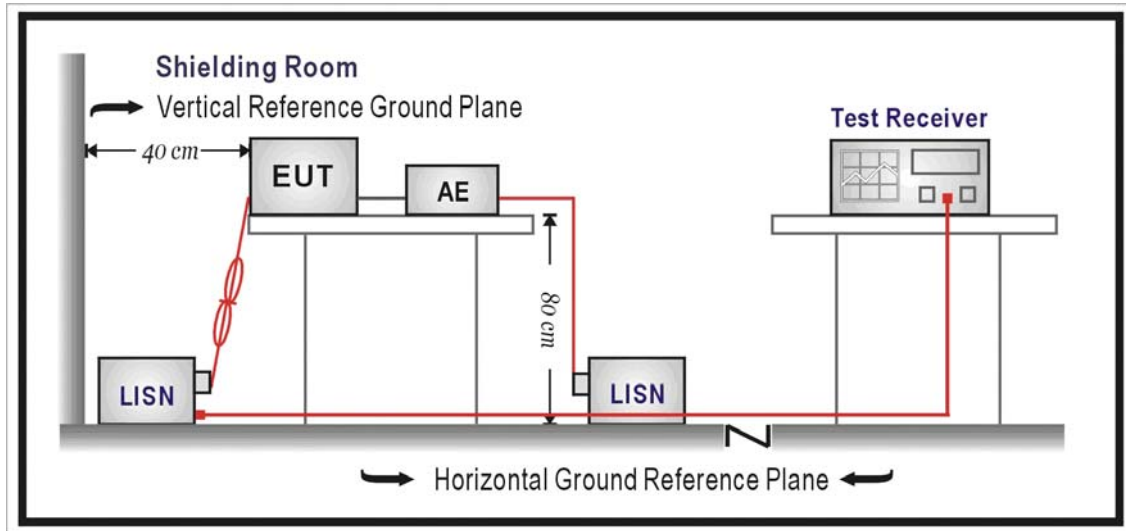
Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000
Radiated Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	65
	Barometric pressure (mbar)	860-1060	950-1000

### 3. Conducted Emission

#### 3.1. Test Specification

According to Standard : FCC Part 15 Subpart B, ANSI C63.4

#### 3.2. Test Setup



#### 3.3. Limit

Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	79	66
0.50-5.0	73	60
5.0 - 30	73	60

Remarks: In the above table, the tighter limit applies at the band edges.

### **3.4. Test Procedure**

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.

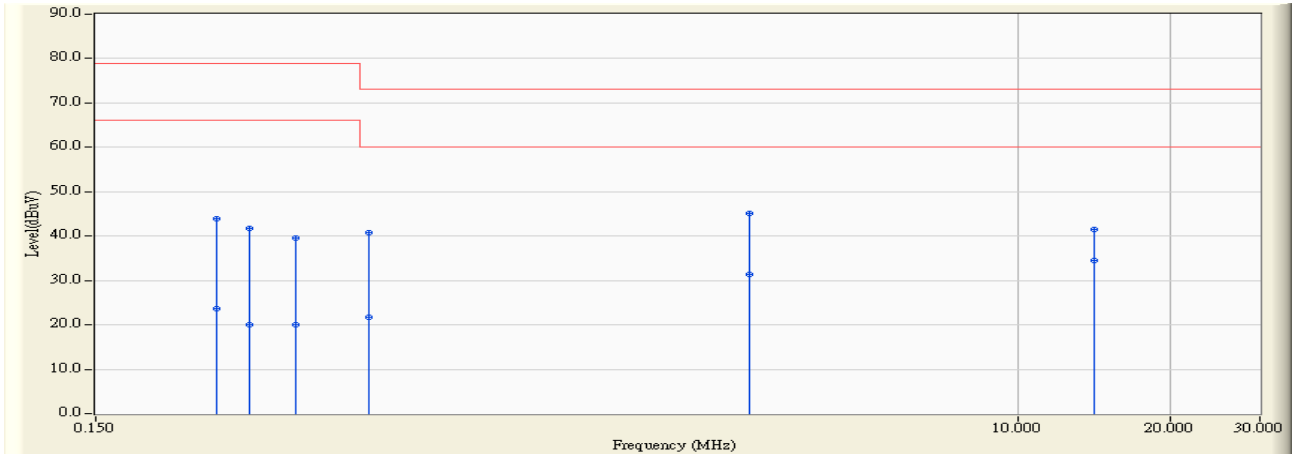
(Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

### 3.5. Test Result

Site : SR2	Time : 2014/03/19 - 11:55
Limit : CISPR_A_00M_QP	Margin : 13
Probe : SR2_LISN(16A)-4_0809 - Line1	Power : AC 120V/60Hz
EUT : 55" Dual-Sided LCD Signage Display	Note : Mode 1: HDMI (DS-55)



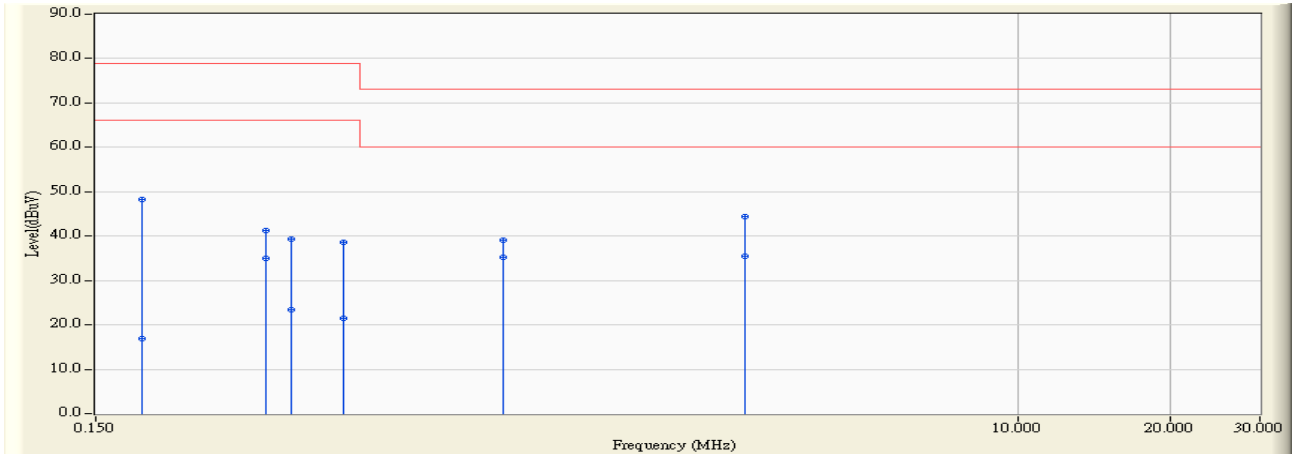
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.259	9.670	34.160	43.830	-35.170	79.000	QUASPEAK
2	0.259	9.670	13.880	23.550	-42.450	66.000	AVERAGE
3	0.302	9.670	32.130	41.800	-37.200	79.000	QUASPEAK
4	0.302	9.670	10.310	19.980	-46.020	66.000	AVERAGE
5	0.373	9.670	29.930	39.600	-39.400	79.000	QUASPEAK
6	0.373	9.670	10.440	20.110	-45.890	66.000	AVERAGE
7	0.521	9.676	31.160	40.836	-32.164	73.000	QUASPEAK
8	0.521	9.676	11.960	21.636	-38.364	60.000	AVERAGE
9	2.931	9.830	35.270	45.100	-27.900	73.000	QUASPEAK
10	2.931	9.830	21.530	31.360	-28.640	60.000	AVERAGE
11	14.134	10.169	31.280	41.449	-31.551	73.000	QUASPEAK
12	* 14.134	10.169	24.330	34.499	-25.501	60.000	AVERAGE

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.



