

# EMC Test Report

**Project No.** : 1806C005  
**Equipment** : LCD Monitor  
**Model Name** : \*\*32G1\*\*\*\*\* (\*=A-Z,a-z,0-9,/ or blank)  
**Applicant** : TPV Electronics (Fujian) Co., Ltd.  
**Address** : Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian Province, P.R. China

**Date of Receipt** : Jun. 02, 2018  
**Date of Test** : Jun. 25, 2018 ~ Jul. 18, 2018  
**Issued Date** : Jul. 23, 2018  
**Tested by** : BTL Inc.

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### **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.

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**BTL's** laboratory quality assurance procedures are in compliance with the **ISO Guide 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, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements 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

Issued No.	Description	Issued Date
BTL-EMC-1-1806C005	Original Issue.	Jul. 23, 2018

## 1. CERTIFICATION

Equipment : LCD Monitor  
Brand Name : N/A  
Model Name : \*\*32G1\*\*\*\*\* (\*=A-Z,a-z,0-9,/,or blank)  
Applicant : TPV Electronics (Fujian) Co., Ltd.  
Date of Test : Jun. 25, 2018 ~ Jul. 18, 2018  
Test Sample : Engineering Sample No.: D180605122(Mainboard 2), D180605123(Mainboard 1)  
Standard(s) : EN 55032:2012+AC:2013 Class B  
EN 55032:2015 Class B  
EN 55032:2015+AC:2016 Class B  
AS/NZS CISPR 32: 2015 / CISPR 32: 2015+COR1:2016  
AS/NZS CISPR 32: 2013 / CISPR 32: 2012  
IEC 61000-3-2:2014 / EN 61000-3-2:2014 Class D  
IEC 61000-3-3:2013 / EN 61000-3-3:2013  
EN 55024:2010  
EN 55024:2010+A1:2015  
IEC 61000-4-2:2008 / EN 61000-4-2:2009  
IEC 61000-4-3:2006+A1:2007+A2:2010 /  
EN 61000-4-3:2006+A1:2008+A2:2010  
IEC 61000-4-4:2004 / EN 61000-4-4:2004  
IEC 61000-4-5:2005 / EN 61000-4-5:2006  
IEC 61000-4-6:2008 / EN 61000-4-6:2009  
IEC 61000-4-8:2009 / EN 61000-4-8:2010  
IEC 61000-4-11:2004 / EN 61000-4-11:2004

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-EMC-1-1806C005) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Emission					
Standard(s)	Test Item	Limit	Judgment	Remark	
EN 55032: 2012+AC:2013 EN 55032:2015 EN 55032:2015+AC:2016	Radiated emissions up to 1 GHz	Class B	PASS		
	Radiated emissions above 1 GHz	Class B	PASS	NOTE (2)	
	Radiated emissions from FM receivers	-----	N/A	NOTE (1) NOTE (6)	
	Conducted emissions AC mains power port	Class B	PASS	NOTE (7)	
	Asymmetric mode conducted emissions	AAN	-----	N/A	NOTE (1) NOTE (8)
		Current Probe	-----	N/A	
		CVP	-----	N/A	
Conducted differential voltage emissions	-----	N/A	NOTE (1) NOTE (9)		

Standard	Test Item	Limit	Judgment	Remark
EN 61000-3-2:2014	Harmonic current emissions	Class D	PASS	NOTE (3)
EN 61000-3-3:2013	Voltage changes, voltage fluctuations and flicker	-----	PASS	

Immunity EN 55024: 2010/ EN 55024: 2010+A1:2015				
Section(s)	Test Item	Performance Criterion	Judgment	Remark
EN 61000-4-2:2009	Electrostatic discharge immunity	B	PASS	
EN 61000-4-3: 2006+A1:2008+A2:2010	Radiated, radio-frequency, electromagnetic field immunity	A	PASS	
EN 61000-4-4:2004	Electrical fast transient/burst immunity	B	PASS	
EN 61000-4-5:2006	Surge immunity	B/C	PASS	NOTE (4)
EN 61000-4-6:2009	Immunity to conducted disturbances, induced by radio-frequency fields	A	PASS	
EN 61000-4-8:2010	Power frequency magnetic field immunity	A	PASS	
EN 61000-4-11:2004	Voltage dips, short interruptions and voltage variations immunity	B / C / C	PASS	NOTE (5)



**NOTE:**

- (1) "N/A" denotes test is not applicable to this device.
- (2) The EUT's max operating frequency exceeds 108 MHz, so the test will be performed.
- (3) If the power consumption is less than 75W, there is no limit applied.
- (4) Performance Criterion C for signal ports and telecommunication ports.  
Performance Criterion B for input d.c. power port and a.c. power ports.
- (5) Voltage Dips: >95% reduction – Performance Criterion B  
Voltage Dips: 30% reduction – Performance Criterion C  
Voltage Interruptions: >95% reduction – Performance Criterion C
- (6) If the EUT has FM function the test will be performed.
- (7) If the EUT has AC power mains port the test will be performed.
- (8)

Cable Type	Number of pairs	Measurement type	Procedures
Balanced Unscreened	1 (2 wire) ;2 (4 wire); 3 (6 wire) ;4 (8 wire)	Voltage	AAN
Balanced Unscreened	See a)	Voltage and Current	CP+CVP
Screened or Coaxial	n/a	Voltage	AAN
Screened or Coaxial	n/a	Voltage or Current	CP or CVP
Unbalanced cables	n/a	Voltage and Current	CP+CVP

Ports connected to cables with more than 4 balanced pairs or where the port is unable to function correctly when connected through an AAN.

- (9) If the EUT has tuner port the test will be performed.
- (10) The requirement followed by the client's specification.

## 2.1 TEST FACILITY

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

## 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. Radiated emissions up to 1 GHz measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB08 (10m)	CISPR	30MHz ~ 200MHz	V	4.66
		30MHz ~ 200MHz	H	4.64
		200MHz ~ 1,000MHz	V	4.88
		200MHz ~ 1,000MHz	H	4.86

### B. Radiated emissions above 1 GHz measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-CB08 (3m)	CISPR	1 ~ 6 GHz	4.26
		6 ~18 GHz	5.30

### C. Conducted emissions AC mains power port measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C01	CISPR	150 kHz ~ 30MHz	3.16

### D. Harmonic current emissions / Voltage changes, voltage fluctuations and flicker measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C01	EN 61000-3-2	Voltage	0.774
	EN 61000-3-3	Current	0.782

E. Immunity Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-SR02	EN 61000-4-2	Rise time $t_r$	14.6 %
		Peak current $I_p$	7.70 %
		Current at 30 ns	7.72 %
		Current at 60 ns	7.72 %
DG-CB05	EN 61000-4-3	80MHz~1GHz	2.175 dB
		Electrical measurements	2.267 dB
		Measuring the demodulation on analogue wired network lines	2.267 dB
DG-SR05	EN 61000-4-4	Voltage rise time ( $t_r$ )	10.4 %
		Voltage peak value( $V_P$ )	8.2 %
		Voltage pulse width( $t_w$ )	6.0 %
DG-SR05	EN 61000-4-5	Voltage front time ( $T_{fv}$ )	5.8 %
		Voltage peak value( $V_P$ )	3.9 %
		Voltage duration( $t_d$ )	0.6 %
DG-CB06	EN 61000-4-6	CDN	3.25 dB
		EM Clamp	4.410 dB
		Electrical measurements	3.258 dB
		measuring the demodulation on analogue wired network lines	3.258 dB
DG-SR05	EN 61000-4-8	Magnetic Field Level	3.787 %
DG-SR05	EN 61000-4-11	voltage fall time ( $T_f$ )	2 %

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
Model Name	**32G1***** (*=A-Z,a-z,0-9,/ ,or blank)
Model Difference(s)	Only differ in model due to marketing purpose.
Power Source	AC Mains.
Power Rating	100-240V~ 50/60Hz
Connecting I/O Port	For mainboard 1: 1* AC port 2* HDMI port 1* Display port 1* D-SUB port 1* Earphone port For mainboard 2: 1* AC port 2* HDMI port 1* Display port 1* Earphone port

Cable Type	Shielded Type	Ferrite Core	Length(m)	Note
D-SUB	Shielded	YES	1.2/1.5/1.8	Bonded two Ferrite Cores
Display	Shielded	NO	1.2/1.5/1.8	
HDMI	Shielded	NO	1.2/1.5/1.8	
AC Power Cord	Non-shielded	NO	1.2/1.5/1.8	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+D-SUB 1.8m length testing and recording in test report.

### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates 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	Display 1920*1080/144Hz
Mode 2	D-SUB 1920*1080/60Hz
Mode 3	HDMI 1 1920*1080/144Hz
Mode 4	HDMI 2 1920*1080/144Hz
Mode 5	HDMI 1 1080P
Mode 6	HDMI 2 1080P
Mode 7	HDMI 2 1280*1024/75Hz
Mode 8	HDMI 2 640*480/75Hz

For Radiated Test	
Final Test Mode	Description
Mode 2	D-SUB 1920*1080/60Hz
Mode 4	HDMI 2 1920*1080/144Hz
Mode 6	HDMI 2 1080P

For Conducted Test	
Final Test Mode	Description
Mode 2	D-SUB 1920*1080/60Hz
Mode 4	HDMI 2 1920*1080/144Hz
Mode 6	HDMI 2 1080P

For Harmonics / Flickers Test	
Final Test Mode	Description
Mode 4	HDMI 2 1920*1080/144Hz

For EMS Test	
Final Test Mode	Description
Mode 4	HDMI 2 1920*1080/144Hz

Evaluation description:

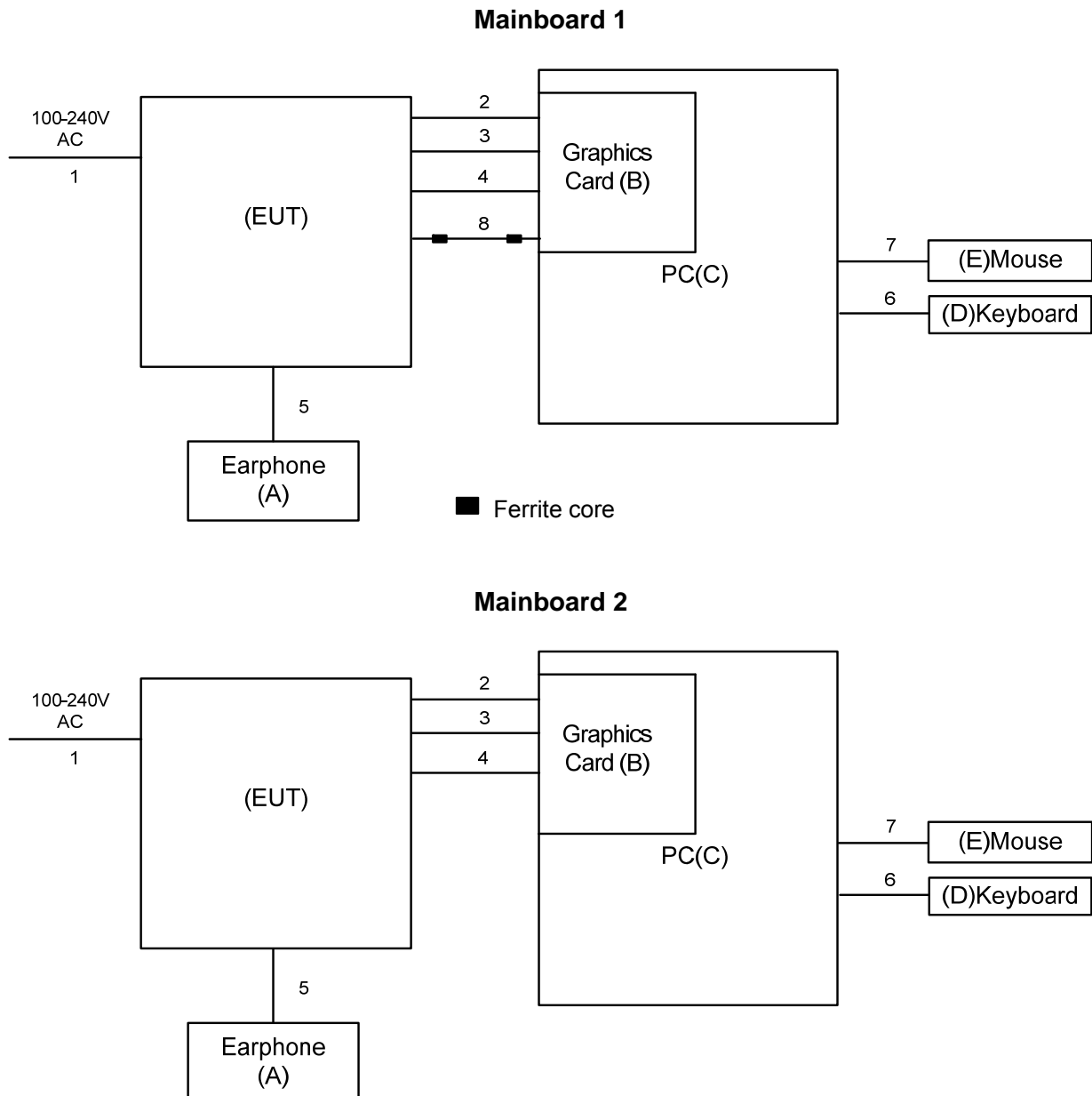
1. The maximum resolution is evaluated Mode 1-6. The worst case is Mode 4 and evaluated the middle and low resolution Mode 7 and mode 8.
2. According to the client's requirement, choose Mode 2, Mode 4 and Mode 6 recording in test report.
3. Mainboard 2 evaluated mainboard 1's worst case and recorded in test report.  
Mode 2 is only for mainboard 1.

### 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 & D-SUB cable.
2. EUT connected to earphone via earphone cable.
3. PC connected to mouse and keyboard via USB cable.

### 3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



### 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.	FCC ID	Series No.
A	Earphone	Apple	N/A	VER	N/A
B	Graphics Card	DELL	ATI 3650	DOC	260832000932
C	PC	DELL	Vostro 470	DOC	28747261333
D	Keyboard	DELL	KB212-B	DOC	CN0HTXH97158125004DXA01
E	Mouse	DELL	MS111-P	DOC	CN011D3V71581279OLOT

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.8m/1.5m/1.2m	AC Cable
2	YES	NO	1.8m/1.5m/1.2m	HDMI Cable
3	YES	NO	1.8m/1.5m/1.2m	HDMI Cable
4	YES	NO	1.8m/1.5m/1.2m	Display Cable
5	NO	NO	1.2m	Earphone Cable
6	YES	NO	1.8m	USB Cable
7	YES	NO	1.8m	USB Cable
8	YES	YES	1.8m/1.5m/1.2m	D-SUB Cable

#### 4. EMC EMISSION TEST- EN55032:2012+AC:2013 & 2015

##### 4.1 RADIATED EMISSION

##### 4.1.1 LIMITS

Class A equipment up to 1000MHz

Table clause	Frequency MHz	Measurement		Class A limit dB(uV/m)
		Distance m	Detector type/bandwidth	OATS/SAC
A2.1	30-230	10	Quasi peak / 120 kHz	40
	230-1000			47
A2.2	30-230	3		50
	230-1000			57

Class A equipment above 1000MHz

Table clause	Frequency MHz	Measurement		Class A limit dB(uV/m)
		Distance m	Detector type/bandwidth	FSOATS
A3.1	1000-3000	3	Average / 1 MHz	56
	3000-6000			60
A3.2	1000-3000		Peak / 1 MHz	76
	3000-6000			80

Class B equipment up to 1000MHz

Table clause	Frequency MHz	Measurement		Class B limit dB(uV/m)
		Distance m	Detector type/bandwidth	OATS/SAC
A4.1	30-230	10	Quasi peak / 120 kHz	30
	230-1000			37
A4.2	30-230	3		40
	230-1000			47

Class B equipment above 1000MHz

Table clause	Frequency MHz	Measurement		Class B limit dB(uV/m)
		Distance m	Detector type/bandwidth	FSOATS
A5.1	1000-3000	3	Average / 1 MHz	50
	3000-6000			54
A5.2	1000-3000		Peak / 1 MHz	70
	3000-6000			74



**Notes:**

- (1) The limit for radiated test was performed according to as following: EN 55032
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (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

**Required highest frequency for radiated measurement**

Highest internal frequency (F <sub>x</sub> ) MHz	Highest measured frequency MHz
F <sub>x</sub> ≤ 108	1000
108 < F <sub>x</sub> ≤ 500	2000
500 < F <sub>x</sub> ≤ 1000	5000
F <sub>x</sub> > 1000	5 <sup>th</sup> up to a maximum 6 GHz,

Note for FM and TV broadcast receiver, F<sub>x</sub> is determined from the highest frequency generated or used excluding the local oscillator and tuned frequencies.

**4.1.2 MEASUREMENT INSTRUMENTS LIST**

**Up to 1GHz:**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Attenuator	SHX	TS2-6dB-6G-A	16101101	Nov. 09, 2018
2	Attenuator	SHX	TS2-6dB-6G-A	16101102	Jan. 04, 2019
3	Receiver	Keysight	N9038A	MY54450004	Aug. 15, 2018
4	MXE EMI Receiver	Agilent	N9038A	MY53220133	Mar. 11, 2019
5	Pre-Amplifier	Mini-Circuits	EMC 9135	980284	Mar. 11, 2019
6	Pre-Amplifier	Mini-Circuits	EMC 9135	980283	Mar. 11, 2019
7	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	586	Nov. 09, 2018
8	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	587	Jan. 04, 2019
9	Cable	emci	LMR-400(5m+11m+15m)	N/A	Nov. 01, 2019
10	Cable	emci	LMR-400(5m+8m+15m)	N/A	Nov. 01, 2019
11	Measurement Software	Farad	EZ-EMC Ver.BTL-2ANT-1	N/A	N/A
12	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A

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. 20, 2018
3	MXE EMI Receiver	Agilent	N9038A	MY53220133	Mar. 11, 2019
4	Measurement Software	Farad	EZ-EMC Ver.BTL-2A NT-1	N/A	N/A
5	Cable	emci	SUCOFLE X_15m_5m (0.01GHz – 26.5GHz)	N/A	Dec. 26, 2018
6	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
7	Controller	MF	MF-7802	MF780208159	N/A

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

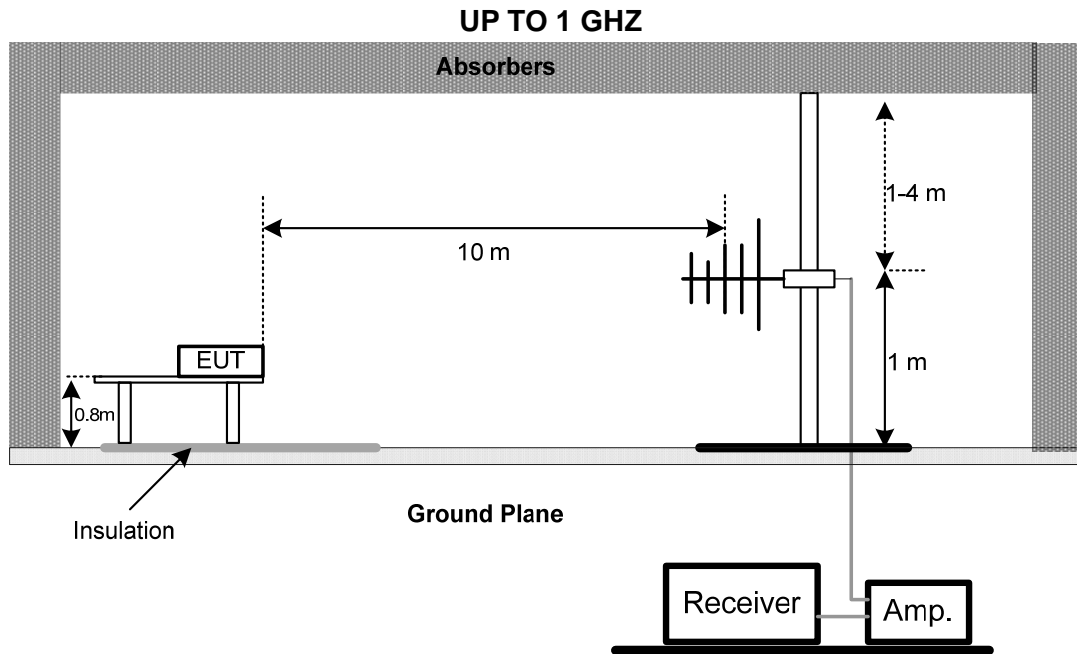
**4.1.3 TEST PROCEDURE**

- a. The measuring distance of 10 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 1GHz).
- 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 1GHz)
- 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. 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.
- e. 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)
- f. 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 1GHz)
- g. For the actual test configuration, please refer to the related Item - Block Diagram of system tested (please refer to 3.3).

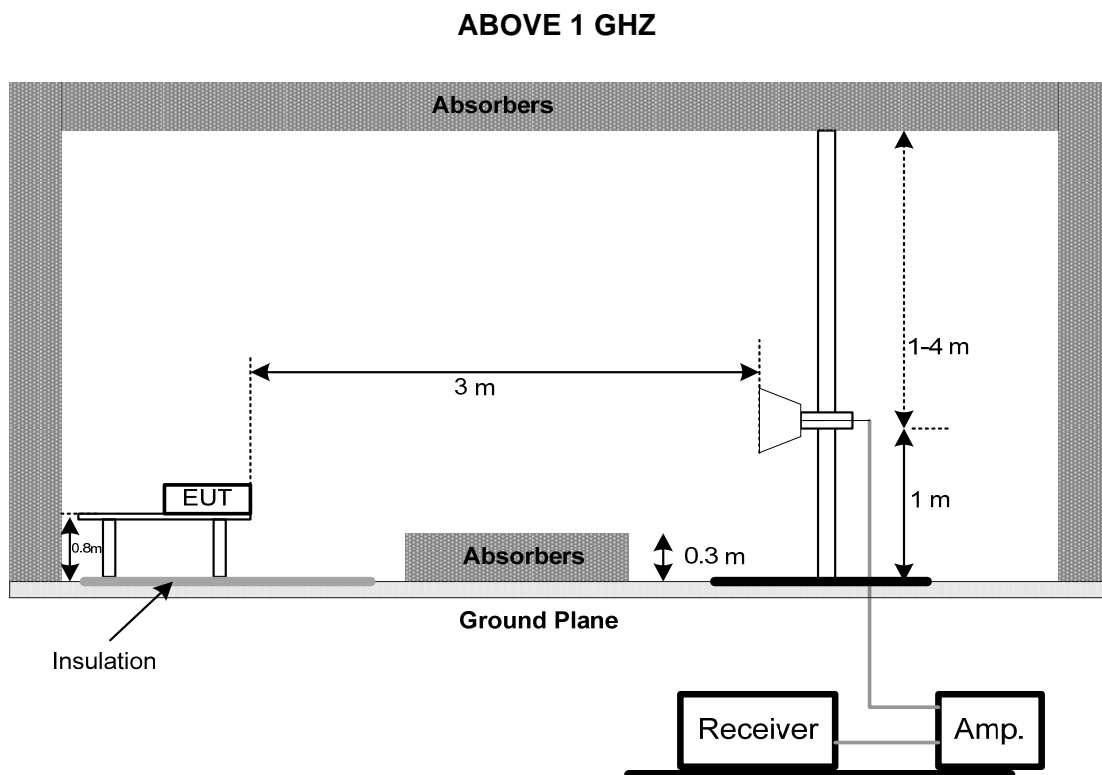
**4.1.4 DEVIATION FROM TEST STANDARD**

No deviation

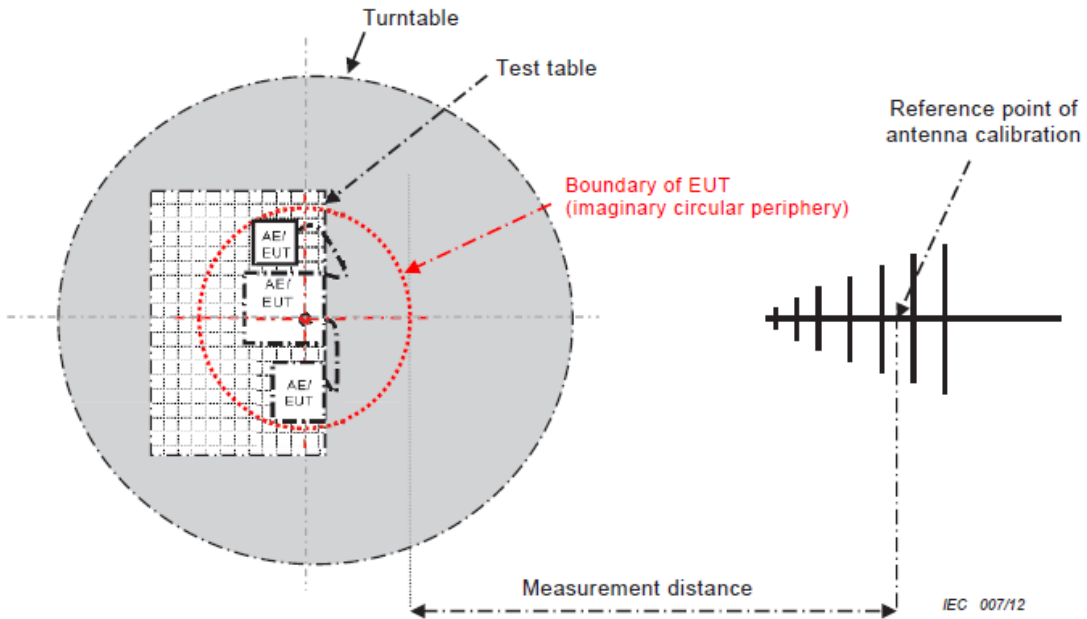
**4.1.5 TEST SETUP**



Note: The antenna can be moved between 1 to 4 meters above the ground.

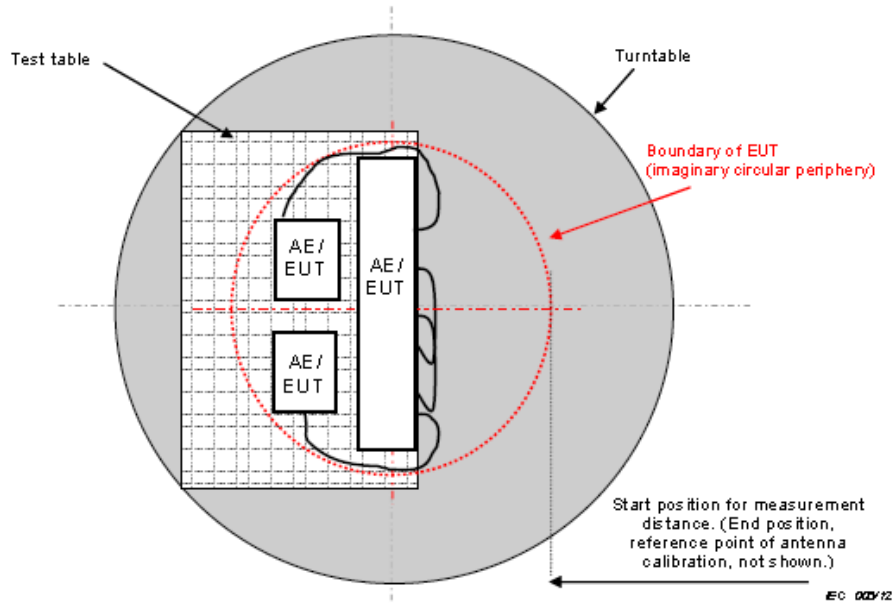


**4.1.6 MEASUREMENT DISTANCE**



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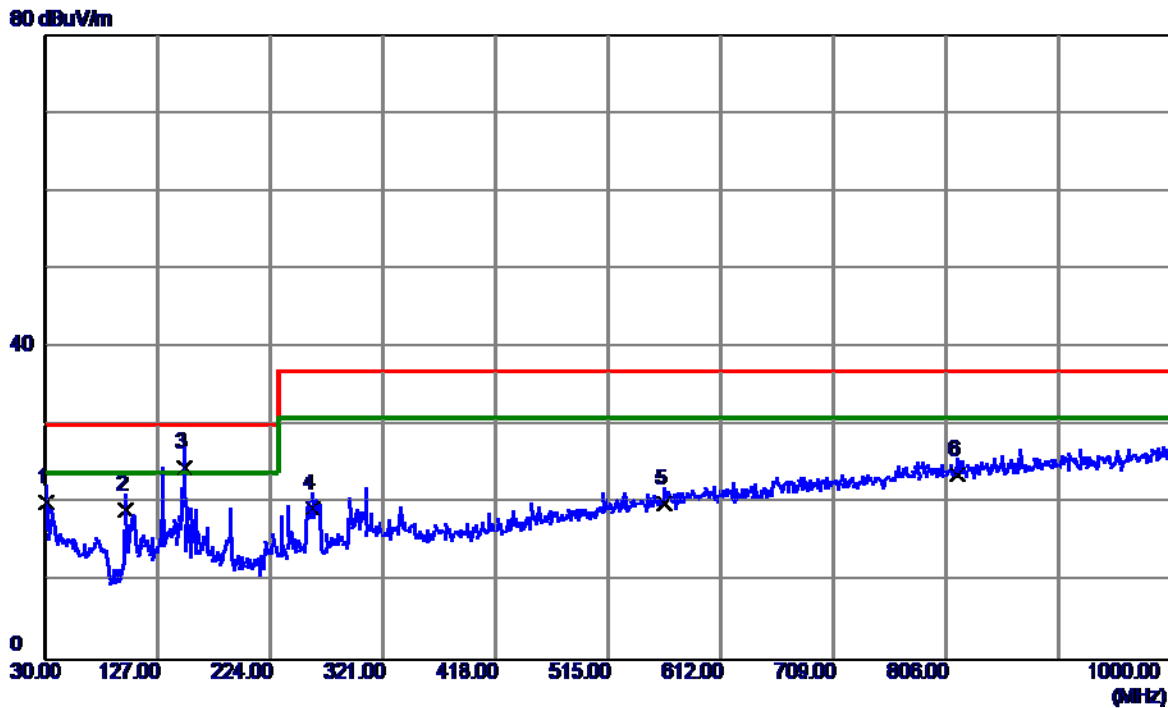
CISPR 32 © IEC:2012



**Figure C.2 – Boundary of EUT, Local AE and associated cabling**

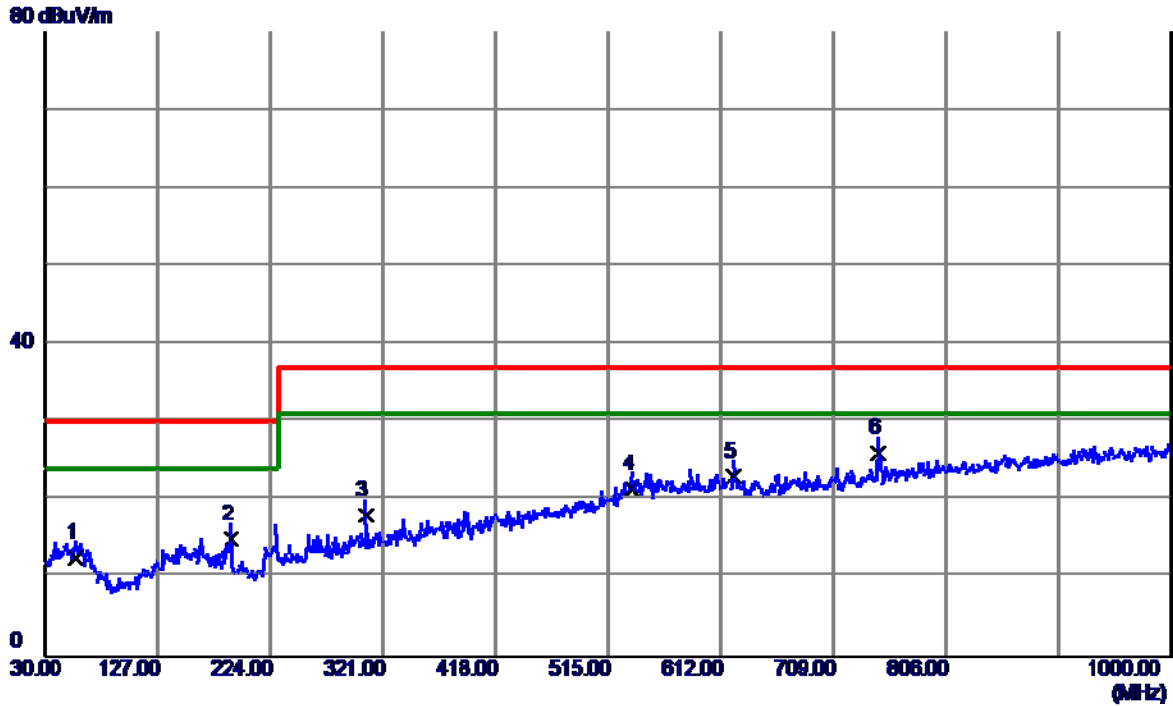
### 4.1.7 TEST RESULTS (UP TO 1 GHZ)

