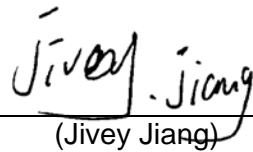


FCC& ISED EMC Test Report

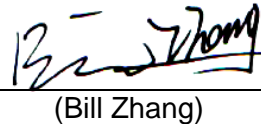
Project No. : 1812C075
Equipment : LCD Monitor
Test Model : **G2868*****(*=A-Z,a-z,0-9,/ , +,-,\ or blank)
Series Model : N/A
Applicant : TPV Electronics (Fujian) Co., Ltd.
Address : Rongqiao Economic and Technological Development
Zone, Fuqing City, Fujian Province, P.R. China

Date of Receipt : Dec. 13, 2018
Date of Test : Dec. 25, 2018 ~ Jan. 05, 2019
Issued Date : Jan. 28, 2019
Tested by : BTL Inc.

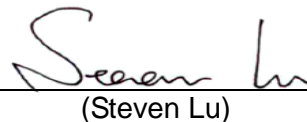
Testing Engineer :


(Jivey Jiang)

Technical Manager :


(Bill Zhang)

Authorized Signatory :


(Steven Lu)

B T L I N C .

No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan,
Guangdong, China.

TEL: +86-769-8318-3000 FAX: +86-769-8319-6000



Certificate #5123.02

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, A2LA, or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Jan. 28, 2019

1. GENERAL SUMMARY

Equipment : LCD Monitor
Brand Name : N/A
Test Model : **G2868*****(*=A-Z,a-z,0-9,/, +,-,\ or blank)
Series Model : N/A
Applicant : TPV Electronics (Fujian) Co., Ltd.
Date of Test : Dec. 25, 2018 ~ Jan. 05, 2019
Test Sample : Engineering Sample No.: D181211951
Standard(s) : FCC Part 15, Subpart B
ICES-003 Issue 6:2016
ICES-003 Issue 6:2016 (updated April 2017)
ANSI C63.4-2014

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FICE-1-1812C075) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of A2LA according to the ISO/IEC 17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

EMC Emission				
Standard(s)	Test Item	Limit	Judgment	Remark
FCC Part15, Subpart B ICES-003 Issue 6:2016 ICES-003 Issue 6:2016 (updated April 2017) ANSI C63.4-2014	Conducted Emission	Class B	PASS	
	Radiated emission Below 1 GHz	Class B	PASS	
	Radiated emission Above 1 GHz	Class B	PASS	NOTE(2)

NOTE:

- (1) "N/A" denotes test is not applicable to this device.
- (2) The EUT's max operating frequency is 597 MHz which does exceed 108 MHz, so the test will be performed.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

BTL's Test Firm Registration Number for IC: 4428B-3

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{CISPR} requirement.

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95%**.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150 kHz ~ 30MHz	2.32

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB08 (3m)	CISPR	30MHz ~ 200MHz	V	3.76
		30MHz ~ 200MHz	H	3.56
		200MHz ~ 1,000MHz	V	4.00
		200MHz ~ 1,000MHz	H	3.90

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-CB08 (3m)	CISPR	1 ~ 6 GHz	4.02
		6 ~18 GHz	5.10

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	LCD Monitor
Brand Name	N/A
Test Model	**G2868*****(*=A-Z,a-z,0-9,/, +,-,\ or blank)
Series Model	N/A
Model Difference(s)	Only differ in model name due to marketing purpose.
Power Source	AC Mains.
Power Rating	100-240V~ 50/60Hz
Connecting I/O Port	1* D-SUB port 5* USB port 1* Display port 2* HDMI port 1* Audio port 1* Earphone port 1* AC port

Cable Type	Shielded Type	Ferrite Core	Length(m)	Note
Display	Shielded	NO	1.8/1.5/1.2	
D-SUB	Shielded	YES	1.8/1.5/1.2	Bonded two Ferrite Cores
Audio	Non-shielded	NO	1.8/1.5/1.2	
HDMI	Shielded	NO	1.8/1.5/1.2	
USB	Shielded	NO	1.8/1.5/1.2	
AC Power Cord	Non-shielded	NO	1.8/1.5/1.2	1.8m is worst case Detachable (3 Pin)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. Power cable 1.8m, 1.5m and 1.2m length, worst case is Power cable 1.8m with Display+HDMI+ Audio+D-SUB+USB 1.8m length testing and recording in test report.

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	D-SUB 3840*2160/60Hz
Mode 2	Display 3840*2160/60Hz
Mode 3	HDMI1 3840*2160/60Hz
Mode 4	HDMI2 3840*2160/60Hz
Mode 5	HDMI1 2160P
Mode 6	HDMI2 2160P
Mode 7	HDMI1 1920*1080/60Hz
Mode 8	HDMI1 640*480/75Hz

For Conducted Test	
Final Test Mode	Description
Mode 1	D-SUB 3840*2160/60Hz
Mode 3	HDMI1 3840*2160/60Hz
Mode 5	HDMI1 2160P

For Radiated Test	
Final Test Mode	Description
Mode 1	D-SUB 3840*2160/60Hz
Mode 3	HDMI1 3840*2160/60Hz
Mode 5	HDMI1 2160P

Evaluation description:

1. The maximum resolution is evaluated Mode 1-6. The worst case is Mode 3 and evaluated the middle and low resolution Mode 7 and mode 8.
2. According to the client's requirement, choose Mode 1, Mode 3, Mode 5 and recorded in test report.

3.3 EUT OPERATING CONDITIONS

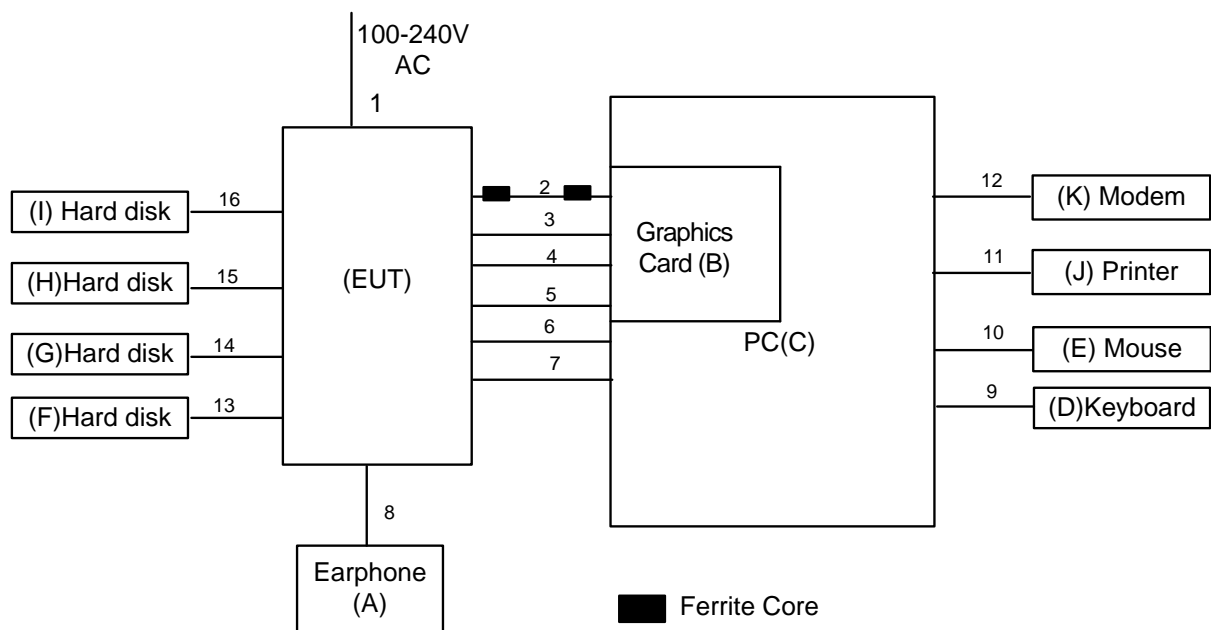
The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use. The standard test signals and output signal as following:

1. EUT connected to PC via Display & HDMI & Audio & USB & D-SUB & USB cable.
2. EUT connected to Earphone via earphone cable.
3. The Flash disks are plugged into the EUT.
4. PC connected to Mouse and Keyboard via USB cable.
5. PC connected to Printer via Parallel cable.
6. PC connected to Modem via RS232 cable.

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Remote System

Ground Plane



3.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.
A	Earphone	APPLE	N/A	N/A
B	Graphics Card	LEADTEK	LR2A5F	ALF7100123952
C	PC	DELL	320	J4JQ52X
D	Keyboard	DELL	SK-8815(L)	00975811
E	Mouse	DELL	MO28UOL	23-122591
F	Hard Disk	WD	WDBBLW5000AAL	WX31A9373281
G	Hard Disk	WD	WDBLUZ5000ASL	WXM1AA366091
H	Hard Disk	WD	WDBBLW5000AAL	WXD1A64PTAFP
I	Hard Disk	WD	WDBAAR3200ABK	WXG1EB0AZC81
J	Printer	SII	DPU-414	3018507 B
K	Modem	ACEEX	DM-1414V	603002131

Item	Shielded Type	Ferrite Core	Length	Note
1	YES	NO	1.8m/1.5m/1.2m	AC Cable
2	YES	YES	1.8m/1.5m/1.2m	D-SUB Cable
3	YES	NO	1.8m/1.5m/1.2m	Display Cable
4	YES	NO	1.8m/1.5m/1.2m	HDMI Cable
5	YES	NO	1.8m/1.5m/1.2m	HDMI Cable
6	NO	NO	1.8m/1.5m/1.2m	Audio Cable
7	YES	NO	1.8m/1.5m/1.2m	USB Cable
8	NO	NO	1.2m	Earphone Cable
9	YES	NO	1.8m	USB Cable
10	YES	NO	1.8m	USB Cable
11	YES	NO	1.5m	Parallel cable
12	YES	NO	1.5m	RS232 cable
13	YES	NO	1.0m	USB Cable
14	YES	NO	1.0m	USB Cable
15	YES	NO	1.0m	USB Cable
16	YES	NO	1.0m	USB Cable

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION (FREQUENCY RANGE 150KHZ-30MHZ)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 - 5.0	73.00	60.00	56.00	46.00
5.0 - 30.0	73.00	60.00	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
 Margin Level = Measurement Value - Limit Value

4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Mar. 11, 2019
2	LISN	EMCO	3816/2	52765	Mar. 11, 2019
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 11, 2019
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 11, 2019
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A 1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Mar. 23, 2019

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

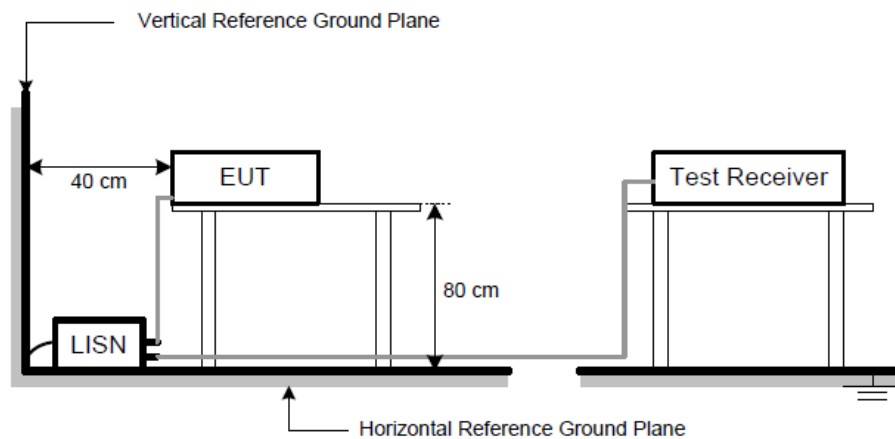
4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- f. First the whole spectrum of emission caused by equipment under test(EUT) is recorded with Detector set to peak. Peak value recorded in table if the margin from QP Limit is larger than 2dB, otherwise, QP value is recorded, Measuring frequency range from 150KHz to 30MHz.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP

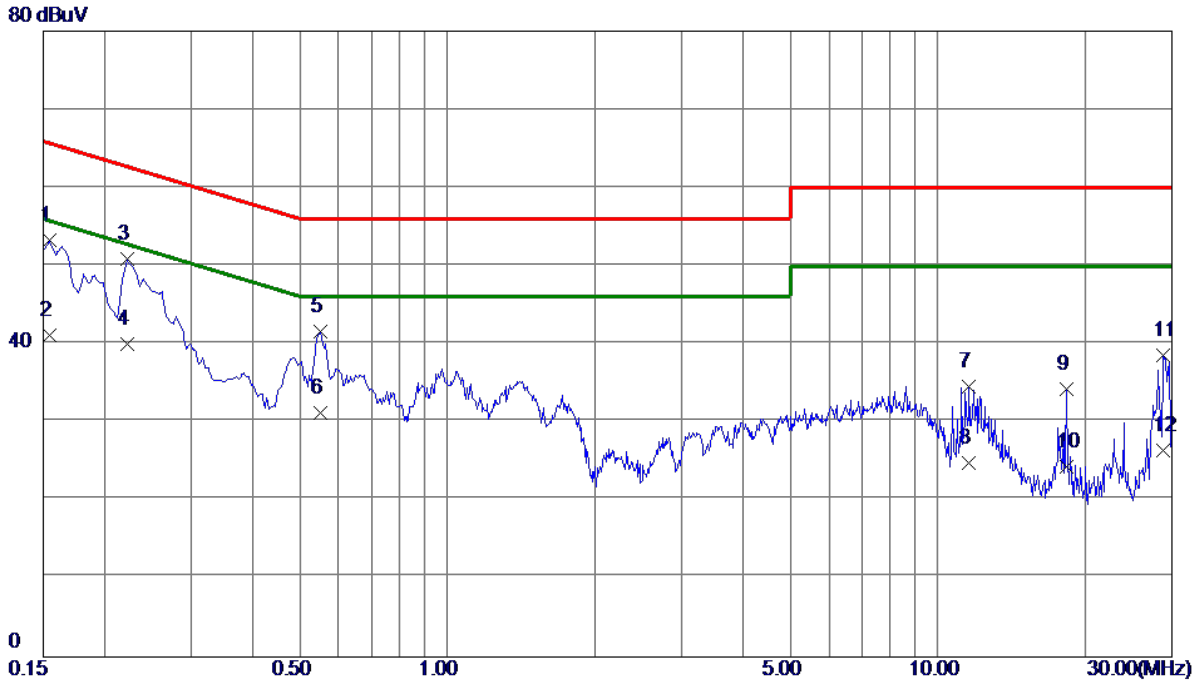


4.1.6 TEST RESULTS

Remark

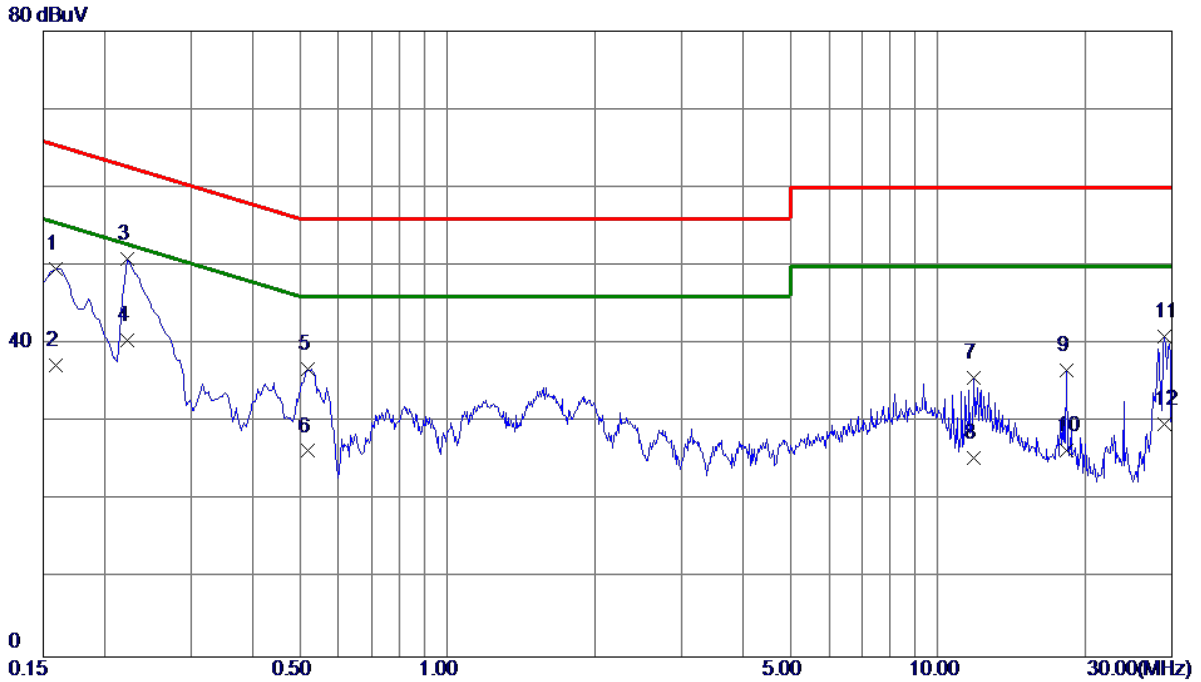
- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9 kHz; SPA setting in RBW=10 kHz, VBW =10 kHz, Swp. Time = 0.3 sec./MHz. Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10 kHz, VBW=10 kHz, Swp. Time =0.3 sec./MHz.
- (2) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a “ * ” marked in AVG Mode column of Interference Voltage Measured.

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ +,-,\ or blank)
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	D-SUB 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



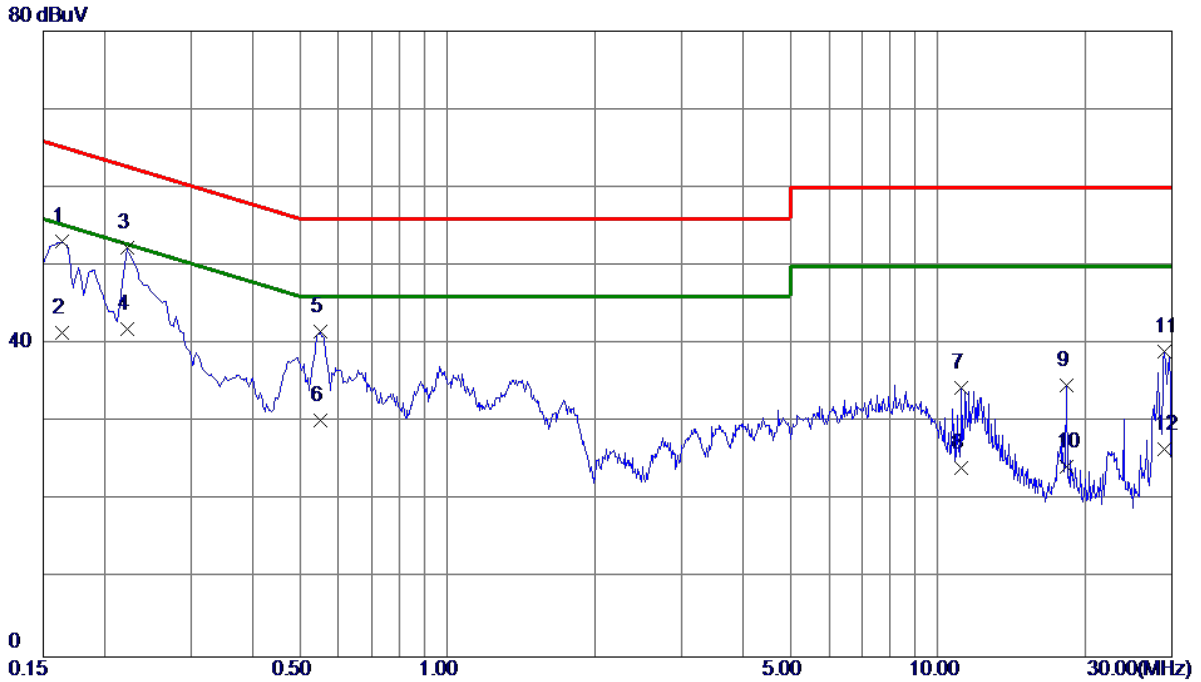
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1545	43.49	9.82	53.31	65.75	-12.44	QP
2	0.1545	31.35	9.82	41.17	55.75	-14.58	AVG
3 *	0.2220	41.02	9.82	50.84	62.74	-11.90	QP
4	0.2220	30.17	9.82	39.99	52.74	-12.75	AVG
5	0.5505	31.75	9.81	41.56	56.00	-14.44	QP
6	0.5505	21.42	9.81	31.23	46.00	-14.77	AVG
7	11.5890	24.03	10.57	34.60	60.00	-25.40	QP
8	11.5890	14.16	10.57	24.73	50.00	-25.27	AVG
9	18.2850	23.18	11.04	34.22	60.00	-25.78	QP
10	18.2850	13.35	11.04	24.39	50.00	-25.61	AVG
11	28.7970	27.55	11.08	38.63	60.00	-21.37	QP
12	28.7970	15.28	11.08	26.36	50.00	-23.64	AVG

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	D-SUB 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



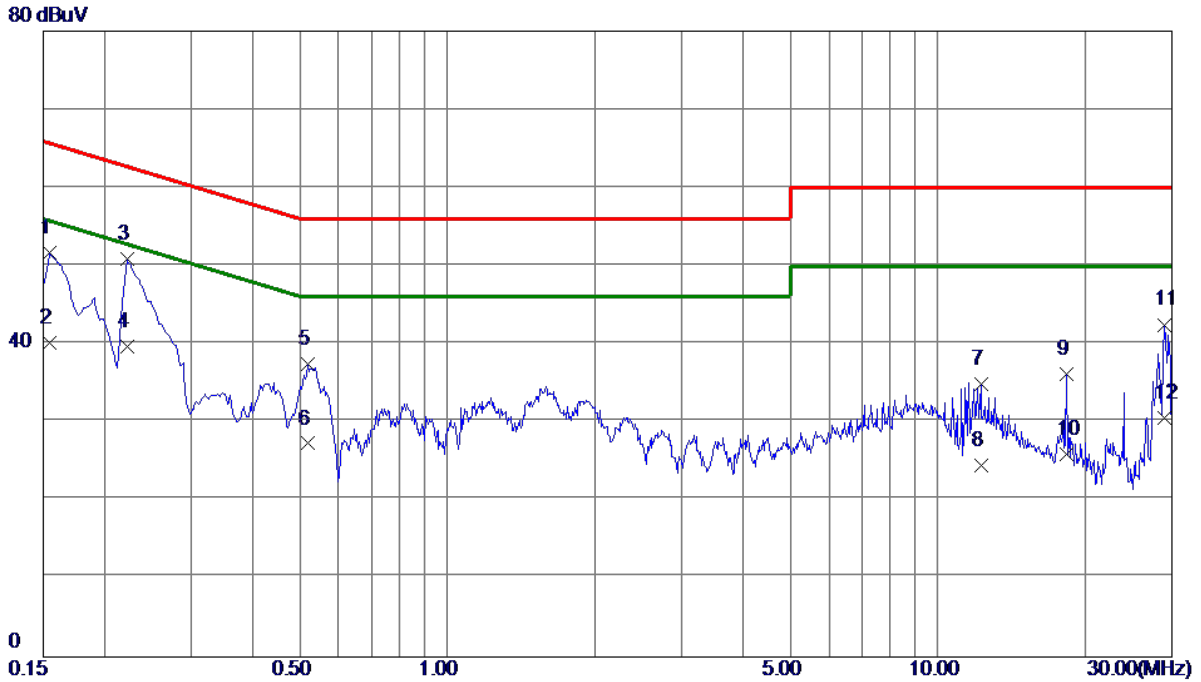
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1590	39.72	9.91	49.63	65.52	-15.89	QP
2	0.1590	27.41	9.91	37.32	55.52	-18.20	AVG
3 *	0.2220	41.04	9.91	50.95	62.74	-11.79	QP
4	0.2220	30.63	9.91	40.54	52.74	-12.20	AVG
5	0.5190	26.83	9.95	36.78	56.00	-19.22	QP
6	0.5190	16.37	9.95	26.32	46.00	-19.68	AVG
7	11.8095	24.75	10.87	35.62	60.00	-24.38	QP
8	11.8095	14.50	10.87	25.37	50.00	-24.63	AVG
9	18.2850	25.31	11.35	36.66	60.00	-23.34	QP
10	18.2850	15.07	11.35	26.42	50.00	-23.58	AVG
11	28.8825	29.43	11.49	40.92	60.00	-19.08	QP
12	28.8825	18.24	11.49	29.73	50.00	-20.27	AVG