Site : SR2	Time : 2014/03/19 - 11:57
Limit : CISPR_A_00M_QP	Margin : 13
Probe : SR2_LISN(16A)-4_0809 - Line2	Power : AC 120V/60Hz
EUT : 55" Dual-Sided LCD Signage Display	Note : Mode 1: HDMI (DS-55)

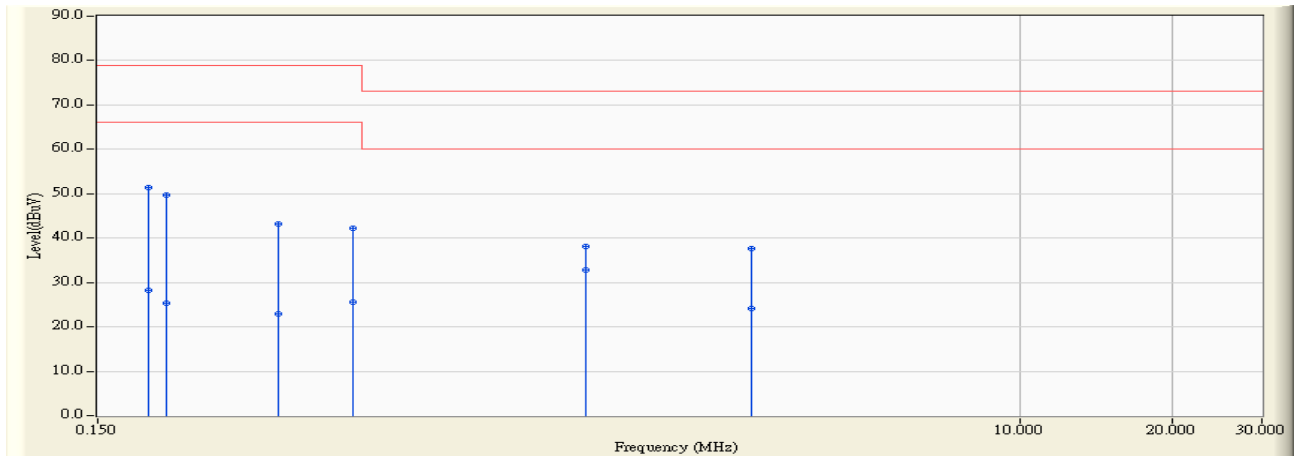


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.185	9.667	38.500	48.167	-30.833	79.000	QUASIPeAK
2		0.185	9.667	7.280	16.947	-49.053	66.000	AVERAGE
3		0.326	9.670	31.590	41.260	-37.740	79.000	QUASIPeAK
4		0.326	9.670	25.370	35.040	-30.960	66.000	AVERAGE
5		0.365	9.670	29.650	39.320	-39.680	79.000	QUASIPeAK
6		0.365	9.670	13.660	23.330	-42.670	66.000	AVERAGE
7		0.463	9.671	29.050	38.721	-40.279	79.000	QUASIPeAK
8		0.463	9.671	11.850	21.521	-44.479	66.000	AVERAGE
9		0.959	9.770	29.280	39.051	-33.949	73.000	QUASIPeAK
10		0.959	9.770	25.530	35.301	-24.699	60.000	AVERAGE
11		2.873	9.819	34.460	44.279	-28.721	73.000	QUASIPeAK
12	*	2.873	9.819	25.680	35.499	-24.501	60.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

<b>Site : SR2</b>	<b>Time : 2014/03/19 - 10:03</b>
<b>Limit : CISPR_A_00M_QP</b>	<b>Margin : 13</b>
<b>Probe : SR2_LISN(16A)-4_0809 - Line1</b>	<b>Power : AC 120V/60Hz</b>
<b>EUT : 55" Dual-Sided LCD Signage Display</b>	<b>Note : Mode 2: HDMI (DF-55)</b>

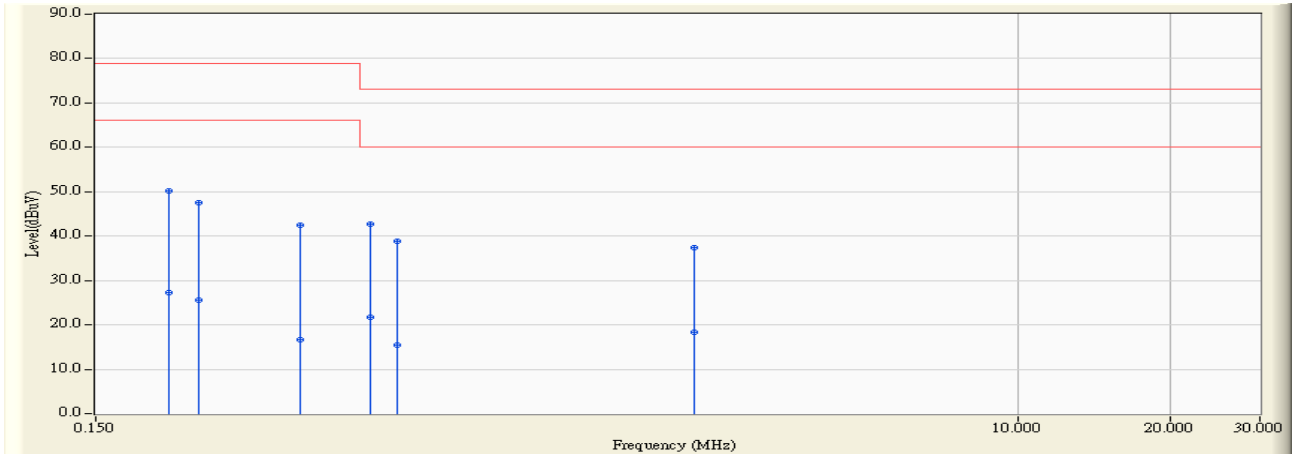


		<b>Frequency (MHz)</b>	<b>Correct Factor (dB)</b>	<b>Reading Level (dBuV)</b>	<b>Measure Level (dBuV)</b>	<b>Margin (dB)</b>	<b>Limit (dBuV)</b>	<b>Detector Type</b>
1		0.189	9.670	41.840	51.510	-27.490	79.000	QUASIPeAK
2		0.189	9.670	18.440	28.110	-37.890	66.000	AVERAGE
3		0.205	9.670	40.150	49.820	-29.180	79.000	QUASIPeAK
4		0.205	9.670	15.600	25.270	-40.730	66.000	AVERAGE
5		0.341	9.670	33.440	43.110	-35.890	79.000	QUASIPeAK
6		0.341	9.670	13.360	23.030	-42.970	66.000	AVERAGE
7		0.478	9.671	32.470	42.141	-36.859	79.000	QUASIPeAK
8		0.478	9.671	16.010	25.681	-40.319	66.000	AVERAGE
9		1.384	9.784	28.380	38.164	-34.836	73.000	QUASIPeAK
10	*	1.384	9.784	23.090	32.874	-27.126	60.000	AVERAGE
11		2.935	9.830	27.840	37.670	-35.330	73.000	QUASIPeAK
12		2.935	9.830	14.290	24.120	-35.880	60.000	AVERAGE