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



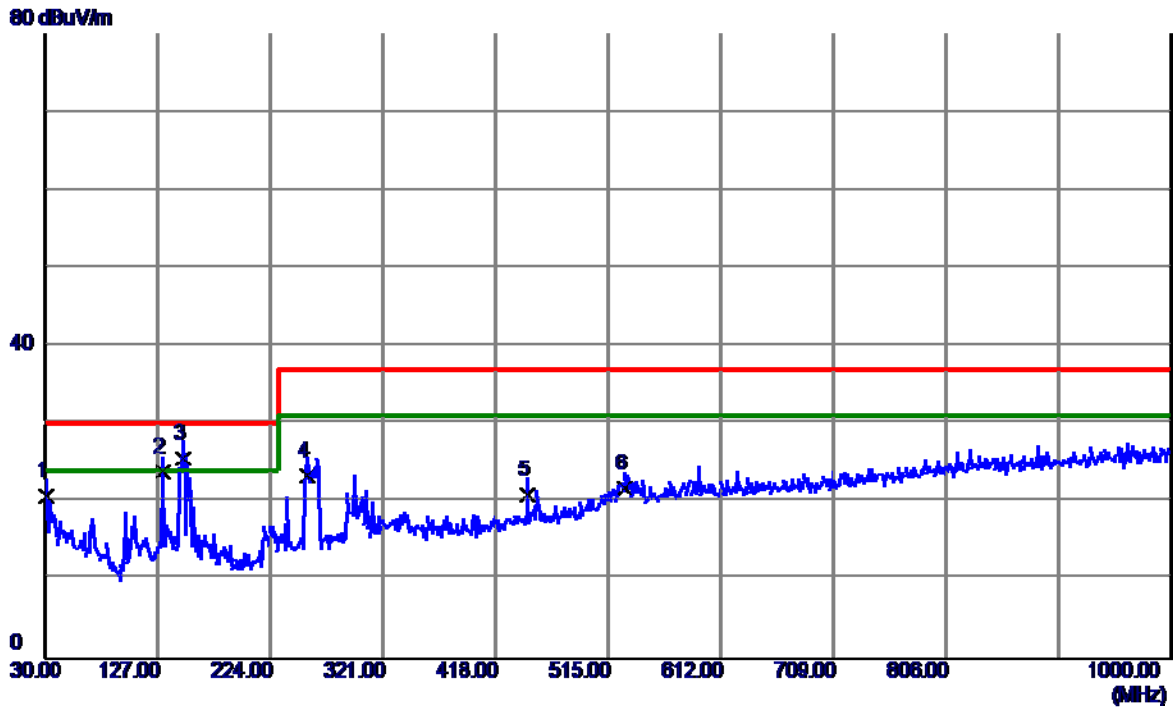
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	30.9700	39.29	-19.16	20.13	30.00	-9.87	QP
2	99.8399	40.39	-21.22	19.17	30.00	-10.83	QP
3 *	150.7650	41.30	-16.62	24.68	30.00	-5.32	QP
4	260.3750	36.14	-16.82	19.32	37.00	-17.68	QP
5	563.0150	29.67	-9.71	19.96	37.00	-17.04	QP
6	815.2150	29.65	-5.90	23.75	37.00	-13.25	QP

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



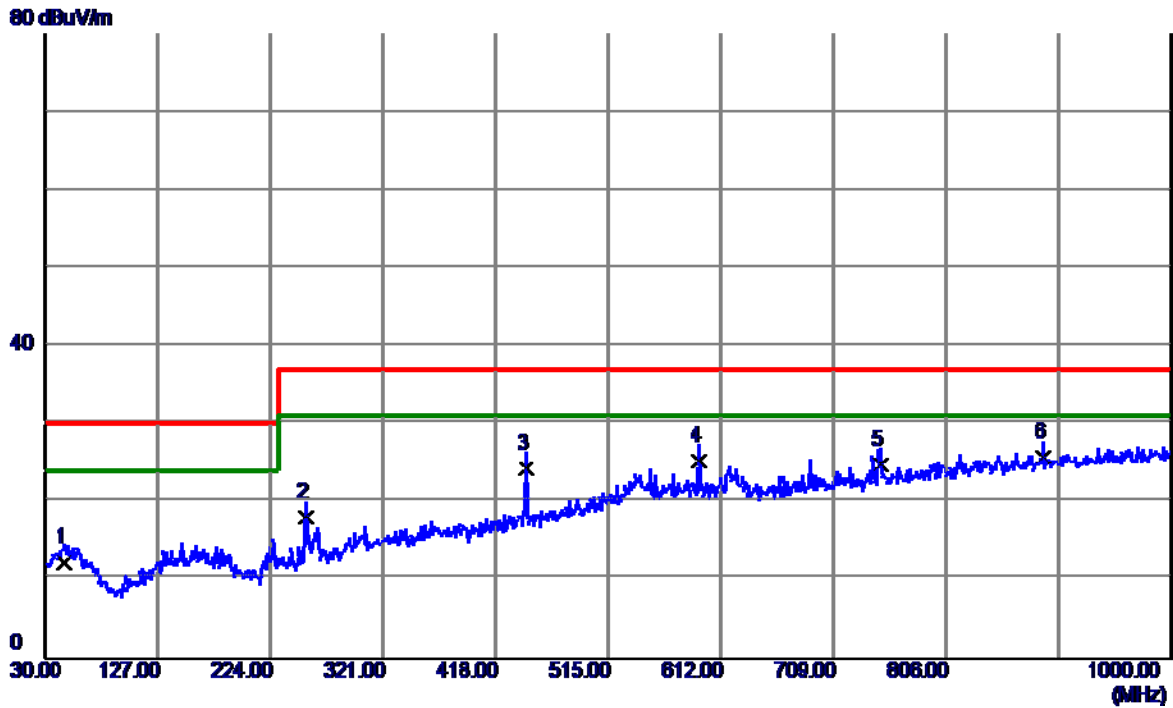
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	57.1600	29.70	-17.12	12.58	30.00	-17.42	QP
2	191.0200	33.40	-18.35	15.05	30.00	-14.95	QP
3	306.4500	33.08	-15.06	18.02	37.00	-18.98	QP
4	535.3700	31.36	-9.89	21.47	37.00	-15.53	QP
5	622.6700	31.65	-8.57	23.08	37.00	-13.92	QP
6 *	747.8000	32.90	-6.80	26.10	37.00	-10.90	QP

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	30.9700	39.96	-19.16	20.80	30.00	-9.20	QP
2	131.3650	41.58	-17.80	23.78	30.00	-6.22	QP
3 *	149.3100	42.33	-16.66	25.67	30.00	-4.33	QP
4	256.0100	40.37	-16.97	23.40	37.00	-13.60	QP
5	445.6450	33.22	-12.20	21.02	37.00	-15.98	QP
6	529.0650	32.12	-10.39	21.73	37.00	-15.27	QP

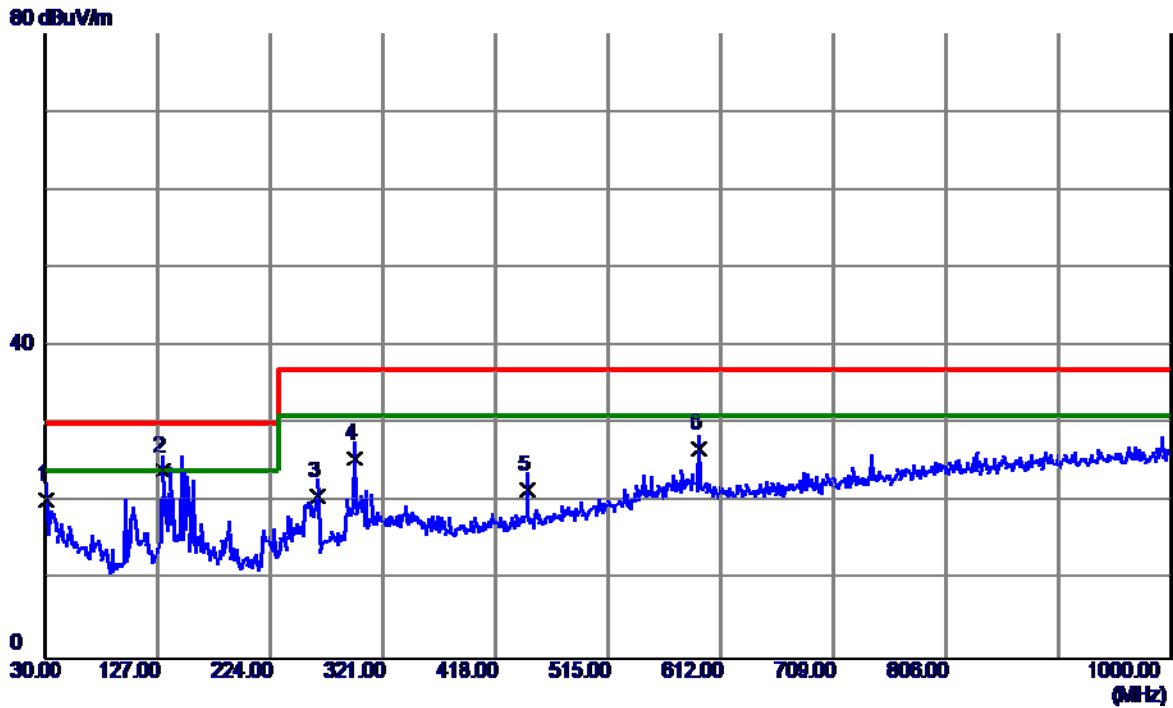
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	47.4600	29.43	-17.07	12.36	30.00	-17.64	QP
2	255.0400	35.41	-17.34	18.07	37.00	-18.93	QP
3	445.1600	36.19	-11.86	24.33	37.00	-12.67	QP
4	593.5700	34.29	-8.94	25.35	37.00	-11.65	QP
5	749.7400	31.53	-6.77	24.76	37.00	-12.24	QP
6 *	890.3900	30.50	-4.81	25.69	37.00	-11.31	QP

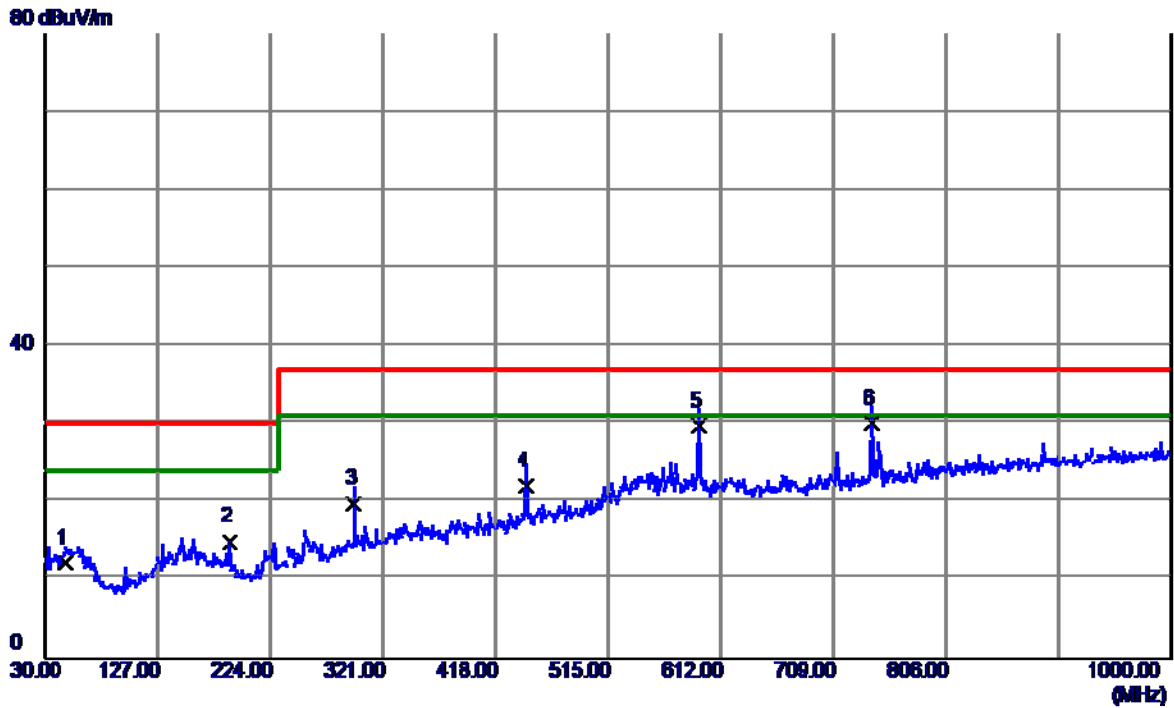


EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	HDMI 2 1080P		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



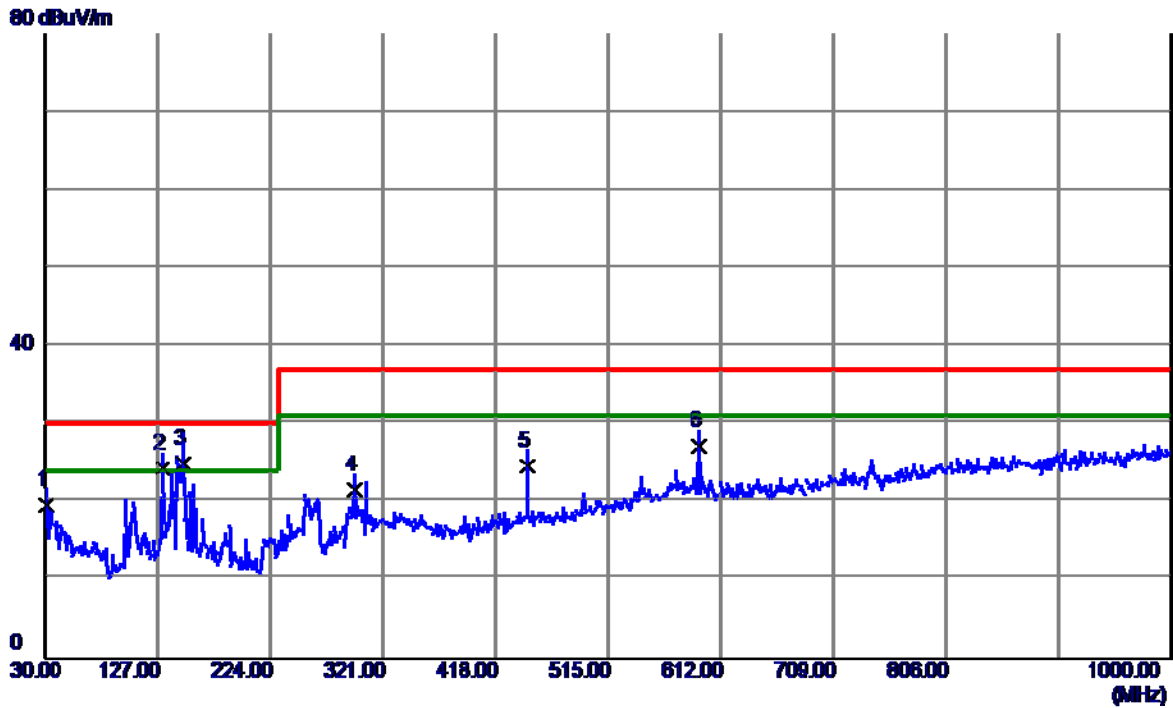
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	30.9700	39.52	-19.16	20.36	30.00	-9.64	QP
2 *	131.3650	41.80	-17.80	24.00	30.00	-6.00	QP
3	264.7400	37.42	-16.59	20.83	37.00	-16.17	QP
4	297.2349	41.08	-15.48	25.60	37.00	-11.40	QP
5	445.6450	33.84	-12.20	21.64	37.00	-15.36	QP
6	594.0550	35.91	-9.09	26.82	37.00	-10.18	QP

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	HDMI 2 1080P		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



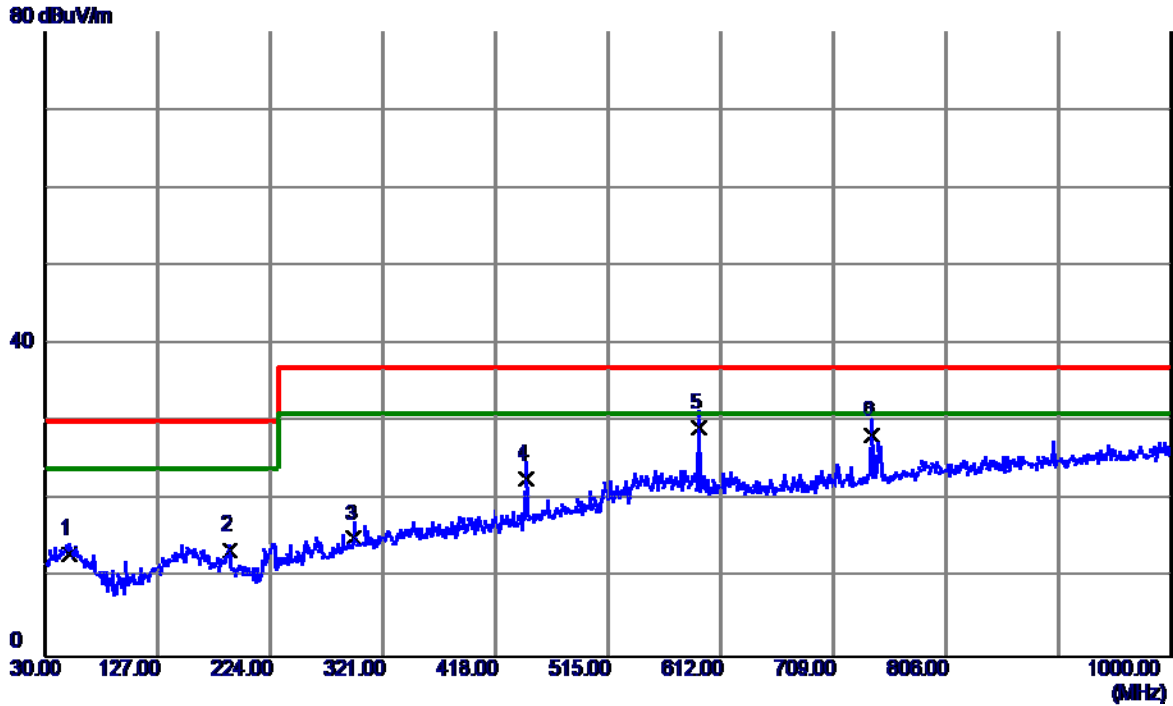
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	48.4300	29.23	-16.99	12.24	30.00	-17.76	QP
2	189.0800	33.18	-18.22	14.96	30.00	-15.04	QP
3	296.7500	35.20	-15.29	19.91	37.00	-17.09	QP
4	445.1600	34.00	-11.86	22.14	37.00	-14.86	QP
5	593.5700	38.73	-8.94	29.79	37.00	-7.21	QP
6 *	741.9800	37.04	-6.92	30.12	37.00	-6.88	QP

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 110V/60Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



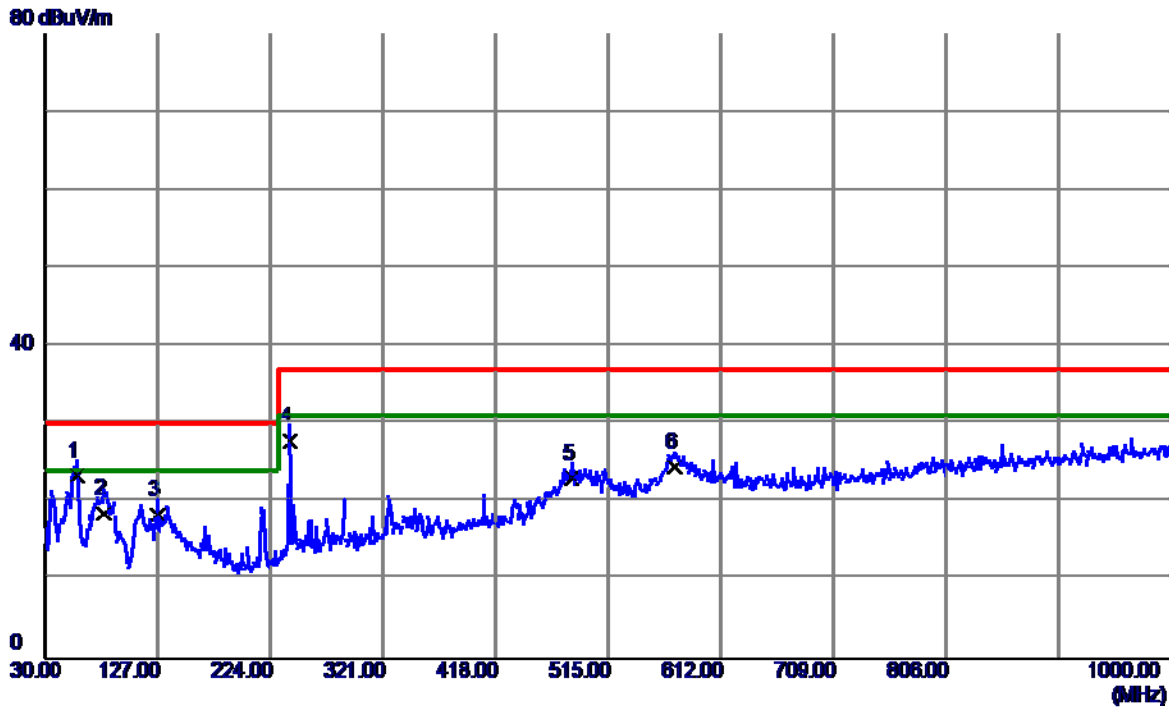
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	30.9700	38.89	-19.16	19.73	30.00	-10.27	QP
2	131.3650	42.06	-17.80	24.26	30.00	-5.74	QP
3 *	149.3100	41.69	-16.66	25.03	30.00	-4.97	QP
4	297.2349	37.05	-15.48	21.57	37.00	-15.43	QP
5	445.6450	36.85	-12.20	24.65	37.00	-12.35	QP
6	594.0550	36.28	-9.09	27.19	37.00	-9.81	QP

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 110V/60Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



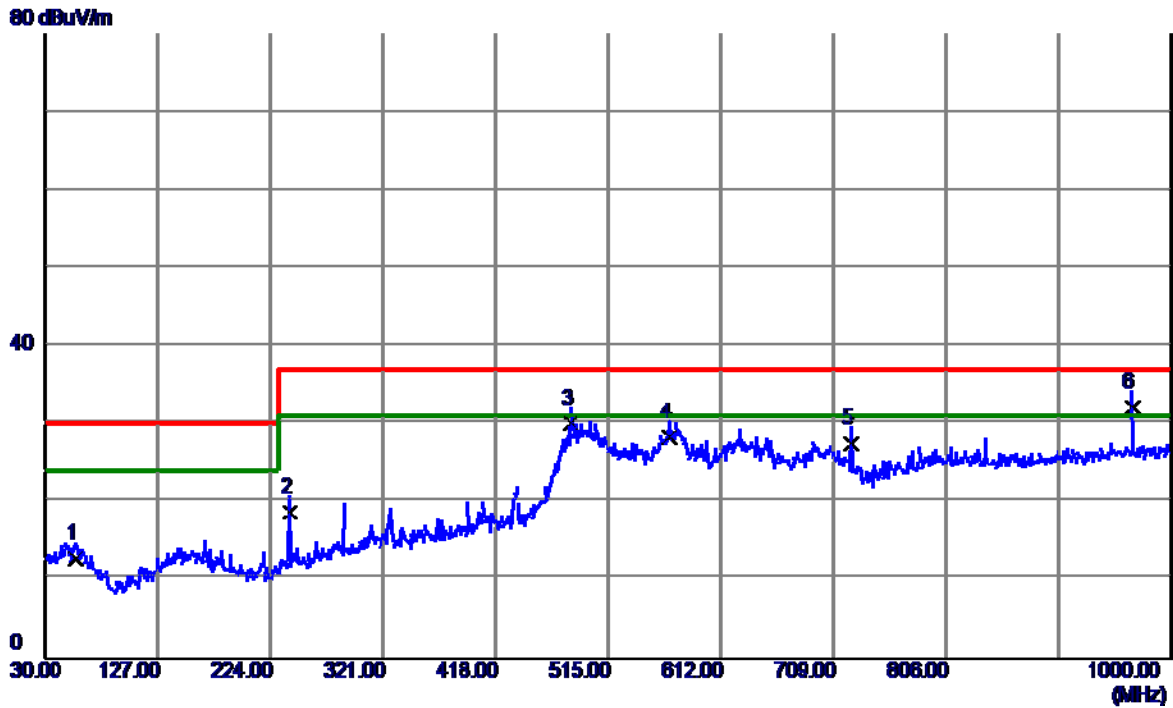
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	51.3400	30.10	-16.91	13.19	30.00	-16.81	QP
2	189.0800	31.88	-18.22	13.66	30.00	-16.34	QP
3	296.7500	30.41	-15.29	15.12	37.00	-21.88	QP
4	445.1600	34.61	-11.86	22.75	37.00	-14.25	QP
5 *	593.5700	38.25	-8.94	29.31	37.00	-7.69	QP
6	741.9800	35.26	-6.92	28.34	37.00	-8.66	QP

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



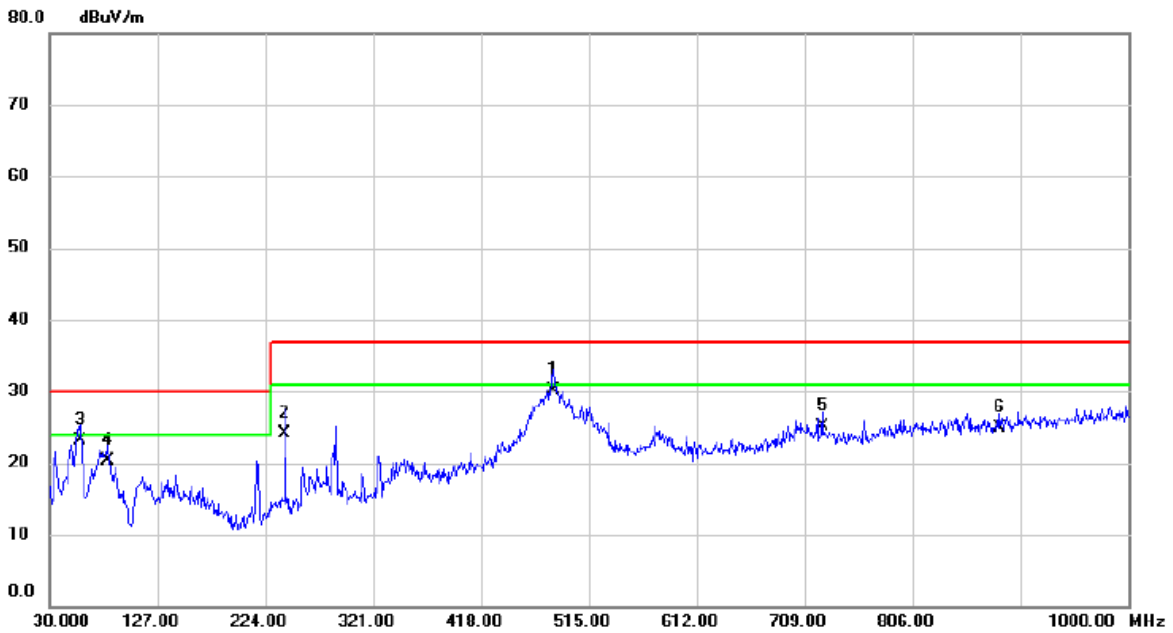
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1 *	57.6450	40.81	-17.40	23.41	30.00	-6.59	QP
2	80.9250	39.75	-21.25	18.50	30.00	-11.50	QP
3	127.4850	36.65	-18.22	18.43	30.00	-11.57	QP
4	241.4600	45.29	-17.45	27.84	37.00	-9.16	QP
5	483.9600	34.39	-11.34	23.05	37.00	-13.95	QP
6	572.2300	33.96	-9.53	24.43	37.00	-12.57	QP

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	57.1600	29.88	-17.12	12.76	30.00	-17.24	QP
2	241.4600	36.09	-17.39	18.70	37.00	-18.30	QP
3	482.9900	41.01	-10.90	30.11	37.00	-6.89	QP
4	567.3800	37.71	-9.37	28.34	37.00	-8.66	QP
5	724.5200	34.77	-7.25	27.52	37.00	-9.48	QP
6 *	966.0500	35.88	-3.77	32.11	37.00	-4.89	QP

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 110V/60Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		482.9900	41.41	-11.36	30.05	37.00	-6.95	QP	
2		241.4600	41.57	-17.46	24.11	37.00	-12.89	QP	
3	*	57.6450	40.50	-17.40	23.10	30.00	-6.90	QP	
4		81.8950	41.67	-21.35	20.32	30.00	-9.68	QP	
5		724.5200	32.41	-7.40	25.01	37.00	-11.99	QP	
6		884.0850	29.99	-5.16	24.83	37.00	-12.17	QP	

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 110V/60Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