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ +,-,\ or blank)
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	HDMI1 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



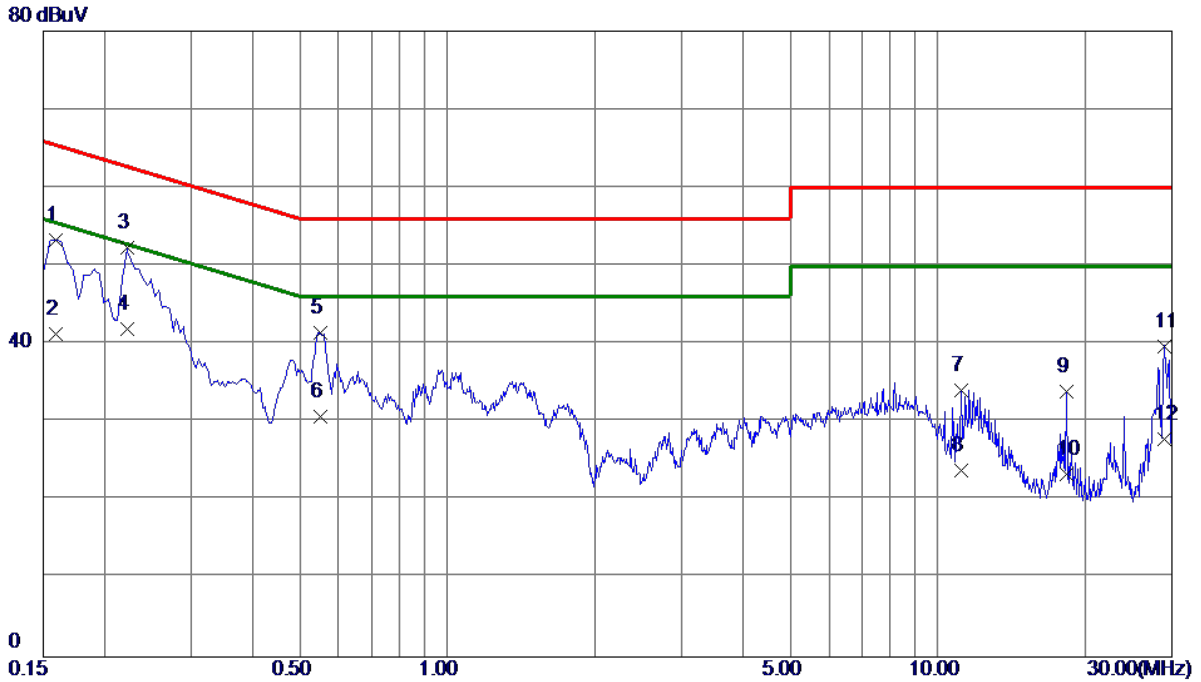
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1635	43.24	9.82	53.06	65.28	-12.22	QP
2	0.1635	31.59	9.82	41.41	55.28	-13.87	AVG
3 *	0.2220	42.54	9.82	52.36	62.74	-10.38	QP
4	0.2220	32.13	9.82	41.95	52.74	-10.79	AVG
5	0.5505	31.86	9.81	41.67	56.00	-14.33	QP
6	0.5505	20.48	9.81	30.29	46.00	-15.71	AVG
7	11.1615	23.78	10.55	34.33	60.00	-25.67	QP
8	11.1615	13.67	10.55	24.22	50.00	-25.78	AVG
9	18.2850	23.65	11.04	34.69	60.00	-25.31	QP
10	18.2850	13.26	11.04	24.30	50.00	-25.70	AVG
11	28.9500	27.98	11.08	39.06	60.00	-20.94	QP
12	28.9500	15.53	11.08	26.61	50.00	-23.39	AVG

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	HDMI1 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



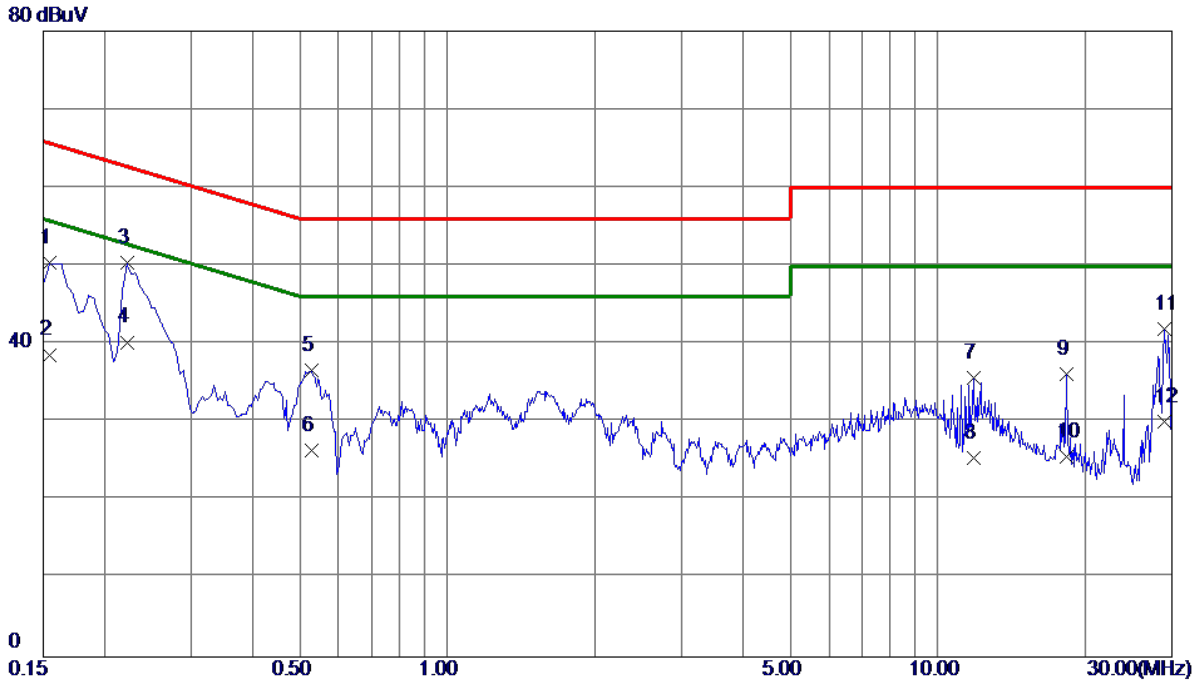
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1545	41.78	9.91	51.69	65.75	-14.06	QP
2	0.1545	30.31	9.91	40.22	55.75	-15.53	AVG
3 *	0.2220	41.03	9.91	50.94	62.74	-11.80	QP
4	0.2220	29.75	9.91	39.66	52.74	-13.08	AVG
5	0.5190	27.56	9.95	37.51	56.00	-18.49	QP
6	0.5190	17.33	9.95	27.28	46.00	-18.72	AVG
7	12.2415	23.96	10.90	34.86	60.00	-25.14	QP
8	12.2415	13.60	10.90	24.50	50.00	-25.50	AVG
9	18.2850	24.80	11.35	36.15	60.00	-23.85	QP
10	18.2850	14.52	11.35	25.87	50.00	-24.13	AVG
11	28.9545	30.99	11.49	42.48	60.00	-17.52	QP
12	28.9545	19.03	11.49	30.52	50.00	-19.48	AVG

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ +,-,\ or blank)
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	HDMI1 2160P		
Test Engineer	Jivey Jiang		



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1590	43.51	9.82	53.33	65.52	-12.19	QP
2	0.1590	31.42	9.82	41.24	55.52	-14.28	AVG
3 *	0.2220	42.47	9.82	52.29	62.74	-10.45	QP
4	0.2220	32.15	9.82	41.97	52.74	-10.77	AVG
5	0.5505	31.70	9.81	41.51	56.00	-14.49	QP
6	0.5505	20.84	9.81	30.65	46.00	-15.35	AVG
7	11.1570	23.59	10.55	34.14	60.00	-25.86	QP
8	11.1570	13.27	10.55	23.82	50.00	-26.18	AVG
9	18.2850	22.89	11.04	33.93	60.00	-26.07	QP
10	18.2850	12.35	11.04	23.39	50.00	-26.61	AVG
11	28.8780	28.68	11.08	39.76	60.00	-20.24	QP
12	28.8780	16.71	11.08	27.79	50.00	-22.21	AVG

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	HDMI1 2160P		
Test Engineer	Jivey Jiang		



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1544	40.45	9.91	50.36	65.76	-15.40	QP
2	0.1544	28.73	9.91	38.64	55.76	-17.12	AVG
3 *	0.2220	40.55	9.91	50.46	62.74	-12.28	QP
4	0.2220	30.33	9.91	40.24	52.74	-12.50	AVG
5	0.5280	26.66	9.95	36.61	56.00	-19.39	QP
6	0.5280	16.52	9.95	26.47	46.00	-19.53	AVG
7	11.8050	24.83	10.87	35.70	60.00	-24.30	QP
8	11.8050	14.57	10.87	25.44	50.00	-24.56	AVG
9	18.2850	24.83	11.35	36.18	60.00	-23.82	QP
10	18.2850	14.29	11.35	25.64	50.00	-24.36	AVG
11	28.8780	30.49	11.49	41.98	60.00	-18.02	QP
12	28.8780	18.61	11.49	30.10	50.00	-19.90	AVG

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Below 1 GHz

Measurement Method and Applied Limits:

ANSI C63.4:

Frequency (MHz)	Class A (at 10m)		Class B (at 3m)	
	(uV/m) Field strength	(dBuV/m) Field strength	(uV/m) Field strength	(dBuV/m) Field strength
30 - 88	90	39	100	40
88 - 216	150	43.5	150	43.5
216 - 960	210	46.4	200	46
Above 960	300	49.5	500	54

Above 1 GHz

Measurement Method and Applied Limits:

ANSI C63.4:

Frequency (MHz)	Class A				Class B	
	(dBuV/m) (at 3m)		(dBuV/m) (at 10m)		(dBuV/m) (at 3m)	
	Peak	Average	Peak	Average	Peak	Average
Above 1000	80	60	69.5	49.5	74	54

FREQUENCY RANGE OF RADIATED MEASUREMENT (FOR UNINTENTIONAL RADIATORS)

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

NOTE:

- (1) The limit for radiated test was performed according to as following:
FCC Part 15, Subpart B; ICES-003 Issue 6 :2016 (updated April 2017).
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m) = 20log Emission level (uV/m).
3m Emission level = 10m Emission level + 20log(10m/3m).
- (4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
Margin Level = Measurement Value - Limit Value

4.2.2 MEASUREMENT INSTRUMENTS LIST

Below 1GHz:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Receiver	Keysight	N9038A	MY54450004	Aug. 11, 2019
2	MXE EMI Receiver	Agilent	N9038A	MY53220133	Mar. 11, 2019
3	Pre-Amplifier	EMC INSTRUMENT	EMC 9135	980284	Mar. 11, 2019
4	Pre-Amplifier	EMC INSTRUMENT	EMC 9135	980283	Mar. 11, 2019
5	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	946	Nov. 24, 2019
6	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	947	Nov. 24, 2019
7	Cable	emci	LMR-400(5m+11m+15m)	N/A	Aug. 07, 2019
8	Cable	emci	LMR-400(5m+8m+8m)	N/A	Aug. 07, 2019
9	Measurement Software	Farad	EZ-EMC Ver.BTL-2ANT-1	N/A	N/A
10	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
11	Attenuator	EMCI	EMCI-N-6-06	N0670	Nov. 24, 2019
12	Attenuator	SHX	EMCI-N-6-06	N0671	Nov. 24, 2019

Remark: "N/A" denotes no model name, no serial no. or no calibration specified.
All calibration period of equipment list is one year.