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

<b>Site : SR2</b>	<b>Time : 2014/03/19 - 10:05</b>
<b>Limit : CISPR_A_00M_QP</b>	<b>Margin : 13</b>
<b>Probe : SR2_LISN(16A)-4_0809 - Line2</b>	<b>Power : AC 120V/60Hz</b>
<b>EUT : 55" Dual-Sided LCD Signage Display</b>	<b>Note : Mode 2: HDMI (DF-55)</b>



		<b>Frequency (MHz)</b>	<b>Correct Factor (dB)</b>	<b>Reading Level (dBuV)</b>	<b>Measure Level (dBuV)</b>	<b>Margin (dB)</b>	<b>Limit (dBuV)</b>	<b>Detector Type</b>
1	*	0.209	9.669	40.610	50.279	-28.721	79.000	QUASIPeAK
2		0.209	9.669	17.640	27.309	-38.691	66.000	AVERAGE
3		0.240	9.670	37.870	47.540	-31.460	79.000	QUASIPeAK
4		0.240	9.670	16.020	25.690	-40.310	66.000	AVERAGE
5		0.380	9.670	32.900	42.570	-36.430	79.000	QUASIPeAK
6		0.380	9.670	7.010	16.680	-49.320	66.000	AVERAGE
7		0.525	9.677	33.010	42.687	-30.313	73.000	QUASIPeAK
8		0.525	9.677	11.960	21.637	-38.363	60.000	AVERAGE
9		0.591	9.691	29.250	38.941	-34.059	73.000	QUASIPeAK
10		0.591	9.691	5.810	15.501	-44.499	60.000	AVERAGE
11		2.287	9.800	27.680	37.480	-35.520	73.000	QUASIPeAK
12		2.287	9.800	8.560	18.360	-41.640	60.000	AVERAGE

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

### 3.6. Test Photograph

Test Mode : Mode 1: HDMI (DS-55)

Description : Front View of Conducted Emission Test Setup



Test Mode : Mode 1: HDMI (DS-55)

Description : Back View of Conducted Emission Test Setup



Test Mode : Mode 2: HDMI (DF-55)

Description : Front View of Conducted Emission Test Setup



Test Mode : Mode 2: HDMI (DF-55)

Description : Back View of Conducted Emission Test Setup



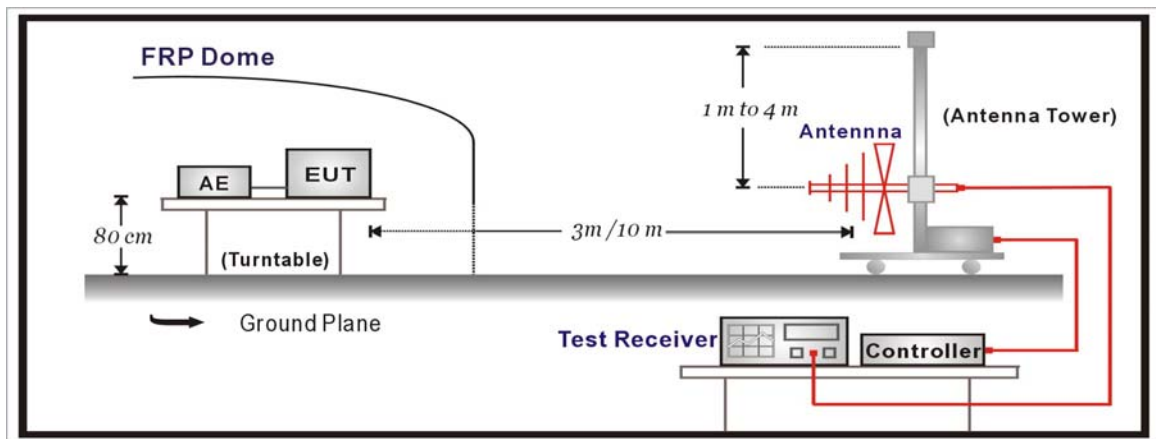
## 4. Radiated Emission

### 4.1. Test Specification

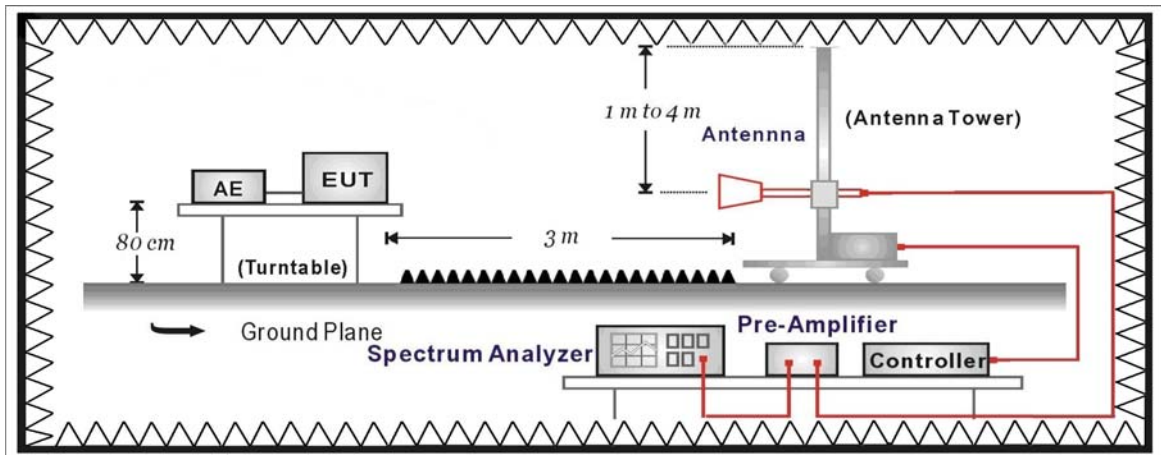
According to EMC Standard : FCC Part 15 Subpart B, ANSI C63.4

### 4.2. Test Setup

Under 1GHz Test Setup



Above 1GHz Test Setup





### 4.3. Limit

Under 1GHz test shall not exceed the following value:

Limits		
Frequency (MHz)	Distance (m)	dBuV/m
30 – 230	10	40
230 – 1000	10	47

Limits		
Frequency (MHz)	Distance (m)	dBuV/m
30-88	10	39
88-216	10	43.5
216-960	10	46.4
Above 960	10	49.5

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
  1. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
  2. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)

Above 1GHz test shall not exceed the following value:

FCC Part 15 Subpart B Paragraph 15.109 Limits (dBuV/m)			
Frequency (MHz)	Distance (m)	Peak (dBuV/m)	Average (dBuV/m)
Above 1000	3	79.5	59.5

Remark:

1. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

#### 4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level and the antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

For an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower

On any frequency or frequencies below or equal to 1000 MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 1000 MHz, the radiated limits shown are based measuring equipment employing an average detector function.

When average radiated emission measurement are included emission measurement Above 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

For class A, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and 3 meters for above 1GHz.