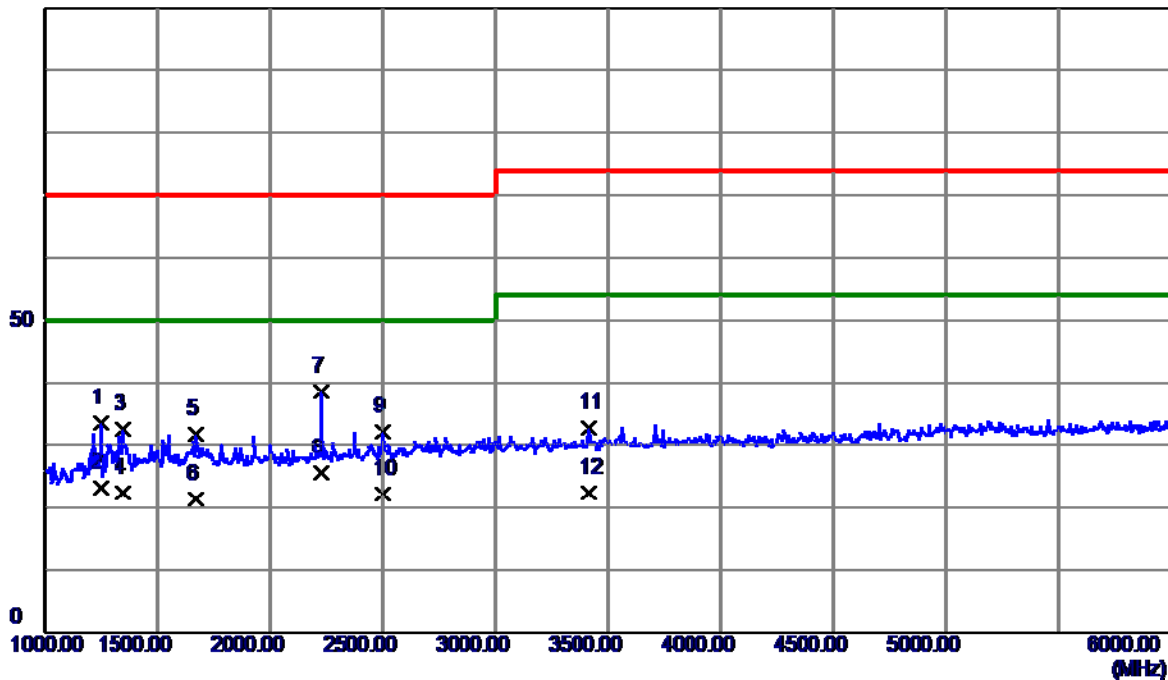
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		158.0400	28.68	-16.44	12.24	30.00	-17.76	QP	
2		241.4600	34.59	-17.39	17.20	37.00	-19.80	QP	
3		487.8400	34.93	-10.77	24.16	37.00	-12.84	QP	
4	*	578.0500	36.54	-9.19	27.35	37.00	-9.65	QP	
5		724.5200	34.34	-7.25	27.09	37.00	-9.91	QP	
6		885.5400	31.37	-4.86	26.51	37.00	-10.49	QP	



### 4.1.8 TEST RESULTS (ABOVE 1 GHZ)

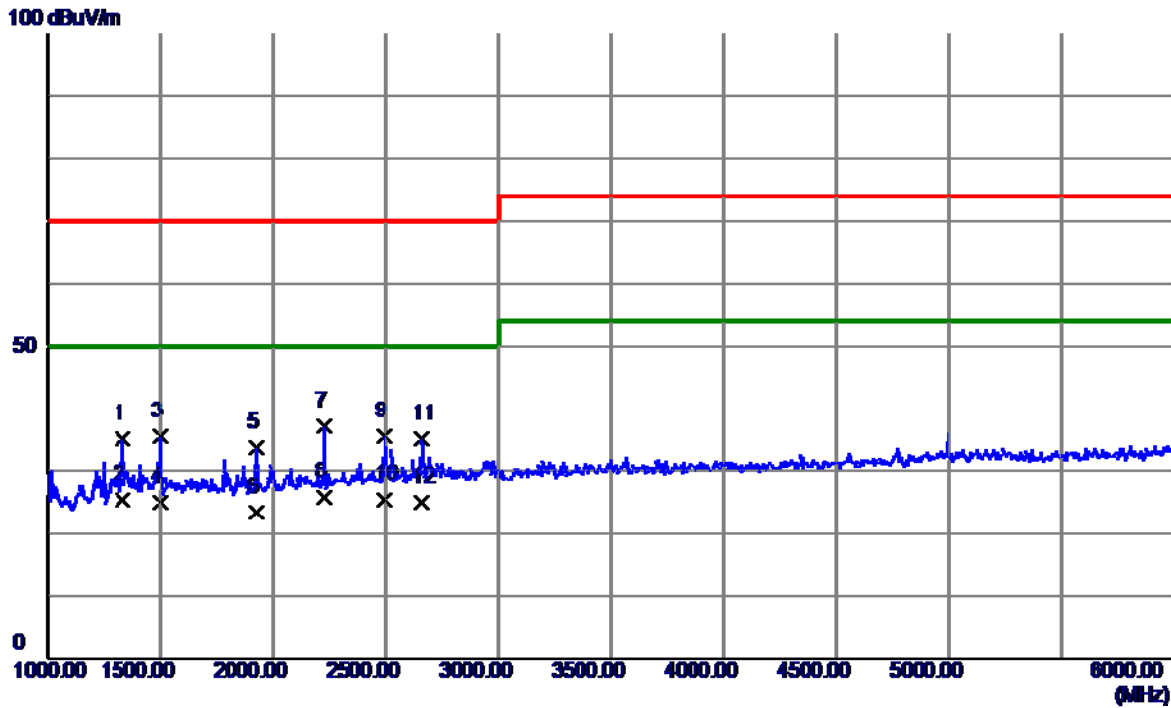
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		

100 dBuV/m



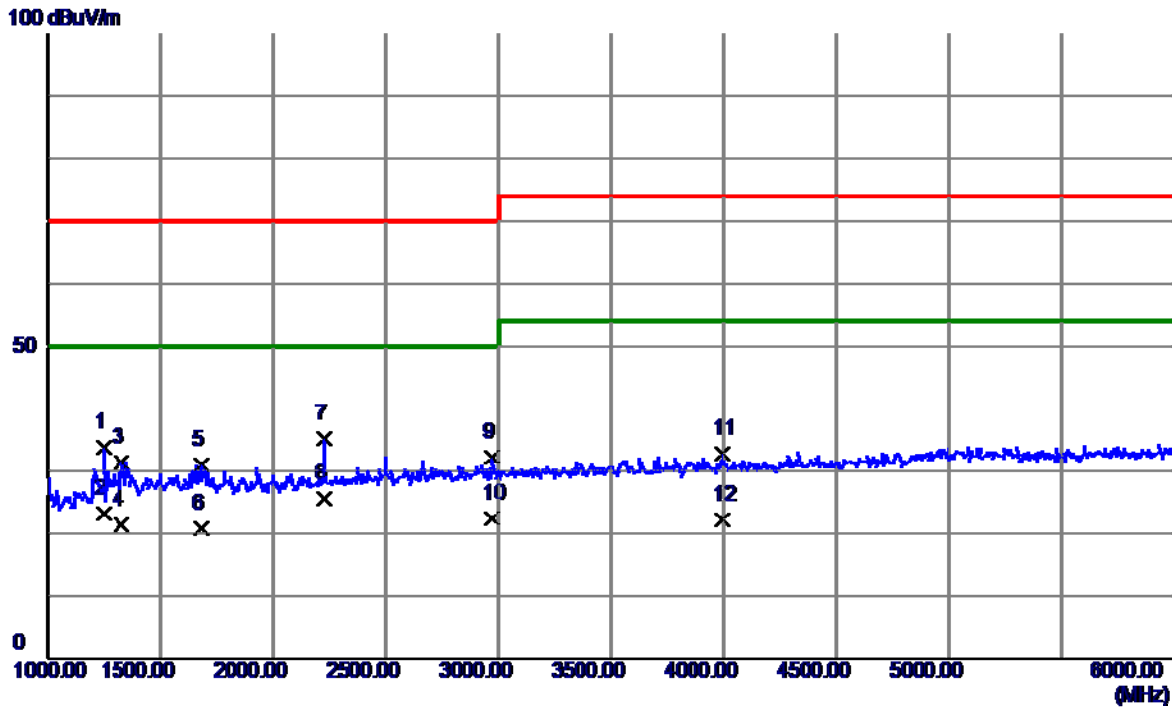
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1247.5000	38.04	-4.49	33.55	70.00	-36.45	Peak
2	1247.5000	27.67	-4.49	23.18	50.00	-26.82	AVG
3	1347.5000	36.54	-3.91	32.63	70.00	-37.37	Peak
4	1347.5000	26.27	-3.91	22.36	50.00	-27.64	AVG
5	1670.0000	34.49	-2.62	31.87	70.00	-38.13	Peak
6	1670.0000	24.09	-2.62	21.47	50.00	-28.53	AVG
7	2227.5000	39.60	-0.93	38.67	70.00	-31.33	Peak
8 *	2227.5000	26.54	-0.93	25.61	50.00	-24.39	AVG
9	2500.0000	31.96	0.16	32.12	70.00	-37.88	Peak
10	2500.0000	22.02	0.16	22.18	50.00	-27.82	AVG
11	3415.0000	29.93	2.91	32.84	74.00	-41.16	Peak
12	3415.0000	19.45	2.91	22.36	54.00	-31.64	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



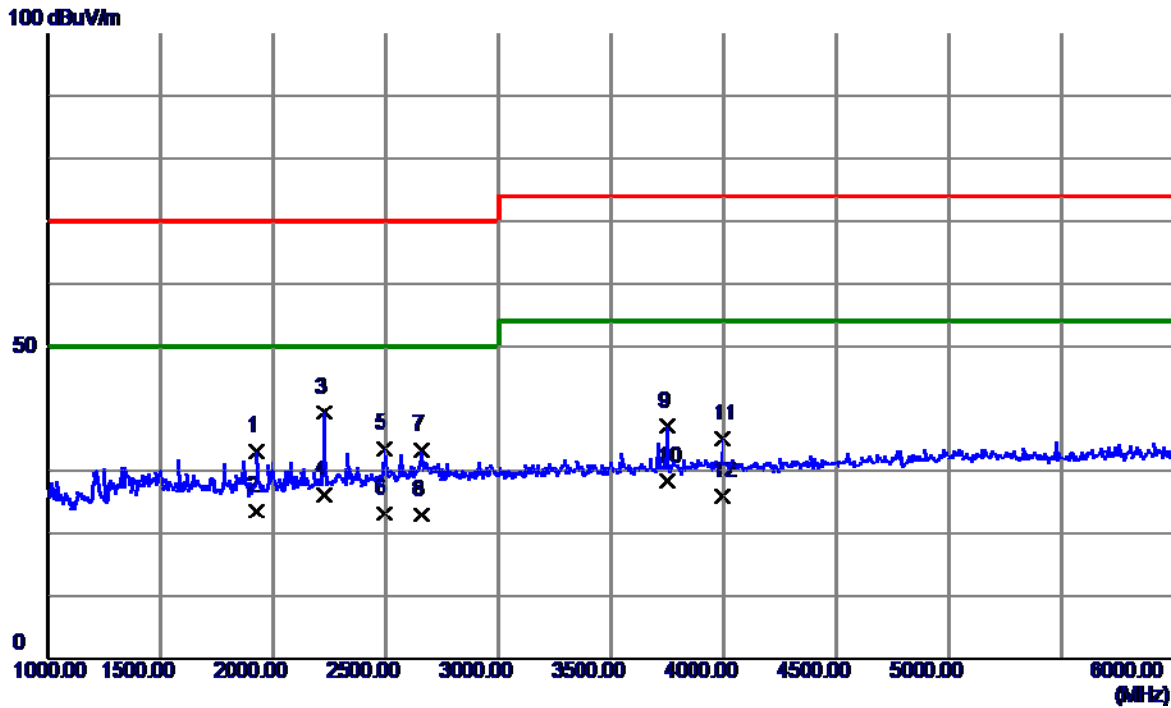
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1332.5000	39.22	-3.99	35.23	70.00	-34.77	Peak
2	1332.5000	29.45	-3.99	25.46	50.00	-24.54	AVG
3	1497.5000	38.70	-3.02	35.68	70.00	-34.32	Peak
4	1497.5000	28.05	-3.02	25.03	50.00	-24.97	AVG
5	1930.0000	35.78	-2.01	33.77	70.00	-36.23	Peak
6	1930.0000	25.40	-2.01	23.39	50.00	-26.61	AVG
7	2227.5000	38.12	-0.93	37.19	70.00	-32.81	Peak
8 *	2227.5000	26.74	-0.93	25.81	50.00	-24.19	AVG
9	2495.0000	35.42	0.14	35.56	70.00	-34.44	Peak
10	2495.0000	25.29	0.14	25.43	50.00	-24.57	AVG
11	2662.5000	34.65	0.61	35.26	70.00	-34.74	Peak
12	2662.5000	24.47	0.61	25.08	50.00	-24.92	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



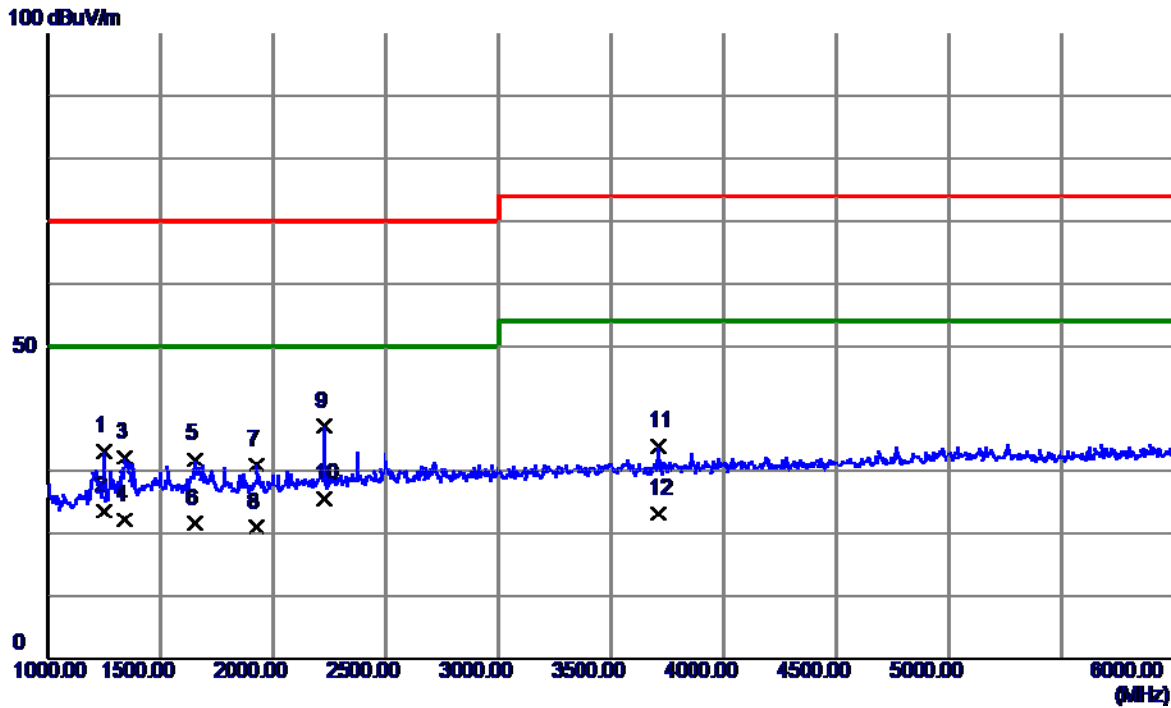
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1250.0000	38.35	-4.48	33.87	70.00	-36.13	Peak
2	1250.0000	27.65	-4.48	23.17	50.00	-26.83	AVG
3	1330.0000	35.47	-4.01	31.46	70.00	-38.54	Peak
4	1330.0000	25.43	-4.01	21.42	50.00	-28.58	AVG
5	1685.0000	33.57	-2.58	30.99	70.00	-39.01	Peak
6	1685.0000	23.43	-2.58	20.85	50.00	-29.15	AVG
7	2227.5000	36.10	-0.93	35.17	70.00	-34.83	Peak
8 *	2227.5000	26.57	-0.93	25.64	50.00	-24.36	AVG
9	2970.0000	30.66	1.46	32.12	70.00	-37.88	Peak
10	2970.0000	20.93	1.46	22.39	50.00	-27.61	AVG
11	3995.0000	28.24	4.65	32.89	74.00	-41.11	Peak
12	3995.0000	17.50	4.65	22.15	54.00	-31.85	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



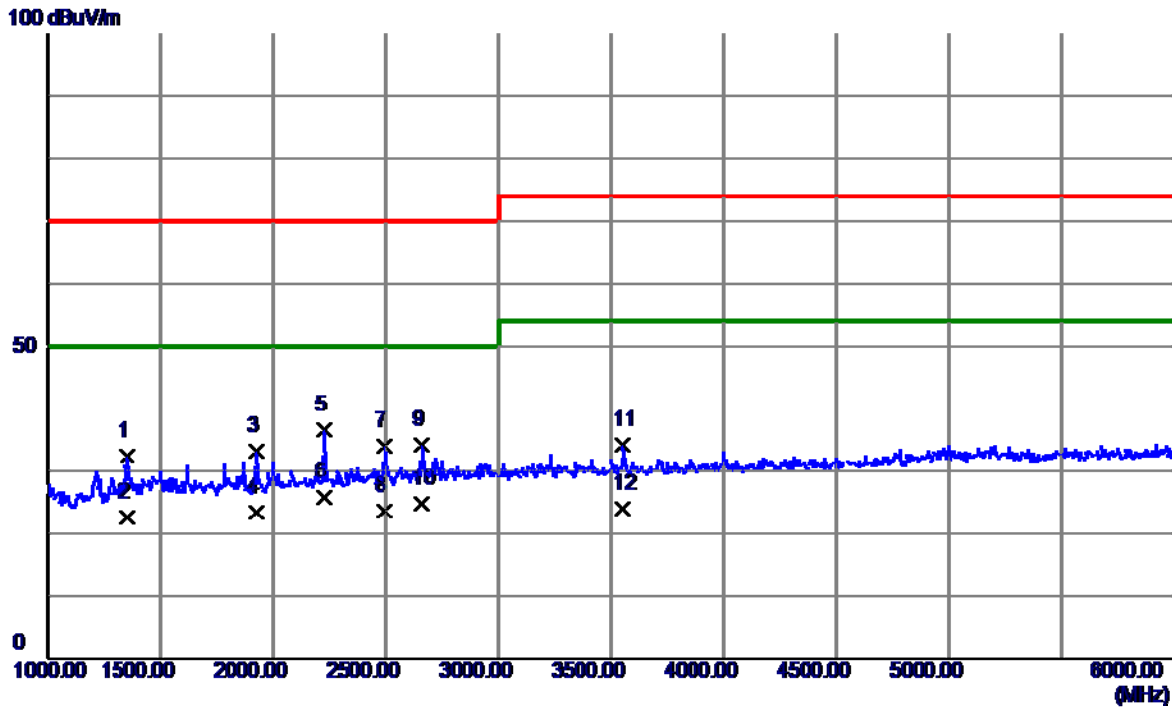
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1930.0000	35.20	-2.01	33.19	70.00	-36.81	Peak
2	1930.0000	25.66	-2.01	23.65	50.00	-26.35	AVG
3	2227.5000	40.36	-0.93	39.43	70.00	-30.57	Peak
4 *	2227.5000	27.10	-0.93	26.17	50.00	-23.83	AVG
5	2495.0000	33.52	0.14	33.66	70.00	-36.34	Peak
6	2495.0000	23.11	0.14	23.25	50.00	-26.75	AVG
7	2662.5000	32.78	0.61	33.39	70.00	-36.61	Peak
8	2662.5000	22.47	0.61	23.08	50.00	-26.92	AVG
9	3747.5000	33.35	3.92	37.27	74.00	-36.73	Peak
10	3747.5000	24.56	3.92	28.48	54.00	-25.52	AVG
11	3992.5000	30.52	4.64	35.16	74.00	-38.84	Peak
12	3992.5000	21.31	4.64	25.95	54.00	-28.05	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	HDMI 2 1080P		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



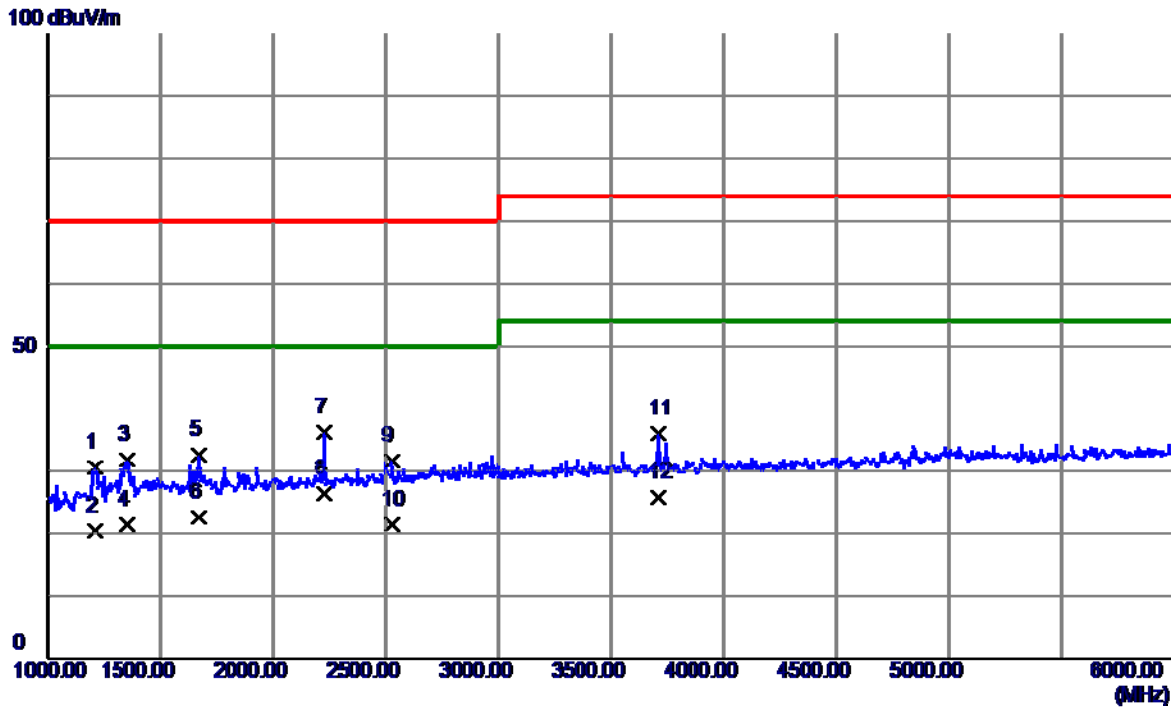
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1247.5000	37.61	-4.49	33.12	70.00	-36.88	Peak
2	1247.5000	28.10	-4.49	23.61	50.00	-26.39	AVG
3	1342.5000	36.20	-3.94	32.26	70.00	-37.74	Peak
4	1342.5000	26.11	-3.94	22.17	50.00	-27.83	AVG
5	1657.5000	34.54	-2.64	31.90	70.00	-38.10	Peak
6	1657.5000	24.18	-2.64	21.54	50.00	-28.46	AVG
7	1930.0000	33.09	-2.01	31.08	70.00	-38.92	Peak
8	1930.0000	23.09	-2.01	21.08	50.00	-28.92	AVG
9	2227.5000	38.12	-0.93	37.19	70.00	-32.81	Peak
10 *	2227.5000	26.57	-0.93	25.64	50.00	-24.36	AVG
11	3712.5000	30.12	3.82	33.94	74.00	-40.06	Peak
12	3712.5000	19.36	3.82	23.18	54.00	-30.82	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	HDMI 2 1080P		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



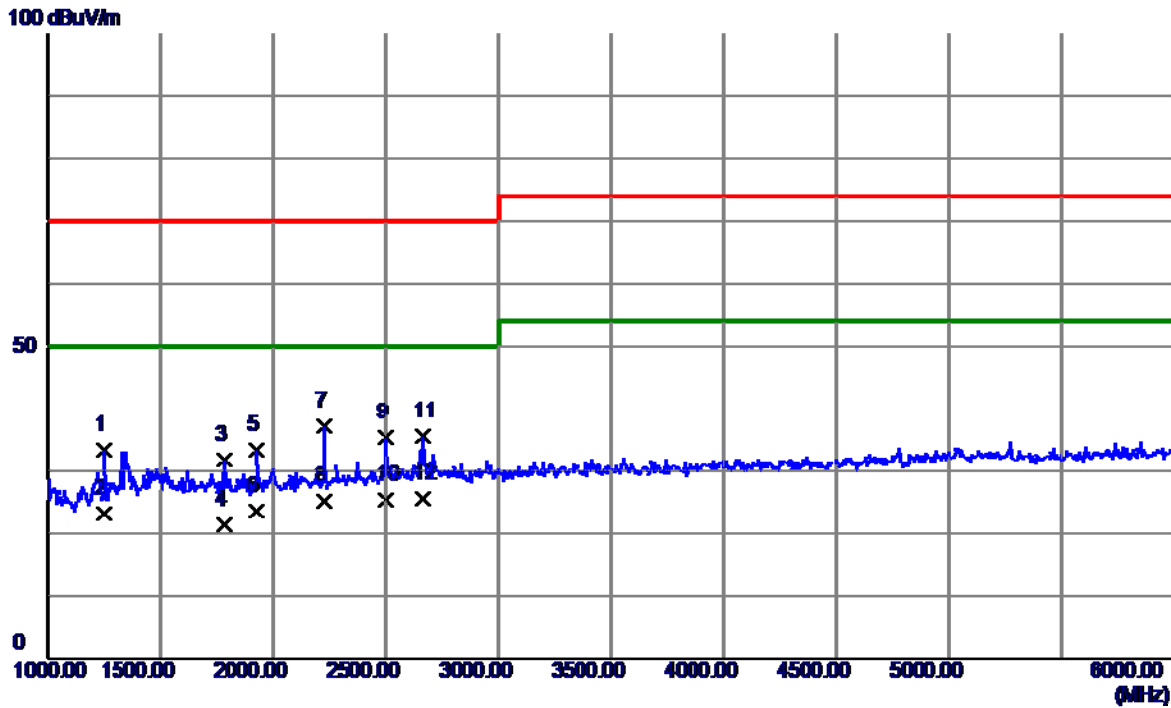
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1357.5000	36.29	-3.85	32.44	70.00	-37.56	Peak
2	1357.5000	26.39	-3.85	22.54	50.00	-27.46	AVG
3	1930.0000	35.14	-2.01	33.13	70.00	-36.87	Peak
4	1930.0000	25.46	-2.01	23.45	50.00	-26.55	AVG
5	2227.5000	37.50	-0.93	36.57	70.00	-33.43	Peak
6 *	2227.5000	26.69	-0.93	25.76	50.00	-24.24	AVG
7	2495.0000	33.84	0.14	33.98	70.00	-36.02	Peak
8	2495.0000	23.55	0.14	23.69	50.00	-26.31	AVG
9	2662.5000	33.58	0.61	34.19	70.00	-35.81	Peak
10	2662.5000	24.24	0.61	24.85	50.00	-25.15	AVG
11	3552.5000	30.88	3.35	34.23	74.00	-39.77	Peak
12	3552.5000	20.70	3.35	24.05	54.00	-29.95	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 110V/60Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1212.5000	35.22	-4.70	30.52	70.00	-39.48	Peak
2	1212.5000	25.01	-4.70	20.31	50.00	-29.69	AVG
3	1355.0000	35.59	-3.86	31.73	70.00	-38.27	Peak
4	1355.0000	25.33	-3.86	21.47	50.00	-28.53	AVG
5	1670.0000	35.27	-2.62	32.65	70.00	-37.35	Peak
6	1670.0000	25.20	-2.62	22.58	50.00	-27.42	AVG
7	2227.5000	37.05	-0.93	36.12	70.00	-33.88	Peak
8 *	2227.5000	27.38	-0.93	26.45	50.00	-23.55	AVG
9	2525.0000	31.29	0.23	31.52	70.00	-38.48	Peak
10	2525.0000	21.20	0.23	21.43	50.00	-28.57	AVG
11	3712.5000	32.14	3.82	35.96	74.00	-38.04	Peak
12	3712.5000	21.96	3.82	25.78	54.00	-28.22	AVG

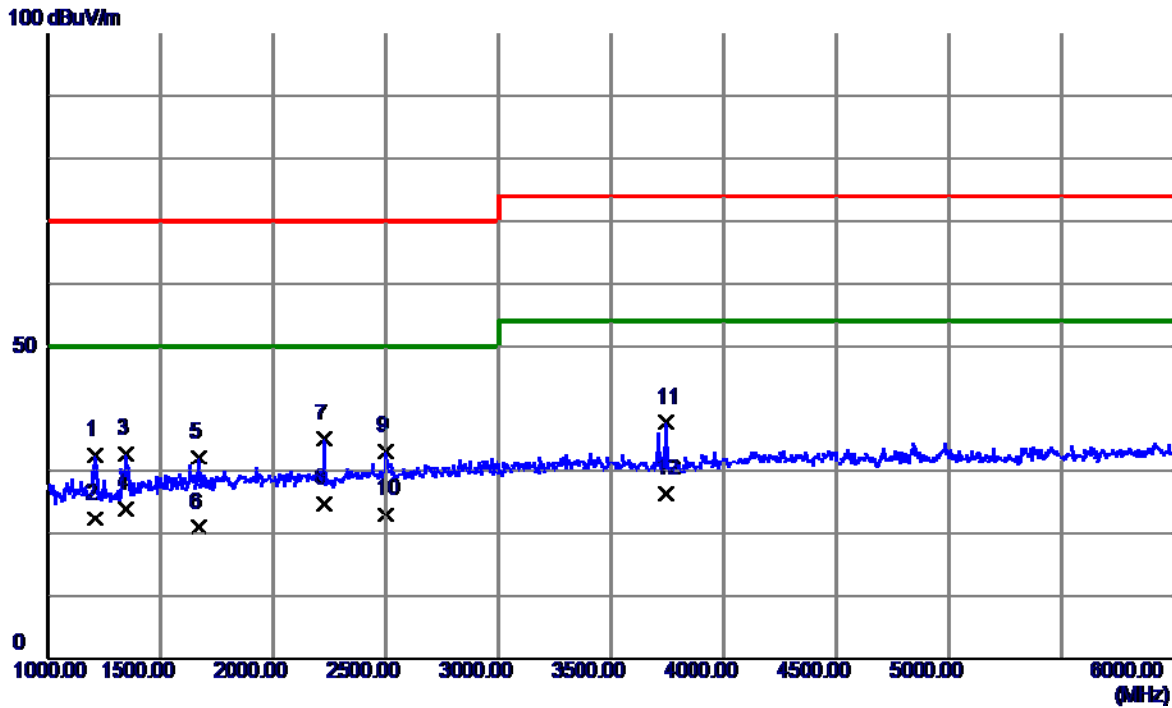
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 110V/60Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1250.0000	37.86	-4.48	33.38	70.00	-36.62	Peak
2	1250.0000	27.73	-4.48	23.25	50.00	-26.75	AVG
3	1782.5000	34.22	-2.35	31.87	70.00	-38.13	Peak
4	1782.5000	23.82	-2.35	21.47	50.00	-28.53	AVG
5	1930.0000	35.37	-2.01	33.36	70.00	-36.64	Peak
6	1930.0000	25.70	-2.01	23.69	50.00	-26.31	AVG
7	2227.5000	38.17	-0.93	37.24	70.00	-32.76	Peak
8	2227.5000	26.11	-0.93	25.18	50.00	-24.82	AVG
9	2500.0000	35.32	0.16	35.48	70.00	-34.52	Peak
10	2500.0000	25.31	0.16	25.47	50.00	-24.53	AVG
11	2665.0000	34.97	0.62	35.59	70.00	-34.41	Peak
12 *	2665.0000	25.02	0.62	25.64	50.00	-24.36	AVG