Above 1GHz:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Horn Antenna	EMCO	3115	9605-4803	Mar. 11, 2019
2	Amplifier	Agilent	8449B	3008A02584	Aug. 11, 2019
3	MXE EMI Receiver	Agilent	N9038A	MY53220133	Mar. 11, 2019
4	Measurement Software	Farad	EZ-EMC Ver.BTL-2ANT-1	N/A	N/A
5	Cable	Mlcable Inc.	B10-01-01-15M(10MHz~26.5GHz)	18047122	May 25, 2019
6	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
7	Controller	MF	MF-7802	MF780208159	N/A
8	Cable	Mlcable Inc.	B10-01-01-5M(10MHz~26.5GHz)	18047123	May 25, 2019

Remark: "N/A" denotes no model name, no serial no. or no calibration specified.
All calibration period of equipment list is one year.

4.2.3 TEST PROCEDURE

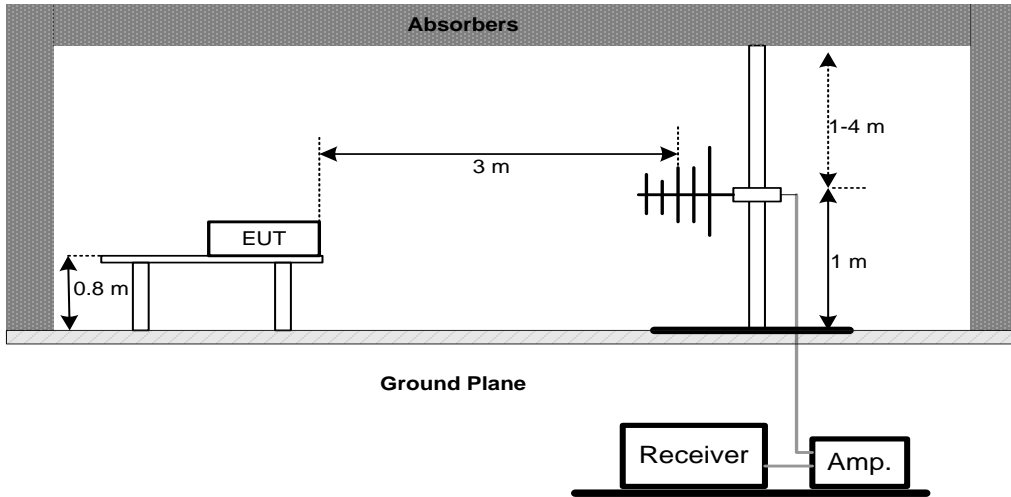
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i. For the actual test configuration, please refer to the related Item - Block Diagram of system tested (please refer to 3.3).

4.2.4 DEVIATION FROM TEST STANDARD

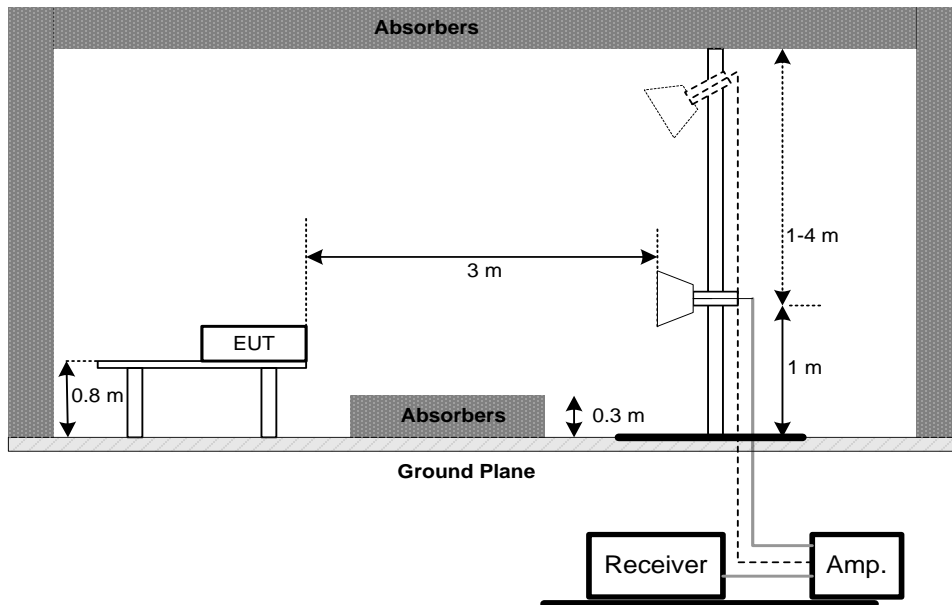
No deviation

4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz

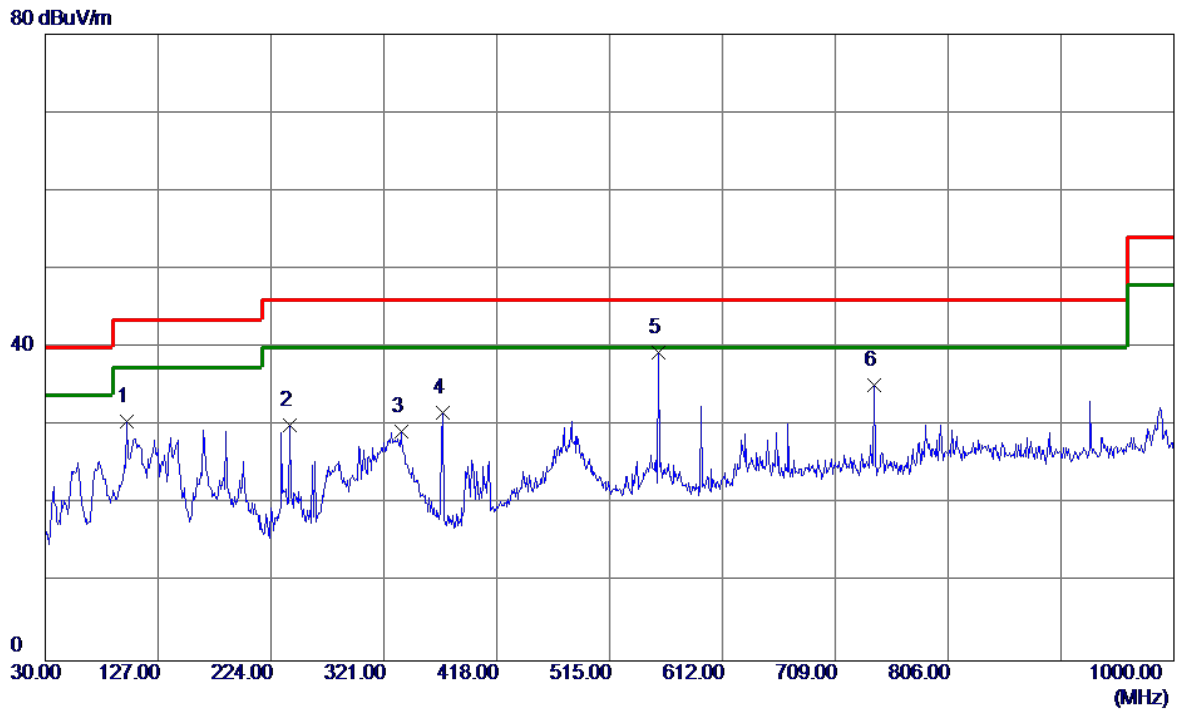


4.2.6 TEST RESULTS-BELOW 1 GHZ

Remark :

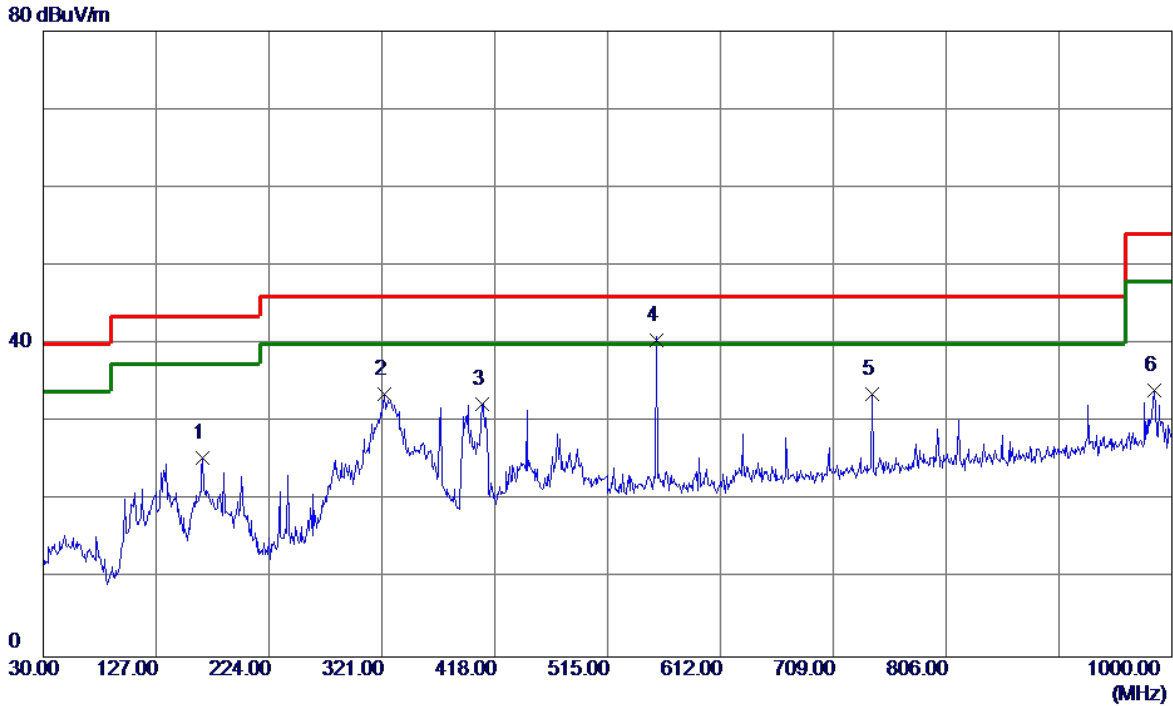
- (1) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Measuring frequency range from 30 MHz to 1000 MHz
- (3) If the peak scan value lower limit more than 20 dB, then this signal data does not show in table.