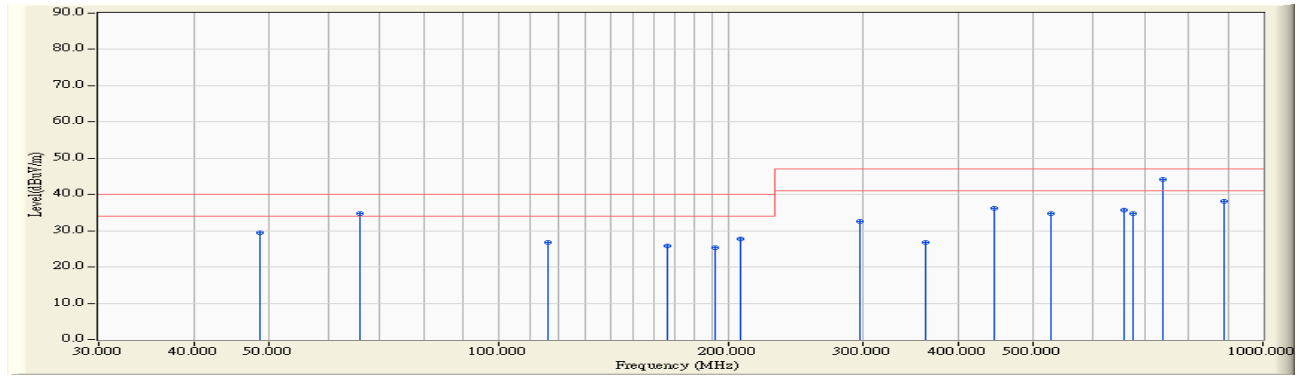
For class B, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and 3 meters for above 1GHz.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30) is 120 kHz and above 1GHz is 1MHz.



### 4.5. Test Result

Site : Site1	Time : 2014/02/07 - 14:41
Limit : CISPR_A_10M_QP	Margin : 6
Probe : SITE1_10M-3_0815 - HORIZONTAL	Power : AC 120V/60Hz
EUT : 55" Dual-Sided LCD Signage Display	Note : Mode 1: HDMI (DS-55)

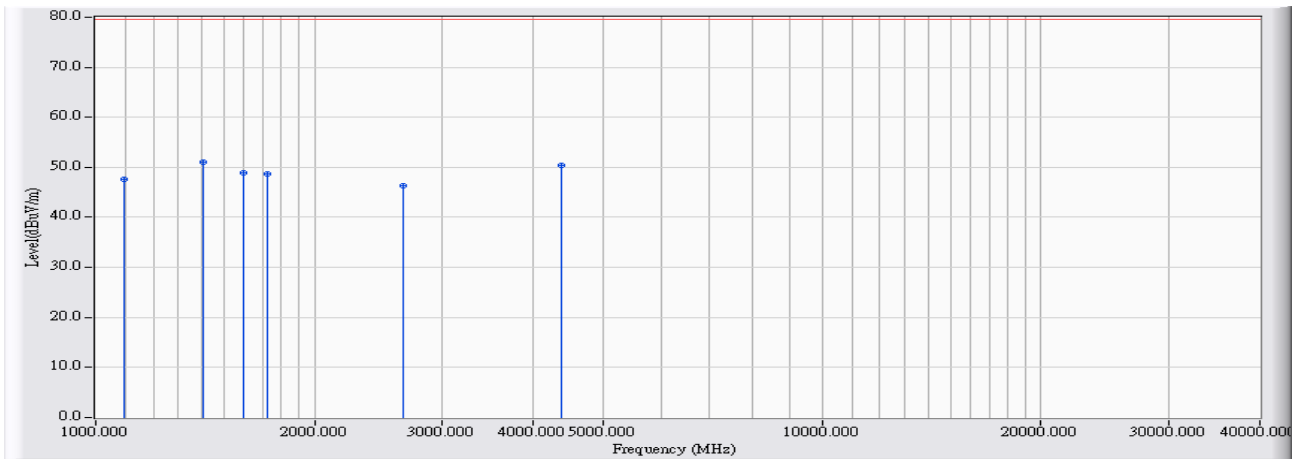


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	48.700	9.372	20.050	29.422	-10.578	40.000	QUASPEAK
2	65.875	8.729	25.910	34.640	-5.360	40.000	QUASPEAK
3	116.300	14.572	12.220	26.792	-13.208	40.000	QUASPEAK
4	166.000	12.877	13.020	25.897	-14.103	40.000	QUASPEAK
5	192.000	12.608	12.610	25.218	-14.782	40.000	QUASPEAK
6	207.125	13.168	14.600	27.769	-12.231	40.000	QUASPEAK
7	296.525	17.856	14.800	32.656	-14.344	47.000	QUASPEAK
8	362.425	19.988	6.800	26.789	-20.211	47.000	QUASPEAK
9	444.800	22.175	14.000	36.175	-10.825	47.000	QUASPEAK
10	527.150	23.907	10.900	34.807	-12.193	47.000	QUASPEAK
11	658.975	25.908	9.800	35.708	-11.292	47.000	QUASPEAK
12	675.400	26.060	8.700	34.760	-12.240	47.000	QUASPEAK
13	* 741.325	26.976	17.300	44.275	-2.725	47.000	QUASPEAK
14	889.525	28.827	9.300	38.127	-8.873	47.000	QUASPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

<b>Site : CB1</b>	<b>Time : 2014/03/22 - 13:40</b>
<b>Limit : FCC_A_(Above_1G)_3M_PK</b>	<b>Margin : 0</b>
<b>Probe : CB1_CISPR_22_B(above1G)-1_0901 - HORIZONTAL</b>	<b>Power : AC 120V/60Hz</b>
<b>EUT : 55" Dual-Sided LCD Signage Display</b>	<b>Note : Mode 1: HDMI (DS-55)</b>

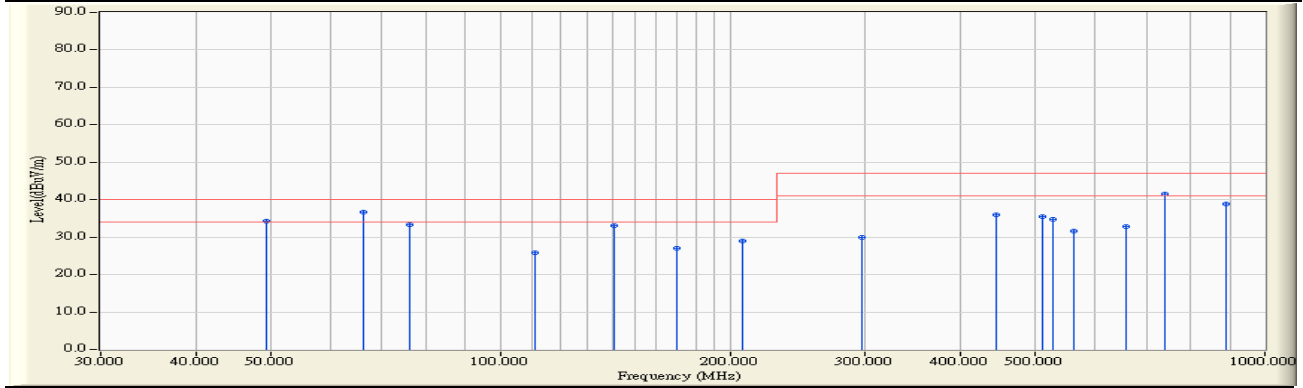


		<b>Frequency (MHz)</b>	<b>Correct Factor (dB)</b>	<b>Reading Level (dBuV)</b>	<b>Measure Level (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Limit (dBuV/m)</b>	<b>Detector Type</b>
1		1095.000	-9.153	56.715	47.562	-31.938	79.500	PEAK
2	*	1405.000	-7.982	58.949	50.967	-28.533	79.500	PEAK
3		1600.000	-7.466	56.451	48.985	-30.515	79.500	PEAK
4		1720.000	-7.277	55.923	48.646	-30.854	79.500	PEAK
5		2655.000	-4.781	51.061	46.280	-33.220	79.500	PEAK
6		4375.000	-0.208	50.659	50.451	-29.049	79.500	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