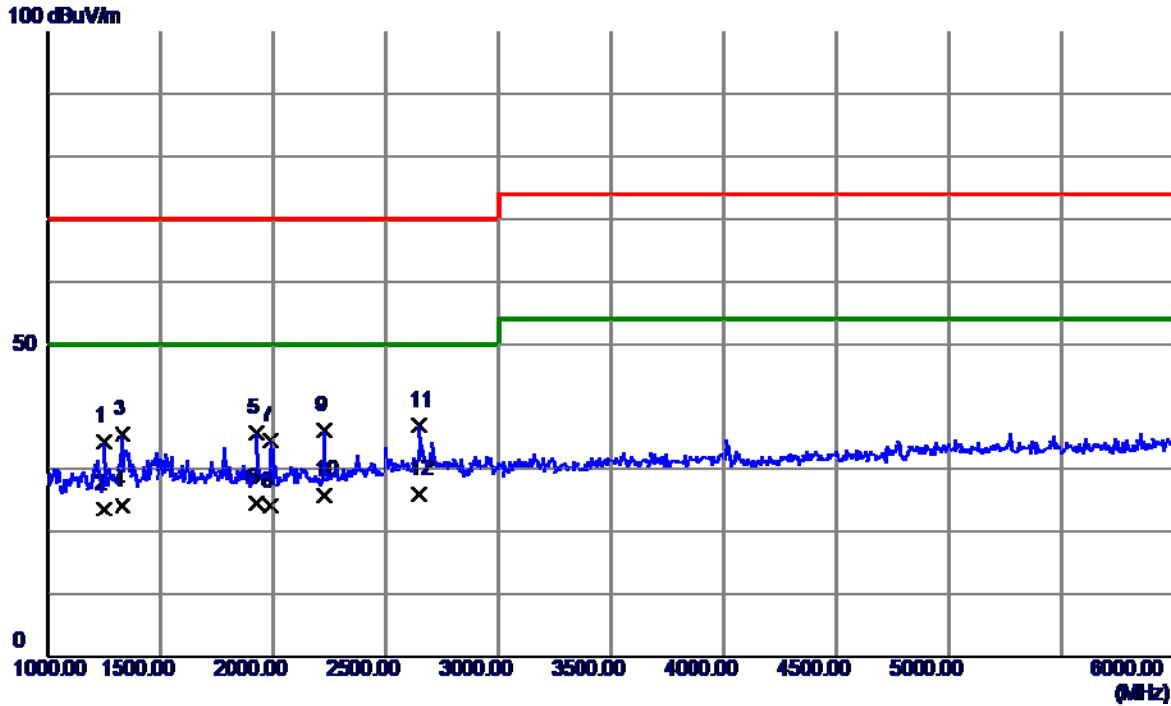


EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



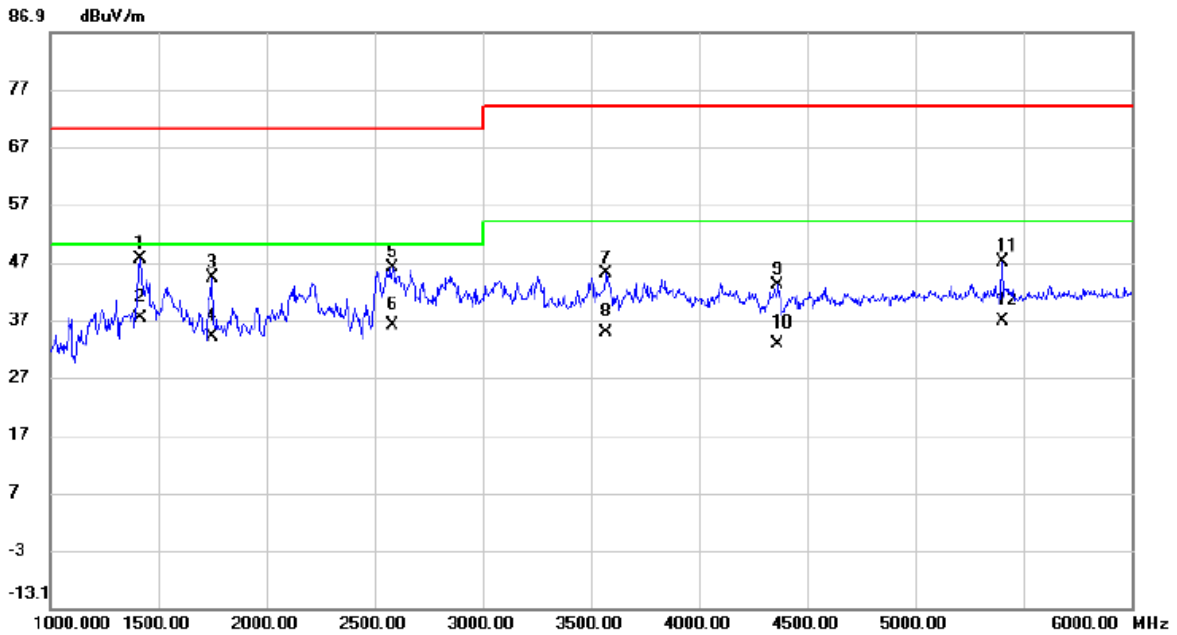
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1212.5000	37.22	-4.70	32.52	70.00	-37.48	Peak
2	1212.5000	27.01	-4.70	22.31	50.00	-27.69	AVG
3	1347.5000	36.72	-3.91	32.81	70.00	-37.19	Peak
4	1347.5000	27.96	-3.91	24.05	50.00	-25.95	AVG
5	1670.0000	34.77	-2.62	32.15	70.00	-37.85	Peak
6	1670.0000	23.60	-2.62	20.98	50.00	-29.02	AVG
7	2227.5000	36.05	-0.93	35.12	70.00	-34.88	Peak
8 *	2227.5000	25.64	-0.93	24.71	50.00	-25.29	AVG
9	2500.0000	32.97	0.16	33.13	70.00	-36.87	Peak
10	2500.0000	22.94	0.16	23.10	50.00	-26.90	AVG
11	3742.5000	33.93	3.91	37.84	74.00	-36.16	Peak
12	3742.5000	22.56	3.91	26.47	54.00	-27.53	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



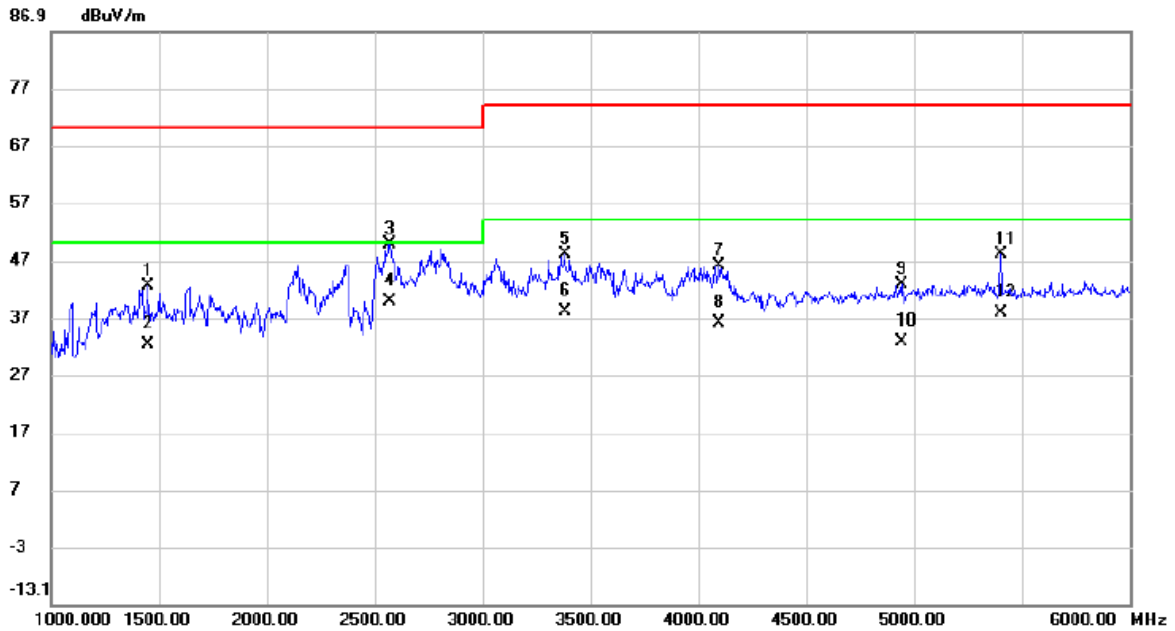
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1250.0000	38.86	-4.48	34.38	70.00	-35.62	Peak
2	1250.0000	28.04	-4.48	23.56	50.00	-26.44	AVG
3	1332.5000	39.58	-3.99	35.59	70.00	-34.41	Peak
4	1332.5000	28.22	-3.99	24.23	50.00	-25.77	AVG
5	1930.0000	37.87	-2.01	35.86	70.00	-34.14	Peak
6	1930.0000	26.70	-2.01	24.69	50.00	-25.31	AVG
7	1990.0000	36.48	-1.87	34.61	70.00	-35.39	Peak
8	1990.0000	25.97	-1.87	24.10	50.00	-25.90	AVG
9	2227.5000	37.17	-0.93	36.24	70.00	-33.76	Peak
10	2227.5000	26.80	-0.93	25.87	50.00	-24.13	AVG
11	2650.0000	36.42	0.58	37.00	70.00	-33.00	Peak
12 *	2650.0000	25.46	0.58	26.04	50.00	-23.96	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 110V/60Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1415.000	50.93	-3.51	47.42	70.00	-22.58	peak	
2	*	1415.000	40.91	-3.51	37.40	50.00	-12.60	AVG	
3		1750.000	46.61	-2.43	44.18	70.00	-25.82	peak	
4		1750.000	36.53	-2.43	34.10	50.00	-15.90	AVG	
5		2580.000	45.71	0.38	46.09	70.00	-23.91	peak	
6		2580.000	35.62	0.38	36.00	50.00	-14.00	AVG	
7		3572.500	41.58	3.40	44.98	74.00	-29.02	peak	
8		3572.500	31.50	3.40	34.90	54.00	-19.10	AVG	
9		4365.000	37.65	5.32	42.97	74.00	-31.03	peak	
10		4365.000	27.58	5.32	32.90	54.00	-21.10	AVG	
11		5400.000	38.96	7.95	46.91	74.00	-27.09	peak	
12		5400.000	28.95	7.95	36.90	74.00	-37.10	QP	

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 110V/60Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1447.500	45.75	-3.32	42.43	70.00	-27.57	peak	
2		1447.500	35.72	-3.32	32.40	50.00	-17.60	AVG	
3		2570.000	49.50	0.36	49.86	70.00	-20.14	peak	
4	*	2570.000	39.44	0.36	39.80	50.00	-10.20	AVG	
5		3380.000	45.21	2.79	48.00	74.00	-26.00	peak	
6		3380.000	35.21	2.79	38.00	54.00	-16.00	AVG	
7		4095.000	41.24	4.83	46.07	74.00	-27.93	peak	
8		4095.000	31.17	4.83	36.00	54.00	-18.00	AVG	
9		4945.000	35.37	7.35	42.72	74.00	-31.28	peak	
10		4945.000	25.35	7.35	32.70	54.00	-21.30	AVG	
11		5400.000	40.00	7.95	47.95	74.00	-26.05	peak	
12		5400.000	29.85	7.95	37.80	54.00	-16.20	AVG	

## 4.2 CONDUCTED EMISSION MEASUREMENT AT AC MAINS POWER PORTS

### 4.2.1 LIMITS

Requirements for conducted emissions from AC mains power ports of Class A equipment

Table clause	Frequency Range MHz	Coupling Device	Detector Type / bandwidth	Class A Limits (dB(μV) )
A8.1	0.15 - 0.5	AMN	Quasi Peak / 9 kHz	79
	0.5 - 30			73
A8.2	0.15 - 0.5	AMN	Average / 9 kHz	66
	0.5 - 30			60

Requirements for conducted emissions from AC mains power ports of Class B equipment

Table clause	Frequency Range MHz	Coupling Device	Detector Type / bandwidth	Class B Limits (dB(μV) )
A9.1	0.15 - 0.5	AMN	Quasi Peak / 9 kHz	66-56
	0.5 - 5			56
	5 - 30			60
A9.2	0.15 - 0.5	AMN	Average / 9 kHz	56-46
	0.5 - 5			46
	5 - 30			50

**NOTE:**

- (1) 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

### 4.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 11, 2019
2	TWO-LINE V-NETWORK	R&S	ENV216	100526	Mar. 11, 2019
3	EMI Test Receiver	R&S	ESR3	101862	Aug. 15, 2018
4	Artificial-Mains Network	SCHWARZBECK	NSLK 8127	8127685	Aug. 20, 2018
5	Cable	N/A	RG400 12m	N/A	Mar. 06, 2019
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A 1-01	N/A	N/A

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

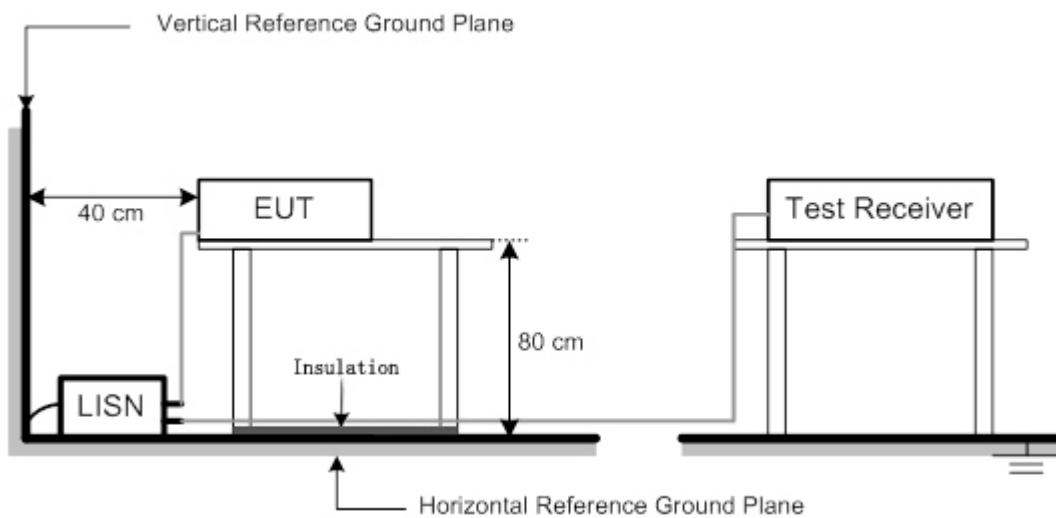
#### 4.2.3 TEST PROCEDURE

- a. The 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.

#### 4.2.4 DEVIATION FROM TEST STANDARD

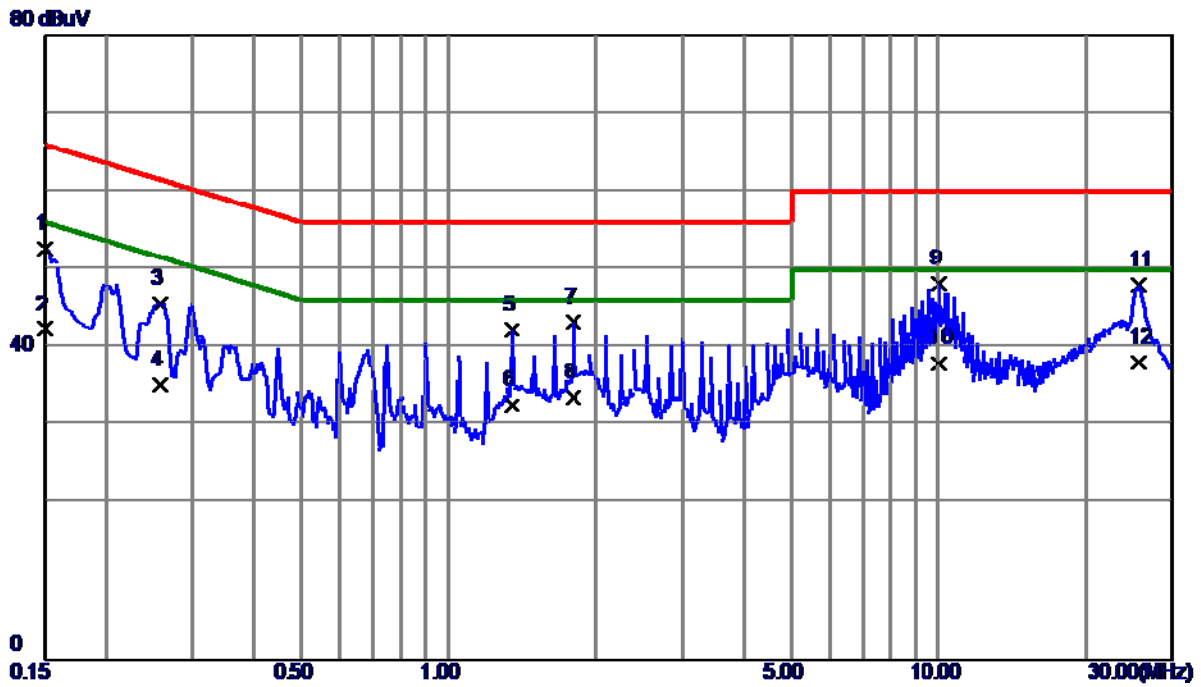
No deviation

#### 4.2.5 TEST SETUP



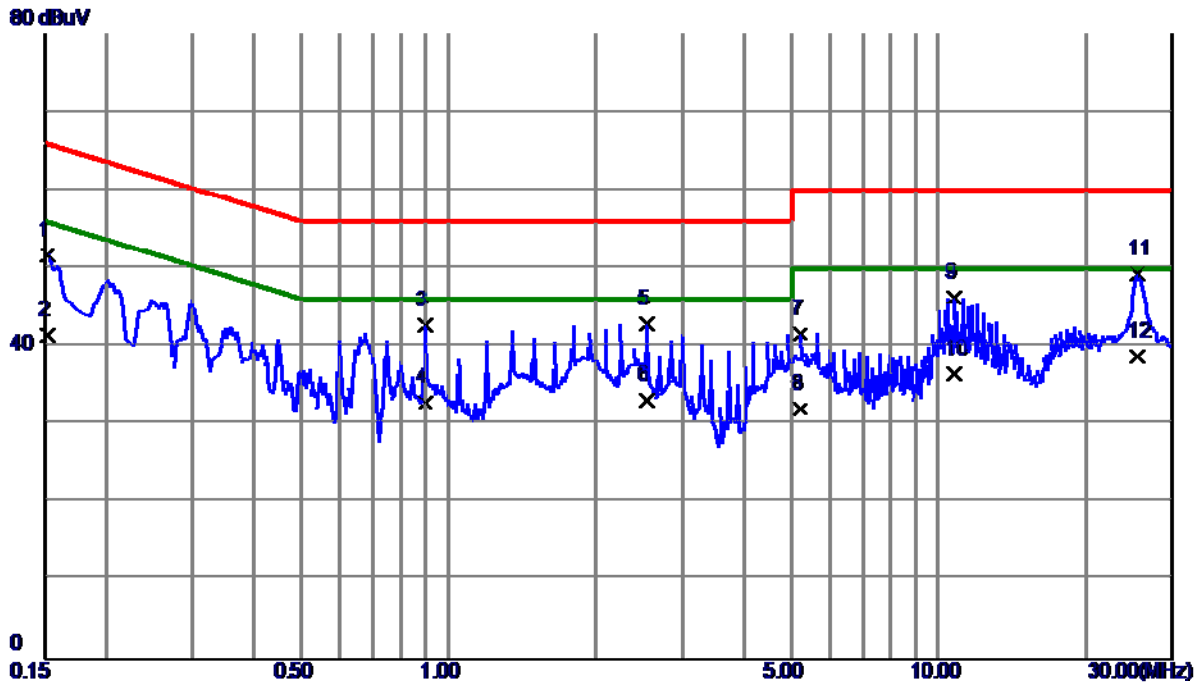
### 4.2.6 TEST RESULTS

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Line
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector
1	0.1500	42.75	9.82	52.57	66.00	-13.43	QP
2	0.1500	32.50	9.82	42.32	56.00	-13.68	AVG
3	0.2580	35.82	9.84	45.66	61.50	-15.84	QP
4	0.2580	25.40	9.84	35.24	51.50	-16.26	AVG
5	1.3470	32.28	9.94	42.22	56.00	-13.78	QP
6	1.3470	22.70	9.94	32.64	46.00	-13.36	AVG
7	1.7948	33.23	9.98	43.21	56.00	-12.79	QP
8	1.7948	23.61	9.98	33.59	46.00	-12.41	AVG
9 *	10.0229	37.66	10.50	48.16	60.00	-11.84	QP
10	10.0229	27.50	10.50	38.00	50.00	-12.00	AVG
11	25.5750	36.90	11.14	48.04	60.00	-11.96	QP
12	25.5750	26.98	11.14	38.12	50.00	-11.88	AVG

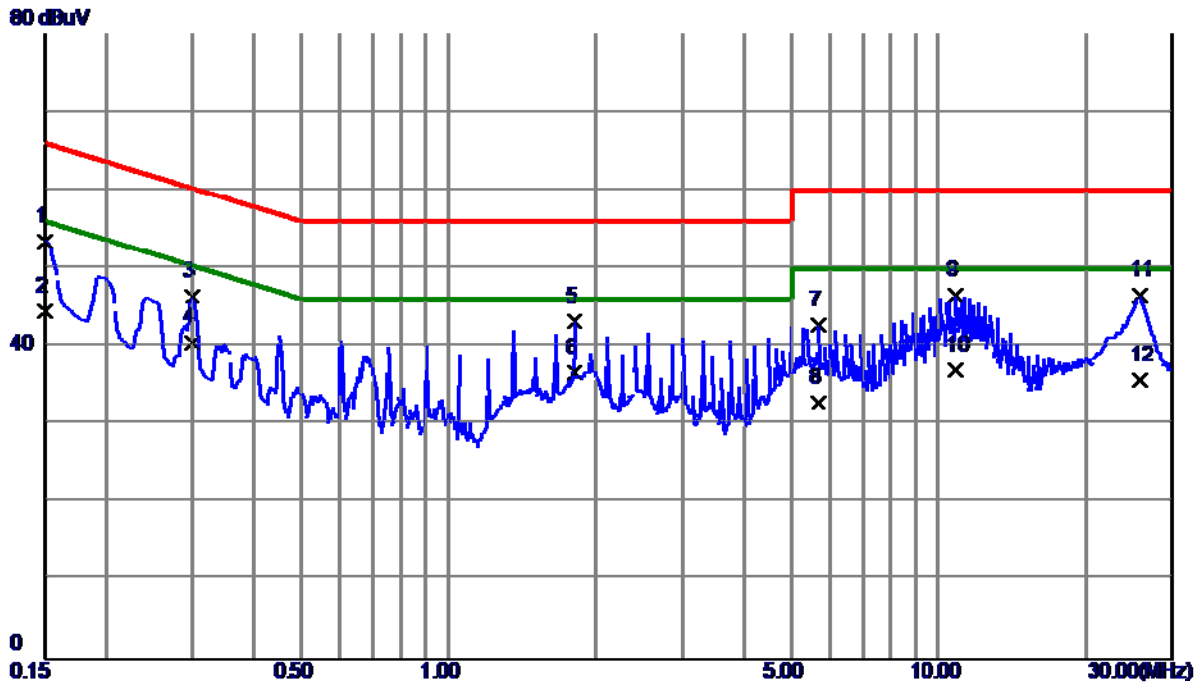
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Neutral
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1522	41.77	9.91	51.68	65.88	-14.20	QP
2	0.1522	31.50	9.91	41.41	55.88	-14.47	AVG
3	0.8970	32.55	10.10	42.65	56.00	-13.35	QP
4	0.8970	22.70	10.10	32.80	46.00	-13.20	AVG
5	2.5418	32.62	10.22	42.84	56.00	-13.16	QP
6	2.5418	22.90	10.22	33.12	46.00	-12.88	AVG
7	5.2350	31.17	10.43	41.60	60.00	-18.40	QP
8	5.2350	21.50	10.43	31.93	50.00	-18.07	AVG
9	10.7678	35.50	10.80	46.30	60.00	-13.70	QP
10	10.7678	25.61	10.80	36.41	50.00	-13.59	AVG
11 *	25.4533	37.69	11.51	49.20	60.00	-10.80	QP
12	25.4533	27.24	11.51	38.75	50.00	-11.25	AVG

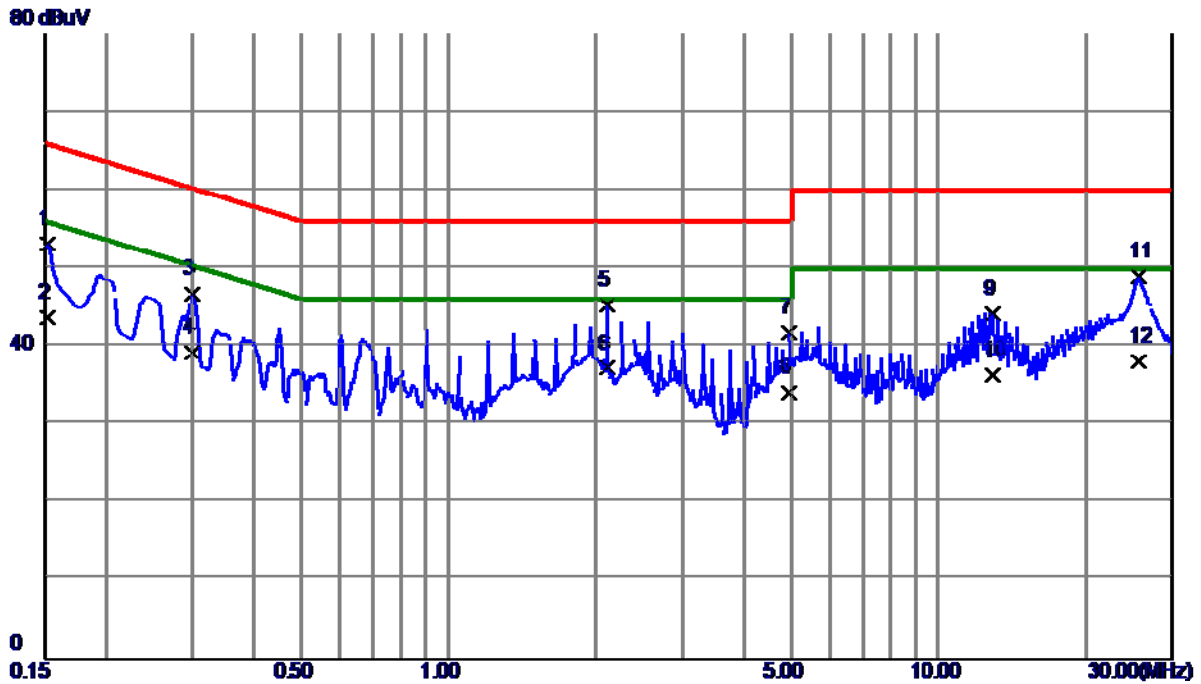


EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Line
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



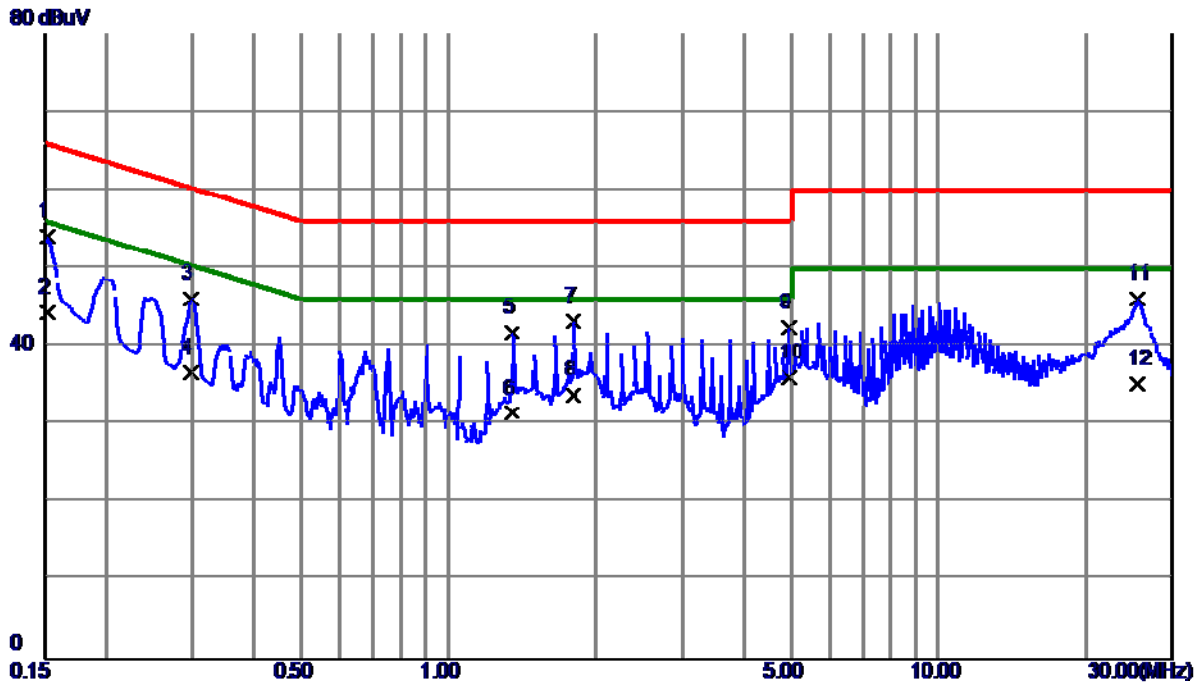
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1500	43.65	9.82	53.47	66.00	-12.53	QP
2	0.1500	34.70	9.82	44.52	56.00	-11.48	AVG
3	0.3007	36.52	9.85	46.37	60.22	-13.85	QP
4	0.3007	30.70	9.85	40.55	50.22	-9.67	AVG
5	1.8060	33.23	9.98	43.21	56.00	-12.79	QP
6 *	1.8060	26.61	9.98	36.59	46.00	-9.41	AVG
7	5.7188	32.54	10.25	42.79	60.00	-17.21	QP
8	5.7188	22.51	10.25	32.76	50.00	-17.24	AVG
9	10.8375	36.03	10.54	46.57	60.00	-13.43	QP
10	10.8375	26.40	10.54	36.94	50.00	-13.06	AVG
11	25.6920	35.45	11.14	46.59	60.00	-13.41	QP
12	25.6920	24.50	11.14	35.64	50.00	-14.36	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Neutral
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



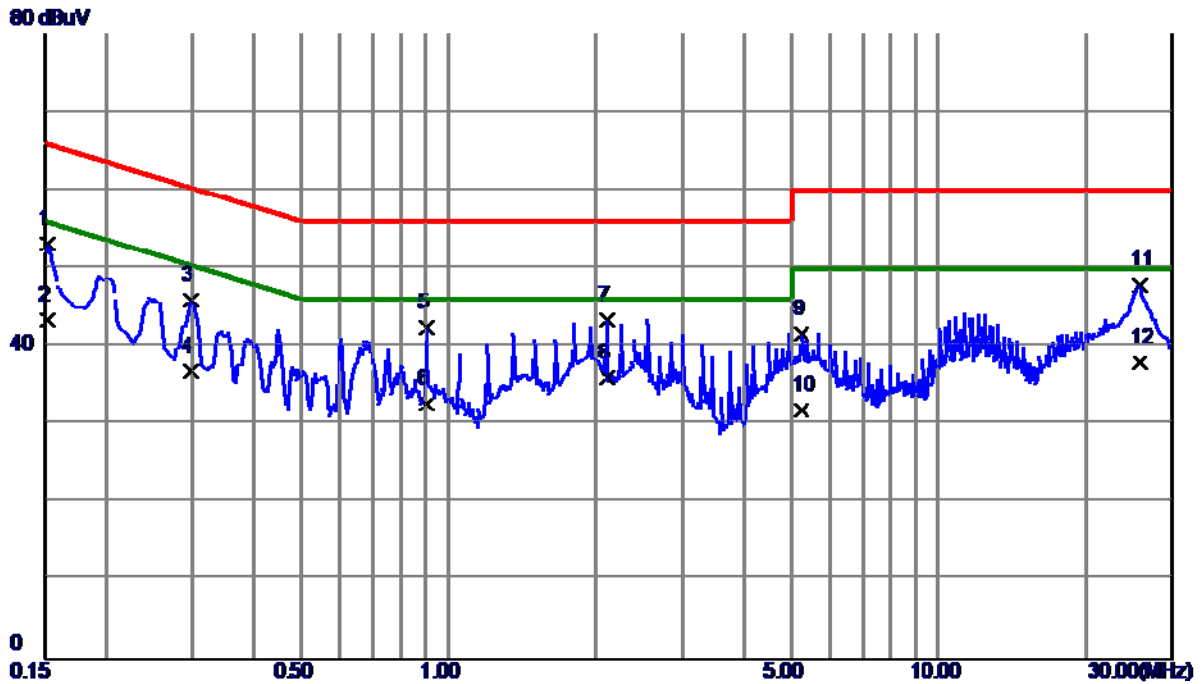
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector
1	0.1522	43.28	9.91	53.19	65.88	-12.69	QP
2	0.1522	33.70	9.91	43.61	55.88	-12.27	AVG
3	0.3007	36.75	9.96	46.71	60.22	-13.51	QP
4	0.3007	29.30	9.96	39.26	50.22	-10.96	AVG
5	2.1052	35.02	10.20	45.22	56.00	-10.78	QP
6 *	2.1053	27.00	10.20	37.20	46.00	-8.80	AVG
7	4.9628	31.34	10.41	41.75	56.00	-14.25	QP
8	4.9628	23.60	10.41	34.01	46.00	-11.99	AVG
9	12.9323	33.25	10.96	44.21	60.00	-15.79	QP
10	12.9323	25.29	10.96	36.25	50.00	-13.75	AVG
11	25.6605	37.39	11.51	48.90	60.00	-11.10	QP
12	25.6605	26.60	11.51	38.11	50.00	-11.89	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Line
Test Mode	HDMI 2 1080P		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