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	D-SUB 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



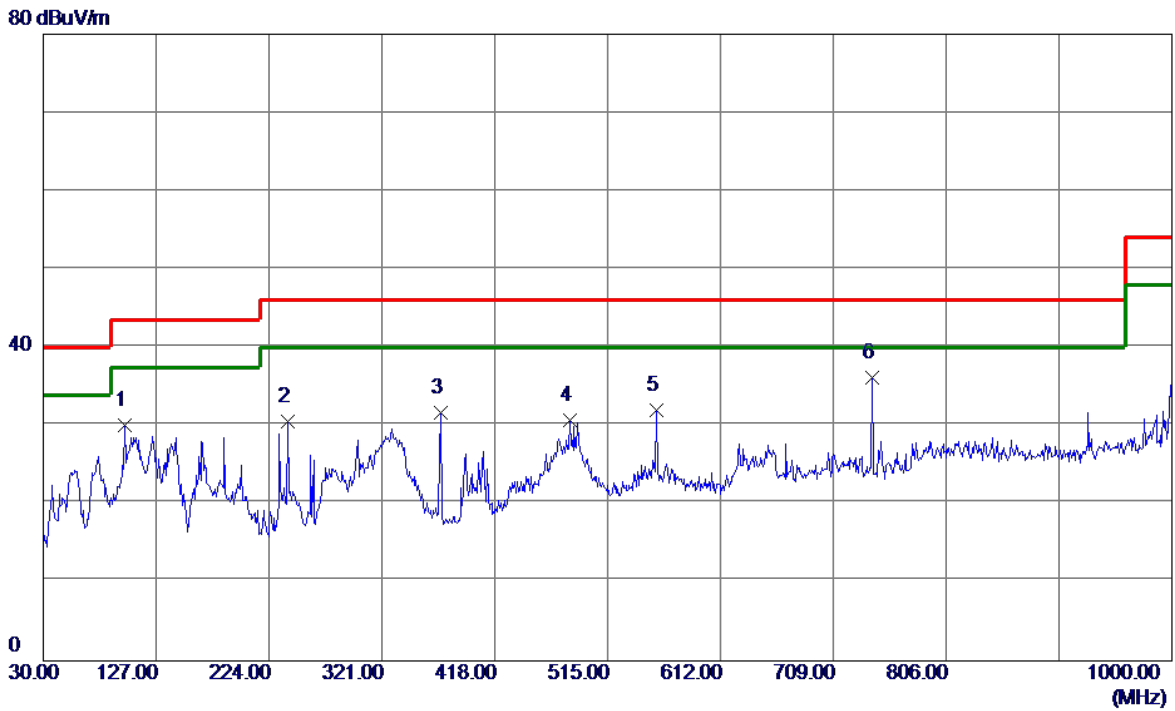
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	99.8399	51.52	-20.98	30.54	43.50	-12.96	QP
2	240.0050	47.49	-17.40	30.09	46.00	-15.91	QP
3	336.0350	43.50	-14.23	29.27	46.00	-16.73	QP
4	371.4400	45.23	-13.57	31.66	46.00	-14.34	QP
5 *	556.7100	49.02	-9.71	39.31	46.00	-6.69	QP
6	742.4650	41.66	-6.41	35.25	46.00	-10.75	QP

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/,+,-,\ or blank)
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	D-SUB 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



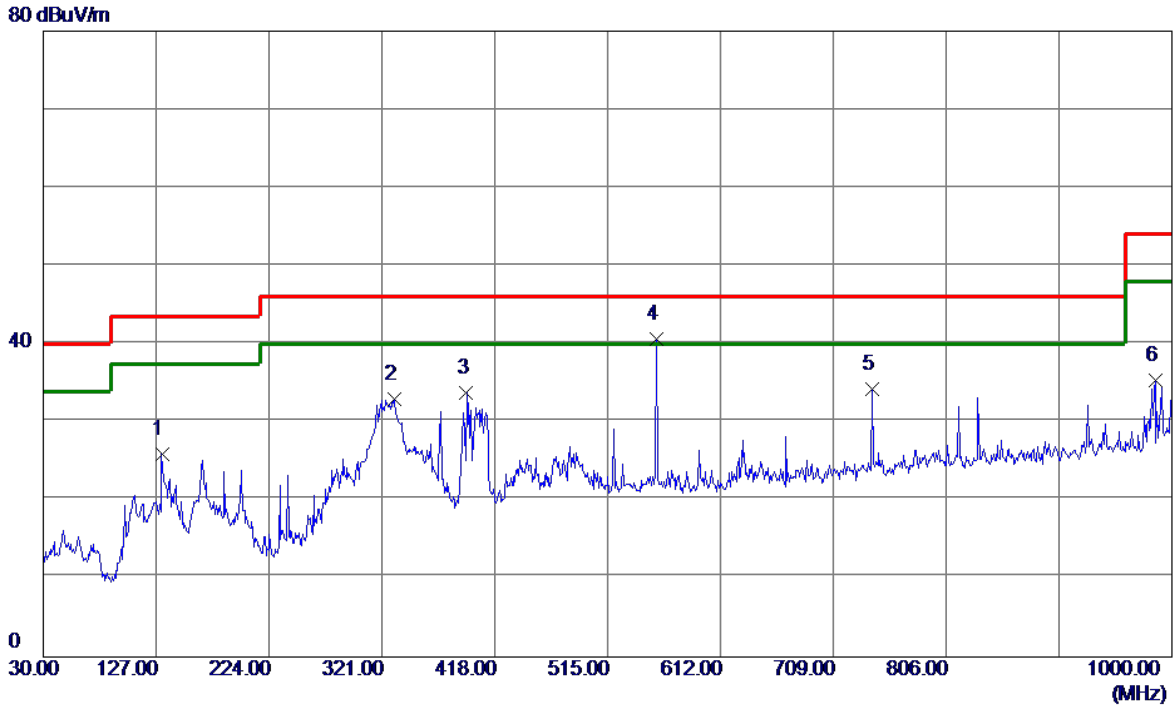
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector
1	166.7700	41.74	-16.25	25.49	43.50	-18.01	QP
2	323.4250	47.95	-14.37	33.58	46.00	-12.42	QP
3	406.8450	45.04	-12.72	32.32	46.00	-13.68	QP
4 *	556.7100	50.21	-9.71	40.50	46.00	-5.50	QP
5	742.4650	40.03	-6.41	33.62	46.00	-12.38	QP
6	984.4800	37.15	-3.12	34.03	54.00	-19.97	QP

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ , +,-,\ or blank)
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	HDMI1 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



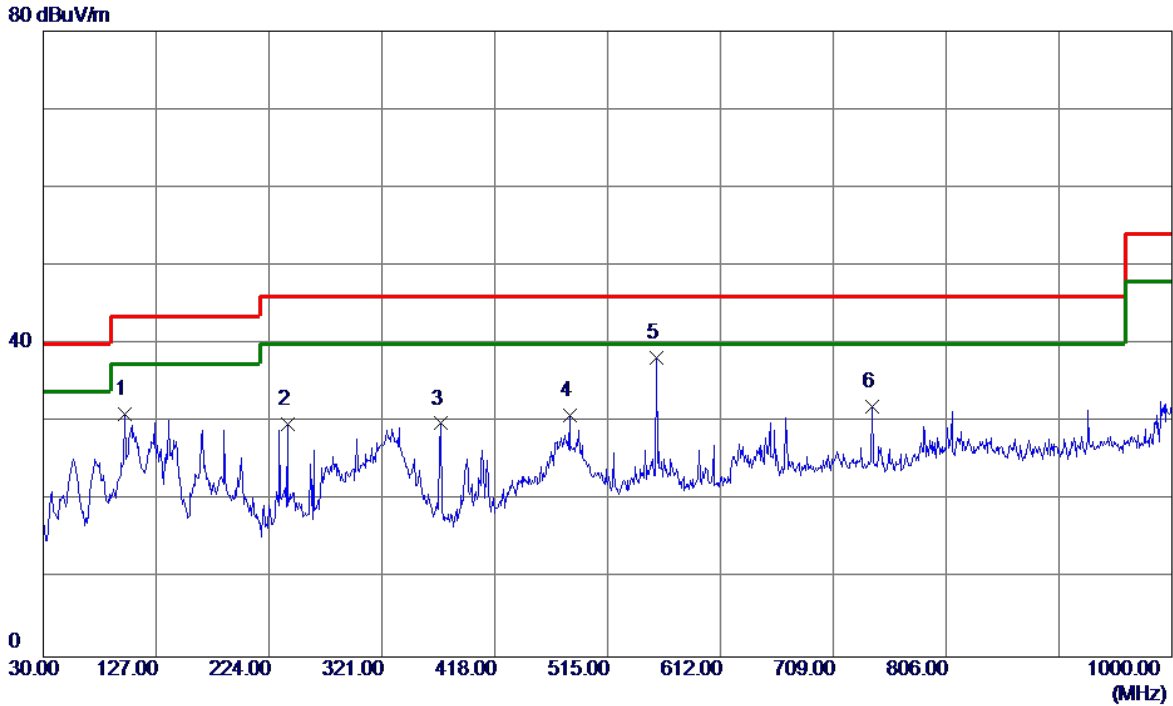
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	99.8399	51.07	-20.98	30.09	43.50	-13.41	QP
2	240.0050	47.91	-17.40	30.51	46.00	-15.49	QP
3	371.4400	45.27	-13.57	31.70	46.00	-14.30	QP
4	482.5050	41.67	-10.95	30.72	46.00	-15.28	QP
5	556.7100	41.74	-9.71	32.03	46.00	-13.97	QP
6 *	742.4650	42.58	-6.41	36.17	46.00	-9.83	QP

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	HDMI1 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



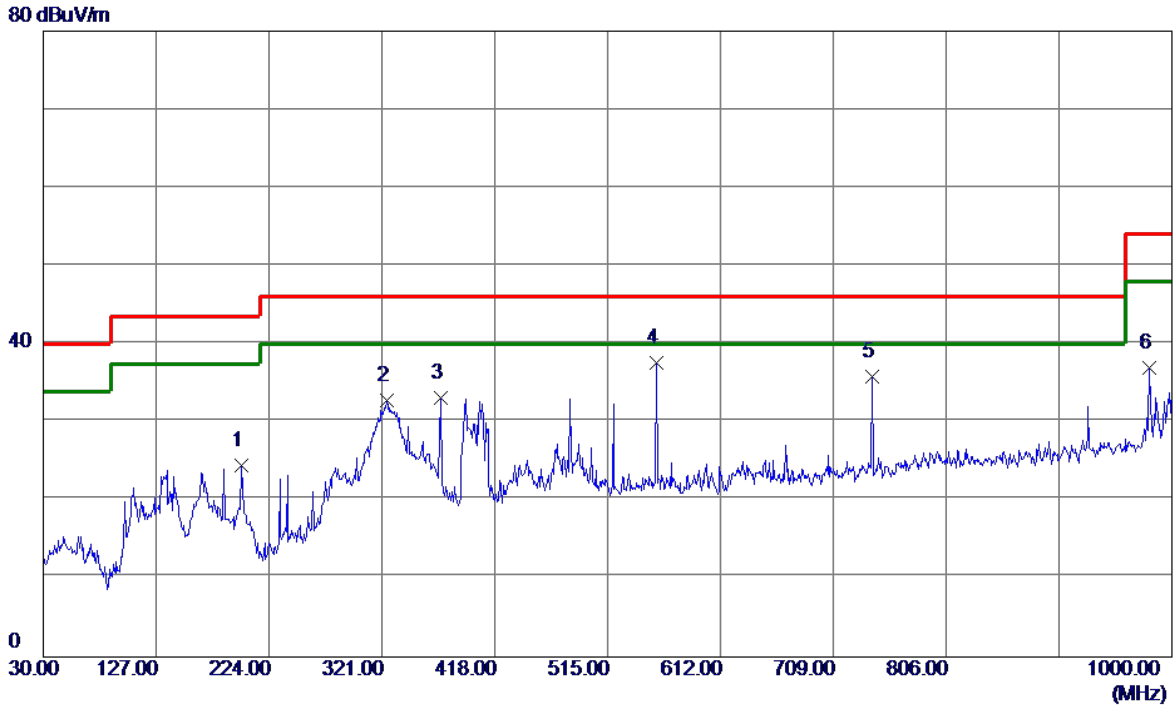
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector
1	131.8500	43.39	-17.47	25.92	43.50	-17.58	QP
2	331.6700	47.27	-14.28	32.99	46.00	-13.01	QP
3	393.7500	46.73	-13.02	33.71	46.00	-12.29	QP
4 *	556.7100	50.38	-9.71	40.67	46.00	-5.33	QP
5	742.4650	40.69	-6.41	34.28	46.00	-11.72	QP
6	985.4500	38.51	-3.11	35.40	54.00	-18.60	QP

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	HDMI1 2160P		
Test Engineer	Jivey Jiang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector
1	99.8399	52.08	-20.98	31.10	43.50	-12.40	QP
2	240.0050	47.16	-17.40	29.76	46.00	-16.24	QP
3	371.4400	43.41	-13.57	29.84	46.00	-16.16	QP
4	482.5050	41.84	-10.95	30.89	46.00	-15.11	QP
5 *	556.7100	47.90	-9.71	38.19	46.00	-7.81	QP
6	742.4650	38.47	-6.41	32.06	46.00	-13.94	QP

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	HDMI1 2160P		
Test Engineer	Jivey Jiang		