<b>Site : Site1</b>	<b>Time : 2014/02/07 - 14:57</b>
<b>Limit : CISPR_A_10M_QP</b>	<b>Margin : 6</b>
<b>Probe : SITE1_10M-3_0815 - VERTICAL</b>	<b>Power : AC 120V/60Hz</b>
<b>EUT : 55" Dual-Sided LCD Signage Display</b>	<b>Note : Mode 1: HDMI (DS-55)</b>

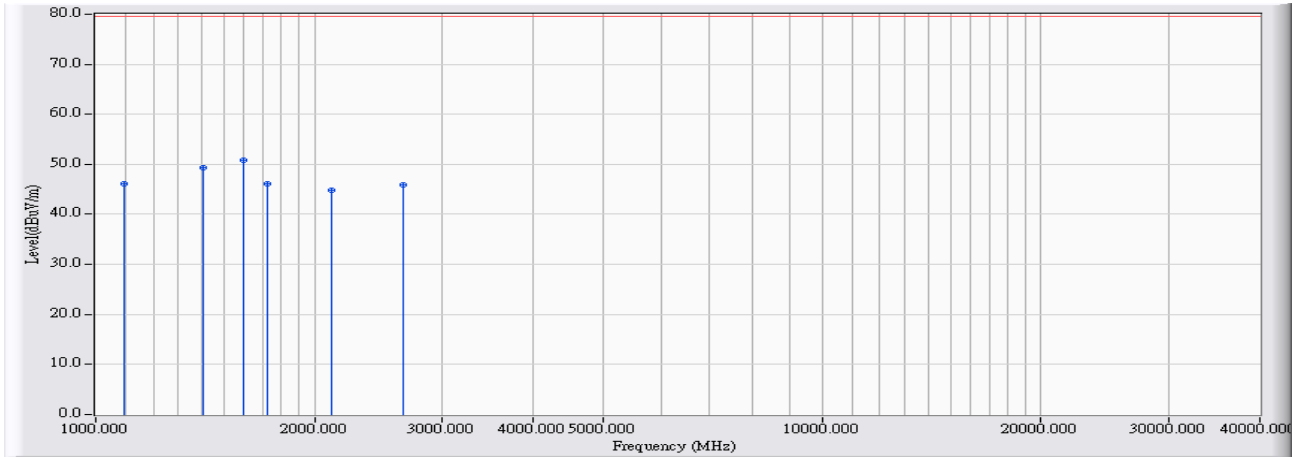


		<b>Frequency (MHz)</b>	<b>Correct Factor (dB)</b>	<b>Reading Level (dBuV)</b>	<b>Measure Level (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Limit (dBuV/m)</b>	<b>Detector Type</b>
1		49.375	9.138	25.200	34.338	-5.662	40.000	QUASPEAK
2	*	66.250	8.778	27.910	36.689	-3.311	40.000	QUASPEAK
3		76.000	9.250	24.150	33.400	-6.600	40.000	QUASPEAK
4		111.150	14.072	11.850	25.923	-14.077	40.000	QUASPEAK
5		140.750	14.180	18.960	33.140	-6.860	40.000	QUASPEAK
6		170.000	12.795	14.170	26.965	-13.035	40.000	QUASPEAK
7		207.125	13.168	15.800	28.969	-11.031	40.000	QUASPEAK
8		296.525	17.856	12.000	29.856	-17.144	47.000	QUASPEAK
9		444.800	22.175	13.700	35.875	-11.125	47.000	QUASPEAK
10		510.700	23.579	11.800	35.378	-11.622	47.000	QUASPEAK
11		527.150	23.907	10.800	34.707	-12.293	47.000	QUASPEAK
12		563.400	24.630	6.900	31.530	-15.470	47.000	QUASPEAK
13		658.975	25.908	6.900	32.808	-14.192	47.000	QUASPEAK
14		741.325	26.976	14.500	41.475	-5.525	47.000	QUASPEAK
15		889.575	28.827	9.900	38.728	-8.272	47.000	QUASPEAK

**Note:**

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : CB1	Time : 2014/03/22 - 14:11
Limit : FCC_A_(Above_1G)_3M_PK	Margin : 0
Probe : CB1_CISPR_22_B(above1G)-1_0901 - VERTICAL	Power : AC 120V/60Hz
EUT : 55" Dual-Sided LCD Signage Display	Note : Mode 1: HDMI (DS-55)

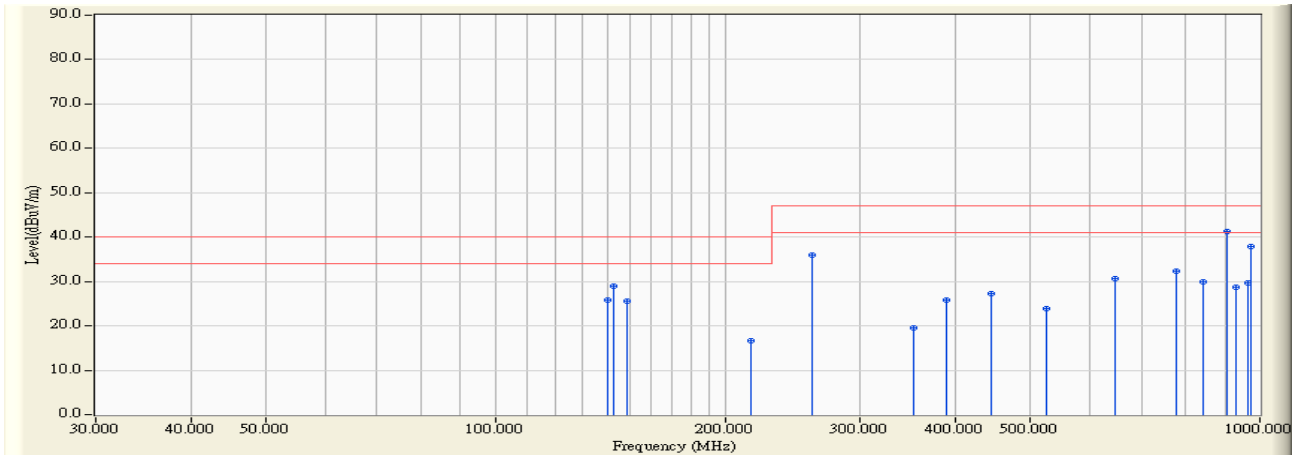


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	1095.000	-9.153	55.250	46.097	-33.403	79.500	PEAK
2	1405.000	-7.982	57.332	49.350	-30.150	79.500	PEAK
3	* 1600.000	-7.466	58.372	50.906	-28.594	79.500	PEAK
4	1720.000	-7.277	53.418	46.141	-33.359	79.500	PEAK
5	2110.000	-6.521	51.354	44.833	-34.667	79.500	PEAK
6	2655.000	-4.781	50.645	45.864	-33.636	79.500	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

<b>Site : Site2</b>	<b>Time : 2014/02/17 - 15:03</b>
<b>Limit : CISPR_A_10M_QP</b>	<b>Margin : 6</b>
<b>Probe : Site2_10M-4_0815 - HORIZONTAL</b>	<b>Power : AC 120V/60Hz</b>
<b>EUT : 55" Dual-Sided LCD Signage Display</b>	<b>Note : Mode 2: HDMI (DF-55)</b>