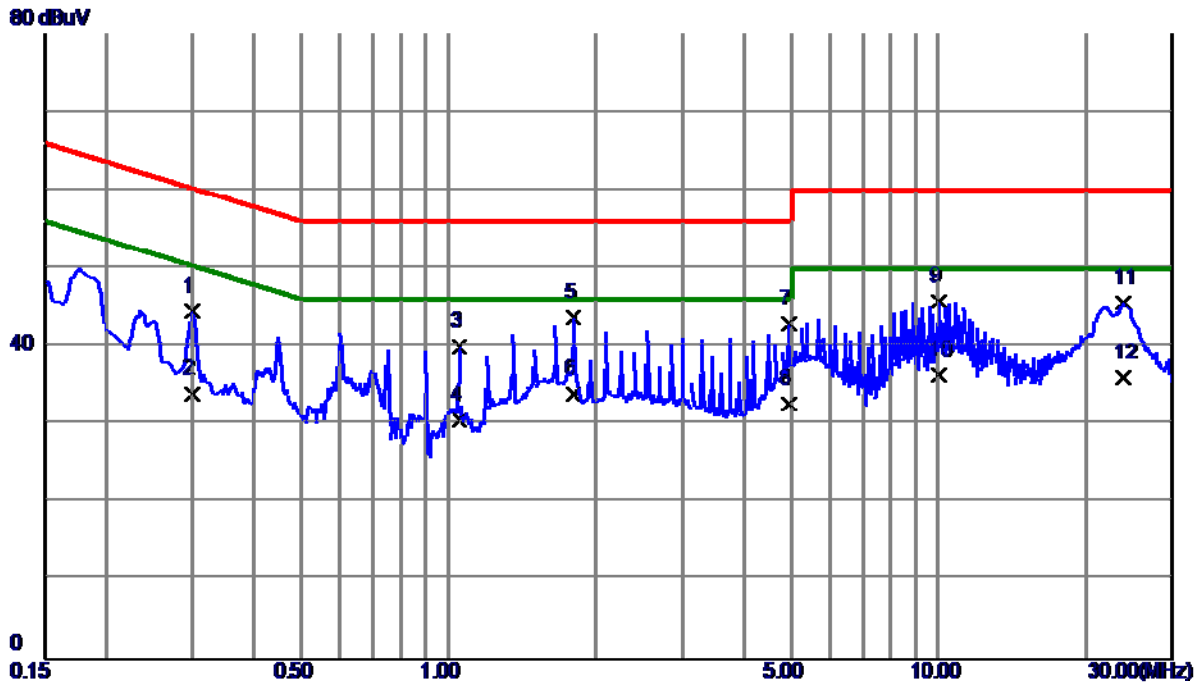
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1522	44.24	9.82	54.06	65.88	-11.82	QP
2	0.1522	34.50	9.82	44.32	55.88	-11.56	AVG
3	0.2983	36.23	9.85	46.08	60.29	-14.21	QP
4	0.2983	26.80	9.85	36.65	50.29	-13.64	AVG
5	1.3515	31.75	9.94	41.69	56.00	-14.31	QP
6	1.3515	21.50	9.94	31.44	46.00	-14.56	AVG
7	1.8015	33.27	9.98	43.25	56.00	-12.75	QP
8	1.8015	23.81	9.98	33.79	46.00	-12.21	AVG
9	4.9560	32.22	10.20	42.42	56.00	-13.58	QP
10 *	4.9560	25.80	10.20	36.00	46.00	-10.00	AVG
11	25.4062	34.97	11.15	46.12	60.00	-13.88	QP
12	25.4062	24.10	11.15	35.25	50.00	-14.75	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Neutral
Test Mode	HDMI 2 1080P		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



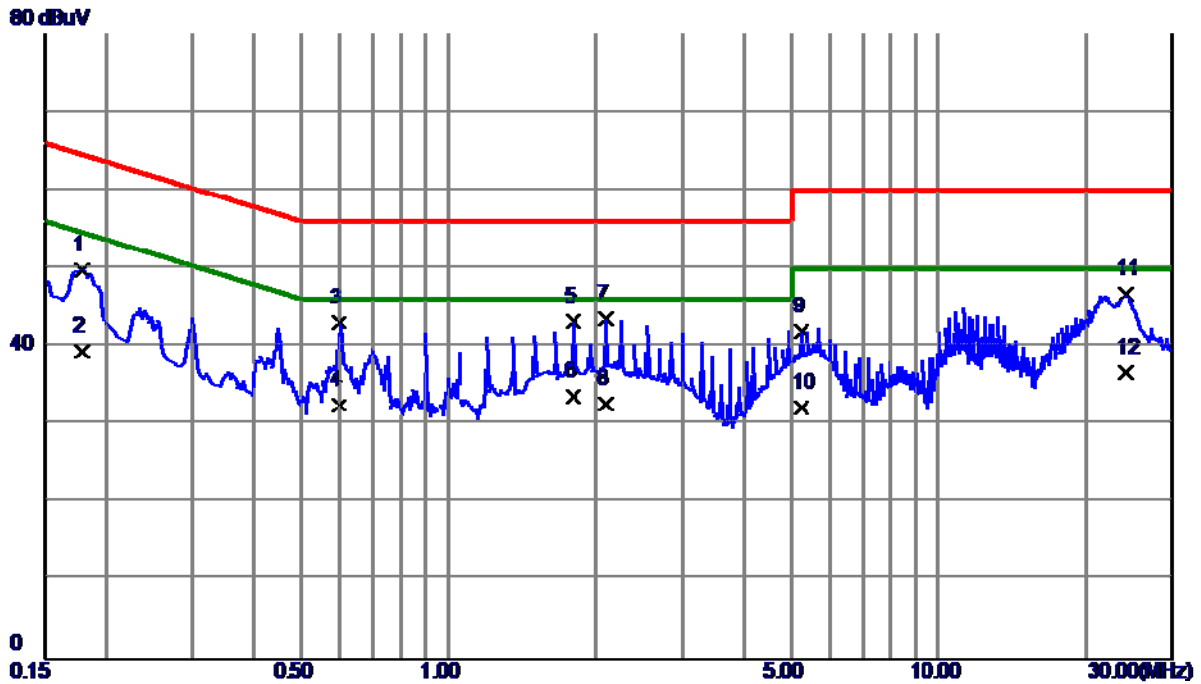
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector
1	0.1522	43.15	9.91	53.06	65.88	-12.82	QP
2	0.1522	33.50	9.91	43.41	55.88	-12.47	AVG
3	0.2983	36.03	9.96	45.99	60.29	-14.30	QP
4	0.2983	26.80	9.96	36.76	50.29	-13.53	AVG
5	0.9014	32.29	10.10	42.39	56.00	-13.61	QP
6	0.9014	22.50	10.10	32.60	46.00	-13.40	AVG
7	2.1030	33.23	10.20	43.43	56.00	-12.57	QP
8 *	2.1030	25.80	10.20	36.00	46.00	-10.00	AVG
9	5.2575	31.19	10.44	41.63	60.00	-18.37	QP
10	5.2575	21.40	10.44	31.84	50.00	-18.16	AVG
11	25.7055	36.31	11.51	47.82	60.00	-12.18	QP
12	25.7055	26.39	11.51	37.90	50.00	-12.10	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 110V/60Hz	Phase	Line
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



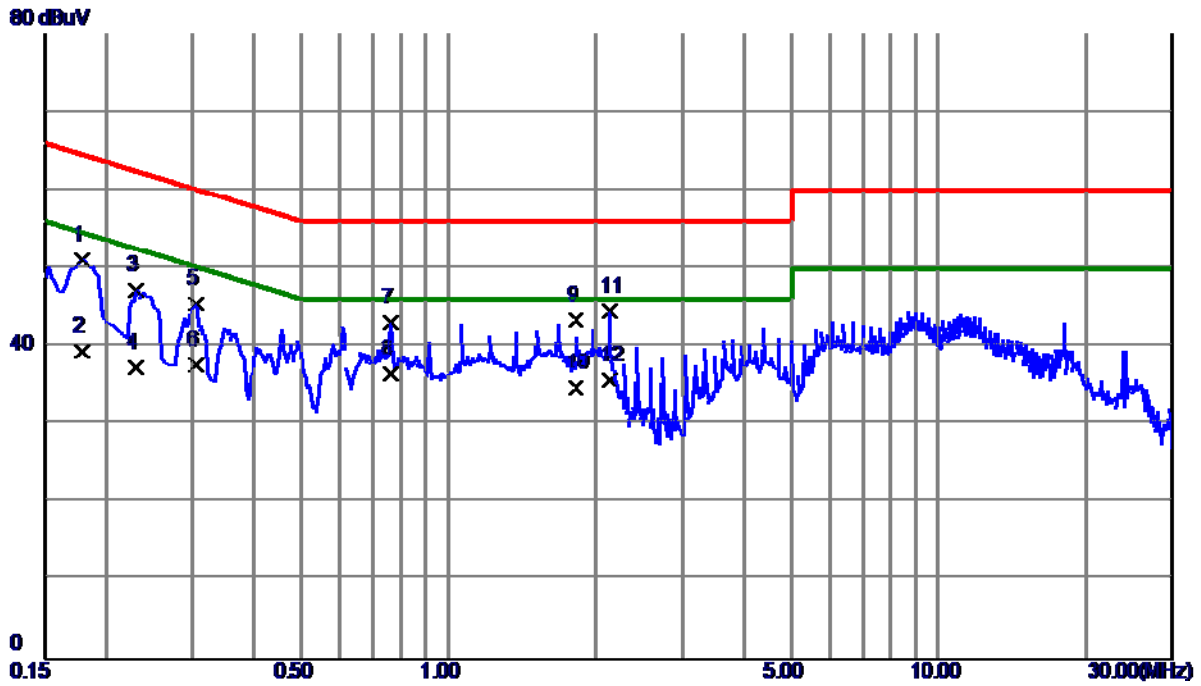
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector
1	0.3007	34.66	9.85	44.51	60.22	-15.71	QP
2	0.3007	24.10	9.85	33.95	50.22	-16.27	AVG
3	1.0500	30.07	9.92	39.99	56.00	-16.01	QP
4	1.0500	20.60	9.92	30.52	46.00	-15.48	AVG
5	1.8015	33.75	9.98	43.73	56.00	-12.27	QP
6 *	1.8015	23.91	9.98	33.89	46.00	-12.11	AVG
7	4.9537	32.62	10.20	42.82	56.00	-13.18	QP
8	4.9537	22.50	10.20	32.70	46.00	-13.30	AVG
9	10.0567	35.31	10.50	45.81	60.00	-14.19	QP
10	10.0567	25.80	10.50	36.30	50.00	-13.70	AVG
11	23.8154	34.42	11.16	45.58	60.00	-14.42	QP
12	23.8154	24.80	11.16	35.96	50.00	-14.04	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 110V/60Hz	Phase	Neutral
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



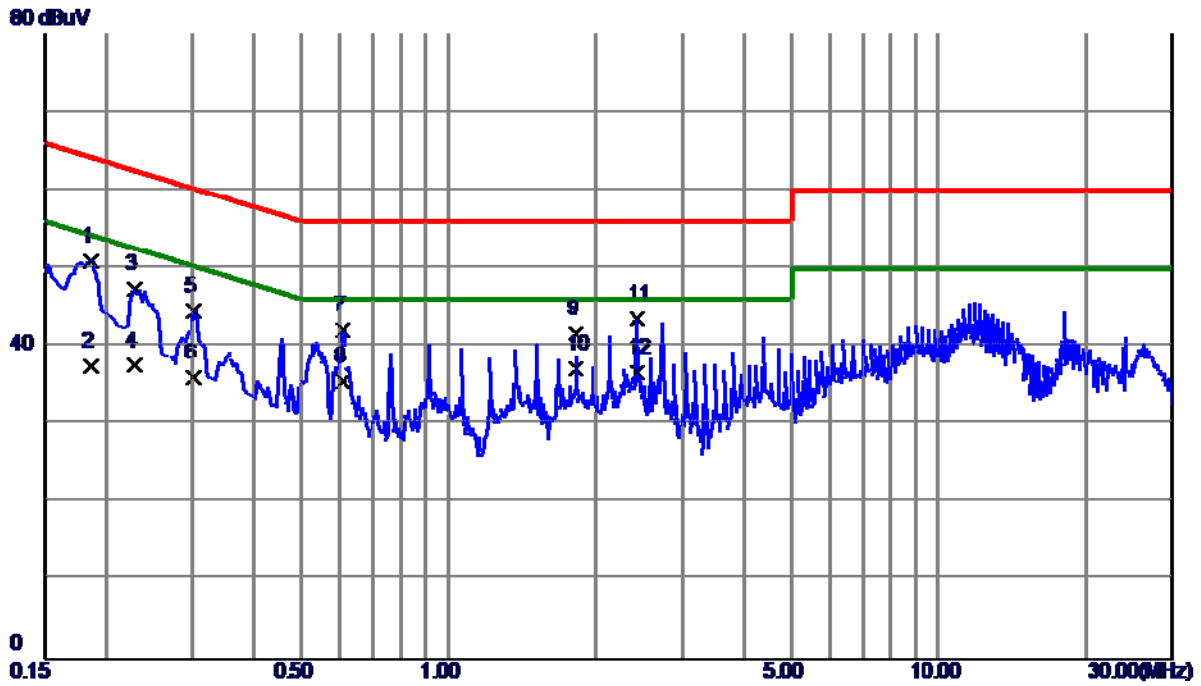
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector
1	0.1792	39.89	9.91	49.80	64.52	-14.72	QP
2	0.1792	29.51	9.91	39.42	54.52	-15.10	AVG
3	0.6000	32.94	10.04	42.98	56.00	-13.02	QP
4	0.6000	22.50	10.04	32.54	46.00	-13.46	AVG
5	1.8015	33.02	10.18	43.20	56.00	-12.80	QP
6	1.8015	23.40	10.18	33.58	46.00	-12.42	AVG
7 *	2.1007	33.40	10.19	43.59	56.00	-12.41	QP
8	2.1007	22.51	10.19	32.70	46.00	-13.30	AVG
9	5.2530	31.55	10.44	41.99	60.00	-18.01	QP
10	5.2530	21.70	10.44	32.14	50.00	-17.86	AVG
11	24.1057	35.21	11.50	46.71	60.00	-13.29	QP
12	24.1057	25.10	11.50	36.60	50.00	-13.40	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Line
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector
1	0.1793	41.26	9.82	51.08	64.52	-13.44	QP
2	0.1793	29.51	9.82	39.33	54.52	-15.19	AVG
3	0.2310	37.43	9.83	47.26	62.41	-15.15	QP
4	0.2310	27.50	9.83	37.33	52.41	-15.08	AVG
5	0.3052	35.55	9.85	45.40	60.10	-14.70	QP
6	0.3052	27.80	9.85	37.65	50.10	-12.45	AVG
7	0.7597	33.14	9.91	43.05	56.00	-12.95	QP
8 *	0.7597	26.60	9.91	36.51	46.00	-9.49	AVG
9	1.8240	33.43	9.98	43.41	56.00	-12.59	QP
10	1.8240	24.71	9.98	34.69	46.00	-11.31	AVG
11	2.1300	34.53	10.01	44.54	56.00	-11.46	QP
12	2.1300	25.60	10.01	35.61	46.00	-10.39	AVG

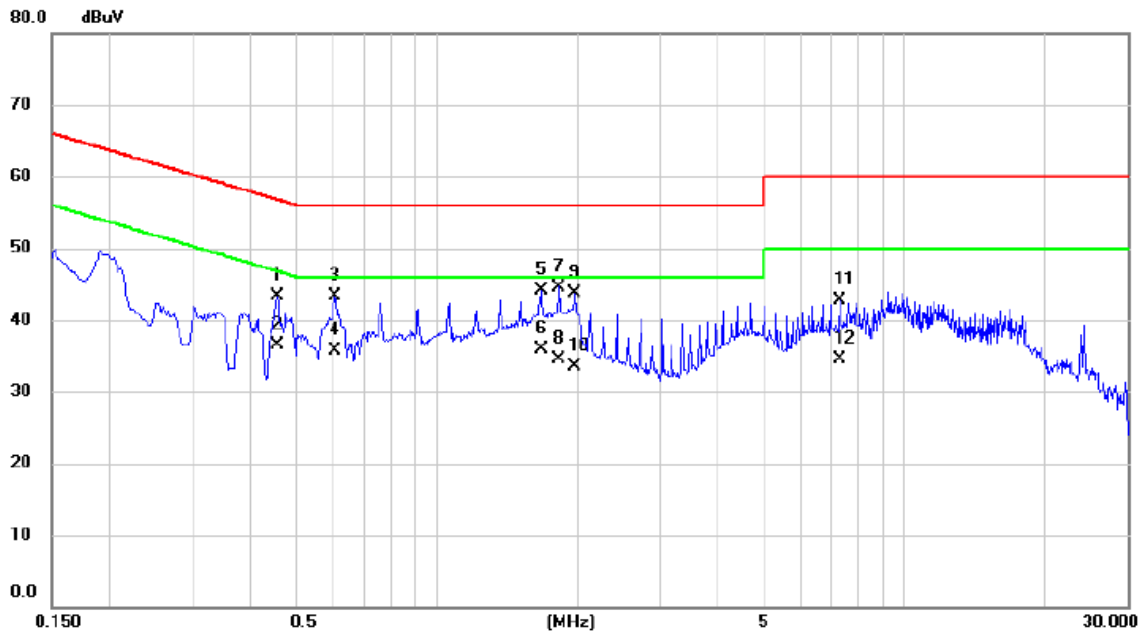
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Neutral
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector
1	0.1860	41.02	9.91	50.93	64.21	-13.28	QP
2	0.1860	27.60	9.91	37.51	54.21	-16.70	AVG
3	0.2288	37.48	9.92	47.40	62.49	-15.09	QP
4	0.2288	27.60	9.92	37.52	52.49	-14.97	AVG
5	0.3030	34.56	9.96	44.52	60.16	-15.64	QP
6	0.3030	26.00	9.96	35.96	50.16	-14.20	AVG
7	0.6090	31.97	10.04	42.01	56.00	-13.99	QP
8	0.6090	25.50	10.04	35.54	46.00	-10.46	AVG
9	1.8240	31.36	10.18	41.54	56.00	-14.46	QP
10 *	1.8240	26.90	10.18	37.08	46.00	-8.92	AVG
11	2.4315	33.30	10.21	43.51	56.00	-12.49	QP
12	2.4315	26.50	10.21	36.71	46.00	-9.29	AVG

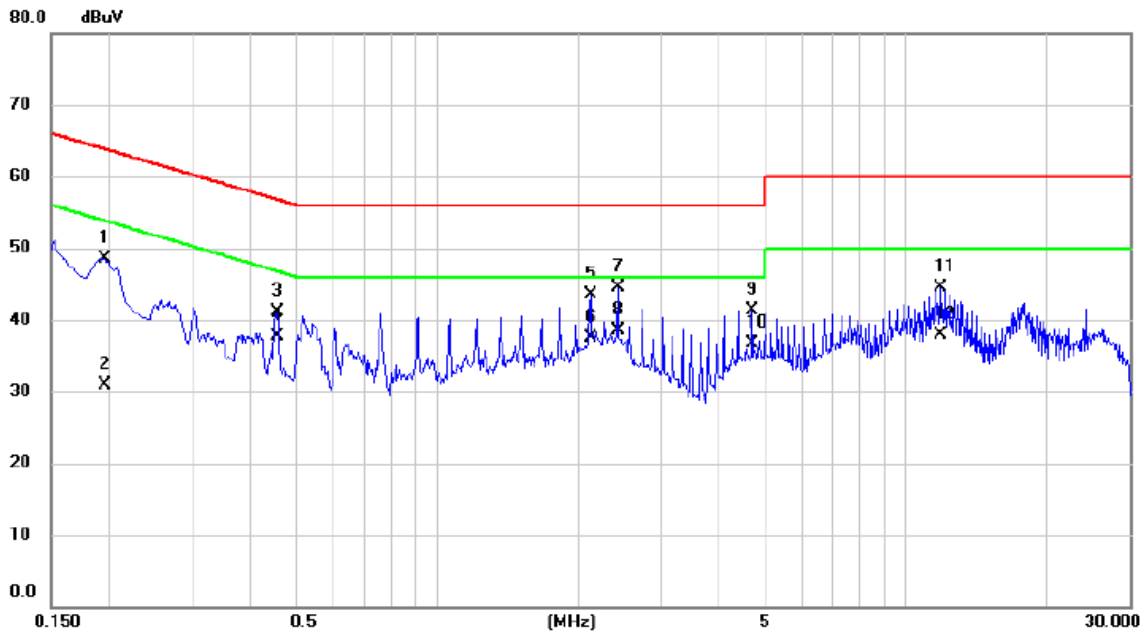


EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 110V/60Hz	Phase	Line
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.4560	33.49	9.88	43.37	56.77	-13.40	QP	
2		0.4560	26.60	9.88	36.48	46.77	-10.29	AVG	
3		0.6066	33.49	9.89	43.38	56.00	-12.62	QP	
4		0.6066	25.90	9.89	35.79	46.00	-10.21	AVG	
5		1.6688	34.21	9.97	44.18	56.00	-11.82	QP	
6	*	1.6688	26.00	9.97	35.97	46.00	-10.03	AVG	
7		1.8218	34.61	9.99	44.60	56.00	-11.40	QP	
8		1.8218	24.60	9.99	34.59	46.00	-11.41	AVG	
9		1.9748	33.76	10.00	43.76	56.00	-12.24	QP	
10		1.9748	23.50	10.00	33.50	46.00	-12.50	AVG	
11		7.2825	32.36	10.36	42.72	60.00	-17.28	QP	
12		7.2825	24.10	10.36	34.46	50.00	-15.54	AVG	

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 110V/60Hz	Phase	Neutral
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 2		
Test Engineer	Jim Zhang		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1950	38.61	9.91	48.52	63.82	-15.30	QP	
2		0.1950	21.00	9.91	30.91	53.82	-22.91	AVG	
3		0.4560	31.03	10.03	41.06	56.77	-15.71	QP	
4		0.4560	27.60	10.03	37.63	46.77	-9.14	AVG	
5		2.1233	33.35	10.20	43.55	56.00	-12.45	QP	
6		2.1233	27.40	10.20	37.60	46.00	-8.40	AVG	
7		2.4270	34.28	10.21	44.49	56.00	-11.51	QP	
8	*	2.4270	28.30	10.21	38.51	46.00	-7.49	AVG	
9		4.7040	30.87	10.39	41.26	56.00	-14.74	QP	
10		4.7040	26.30	10.39	36.69	46.00	-9.31	AVG	
11		11.8364	33.56	10.87	44.43	60.00	-15.57	QP	
12		11.8364	27.10	10.87	37.97	50.00	-12.03	AVG	

## 5. EMC EMISSION TEST- EN 55032:2015+AC:2016

### 5.1 RADIATED EMISSION

#### 5.1.1 LIMITS

Class A equipment up to 1000MHz

Table clause	Frequency range MHz	Measurement			Class A limits dB( $\mu$ V/m)	
		Facility (see Table A.1)	Distance m	Detector type/ bandwidth		
A2.1	30-230	OATS/SAC	10	Quasi peak / 120 kHz	40	
	230-1000				47	
A2.2	30-230	OATS/SAC	3		50	
	230-1000				57	
A2.3	30-230	FAR	10	Quasi peak / 120 kHz	42 to 35	
	230-1000				42	
A2.4	30-230	FAR	3		Quasi peak / 120 kHz	52 to 45
	230-1000					52

Apply only A2.1 or A2.2 or A2.3 or A2.4 across the entire frequency range.

Class A equipment above 1000MHz

Table clause	Frequency range MHz	Measurement			Class A limits dB( $\mu$ V/m)		
		Facility (see Table A.1)	Distance m	Detector type/ bandwidth			
A3.1	1000-3000	FSOATS	3	Average / 1 MHz	56		
	3000-6000				60		
A3.2	1000-3000			FSOATS	3	Peak / 1 MHz	76
	3000-6000						80

Apply A3.1 and A3.2 across the frequency range from 1 000 MHz to the highest required frequency of measurement derived from Table 1.

**Class B equipment up to 1000MHz**

Table clause	Frequency range MHz	Measurement			Class B limits dB(μV/m)
		Facility (see Table A.1)	Distance m	Detector type/ bandwidth	
A4.1	30-230	OATS/SAC	10	Quasi peak / 120 kHz	30
	230-1000				37
A4.2	30-230	OATS/SAC	3	Quasi peak / 120 kHz	40
	230-1000				47
A4.3	30-230	FAR	10	Quasi peak / 120 kHz	32 to 25
	230-1000				32
A4.4	30-230	FAR	3	Quasi peak / 120 kHz	42 to 35
	230-1000				42

Apply only table clause A4.1 or A4.2 or A4.3 or A4.4 across the entire frequency range. These requirements are not applicable to the local oscillator and harmonics frequencies of equipment covered by Table A.6.

**Class B equipment above 1000MHz**

Table clause	Frequency range MHz	Measurement			Class B limits dB(μV/m)
		Facility (see Table A.1)	Distance m	Detector type/ bandwidth	
A5.1	1000-3000	FSOATS	3	Average / 1 MHz	50
	3000-6000				54
A5.2	1000-3000			Peak / 1 MHz	70
	3000-6000				74

Apply A5.1 and A5.2 across the frequency range from 1 000 MHz to the highest required frequency of measurement derived from Table 1.

**Notes:**

- (1) The limit for radiated test was performed according to as following: EN 55032
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (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

Required highest frequency for radiated measurement

Highest internal frequency ( $F_x$ ) MHz	Highest measured frequency MHz
$F_x \leq 108$	1000
$108 < F_x \leq 500$	2000
$500 < F_x \leq 1000$	5000
$F_x > 1000$	5 <sup>th</sup> up to a maximum 6 GHz,

Note for FM and TV broadcast receiver,  $F_x$  is determined from the highest frequency generated or used excluding the local oscillator and tuned frequencies.

**5.1.2 MEASUREMENT INSTRUMENTS LIST**

**Up to 1GHz:**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Attenuator	SHX	TS2-6dB-6G-A	16101101	Nov. 09, 2018
2	Attenuator	SHX	TS2-6dB-6G-A	16101102	Jan. 04, 2019
3	Receiver	Keysight	N9038A	MY54450004	Aug. 15, 2018
4	MXE EMI Receiver	Agilent	N9038A	MY53220133	Mar. 11, 2019
5	Pre-Amplifier	Mini-Circuits	EMC 9135	980284	Mar. 11, 2019
6	Pre-Amplifier	Mini-Circuits	EMC 9135	980283	Mar. 11, 2019
7	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	586	Nov. 09, 2018
8	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	587	Jan. 04, 2019
9	Cable	emci	LMR-400(5m+11m+15m)	N/A	Nov. 01, 2019
10	Cable	emci	LMR-400(5m+8m+15m)	N/A	Nov. 01, 2019
11	Measurement Software	Farad	EZ-EMC Ver.BTL-2ANT-1	N/A	N/A
12	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A

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. 20, 2018
3	MXE EMI Receiver	Agilent	N9038A	MY53220133	Mar. 11, 2019
4	Measurement Software	Farad	EZ-EMC Ver.BTL-2A NT-1	N/A	N/A
5	Cable	emci	SUCOFLEX _15m_5m(0.01GHz–26.5GHz)	N/A	Dec. 26, 2018
6	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
7	Controller	MF	MF-7802	MF780208159	N/A

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

All calibration period of equipment list is one year.

**5.1.3 TEST PROCEDURE**

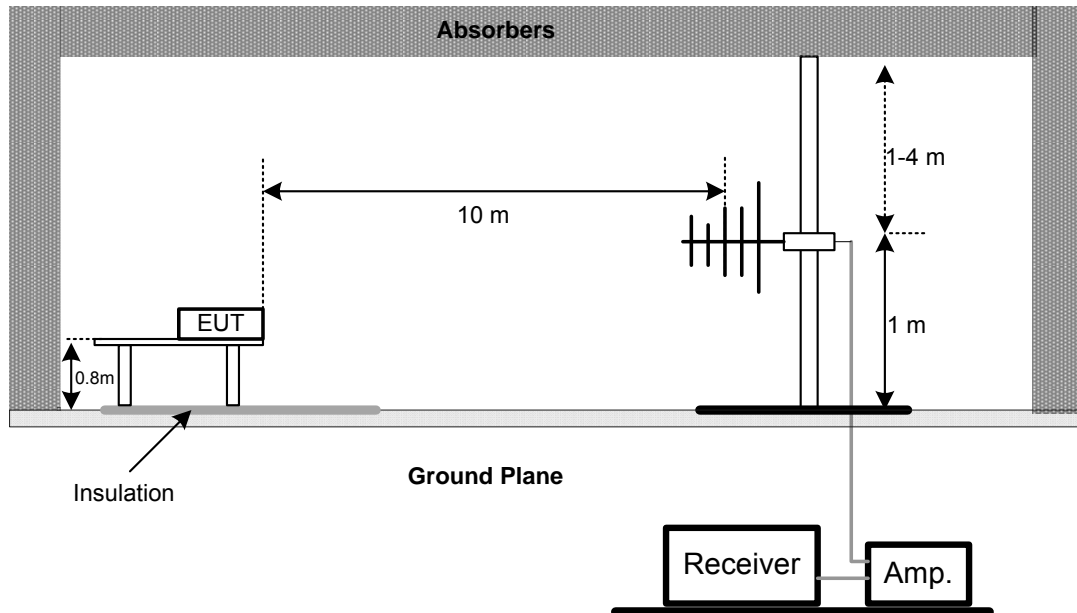
- h. The measuring distance of 10 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz).
- i. The measuring distance 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 1GHz)
- j. 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.
- k. 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.
- l. 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)
- m. 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 1GHz)
- n. For the actual test configuration, please refer to the related Item - Block Diagram of system tested (please refer to 3.3).