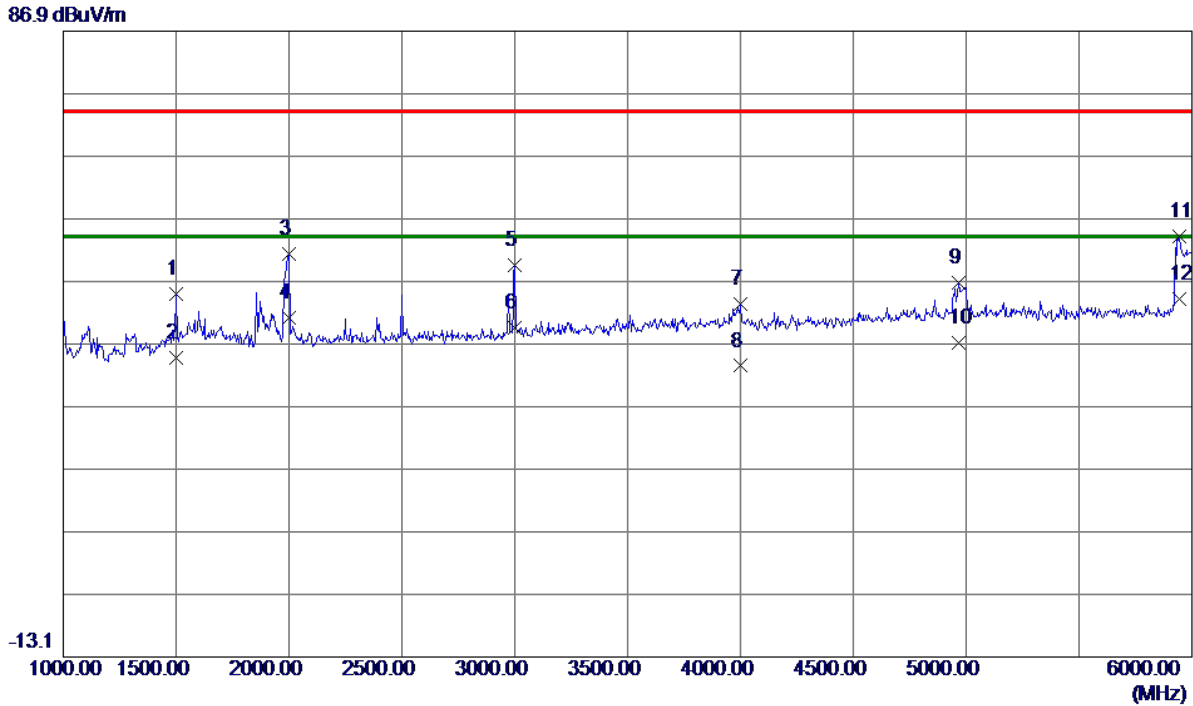
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	200.7200	43.78	-19.23	24.55	43.50	-18.95	QP
2	325.3650	47.11	-14.35	32.76	46.00	-13.24	QP
3	371.4400	46.72	-13.57	33.15	46.00	-12.85	QP
4 *	556.7100	47.29	-9.71	37.58	46.00	-8.42	QP
5	742.4650	42.24	-6.41	35.83	46.00	-10.17	QP
6	980.6000	40.08	-3.17	36.91	54.00	-17.09	QP

4.2.7 TEST RESULTS-ABOVE 1 GHZ

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of 『Note 』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Radiated emissions measured in frequency range above 1000 MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
- (3) Data of measurement within this frequency range shown “ * ” in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- (4) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

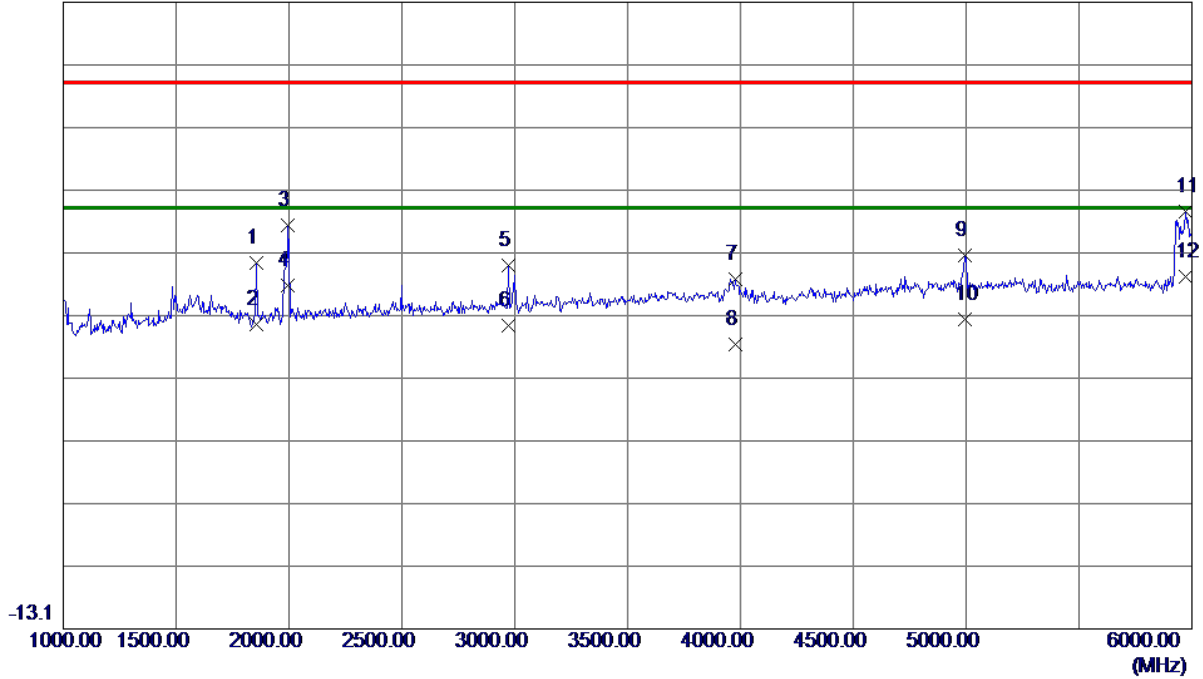
EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	22°C	Relative Humidity	55%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	D-SUB 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1500.0000	48.37	-3.56	44.81	74.00	-29.19	Peak
2	1500.0000	38.25	-3.56	34.69	54.00	-19.31	AVG
3	1997.5000	53.10	-1.86	51.24	74.00	-22.76	Peak
4	1997.5000	42.89	-1.86	41.03	54.00	-12.97	AVG
5	3000.0000	47.98	1.59	49.57	74.00	-24.43	Peak
6	3000.0000	37.85	1.59	39.44	54.00	-14.56	AVG
7	4000.0000	38.57	4.76	43.33	74.00	-30.67	Peak
8	4000.0000	28.64	4.76	33.40	54.00	-20.60	AVG
9	4965.0000	39.08	7.53	46.61	74.00	-27.39	Peak
10	4965.0000	29.64	7.53	37.17	54.00	-16.83	AVG
11	5945.0000	45.25	8.91	54.16	74.00	-19.84	Peak
12 *	5945.0000	35.14	8.91	44.05	54.00	-9.95	AVG

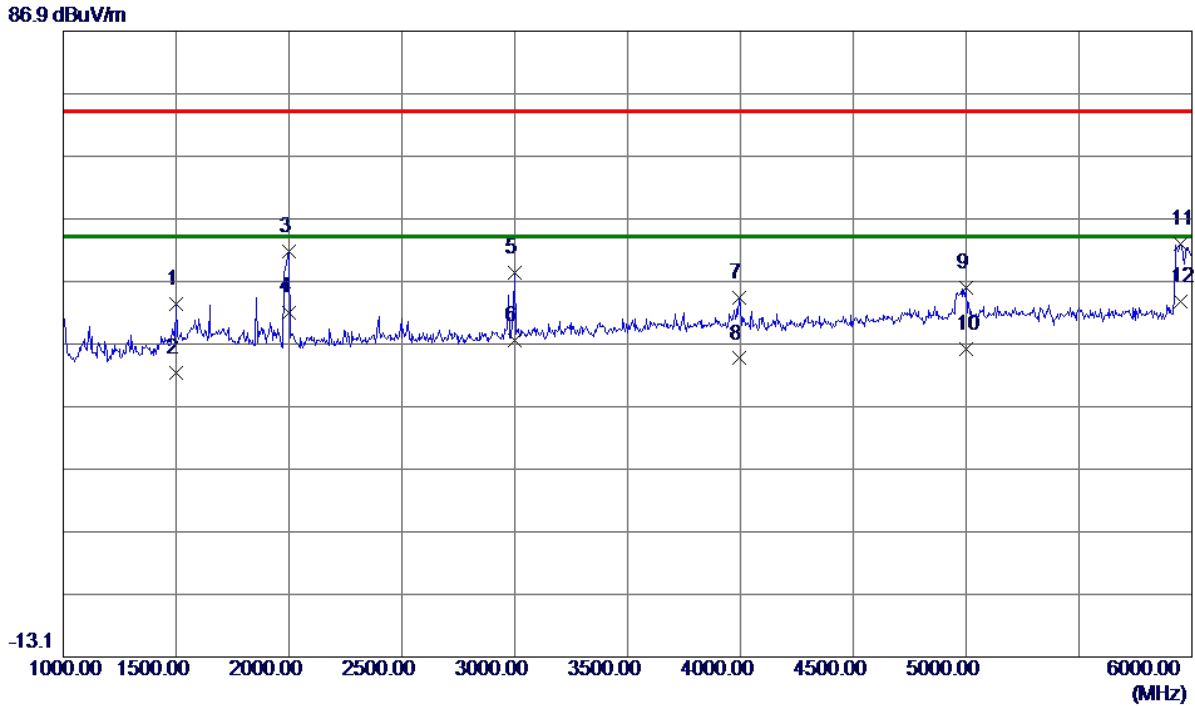
EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	22°C	Relative Humidity	55%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	D-SUB 3840*2160/60Hz		
Test Engineer	Jivey Jiang		

86.9 dBuV/m



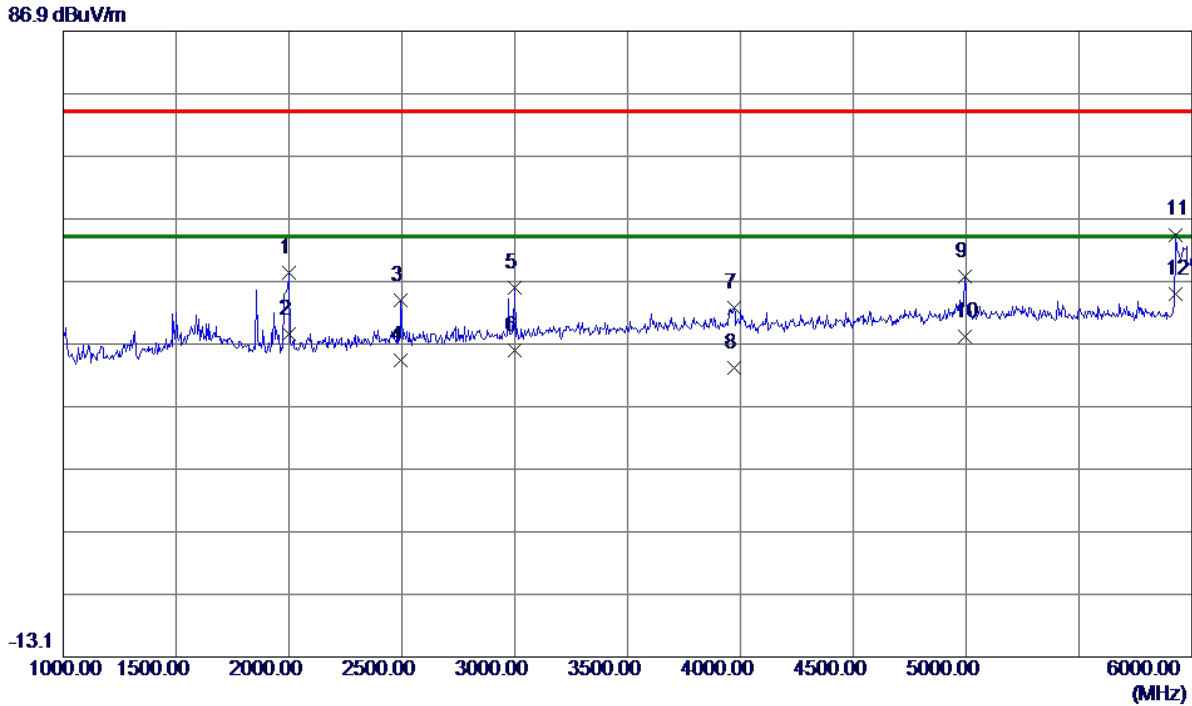
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1855.0000	47.71	-2.35	45.36	74.00	-28.64	Peak
2	1855.0000	37.86	-2.35	35.51	54.00	-18.49	AVG
3	1995.0000	53.22	-1.87	51.35	74.00	-22.65	Peak
4	1995.0000	43.52	-1.87	41.65	54.00	-12.35	AVG
5	2970.0000	43.42	1.51	44.93	74.00	-29.07	Peak
6	2970.0000	33.85	1.51	35.36	54.00	-18.64	AVG
7	3977.5000	37.96	4.69	42.65	74.00	-31.35	Peak
8	3977.5000	27.64	4.69	32.33	54.00	-21.67	AVG
9	4992.5000	38.85	7.64	46.49	74.00	-27.51	Peak
10	4992.5000	28.64	7.64	36.28	54.00	-17.72	AVG
11	5970.0000	44.56	8.95	53.51	74.00	-20.49	Peak
12 *	5970.0000	34.15	8.95	43.10	54.00	-10.90	AVG