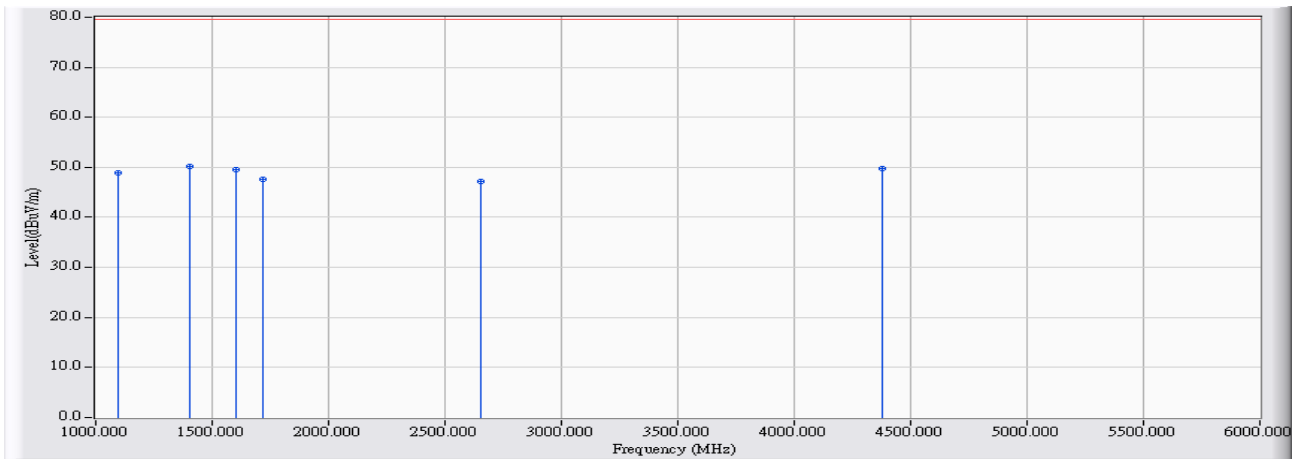


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	140.000	13.165	12.680	25.845	-14.155	40.000	QUASPEAK
2	142.900	13.042	15.910	28.952	-11.048	40.000	QUASPEAK
3	148.950	12.770	12.850	25.621	-14.379	40.000	QUASPEAK
4	216.000	13.036	3.710	16.746	-23.254	40.000	QUASPEAK
5	259.200	15.546	20.320	35.866	-11.134	47.000	QUASPEAK
6	352.825	18.204	1.240	19.444	-27.556	47.000	QUASPEAK
7	388.800	19.177	6.750	25.927	-21.073	47.000	QUASPEAK
8	444.975	20.449	6.920	27.369	-19.631	47.000	QUASPEAK
9	525.575	22.073	1.790	23.863	-23.137	47.000	QUASPEAK
10	648.000	23.926	6.780	30.706	-16.294	47.000	QUASPEAK
11	777.600	25.372	7.020	32.391	-14.609	47.000	QUASPEAK
12	842.450	26.012	3.980	29.992	-17.008	47.000	QUASPEAK
13	* 907.200	26.668	14.600	41.268	-5.732	47.000	QUASPEAK
14	928.800	26.994	1.700	28.694	-18.306	47.000	QUASPEAK
15	964.825	27.540	2.060	29.599	-17.401	47.000	QUASPEAK
16	972.000	27.648	10.240	37.888	-9.112	47.000	QUASPEAK

**Note:**

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

<b>Site : CB1</b>	<b>Time : 2014/03/22 - 14:57</b>
<b>Limit : FCC_A_(Above_1G)_3M_PK</b>	<b>Margin : 0</b>
<b>Probe : CB1_CISPR_22_B(above1G)-1_0901 - HORIZONTAL</b>	<b>Power : AC 120V/60Hz</b>
<b>EUT : 55" Dual-Sided LCD Signage Display</b>	<b>Note : Mode 2: HDMI (DF-55)</b>

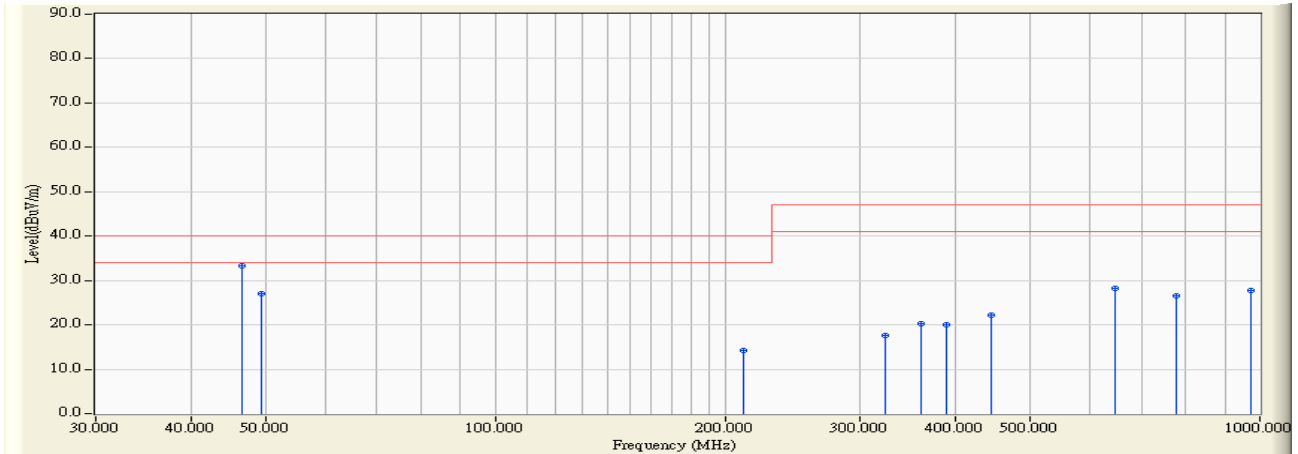


		<b>Frequency (MHz)</b>	<b>Correct Factor (dB)</b>	<b>Reading Level (dBuV)</b>	<b>Measure Level (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Limit (dBuV/m)</b>	<b>Detector Type</b>
1		1095.000	-9.153	58.015	48.862	-30.638	79.500	PEAK
2	*	1405.000	-7.982	58.149	50.167	-29.333	79.500	PEAK
3		1600.000	-7.466	56.951	49.485	-30.015	79.500	PEAK
4		1720.000	-7.277	54.823	47.546	-31.954	79.500	PEAK
5		2655.000	-4.781	51.961	47.180	-32.320	79.500	PEAK
6		4375.000	-0.208	50.059	49.851	-29.649	79.500	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

<b>Site : Site2</b>	<b>Time : 2014/02/17 - 14:36</b>
<b>Limit : CISPR_A_10M_QP</b>	<b>Margin : 6</b>
<b>Probe : Site2_10M-4_0815 - VERTICAL</b>	<b>Power : AC 120V/60Hz</b>
<b>EUT : 55" Dual-Sided LCD Signage Display</b>	<b>Note : Mode 2: HDMI (DF-55)</b>