### 5.1.4 DEVIATION FROM TEST STANDARD

No deviation

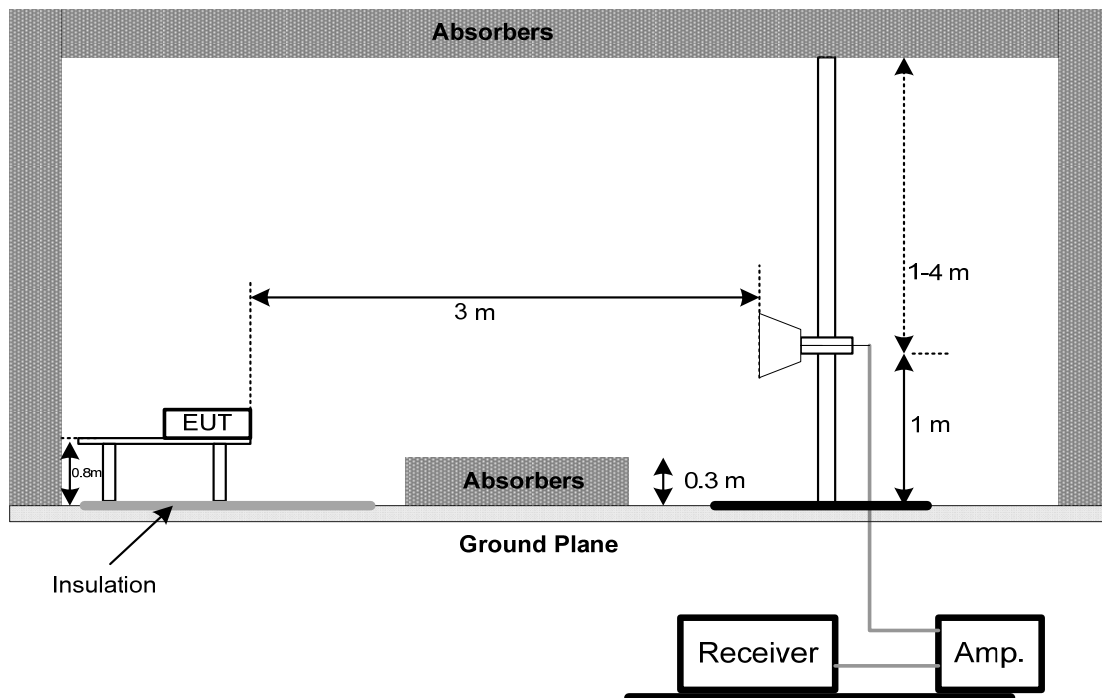
### 5.1.5 TEST SETUP

#### UP TO 1 GHZ

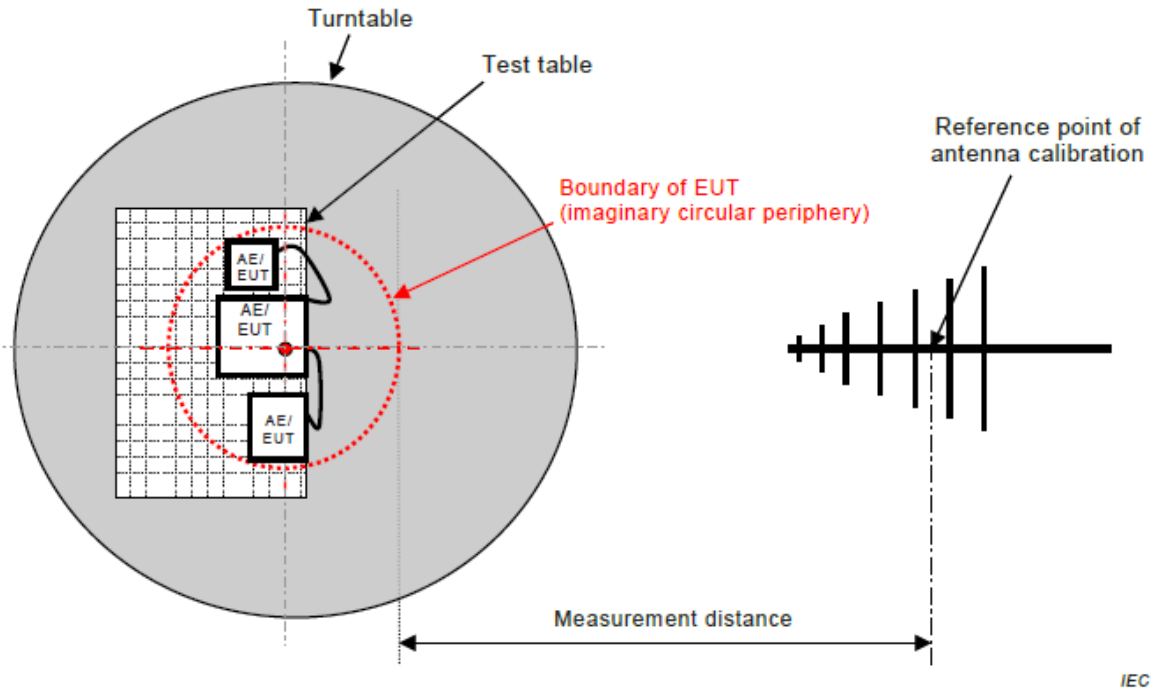


Note: The antenna can be moved between 1 to 4 meters above the ground.

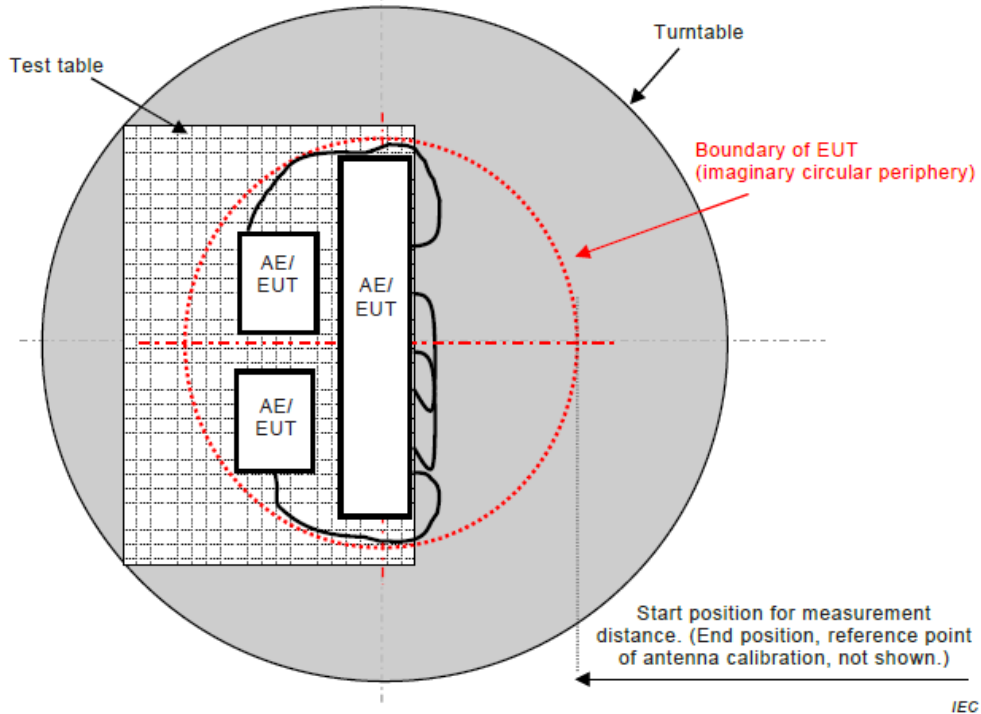
#### ABOVE 1 GHZ



**5.1.6 MEASUREMENT DISTANCE**



**Figure C.1 – Measurement distance**



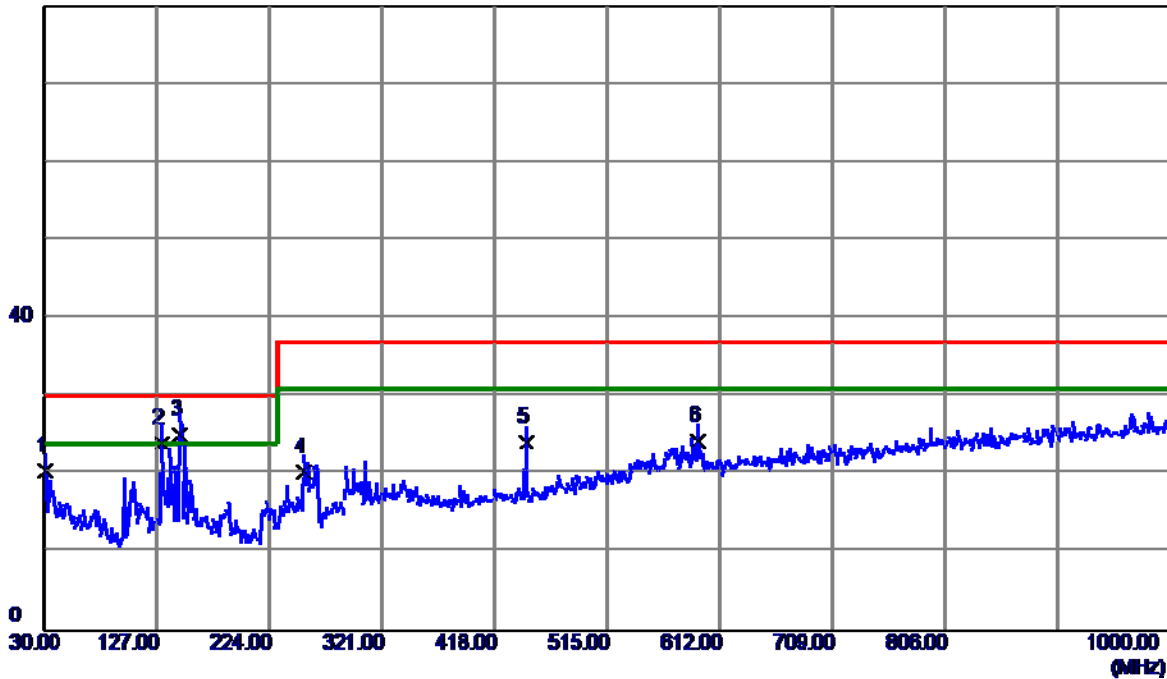
**Figure C.2 – Boundary of EUT, Local AE and associated cabling**



### 5.1.7 TEST RESULTS (UP TO 1 GHZ)

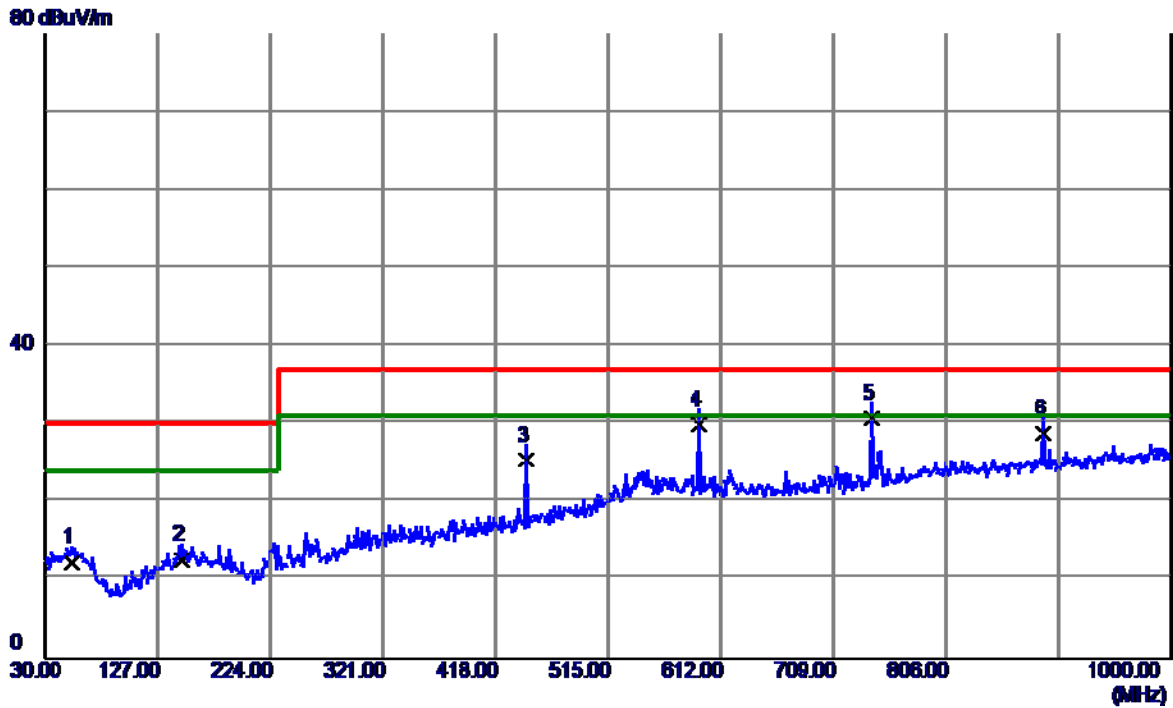
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	30.9700	39.60	-19.16	20.44	30.00	-9.56	QP
2	131.3650	41.83	-17.80	24.03	30.00	-5.97	QP
3 *	147.3700	41.80	-16.70	25.10	30.00	-4.90	QP
4	254.5550	37.32	-17.02	20.30	37.00	-16.70	QP
5	445.6450	36.31	-12.20	24.11	37.00	-12.89	QP
6	594.0550	33.45	-9.09	24.36	37.00	-12.64	QP

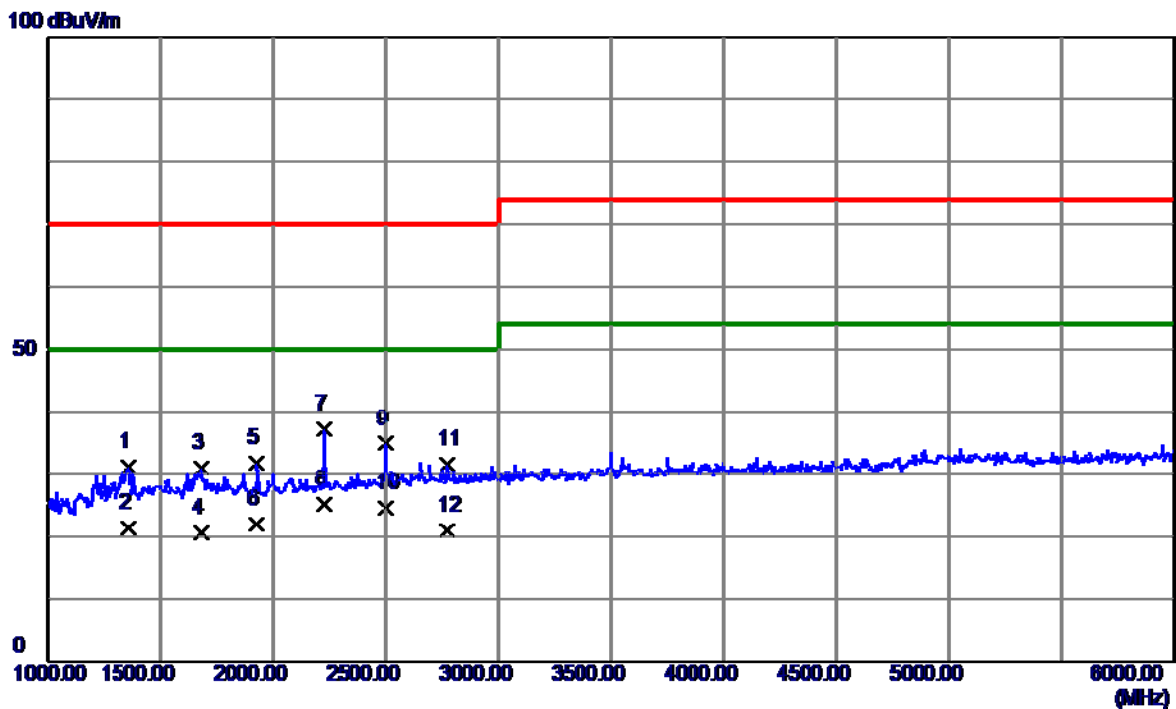
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	53.2800	29.24	-16.98	12.26	30.00	-17.74	QP
2	148.3400	29.31	-16.71	12.60	30.00	-17.40	QP
3	445.1600	37.22	-11.86	25.36	37.00	-11.64	QP
4	593.5700	38.82	-8.94	29.88	37.00	-7.12	QP
5 *	741.9800	37.67	-6.92	30.75	37.00	-6.25	QP
6	890.3900	33.62	-4.81	28.81	37.00	-8.19	QP

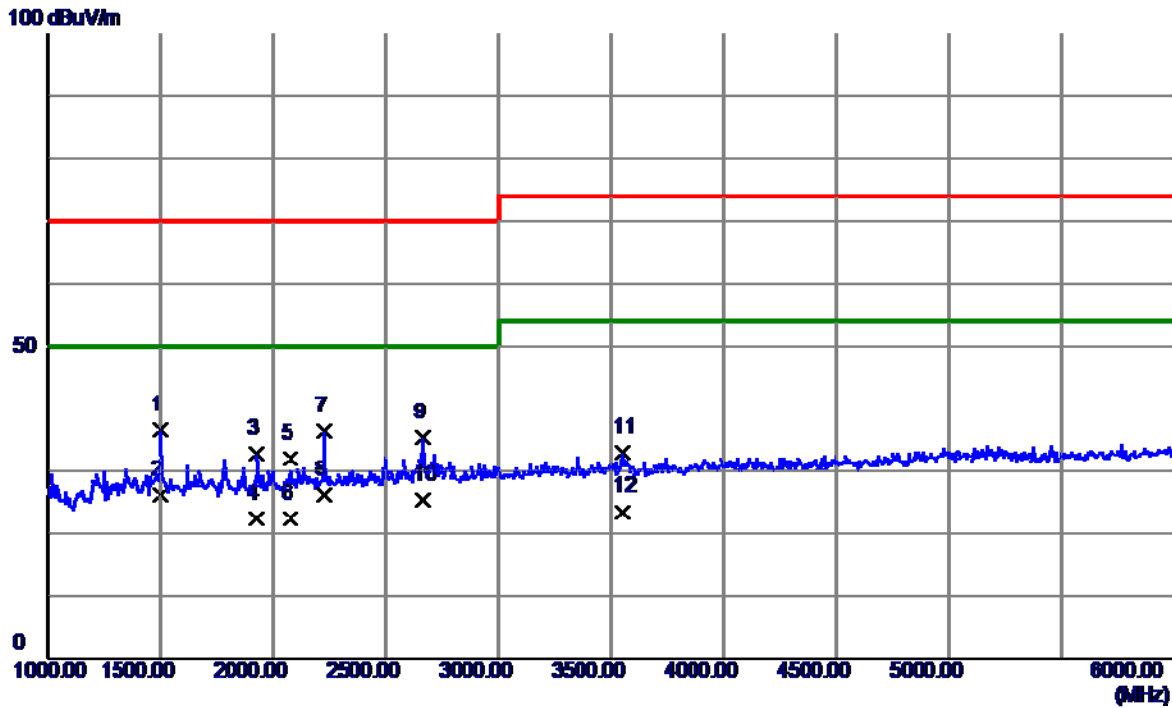
### 5.1.8 TEST RESULTS (ABOVE 1 GHZ)

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Vertical
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1362.5000	35.03	-3.82	31.21	70.00	-38.79	Peak
2	1362.5000	25.27	-3.82	21.45	50.00	-28.55	AVG
3	1682.5000	33.50	-2.59	30.91	70.00	-39.09	Peak
4	1682.5000	23.27	-2.59	20.68	50.00	-29.32	AVG
5	1930.0000	33.81	-2.01	31.80	70.00	-38.20	Peak
6	1930.0000	23.99	-2.01	21.98	50.00	-28.02	AVG
7	2227.5000	38.20	-0.93	37.27	70.00	-32.73	Peak
8 *	2227.5000	26.08	-0.93	25.15	50.00	-24.85	AVG
9	2497.5000	34.75	0.15	34.90	70.00	-35.10	Peak
10	2497.5000	24.52	0.15	24.67	50.00	-25.33	AVG
11	2770.0000	30.78	0.91	31.69	70.00	-38.31	Peak
12	2770.0000	20.11	0.91	21.02	50.00	-28.98	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 230V/50Hz	Polarization	Horizontal
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector
1	1500.0000	39.59	-3.01	36.58	70.00	-33.42	Peak
2 *	1500.0000	29.26	-3.01	26.25	50.00	-23.75	AVG
3	1930.0000	34.74	-2.01	32.73	70.00	-37.27	Peak
4	1930.0000	24.48	-2.01	22.47	50.00	-27.53	AVG
5	2077.5000	33.59	-1.54	32.05	70.00	-37.95	Peak
6	2077.5000	23.90	-1.54	22.36	50.00	-27.64	AVG
7	2227.5000	37.41	-0.93	36.48	70.00	-33.52	Peak
8	2227.5000	27.08	-0.93	26.15	50.00	-23.85	AVG
9	2665.0000	34.69	0.62	35.31	70.00	-34.69	Peak
10	2665.0000	24.86	0.62	25.48	50.00	-24.52	AVG
11	3547.5000	29.70	3.33	33.03	74.00	-40.97	Peak
12	3547.5000	20.17	3.33	23.50	54.00	-30.50	AVG

## 5.2 CONDUCTED EMISSION MEASUREMENT AT AC MAINS POWER PORTS

### 5.2.1 LIMITS

Requirements for conducted emissions from AC mains power ports of Class A equipment

Table clause	Frequency Range MHz	Coupling Device	Detector Type / bandwidth	Class A Limits (dB(μV) )
A9.1	0.15 - 0.5	AMN	Quasi Peak / 9 kHz	79
	0.5 - 30			73
A9.2	0.15 - 0.5	AMN	Average / 9 kHz	66
	0.5 - 30			60

Apply A9.1 and A9.2 across the entire frequency range.

Requirements for conducted emissions from AC mains power ports of Class B equipment

Table clause	Frequency Range MHz	Coupling Device	Detector Type / bandwidth	Class B Limits (dB(μV) )
A10.1	0.15 - 0.5	AMN	Quasi Peak / 9 kHz	66-56
	0.5 - 5			56
	5 - 30			60
A10.2	0.15 - 0.5	AMN	Average / 9 kHz	56-46
	0.5 - 5			46
	5 - 30			50

Apply A10.1 and A10.2 across the entire frequency range.

**NOTE:**

(1) 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

### 5.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 11, 2019
2	TWO-LINE V-NETWORK	R&S	ENV216	100526	Mar. 11, 2019
3	EMI Test Receiver	R&S	ESR3	101862	Aug. 15, 2018
4	Artificial-Mains Network	SCHWARZBECK	NSLK 8127	8127685	Aug. 20, 2018
5	Cable	N/A	RG400 12m	N/A	Mar. 06, 2019
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

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

All calibration period of equipment list is one year.

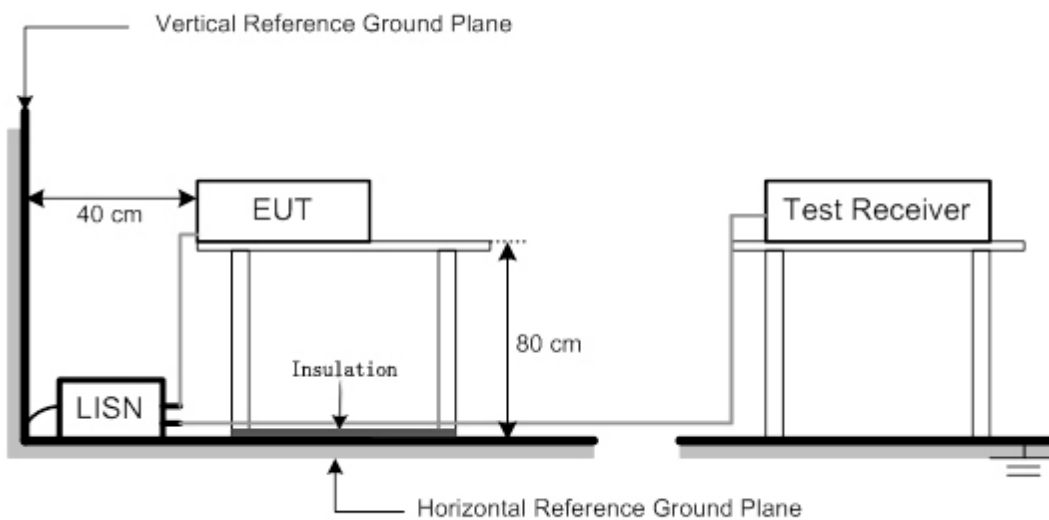
### 5.2.3 TEST PROCEDURE

- 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.

### 5.2.4 DEVIATION FROM TEST STANDARD

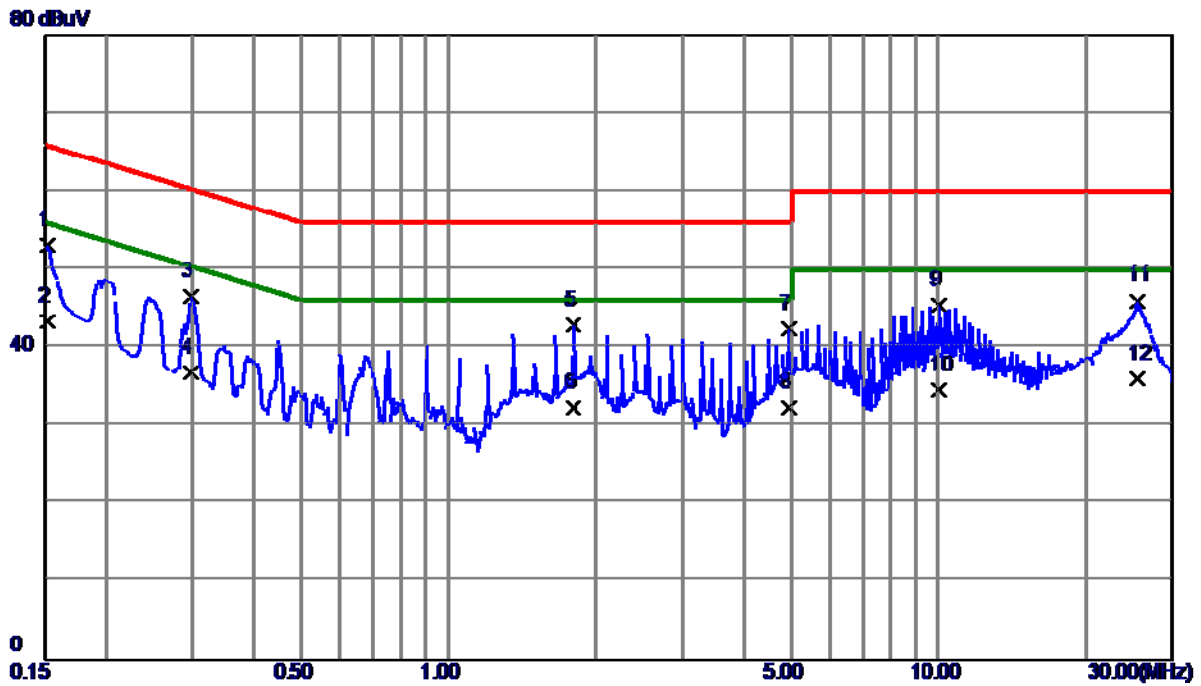
No deviation

### 5.2.5 TEST SETUP



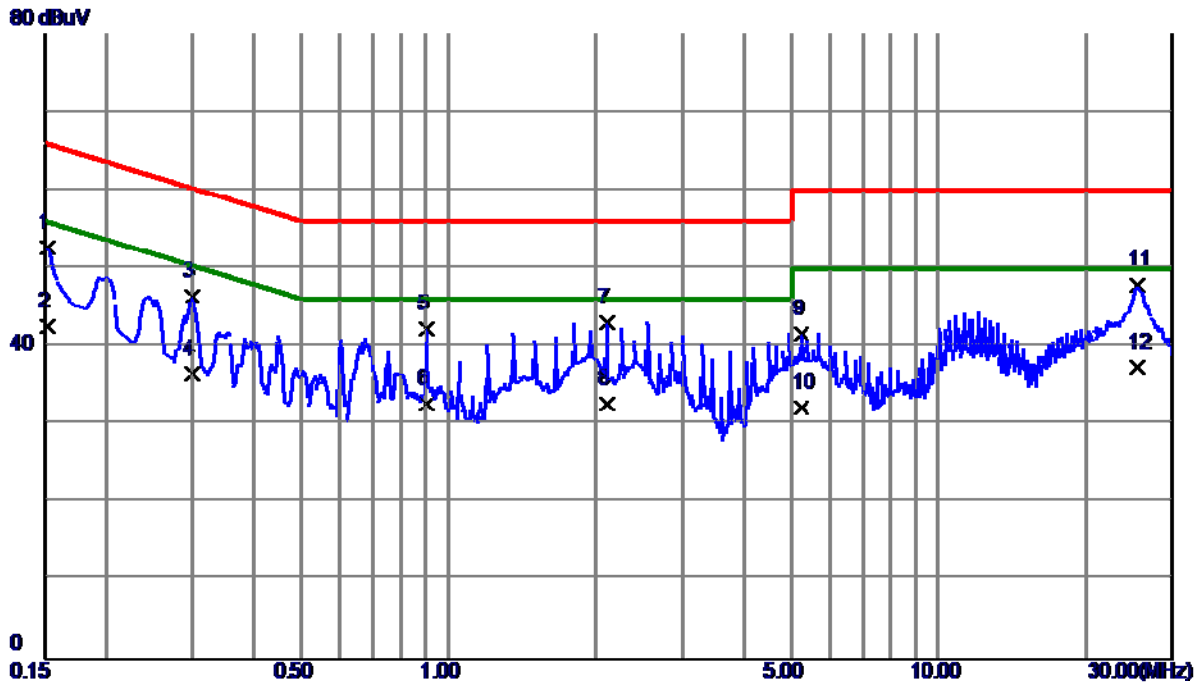
### 5.2.6 TEST RESULTS

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Line
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector
1	0.1522	43.34	9.82	53.16	65.88	-12.72	QP
2 *	0.1522	33.50	9.82	43.32	55.88	-12.56	AVG
3	0.2983	36.78	9.85	46.63	60.29	-13.66	QP
4	0.2983	26.90	9.85	36.75	50.29	-13.54	AVG
5	1.8015	32.96	9.98	42.94	56.00	-13.06	QP
6	1.8015	22.41	9.98	32.39	46.00	-13.61	AVG
7	4.9560	32.18	10.20	42.38	56.00	-13.62	QP
8	4.9560	22.10	10.20	32.30	46.00	-13.70	AVG
9	10.0635	34.99	10.50	45.49	60.00	-14.51	QP
10	10.0635	24.10	10.50	34.60	50.00	-15.40	AVG
11	25.4850	34.86	11.14	46.00	60.00	-14.00	QP
12	25.4850	24.81	11.14	35.95	50.00	-14.05	AVG

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 230V/50Hz	Phase	Neutral
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Cable:1.8m, Mainboard 1		
Test Engineer	Jim Zhang		



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.1522	42.69	9.91	52.60	65.88	-13.28	QP
2	0.1522	32.60	9.91	42.51	55.88	-13.37	AVG
3	0.3007	36.38	9.96	46.34	60.22	-13.88	QP
4	0.3007	26.50	9.96	36.46	50.22	-13.76	AVG
5	0.9014	32.11	10.10	42.21	56.00	-13.79	QP
6	0.9014	22.50	10.10	32.60	46.00	-13.40	AVG
7	2.1030	32.83	10.20	43.03	56.00	-12.97	QP
8	2.1030	22.50	10.20	32.70	46.00	-13.30	AVG
9	5.2575	31.15	10.44	41.59	60.00	-18.41	QP
10	5.2575	21.70	10.44	32.14	50.00	-17.86	AVG
11 *	25.4107	36.27	11.51	47.78	60.00	-12.22	QP
12	25.4107	25.80	11.51	37.31	50.00	-12.69	AVG



## 6. HARMONIC AND FLICKER TEST

### 6.1 HARMONIC CURRENT EMISSIONS

#### 6.1.1 LIMITS

EN 61000-3-2						
Equipment Category	Harmonic Order	Max. Permissible Harmonic Current	Equipment Category	Harmonic Order	Max. Permissible Harmonic Current	
	n	A		n	A	mA/w
Class A	Odd Harmonics		Class D	Odd Harmonics only		
	3	2.30		3	2.30	3.4
	5	1.14		5	1.14	1.9
	7	0.77		7	0.77	1.0
	9	0.40		9	0.40	0.5
	11	0.33		11	0.33	0.35
	13	0.21		13	0.21	0.30
	15≤n≤39	0.15 x 15/n		15≤n≤39	0.15 x 15/n	3.85/n
	Even Harmonics					
	2	1.08				
	4	0.43				
	6	0.30				
	8≤n≤40	0.23 x 8/n				

#### 6.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Harmonics and Flicker Analyzer	California Instruments	PACS-1	72344	Aug. 15, 2018
2	3KVA AC Power source	California Instruments	3001ix	56309	Aug. 15, 2018
3	Measurement Software	California	CTS4.0 Version 4.18	N/A	N/A

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

All calibration period of equipment list is one year.