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ +,-,\ or blank)
Temperature	22°C	Relative Humidity	55%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	HDMI1 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



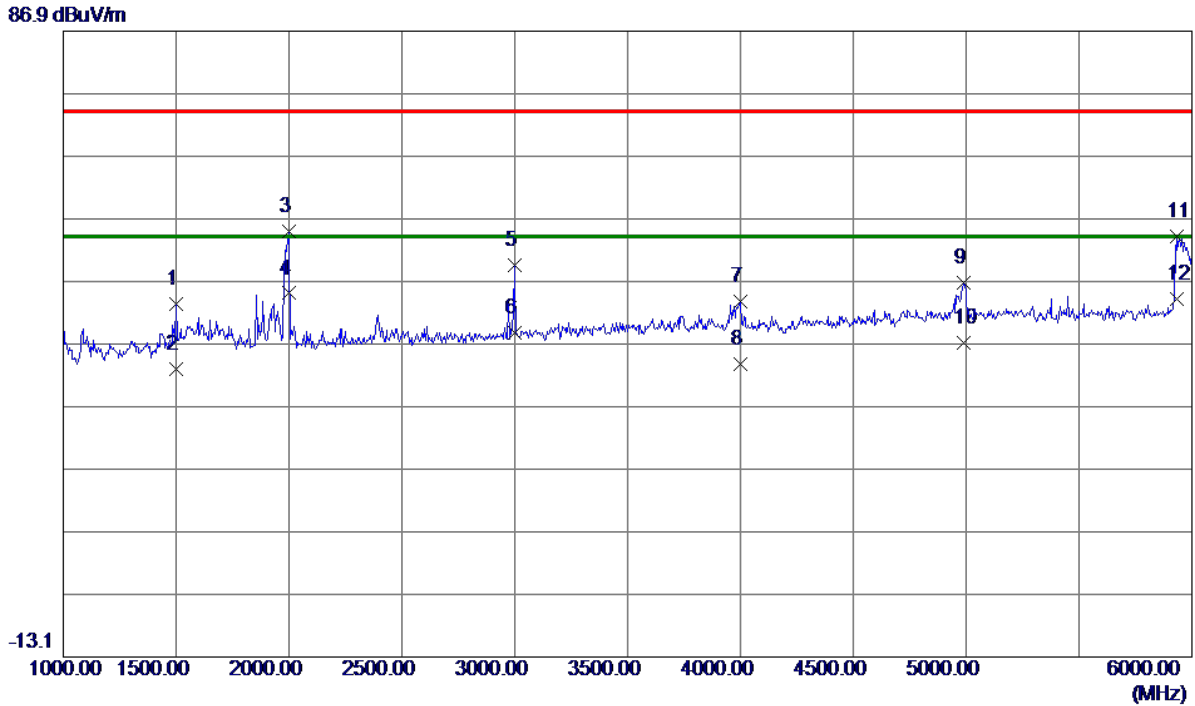
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1500.0000	46.79	-3.56	43.23	74.00	-30.77	Peak
2	1500.0000	35.79	-3.56	32.23	54.00	-21.77	AVG
3	2000.0000	53.59	-1.85	51.74	74.00	-22.26	Peak
4	2000.0000	43.85	-1.85	42.00	54.00	-12.00	AVG
5	3000.0000	46.74	1.59	48.33	74.00	-25.67	Peak
6	3000.0000	35.85	1.59	37.44	54.00	-16.56	AVG
7	3995.0000	39.53	4.74	44.27	74.00	-29.73	Peak
8	3995.0000	29.86	4.74	34.60	54.00	-19.40	AVG
9	5000.0000	38.30	7.67	45.97	74.00	-28.03	Peak
10	5000.0000	28.46	7.67	36.13	54.00	-17.87	AVG
11	5947.5000	44.02	8.91	52.93	74.00	-21.07	Peak
12 *	5947.5000	34.81	8.91	43.72	54.00	-10.28	AVG

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/,+,-,\ or blank)
Temperature	22°C	Relative Humidity	55%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	HDMI1 3840*2160/60Hz		
Test Engineer	Jivey Jiang		



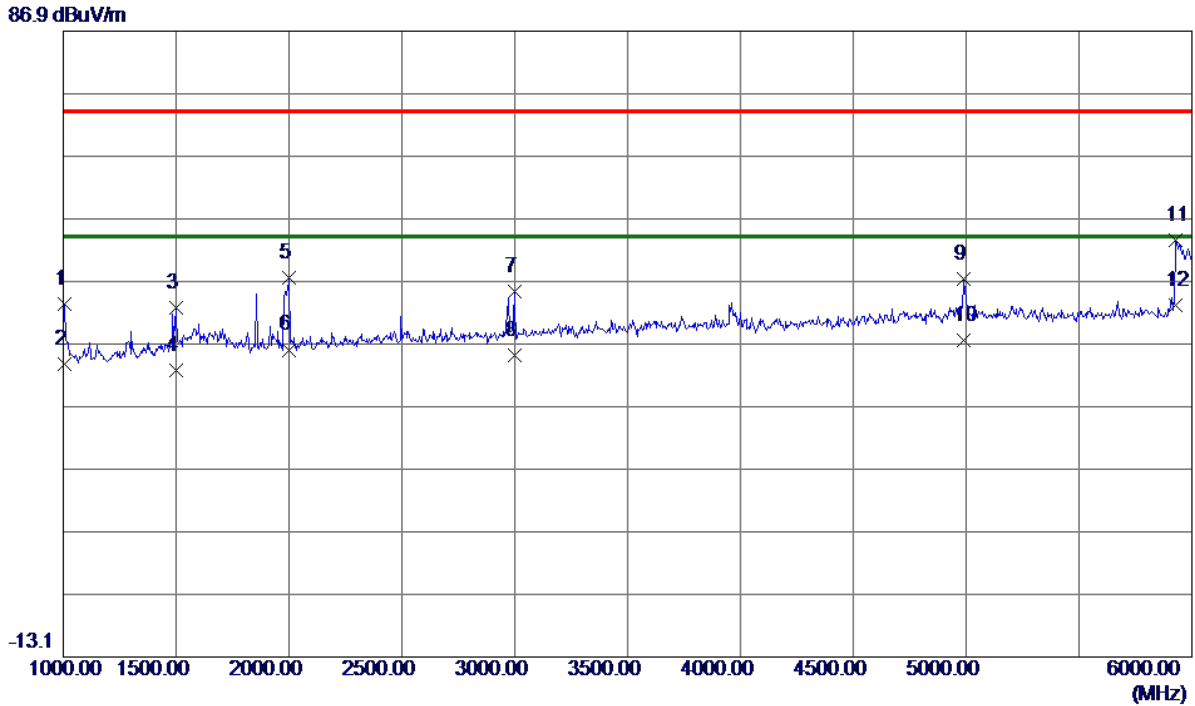
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	2000.0000	50.20	-1.85	48.35	74.00	-25.65	Peak
2	2000.0000	40.27	-1.85	38.42	54.00	-15.58	AVG
3	2495.0000	43.65	0.17	43.82	74.00	-30.18	Peak
4	2495.0000	34.18	0.17	34.35	54.00	-19.65	AVG
5	3000.0000	44.24	1.59	45.83	74.00	-28.17	Peak
6	3000.0000	34.29	1.59	35.88	54.00	-18.12	AVG
7	3970.0000	38.06	4.67	42.73	74.00	-31.27	Peak
8	3970.0000	28.49	4.67	33.16	54.00	-20.84	AVG
9	4992.5000	40.14	7.64	47.78	74.00	-26.22	Peak
10	4992.5000	30.52	7.64	38.16	54.00	-15.84	AVG
11	5930.0000	45.52	8.88	54.40	74.00	-19.60	Peak
12 *	5930.0000	35.96	8.88	44.84	54.00	-9.16	AVG

EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/ ,+,-,\ or blank)
Temperature	22°C	Relative Humidity	55%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	HDMI1 2160P		
Test Engineer	Jivey Jiang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1500.0000	46.88	-3.56	43.32	74.00	-30.68	Peak
2	1500.0000	36.45	-3.56	32.89	54.00	-21.11	AVG
3	1997.5000	56.79	-1.86	54.93	74.00	-19.07	Peak
4 *	1997.5000	46.86	-1.86	45.00	54.00	-9.00	AVG
5	2997.5000	47.89	1.58	49.47	74.00	-24.53	Peak
6	2997.5000	37.16	1.58	38.74	54.00	-15.26	AVG
7	3997.5000	38.94	4.75	43.69	74.00	-30.31	Peak
8	3997.5000	28.96	4.75	33.71	54.00	-20.29	AVG
9	4990.0000	39.13	7.63	46.76	74.00	-27.24	Peak
10	4990.0000	29.46	7.63	37.09	54.00	-16.91	AVG
11	5932.5000	45.14	8.88	54.02	74.00	-19.98	Peak
12	5932.5000	35.19	8.88	44.07	54.00	-9.93	AVG

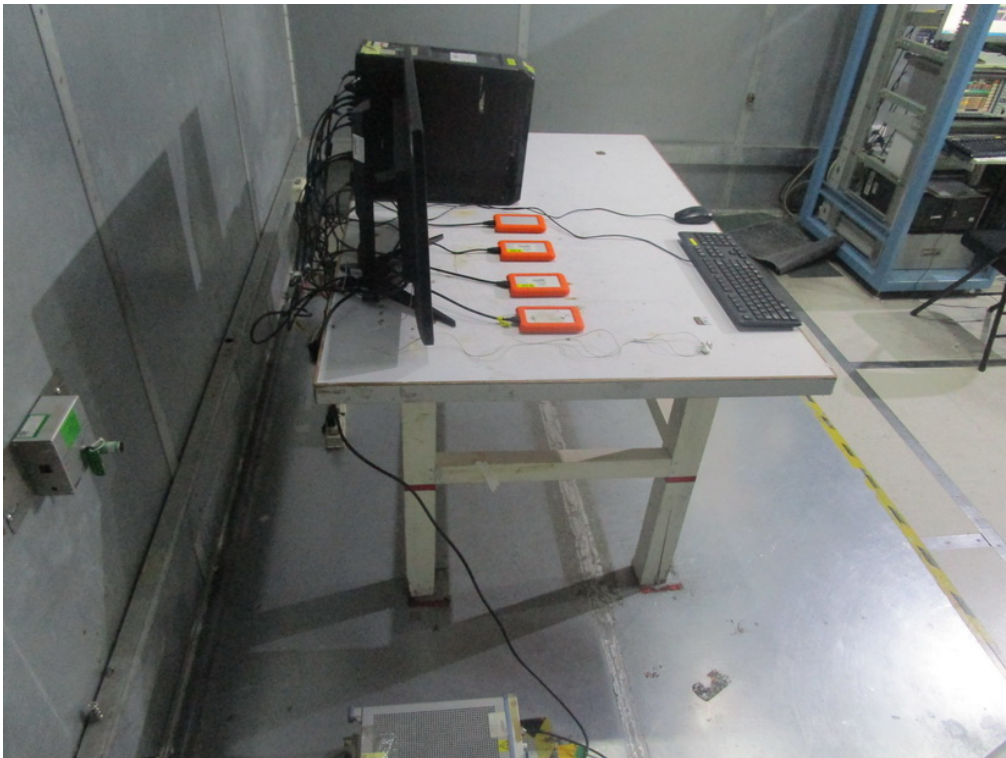
EUT	LCD Monitor	Model Name	**G2868*****(*=A-Z,a-z,0-9,/,+,-,\ or blank)
Temperature	22°C	Relative Humidity	55%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	HDMI1 2160P		
Test Engineer	Jivey Jiang		