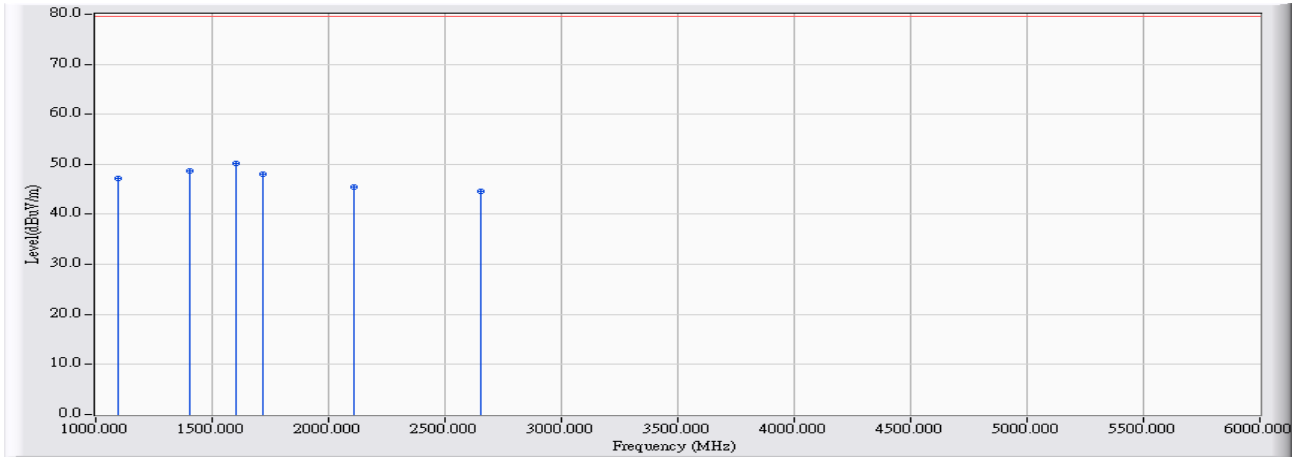


		<b>Frequency (MHz)</b>	<b>Correct Factor (dB)</b>	<b>Reading Level (dBuV)</b>	<b>Measure Level (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Limit (dBuV/m)</b>	<b>Detector Type</b>
1	*	46.675	10.164	23.040	33.203	-6.797	40.000	QUASPEAK
2		49.500	8.802	18.310	27.111	-12.889	40.000	QUASPEAK
3		211.000	12.707	1.610	14.317	-25.683	40.000	QUASPEAK
4		324.000	17.424	0.270	17.694	-29.306	47.000	QUASPEAK
5		360.000	18.398	1.860	20.258	-26.742	47.000	QUASPEAK
6		388.800	19.177	0.890	20.067	-26.933	47.000	QUASPEAK
7		444.975	20.449	1.720	22.169	-24.831	47.000	QUASPEAK
8		648.000	23.926	4.320	28.246	-18.754	47.000	QUASPEAK
9		777.600	25.372	1.280	26.651	-20.349	47.000	QUASPEAK
10		972.000	27.648	0.180	27.828	-19.172	47.000	QUASPEAK

**Note:**

1. All Reading Levels are Quasi-Peak value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : CB1	Time : 2014/03/22 - 15:35
Limit : FCC_A_(Above_1G)_3M_PK	Margin : 0
Probe : CB1_CISPR_22_B(above1G)-1_0901 - VERTICAL	Power : AC 120V/60Hz
EUT : 55" Dual-Sided LCD Signage Display	Note : Mode 2: HDMI (DF-55)



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	1095.000	-9.153	56.350	47.197	-32.303	79.500	PEAK
2	1405.000	-7.982	56.732	48.750	-30.750	79.500	PEAK
3	* 1600.000	-7.466	57.672	50.206	-29.294	79.500	PEAK
4	1720.000	-7.277	55.318	48.041	-31.459	79.500	PEAK
5	2110.000	-6.521	52.054	45.533	-33.967	79.500	PEAK
6	2655.000	-4.781	49.445	44.664	-34.836	79.500	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



#### 4.6. Test Photograph

Test Mode : Mode 1: HDMI (DS-55)

Description : Front View of Radiated Emission Test Setup



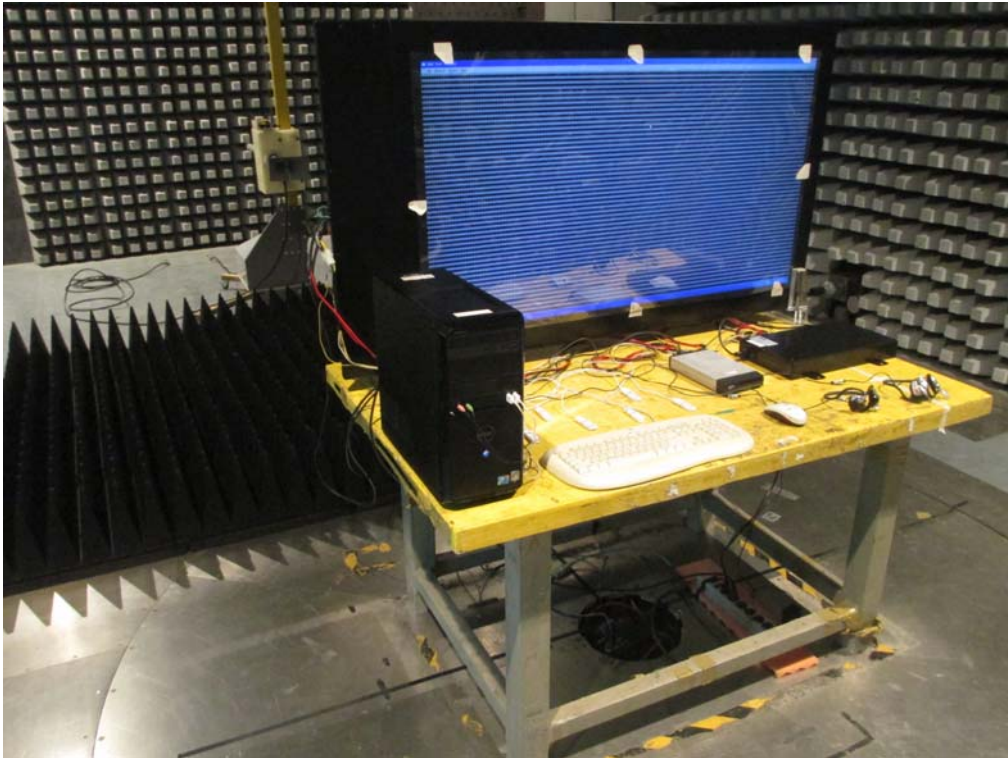
Test Mode : Mode 1: HDMI (DS-55)

Description : Back View of Radiated Emission Test Setup



Test Mode : Mode 1: HDMI (DS-55)

Description : Front View of Radiated Emission Test Setup (Horn)



Test Mode : Mode 1: HDMI (DS-55)

Description : Back View of Radiated Emission Test Setup (Horn)