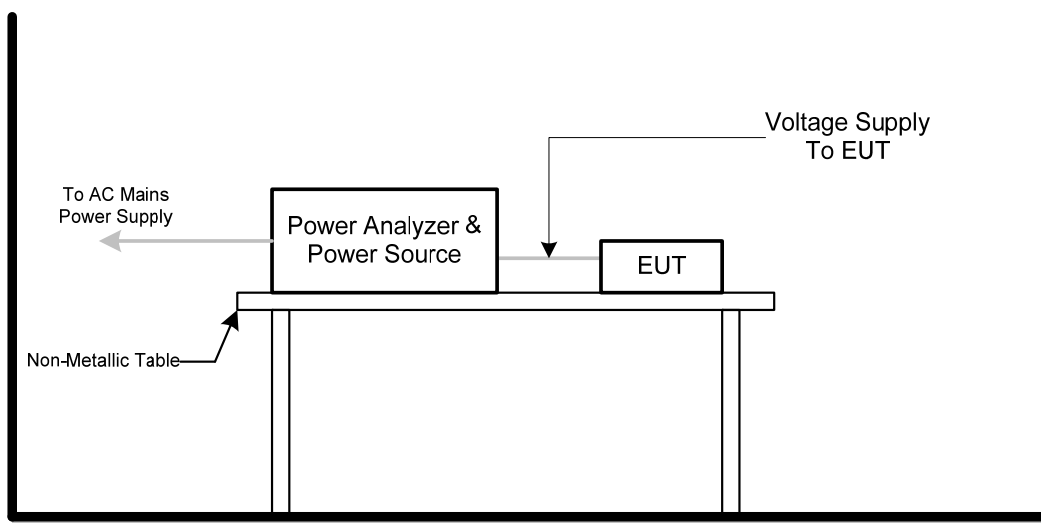
### 6.1.3 TEST PROCEDURE

- a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under normal operating conditions.
- b. The classification of EUT is according to of EN 61000-3-2. The EUT is classified as follows:
  - Class A: Balanced three-phase equipment, Household appliances excluding equipment as Class D, Tools excluding portable tools, Dimmers for incandescent lamps, audio equipment, equipment not specified in one of the three other classes.
  - Class B: Portable tools; Arc welding equipment which is not professional equipment.
  - Class C: Lighting equipment.
  - Class D: Equipment having a specified power less than or equal to 600 W of the following types: Personal computers and personal computer monitors and television receivers.
- c. The correspondent test program of test instrument to measure the current harmonics emanated from EUT is chosen. The measure time shall be not less than the time necessary for the EUT to be exercised.

### 6.1.4 DEVIATION FROM TEST STANDARD

No deviation

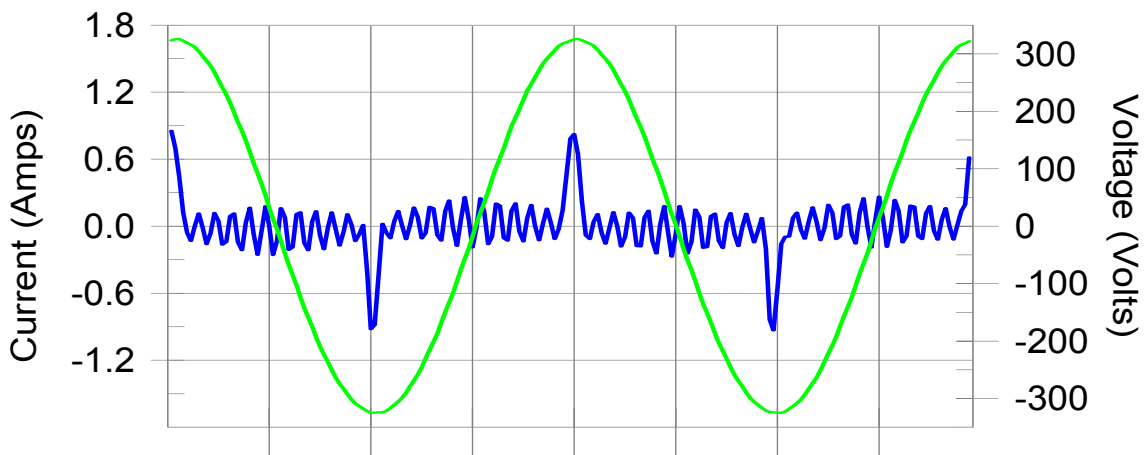
### 6.1.5 TEST SETUP



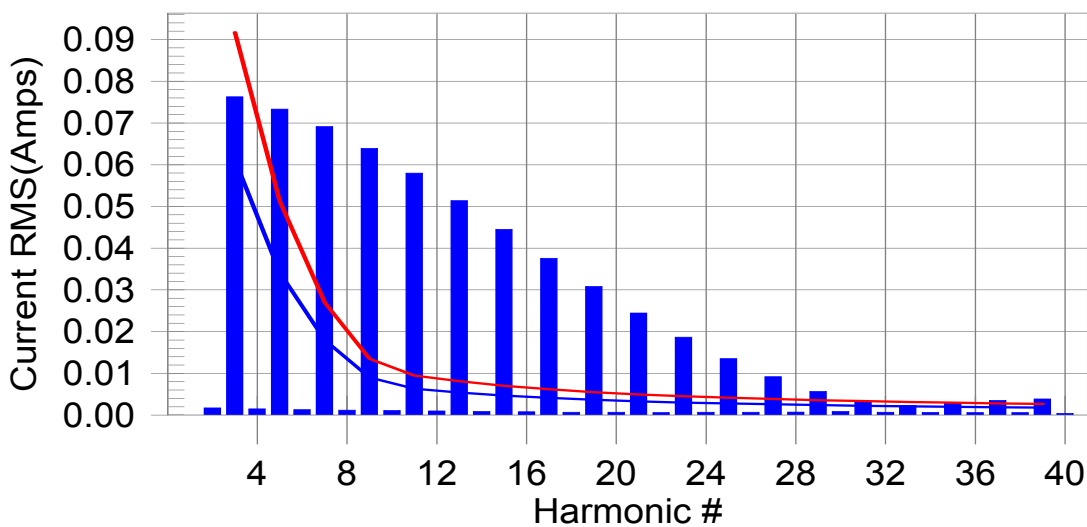
### 6.1.6 TEST RESULTS

Harmonic - Class D			
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	55%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1		

Current & voltage waveforms



Harmonics and Class D limit line European Limits



Test result: N/L Worst harmonics H0-0.0% of 150% limit, H0-0% of 100% limit

Current Test Result Summary (Run time)			
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	55%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1		

Highest parameter values during test:

V_RMS (Volts): 230.00	Frequency(Hz): 50.00
I_Peak (Amps): 1.025	I_RMS (Amps): 0.233
I_Fund (Amps): 0.085	Crest Factor: 4.411
Power (Watts): 18.0	Power Factor: 0.338

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.002	0.000	N/A	0.002	0.000	N/A	N/L
3	0.076	0.061	N/A	0.078	0.092	N/A	N/L
4	0.001	0.000	N/A	0.002	0.000	N/A	N/L
5	0.073	0.034	N/A	0.074	0.051	N/A	N/L
6	0.001	0.000	N/A	0.002	0.000	N/A	N/L
7	0.069	0.018	N/A	0.069	0.027	N/A	N/L
8	0.001	0.000	N/A	0.002	0.000	N/A	N/L
9	0.064	0.009	N/A	0.064	0.013	N/A	N/L
10	0.001	0.000	N/A	0.001	0.000	N/A	N/L
11	0.058	0.006	N/A	0.058	0.009	N/A	N/L
12	0.001	0.000	N/A	0.001	0.000	N/A	N/L
13	0.051	0.005	N/A	0.051	0.008	N/A	N/L
14	0.001	0.000	N/A	0.001	0.000	N/A	N/L
15	0.045	0.005	N/A	0.045	0.007	N/A	N/L
16	0.001	0.000	N/A	0.001	0.000	N/A	N/L
17	0.038	0.004	N/A	0.038	0.006	N/A	N/L
18	0.001	0.000	N/A	0.001	0.000	N/A	N/L
19	0.031	0.004	N/A	0.031	0.005	N/A	N/L
20	0.001	0.000	N/A	0.001	0.000	N/A	N/L
21	0.024	0.003	N/A	0.025	0.005	N/A	N/L
22	0.001	0.000	N/A	0.001	0.000	N/A	N/L
23	0.019	0.003	N/A	0.019	0.005	N/A	N/L
24	0.001	0.000	N/A	0.001	0.000	N/A	N/L
25	0.014	0.003	N/A	0.014	0.004	N/A	N/L
26	0.001	0.000	N/A	0.001	0.000	N/A	N/L
27	0.009	0.003	N/A	0.009	0.004	N/A	N/L
28	0.001	0.000	N/A	0.001	0.000	N/A	N/L
29	0.006	0.002	N/A	0.006	0.004	N/A	N/L
30	0.001	0.000	N/A	0.001	0.000	N/A	N/L
31	0.003	0.002	N/A	0.003	0.003	N/A	N/L
32	0.001	0.000	N/A	0.001	0.000	N/A	N/L
33	0.002	0.002	N/A	0.003	0.003	N/A	N/L
34	0.001	0.000	N/A	0.001	0.000	N/A	N/L
35	0.003	0.002	N/A	0.003	0.003	N/A	N/L
36	0.001	0.000	N/A	0.001	0.000	N/A	N/L
37	0.004	0.002	N/A	0.004	0.003	N/A	N/L
38	0.001	0.000	N/A	0.001	0.000	N/A	N/L
39	0.004	0.002	N/A	0.004	0.003	N/A	N/L
40	0.000	0.000	N/A	0.001	0.000	N/A	N/L

Note: The EUT power level is below 75.0 Watts and therefore has no defined limits

Voltage Source Verification Data (Run time)			
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	55%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1		

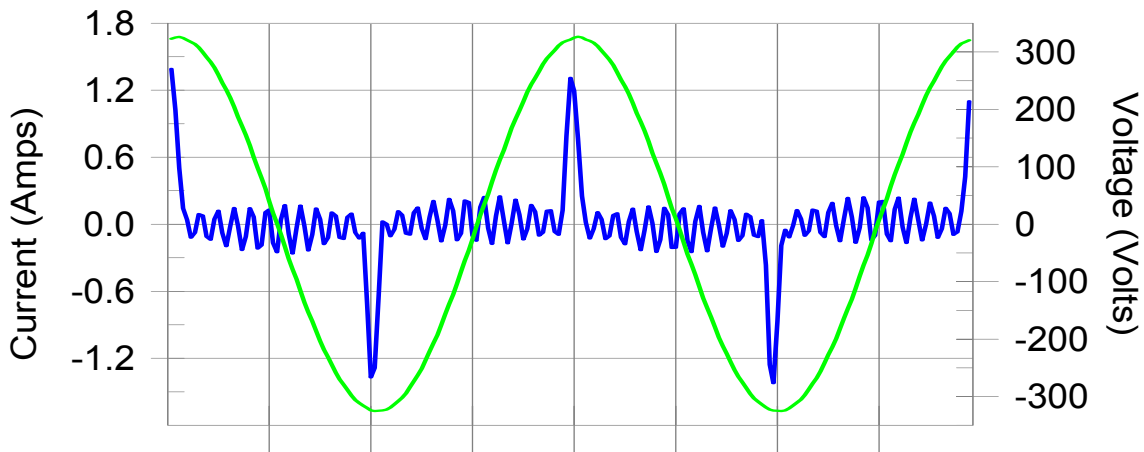
Highest parameter values during test:

Voltage (Vrms):230.00	Frequency(Hz): 50.00
I_Peak (Amps):1.025	I_RMS (Amps): 0.233
I_Fund (Amps):0.085	Crest Factor: 4.411
Power (Watts): 18.0	Power Factor: 0.338

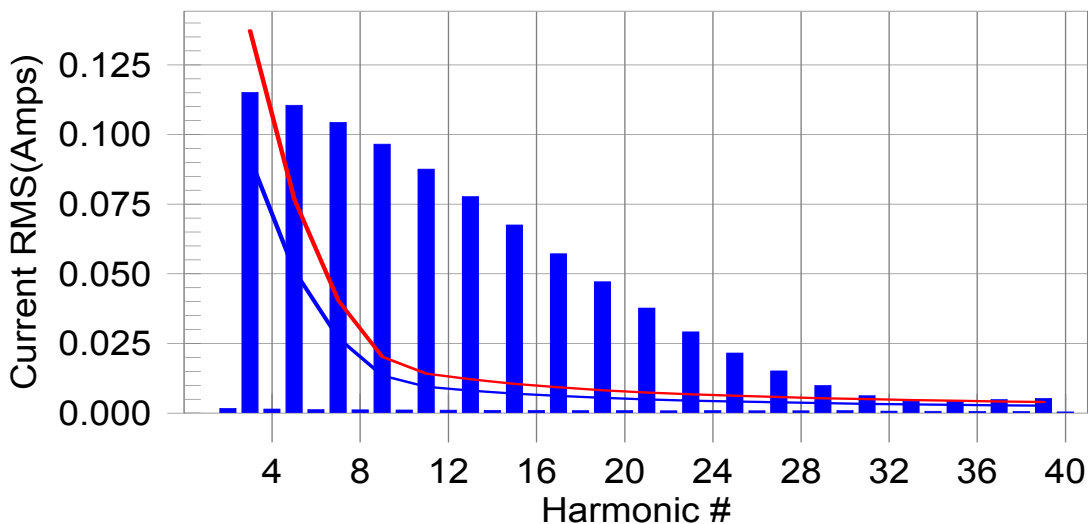
Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.127	0.460	27.52	OK
3	0.309	2.069	14.94	OK
4	0.066	0.460	14.46	OK
5	0.150	0.920	16.29	OK
6	0.026	0.460	5.61	OK
7	0.039	0.690	5.63	OK
8	0.017	0.460	3.60	OK
9	0.025	0.460	5.46	OK
10	0.020	0.460	4.40	OK
11	0.044	0.230	19.24	OK
12	0.015	0.230	6.42	OK
13	0.036	0.230	15.80	OK
14	0.009	0.230	3.85	OK
15	0.037	0.230	16.11	OK
16	0.013	0.230	5.44	OK
17	0.025	0.230	10.72	OK
18	0.016	0.230	6.76	OK
19	0.033	0.230	14.43	OK
20	0.017	0.230	7.61	OK
21	0.024	0.230	10.53	OK
22	0.012	0.230	5.05	OK
23	0.027	0.230	11.80	OK
24	0.006	0.230	2.71	OK
25	0.015	0.230	6.58	OK
26	0.009	0.230	3.74	OK
27	0.016	0.230	7.08	OK
28	0.007	0.230	3.05	OK
29	0.005	0.230	2.02	OK
30	0.006	0.230	2.42	OK
31	0.009	0.230	4.13	OK
32	0.006	0.230	2.40	OK
33	0.005	0.230	2.30	OK
34	0.003	0.230	1.42	OK
35	0.004	0.230	1.84	OK
36	0.004	0.230	1.54	OK
37	0.010	0.230	4.52	OK
38	0.003	0.230	1.51	OK
39	0.008	0.230	3.35	OK
40	0.006	0.230	2.55	OK

Harmonic - Class D			
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	55%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 2		

Current & voltage waveforms



Harmonics and Class D limit line European Limits



Test result: N/L Worst harmonics H0-0.0% of 150% limit, H0-0% of 100% limit

Current Test Result Summary (Run time)			
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	55%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 2		

Highest parameter values during test:

V_RMS (Volts): 229.98	Frequency(Hz): 50.00
I_Peak (Amps): 1.508	I_RMS (Amps): 0.321
I_Fund (Amps): 0.123	Crest Factor: 4.709
Power (Watts): 26.9	Power Factor: 0.367

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.002	0.000	N/A	0.003	0.000	N/A	N/L
3	0.115	0.092	N/A	0.116	0.137	N/A	N/L
4	0.001	0.000	N/A	0.002	0.000	N/A	N/L
5	0.111	0.051	N/A	0.111	0.077	N/A	N/L
6	0.001	0.000	N/A	0.002	0.000	N/A	N/L
7	0.104	0.027	N/A	0.105	0.040	N/A	N/L
8	0.001	0.000	N/A	0.002	0.000	N/A	N/L
9	0.097	0.013	N/A	0.097	0.020	N/A	N/L
10	0.001	0.000	N/A	0.001	0.000	N/A	N/L
11	0.088	0.009	N/A	0.088	0.014	N/A	N/L
12	0.001	0.000	N/A	0.001	0.000	N/A	N/L
13	0.078	0.008	N/A	0.078	0.012	N/A	N/L
14	0.001	0.000	N/A	0.001	0.000	N/A	N/L
15	0.068	0.007	N/A	0.068	0.011	N/A	N/L
16	0.001	0.000	N/A	0.001	0.000	N/A	N/L
17	0.057	0.006	N/A	0.057	0.009	N/A	N/L
18	0.001	0.000	N/A	0.001	0.000	N/A	N/L
19	0.047	0.005	N/A	0.047	0.008	N/A	N/L
20	0.001	0.000	N/A	0.001	0.000	N/A	N/L
21	0.038	0.005	N/A	0.038	0.007	N/A	N/L
22	0.001	0.000	N/A	0.001	0.000	N/A	N/L
23	0.029	0.004	N/A	0.029	0.007	N/A	N/L
24	0.001	0.000	N/A	0.001	0.000	N/A	N/L
25	0.022	0.004	N/A	0.022	0.006	N/A	N/L
26	0.001	0.000	N/A	0.001	0.000	N/A	N/L
27	0.015	0.004	N/A	0.015	0.006	N/A	N/L
28	0.001	0.000	N/A	0.001	0.000	N/A	N/L
29	0.010	0.004	N/A	0.010	0.005	N/A	N/L
30	0.001	0.000	N/A	0.001	0.000	N/A	N/L
31	0.006	0.003	N/A	0.006	0.005	N/A	N/L
32	0.001	0.000	N/A	0.001	0.000	N/A	N/L
33	0.004	0.003	N/A	0.004	0.005	N/A	N/L
34	0.001	0.000	N/A	0.001	0.000	N/A	N/L
35	0.004	0.003	N/A	0.004	0.004	N/A	N/L
36	0.001	0.000	N/A	0.001	0.000	N/A	N/L
37	0.005	0.003	N/A	0.005	0.004	N/A	N/L
38	0.001	0.000	N/A	0.001	0.000	N/A	N/L
39	0.005	0.003	N/A	0.005	0.004	N/A	N/L
40	0.000	0.000	N/A	0.001	0.000	N/A	N/L

Note: The EUT power level is below 75.0 Watts and therefore has no defined limits

Voltage Source Verification Data (Run time)			
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	55%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 2		

Highest parameter values during test:

Voltage (Vrms):229.98	Frequency(Hz): 50.00
I_Peak (Amps):1.508	I_RMS (Amps): 0.321
I_Fund (Amps):0.123	Crest Factor: 4.709
Power (Watts): 26.9	Power Factor: 0.367

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.138	0.460	30.09	OK
3	0.305	2.069	14.76	OK
4	0.065	0.460	14.22	OK
5	0.165	0.920	17.95	OK
6	0.023	0.460	4.94	OK
7	0.050	0.690	7.19	OK
8	0.019	0.460	4.15	OK
9	0.034	0.460	7.47	OK
10	0.021	0.460	4.65	OK
11	0.059	0.230	25.73	OK
12	0.016	0.230	6.94	OK
13	0.045	0.230	19.62	OK
14	0.008	0.230	3.52	OK
15	0.056	0.230	24.53	OK
16	0.015	0.230	6.38	OK
17	0.044	0.230	19.29	OK
18	0.017	0.230	7.44	OK
19	0.048	0.230	20.84	OK
20	0.016	0.230	7.10	OK
21	0.028	0.230	12.16	OK
22	0.011	0.230	4.94	OK
23	0.037	0.230	16.30	OK
24	0.008	0.230	3.32	OK
25	0.026	0.230	11.28	OK
26	0.008	0.230	3.48	OK
27	0.021	0.230	9.27	OK
28	0.008	0.230	3.31	OK
29	0.010	0.230	4.23	OK
30	0.005	0.230	2.23	OK
31	0.013	0.230	5.79	OK
32	0.007	0.230	2.87	OK
33	0.009	0.230	3.99	OK
34	0.003	0.230	1.41	OK
35	0.008	0.230	3.30	OK
36	0.004	0.230	1.89	OK
37	0.012	0.230	5.39	OK
38	0.003	0.230	1.33	OK
39	0.005	0.230	2.30	OK
40	0.005	0.230	2.29	OK



## 6.2 VOLTAGE CHANGES, VOLTAGE FLUCTUATIONS AND FLICKER TEST

### 6.2.1 LIMITS

Tests	Limits	Descriptions
	EN 61000-3-3	
Pst	$\leq 1.0$ , $T_p= 10$ min.	Short Term Flicker Indicator
Plt	$\leq 0.65$ , $T_p=2$ hr.	Long Term Flicker Indicator
dc	$\leq 3.3\%$	Relative Steady-State V-Chang
dmax	$\leq 4\%$	Maximum Relative V-change
d (t)	$\leq 500$ ms	Relative V-change characteristic

### 6.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Harmonics and Flicker Analyzer	California Instruments	PACS-1	72344	Aug. 15, 2018
2	3KVA AC Power source	California Instruments	3001ix	56309	Aug. 15, 2018
3	Measurement Software	California	CTS4.0 Version 4.18	N/A	N/A

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

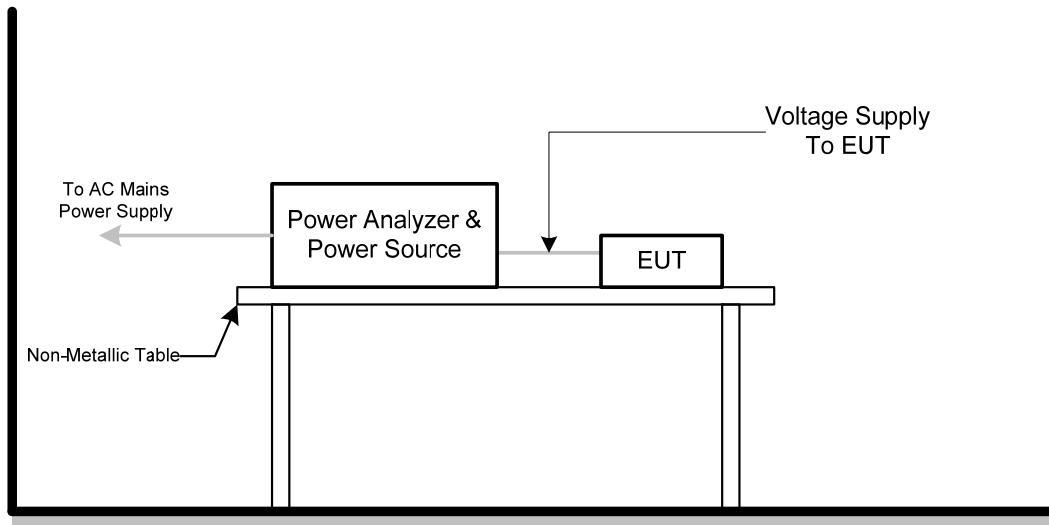
### 6.2.3 TEST PROCEDURE

- a. Tests was performed according to the Test Conditions/Assessment of Voltage Fluctuations specified in EN 61000-3-3 depend on which standard adopted for compliance measurement.
- b. All types of harmonic current and/or voltage fluctuation in this report are assessed by direct measurement using flicker-meter.

### 6.2.4 DEVIATION FROM TEST STANDARD

No deviation

### 6.2.5 TESTSETUP



### 6.2.6 TEST RESULTS

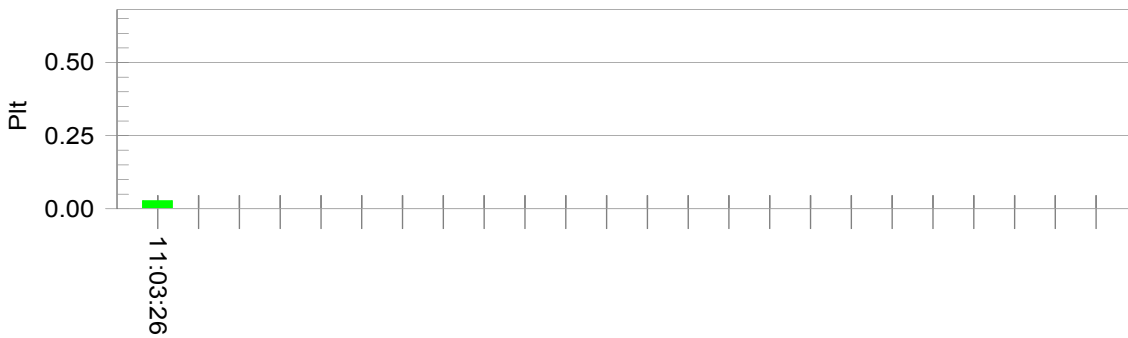
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	55%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1		

Psti and limit line

European Limits



Plt and limit line



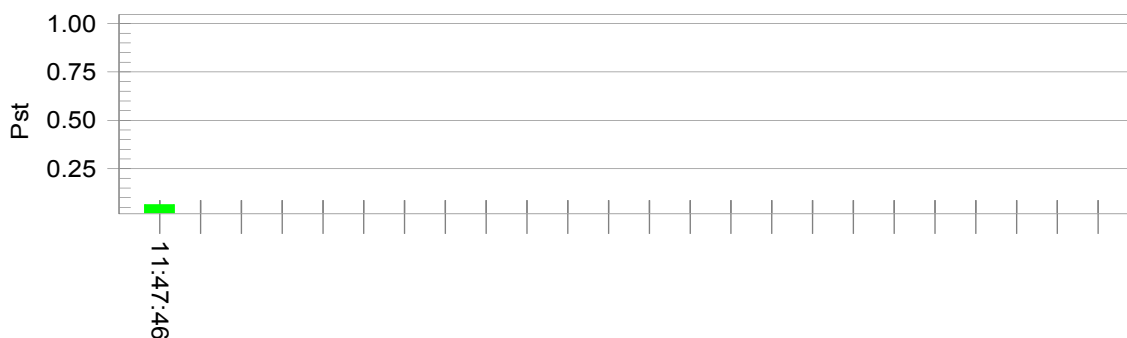
Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.96		
T-max (mS):	0	Test limit (mS):	500.0 Pass
Highest dc (%):	0.00	Test limit (%):	3.30 Pass
Highest dmax (%):	0.00	Test limit (%):	4.00 Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000 Pass
Highest Plt (2 hr. period):	0.028	Test limit:	0.650 Pass

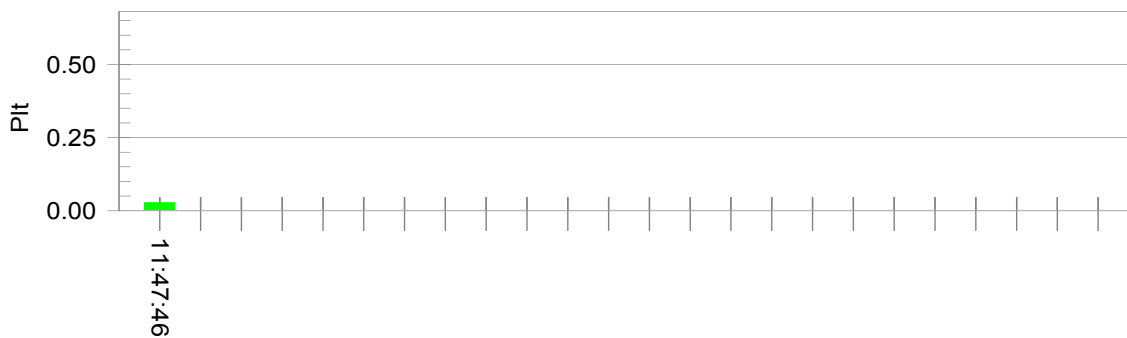
EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	55%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 2		

Psti and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):229.86

T-max (mS):	0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.028	Test limit:	0.650	Pass

## 7. EMC IMMUNITY TEST

### 7.1 STANDARD COMPLIANCE/SEVERITY LEVEL/CRITERIA

Tests Standard No.	Test Specification Level / Test Mode	Test Ports	Criteria
Electrostatic discharge EN 61000-4-2 (ESD)	±8 kV air discharge ±4 kV contact discharge (Direct Mode)	Enclosure	B
	±4kV HCP discharge ±4kV VCP discharge (Indirect Mode)	Enclosure	B
Radiated, radio-frequency, electromagnetic field immunity EN 61000-4-3 (RS)	80 MHz to 1000 MHz 3V/m(unmodulated, r.m.s), 1 kHz, 80%, AM modulated	Enclosure	A
Electrical fast transient/burst immunity EN 61000-4-4 (EFT/Burst)	±0.5kV(peak) 5/50ns Tr/Th 5kHz Repetition Frequency (100kHz Repetition Frequency for xDSL equipment )	Signal ports and telecommunication ports (Only applicable to cable length>3 m)	B
	±0.5kV(peak) 5/50ns Tr/Th 5kHz Repetition Frequency	DC Power Ports	B
	±1 kV(peak) 5/50ns Tr/Th 5kHz Repetition Frequency	AC Power Ports	B
Surge immunity EN 61000-4-5 (Surges)	±1 kV(peak) 10/700 Tr/Th μs(NOTE) (without primary protection)	Signal ports and telecommunication ports (applicable only to ports connect directly to outdoor cables)	C
	±4 kV(peak) 10/700 Tr/Th μs(NOTE) (with primary protectors fitted)		C
	±0.5 kV(peak) 1.2/50(8/20) Tr/Th μs	DC Power Ports (applicable only to ports connect directly to outdoor cables)	B
	±1 kV(peak) 1.2/50(8/20) Tr/Th μs (line to line)	AC Power Ports	B
	±2 kV(peak) 1.2/50(8/20) Tr/Th μs (line to earth or ground)		B

Immunity to conducted disturbances, induced by radio-frequency fields EN 61000-4-6 (Injected Current)	0.15 MHz to 80 MHz 3V(unmodulated, r.m.s), 1kHz 80%, AM 150Ω source impedance	Signal ports and telecommunication ports (Only applicable to cable length>3 m)	A
	0.15 MHz to 80 MHz 3V(unmodulated, r.m.s), 1kHz 80%, AM 150Ω source impedance	DC Power Ports	A
	0.15 MHz to 80 MHz 3V(unmodulated, r.m.s), 1kHz 80%, AM 150Ω source impedance	AC Power Ports	A
Power frequency magnetic field immunity EN 61000-4-8 (PFMF)	50 Hz or 60Hz, 1A/m(r.m.s)	Enclosure	A
Voltage dips, short interruptions and voltage variations immunity EN 61000-4-11 (Voltage Interruption/Dips)	Voltage reduction > 95% 0.5 period Voltage reduction 30% 25 periods Voltage reduction > 95% 250 periods	AC Power Ports	B C C

**Note.**

Where the coupling network for the 10/700 μs waveform affects the functioning of high speed data ports, the test shall be carried out using a 1,2/50 (8/20) μs waveform and appropriate coupling network.