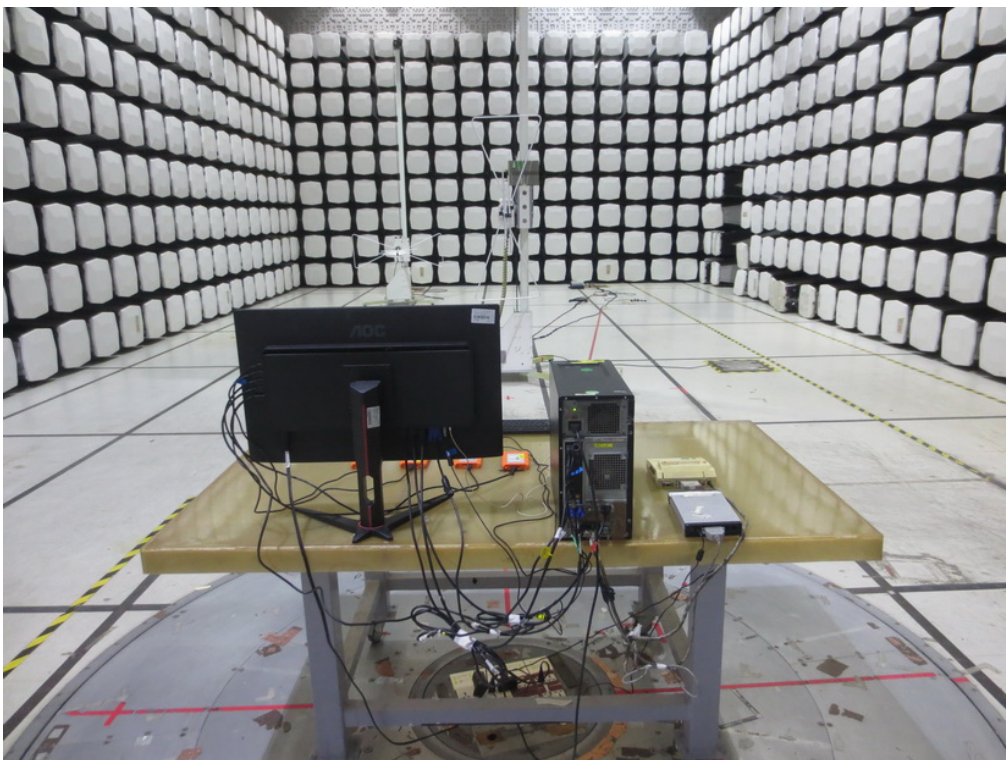
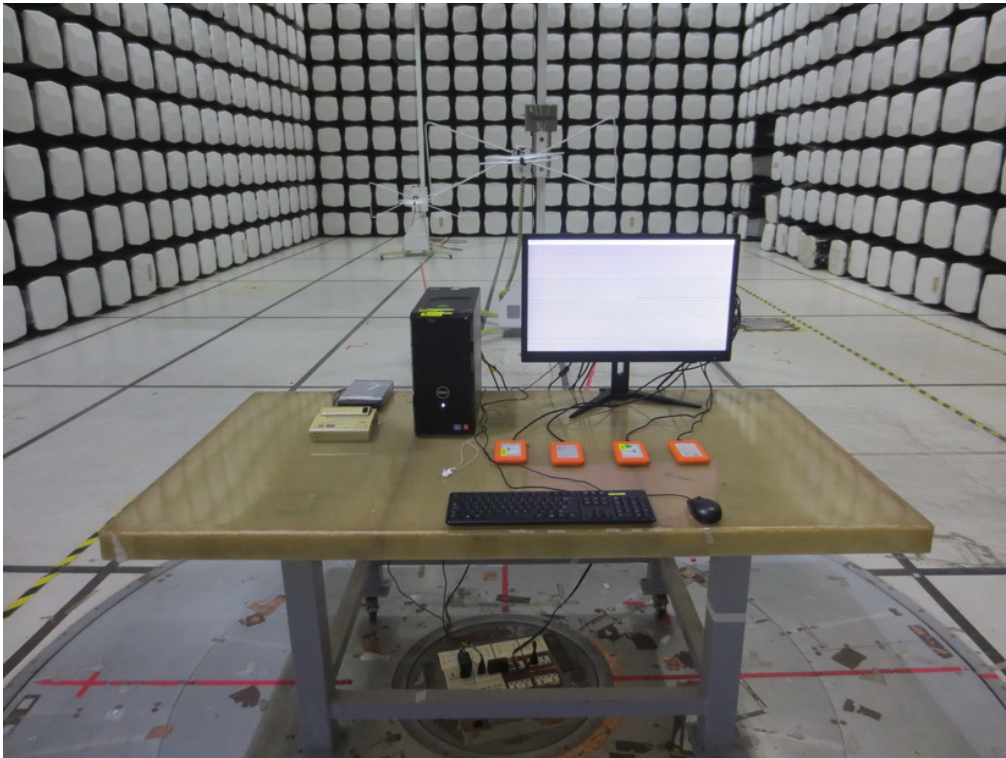
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1007.5000	50.26	-7.00	43.26	74.00	-30.74	Peak
2	1007.5000	40.64	-7.00	33.64	54.00	-20.36	AVG
3	1497.5000	46.30	-3.58	42.72	74.00	-31.28	Peak
4	1497.5000	36.29	-3.58	32.71	54.00	-21.29	AVG
5	2000.0000	49.37	-1.85	47.52	74.00	-26.48	Peak
6	2000.0000	37.85	-1.85	36.00	54.00	-18.00	AVG
7	2997.5000	43.72	1.58	45.30	74.00	-28.70	Peak
8	2997.5000	33.53	1.58	35.11	54.00	-18.89	AVG
9	4990.0000	39.67	7.63	47.30	74.00	-26.70	Peak
10	4990.0000	29.96	7.63	37.59	54.00	-16.41	AVG
11	5930.0000	44.71	8.88	53.59	74.00	-20.41	Peak
12 *	5930.0000	34.19	8.88	43.07	54.00	-10.93	AVG

5. EUT TEST PHOTO

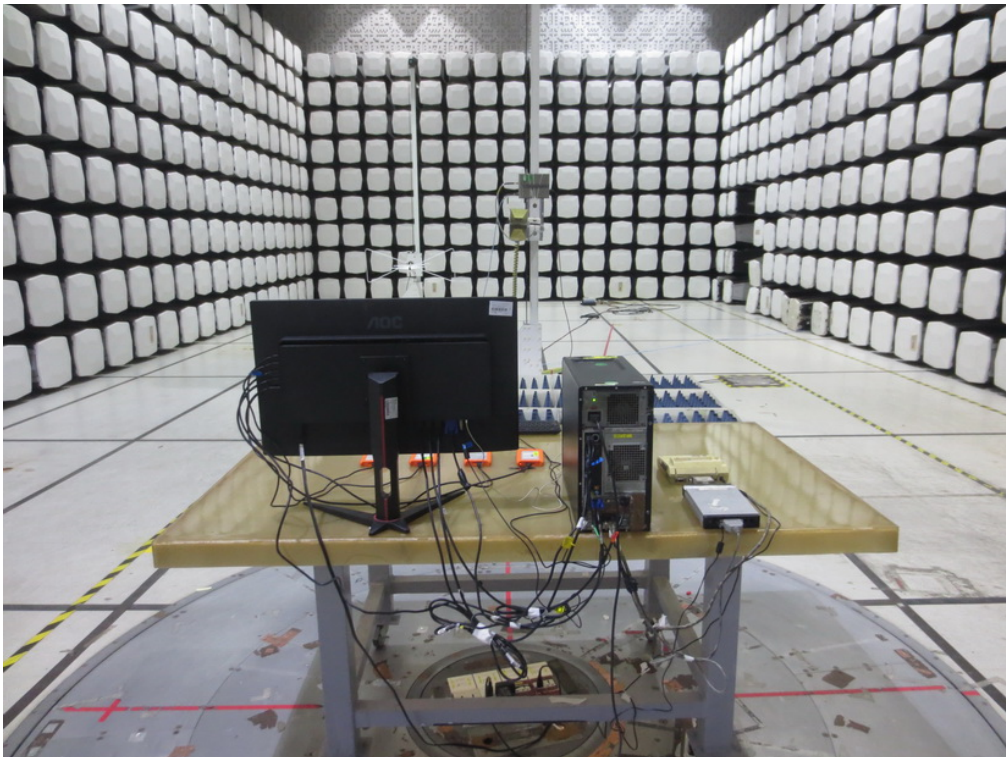
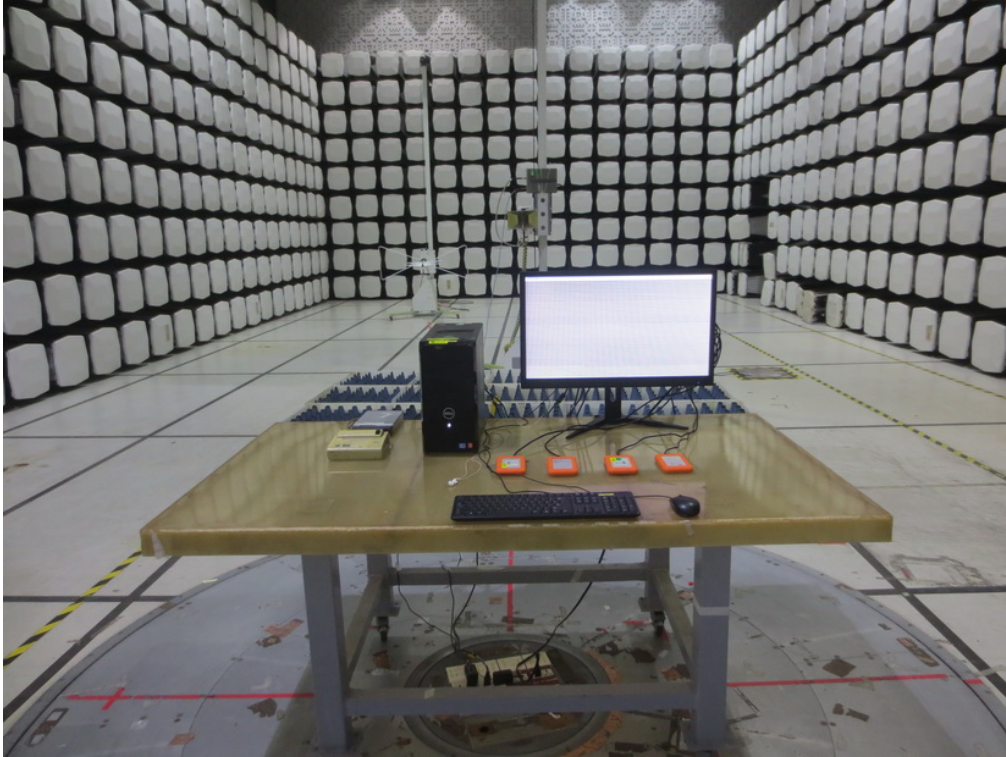
Conducted Emission



Radiated emission below 1 GHz



Radiated emission above 1 GHz



End of Test Report