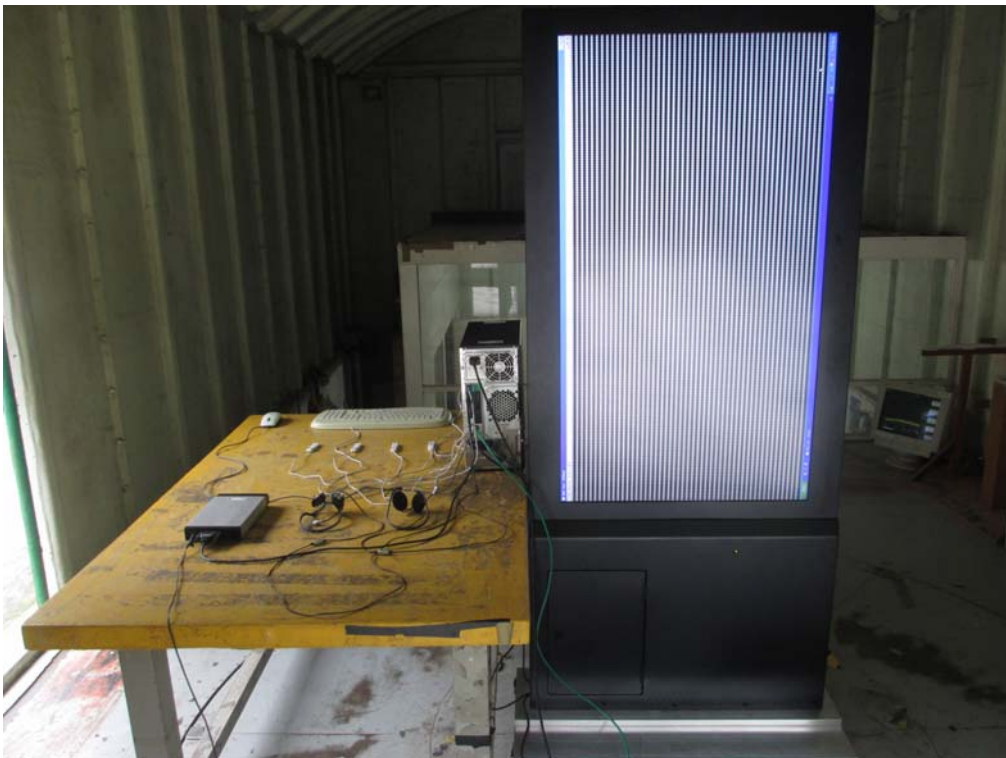
Test Mode : Mode 2: HDMI (DF-55)

Description : Front View of Radiated Emission Test Setup



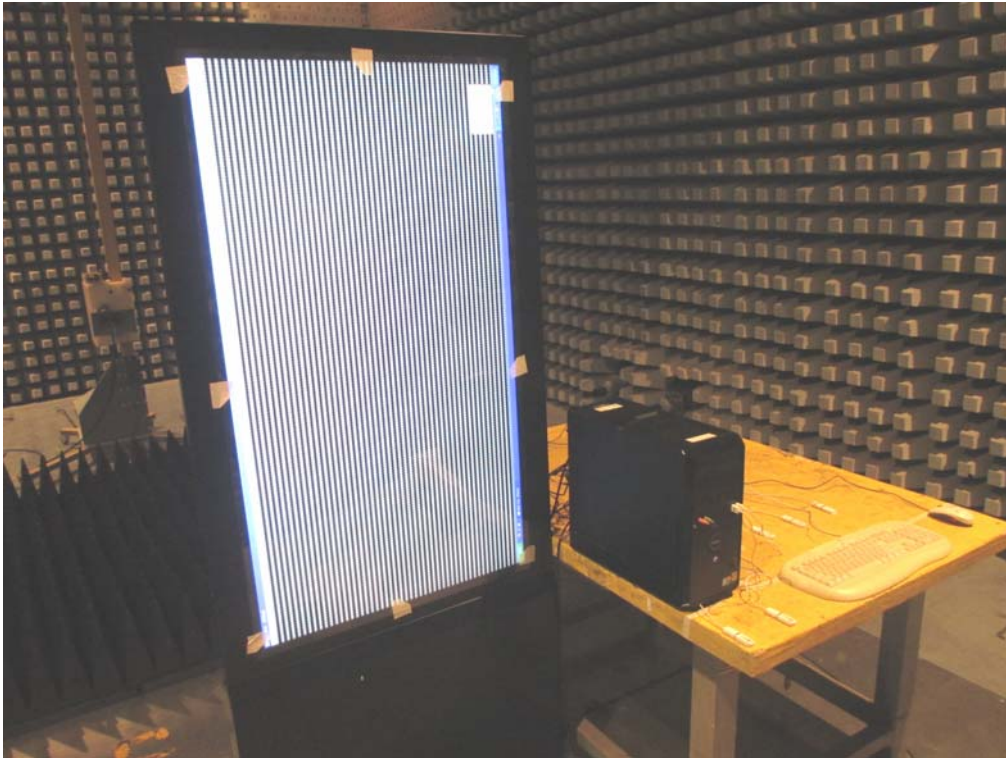
Test Mode : Mode 2: HDMI (DF-55)

Description : Back View of Radiated Emission Test Setup



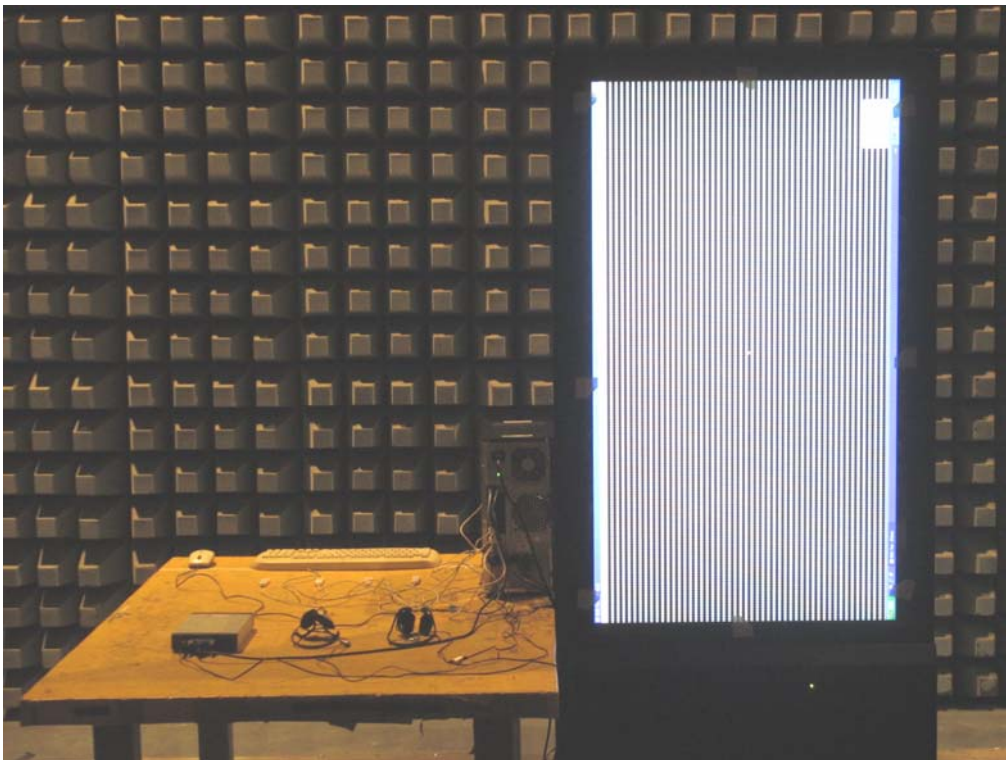
Test Mode : Mode 2: HDMI (DF-55)

Description : Front View of Radiated Emission Test Setup (Horn)



Test Mode : Mode 2: HDMI (DF-55)

Description : Back View of Radiated Emission Test Setup (Horn)



**5. Attachment**

➤ **EUT Photograph**

(1) EUT Photo (M/N: DS-55)



(2) EUT Photo





(3) EUT Photo (M/N: DF-55)



(4) EUT Photo