## 7.2 GENERAL PERFORMANCE CRITERIA

According to **EN55024** standard, the general performance criteria as following:

<p><b>Criterion A</b></p>	<p>The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.</p> <p>If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.</p>
<p><b>Criterion B</b></p>	<p>After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomenon below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.</p> <p>During the test, degradation of performance is allowed. However, no change of operating state if stored data allowed to persist after the test. If the minimum performance level (or the permissible performance loss ) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.</p>
<p><b>Criterion C</b></p>	<p>Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions.</p> <p>Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.</p>

## 7.3 ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD)

### 7.3.1 TEST SPECIFICATION

Basic Standard	EN 61000-4-2
Discharge Impedance	330 ohm / 150 pF
Required Performance	B
Discharge Voltage	Air Discharge: $\pm 2$ kV, $\pm 4$ kV, $\pm 8$ kV (Direct) Contact Discharge: $\pm 2$ kV, $\pm 4$ kV (Direct/Indirect)
Polarity	Positive & Negative
Number of Discharge	Air Discharge: min. 20 times at each test point Contact Discharge: min. 200 times in total
Discharge Mode	Single Discharge
Discharge Period	1 second minimum

### 7.3.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	ESD Generator	TESEQ AG	NSG 437	450	Nov. 01, 2018

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

### 7.3.3 TEST PROCEDURE

The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

- a. Contact discharge was applied to conductive surfaces (Direct) and coupling planes (Indirect) of the EUT.

During the test, it was performed with single discharges. For the single discharge time between successive single discharges was at least 1 second. The EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points. One of the test points shall be subjected to at least 50 indirect discharges to the center of the front edge of the horizontal coupling plane. The remaining three test points shall each receive at least 50 direct contact discharges.

If no direct contact test points are available, then at least 200 indirect discharges shall be applied in the indirect mode. Test shall be performed at a maximum repetition rate of one discharge per second.

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from, the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge.

Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge.

- b. Air discharges at insulation surfaces of the EUT.

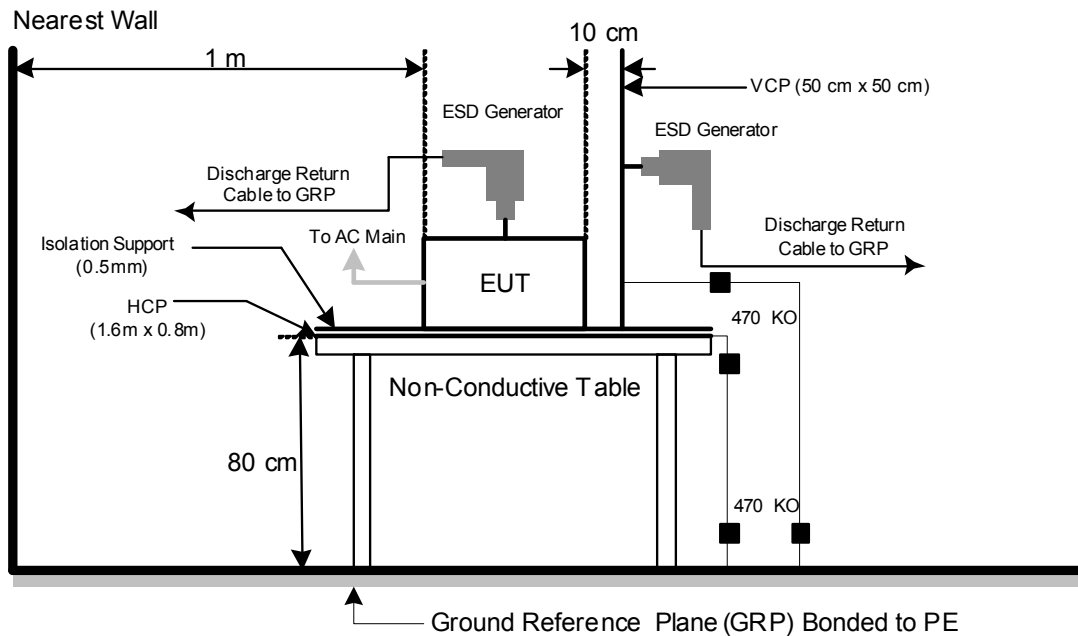
It was at least ten single discharges with positive and negative at the same selected point.



### 7.3.4 DEVIATION FROM TEST STANDARD

No deviation

### 7.3.5 TEST SETUP



Note:

#### TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table 0.8 meters high standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A Horizontal Coupling Plane (1.6m x 0.8m) was placed on the table and attached to the GRP by means of a cable with 940k total impedance. The equipment under test was installed in a representative system as described in EN 61000-4-2, and its cables were placed on the HCP and isolated by an insulating support of 0.5mm thickness. A distance of 1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

#### FLOOR-STANDING EQUIPMENT

The equipment under test was installed in a representative system as described in EN 61000-4-2, and its cables were isolated from the Ground Reference Plane by an insulating support of 0.1-meter thickness. The GRP consisted of a sheet of aluminum that is at least 0.25mm thick, and 2.5meters square connected to the protective grounding system and extended at least 0.5 meters from the EUT on all sides.

### 7.3.6 TEST RESULTS

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	48%
Test Voltage	AC 230V/50Hz	Pressure	1010hPa
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1 & mainboard 2		

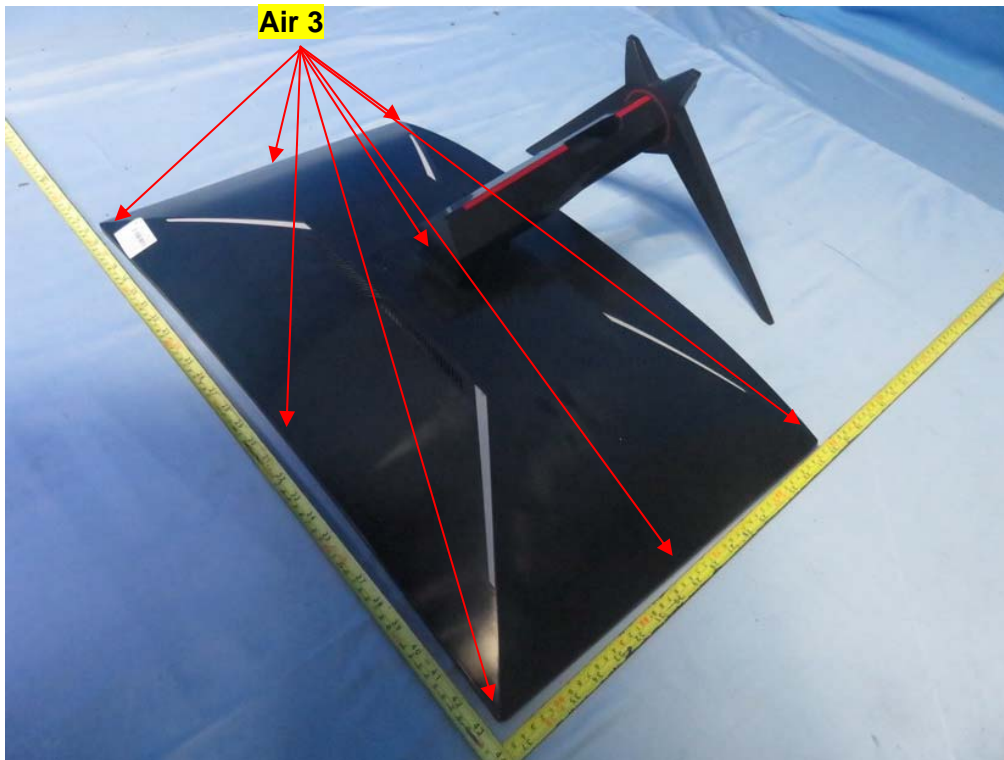
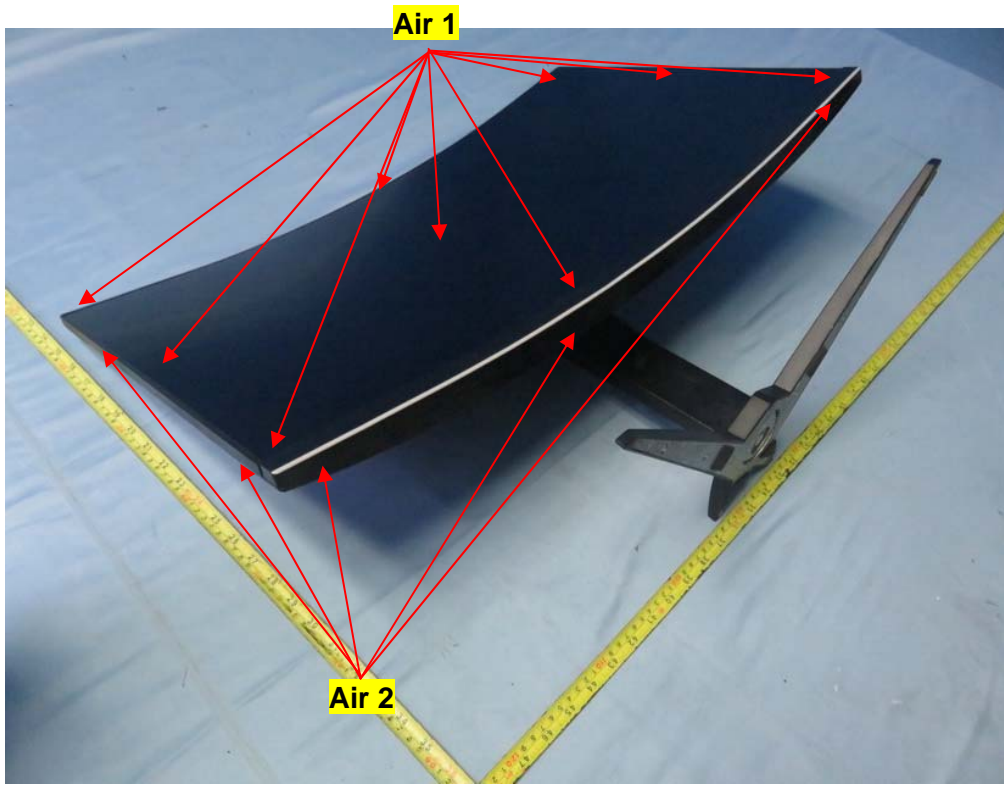
Mode	Air Discharge								Contact Discharge					
	2kV		4kV		8kV		- kV		2kV		4kV		- kV	
Location	P	N	P	N	P	N	P	N	P	N	P	N	P	N
1	A	A	A	A	A	A	-	-	A	A	B	B	-	-
2	A	A	A	A	A	A	-	-	-	-	-	-	-	-
3	A	A	A	A	A	A	-	-	-	-	-	-	-	-
4	A	A	A	A	A	A	-	-	-	-	-	-	-	-
5	A	A	A	A	A	A	-	-	-	-	-	-	-	-
6	A	A	B	B	B	B	-	-	-	-	-	-	-	-
Criteria	B						-		B				-	
Result	B						-		B				-	
Judgment	PASS						-		PASS				-	

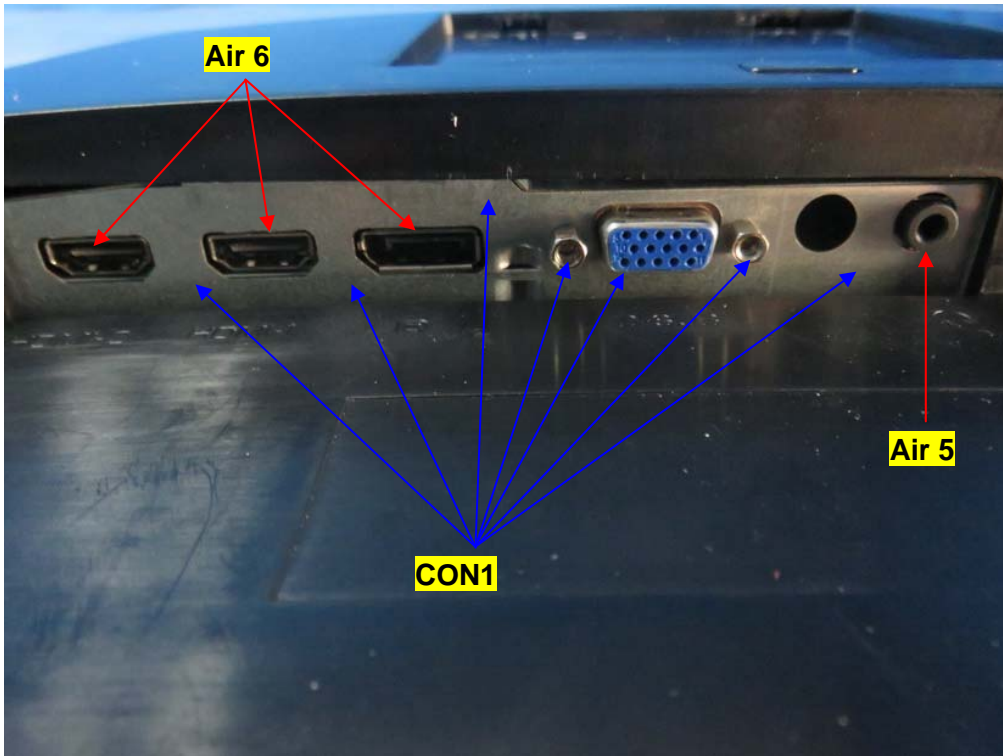
Mode	HCP Contact Discharge						VCP Contact Discharge							
	2kV		4kV		- kV		2kV		4kV		- kV			
Location	P	N	P	N	P	N	P	N	P	N	P	N		
1	A	A	A	A	-	-	A	A	A	A	-	-		
2	A	A	A	A	-	-	A	A	A	A	-	-		
3	A	A	A	A	-	-	A	A	A	A	-	-		
4	A	A	A	A	-	-	A	A	A	A	-	-		
Criteria	B						-		B				-	
Result	A						-		A				-	
Judgment	PASS						-		PASS				-	

Note:

- 1) P/N denotes the Positive/Negative polarity of the output voltage.
- 2) Test condition:  
 Direct/Indirect(HCP/VCP) discharges: Minimum 50 times (Positive/Negative) at eachpoint.  
 Air discharges: Minimum 20 times (Positive/Negative) at each point.
- 3) Test location(s) in which discharge (Air and contact discharge) to be applied illustrated by photos shown in next page(s)
- 4) The Indirect (HCP/VCP) discharges description of test point as following:  
 1.left side; 2.right side; 3.front side; 4.rear side.
- 5) N/A - denotes test is not applicable in this test report
- 6) Criterion A: No observation of any performance degradation.
- 7) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
- 8) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

PHOTO(S) SHOWN THE LOCATION(S) OF ESD EVALUATED





## 7.4 RADIATED, RADIO-FREQUENCY, ELECTROMAGNETIC FIELD IMMUNITY TEST (RS)

### 7.4.1 TEST SPECIFICATION

Basic Standard	EN 61000-4-3
Required Performance	A
Frequency Range	80 MHz - 1000 MHz
Field Strength	3 V/m(unmodulated, r.m.s)
Modulation	1 kHz Sine Wave, 80%, AM Modulation
Frequency Step	1% of fundamental
Polarity of Antenna	Horizontal and Vertical
Test Distance	3 m
Antenna Height	1.55 m
Dwell Time	at least 3 seconds

### 7.4.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	MXG Analog Signal Generator	Agilent	N5181A	MY49060710	Aug. 20, 2018
2*	Power amplifier	MILMEGA	80RF1000-250	1064833	Aug. 20, 2020
3	Antenna	ETS	3142C	47662	Mar. 11, 2019
4	Measurement Software	TOYO	IM5/RS Ver 3.8.050	N/A	N/A

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

All calibration period of equipment list is one year.

"\*" calibration period of equipment list is three year.

### 7.4.3 TEST PROCEDURE

The EUT and support equipment, which are placed on a table that is 0.8 meter above ground and the testing was performed in a fully-anechoic chamber.

The testing distance from antenna to the EUT was 3 meters.

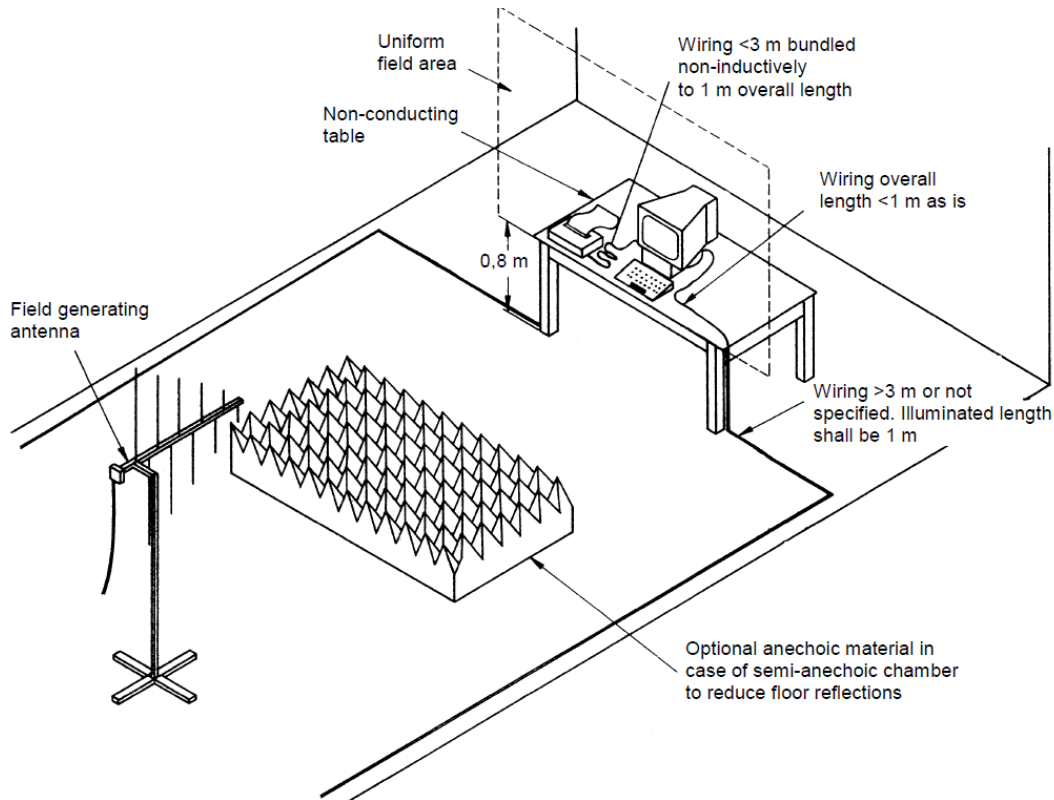
The other condition as following manner:

- a. The field strength level was 3 V/m(unmodulated, r.m.s).
- b. The frequency range is swept from 80 MHz to 1000 MHz, with the signal 80%amplitude modulated with a 1 kHz sine wave. The rate of sweep did not exceed  $1.5 \times 10^{-3}$  decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
- c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
- d. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

### 7.4.4 DEVIATION FROM TEST STANDARD

No deviation

**7.4.5 TEST SETUP**



Note:

**TABLE-TOP EQUIPMENT**

The EUT installed in a representative system as described in EN 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

**FLOOR-STANDING EQUIPMENT**

The EUT installed in a representative system as described in EN 61000-4-3 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

### 7.4.6 TEST RESULTS

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	50%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1 & mainboard 2		

Frequency Range (MHz)	RF Field Position	R.F. Field Strength	Azimuth	Criterion	Result	Judgment
80 - 1000	H / V	3V/m (unmodulated, r.m.s) AM Modulated 1000Hz, 80%	0	A	A	PASS
			90			
			180			
			270			

Note:

- 1) P/N denotes the Positive/Negative polarity of the output voltage.
- 2) N/A - denotes test is not applicable in this test report.
- 3) Criterion A: No observation of any performance degradation.
- 4) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
- 5) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

## 7.5 ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EFT/BURST)

### 7.5.1 TEST SPECIFICATION

Basic Standard	EN 61000-4-4
Required Performance	B
Test Voltage	Power Line: $\pm 1$ kV
Polarity	Positive & Negative
Impulse Frequency	5 kHz: except for xDSL ports. 100 kHz: only for single lines of xDSL ports.
Impulse Wave shape	5/50 ns
Burst Duration	15 ms
Burst Period	300 ms
Test Duration	Not less than 1 min.

### 7.5.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	THE MODULAR SOLUTION FOR 6 KV APPLICATIONS	Teseq	NSG 3060	1423	Aug. 20, 2018
2	Measurement Software	Teseq	Win 3000 Version 1.2.0	N/A	N/A

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

### 7.5.3 TEST PROCEDURE

The EUT and support equipment(s) are placed on a table that is 0.8 meter high above a metal ground plane and should be located 0.1 m $\pm$  0.01m high above the Ground Reference Plane (1m\*1m min. and 0.65mm thick min).

The other condition as following manner:

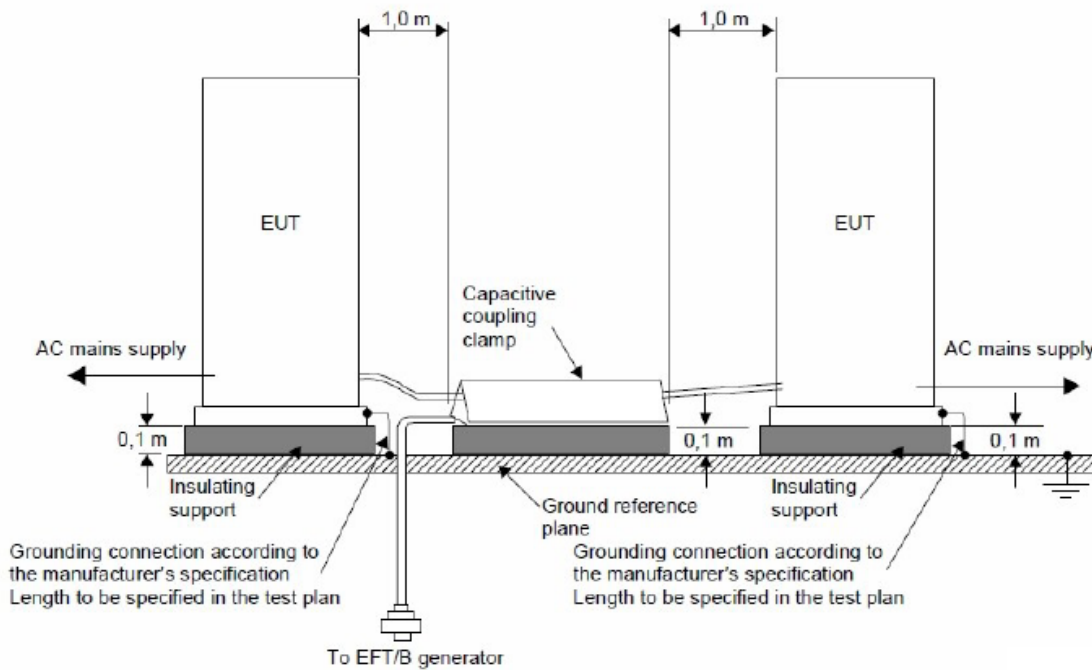
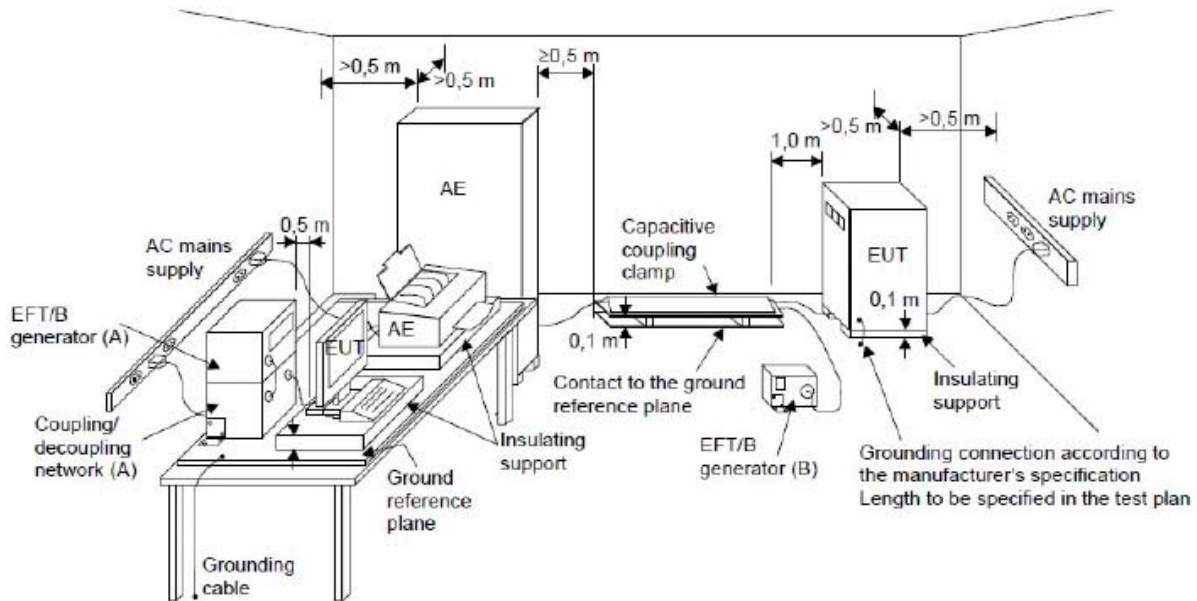
- a. The length of power cord between the coupling device and the EUT should not exceed 1 meter.
- b. Both positive and negative polarity discharges were applied.
- c. The duration time of each test sequential was 1 minute

### 7.5.4 DEVIATION FROM TEST STANDARD

No deviation



### 7.5.5 TEST SETUP



Note:

#### TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table (0.8m high) standing on the Ground Reference Plane and should be located 0.1 m+/- 0.01m above the Ground Reference Plane. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system. A minimum distance of 0.5m was provided between the EUT and the walls of the laboratory or any other metallic structure.

#### FLOOR-STANDING EQUIPMENT

The EUT installed in a representative system as described in EN 61000-4-4 and its cables were isolated from the Ground Reference Plane by an insulating support that is 0.1-meter thick. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system.

### 7.5.6 TEST RESULTS

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	51%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1 & mainboard 2		

EUT Ports Tested		Polarity	Repetition Frequency	Test Level	Criterion	Result	Judgment
				1kV			
AC Power Port	Line (L)	+	5 kHz	A	B	A	PASS
		-	5 kHz	A			
	Neutral (N)	+	5 kHz	A	B	A	PASS
		-	5 kHz	A			
	Ground (PE)	+	5 kHz	A	B	A	PASS
		-	5 kHz	A			

Note:

- 1) P/N denotes the Positive/Negative polarity of the output voltage.
- 2) N/A - denotes test is not applicable in this test report
- 3) Criterion A: No observation of any performance degradation.
- 4) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
- 5) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

## 7.6 SURGE IMMUNITY TEST

### 7.6.1 TEST SPECIFICATION

Basic Standard	EN 61000-4-5
Required Performance	B
Wave-Shape	Combination Wave for power lines 1.2/50 us Open Circuit Voltage 8 /20 us Short Circuit Current
Test Voltage	Power Line: $\pm 0.5$ kV, $\pm 1$ kV, $\pm 2$ kV
Surge Input/Output	L-N, L-PE, N-PE
Generator Source Impedance	2 ohm between line-to-line of a.c./d.c. lines 12 ohm between line-to-ground of a.c./d.c. lines
Polarity	Positive/Negative
Phase Angle:	AC Port: $0^\circ/90^\circ/180^\circ/270^\circ$
Pulse Repetition Rate	1 time / min. (maximum)
Number of Tests	5 positive and 5 negative at selected points

### 7.6.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	THE MODULAR SOLUTION FOR 6 KV APPLICATIONS	Teseq	NSG 3060	1423	Aug. 20, 2018
2	Measurement Software	Teseq	Win 3000 Version 1.2.0	N/A	N/A

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

### 7.6.3 TEST PROCEDURE

a. For EUT power supply:

The surge is to be applied to the EUT power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave. The power cord between the EUT and the coupling/decoupling networks shall be 2meters in length (or shorter).

b. For test applied to unshielded unsymmetrically operated interconnection lines of EUT :

The surge is applied to the lines via the capacitive coupling. The coupling /decoupling networks shall not influence the specified functional conditions of the EUT. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

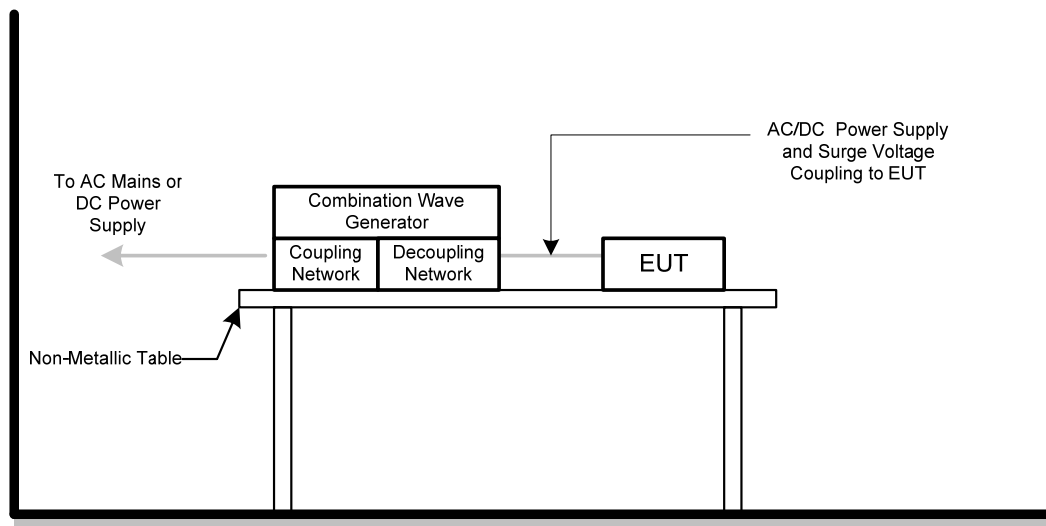
c. For test applied to unshielded symmetrically operated interconnection /telecommunication lines of EUT :

The surge is applied to the lines via gas arrestors coupling. Test levels below the ignition point of the coupling arrestor cannot be specified. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

### 7.6.4 DEVIATION FROM TEST STANDARD

No deviation

### 7.6.5 TEST SETUP



### 7.6.6 TEST RESULTS

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	51%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1 & mainboard 2		

Wave Form EUT Ports Tested		1.2/50(8/20)Tr/Thµs						Criterion	Result	Judgment
		Polarity	Phase	Voltage						
				0.5kV	1kV	-- kV	-- kV			
AC	L – N (2 ohm)	+/-	0°	A	A	-	-	B	A	PASS
		+/-	90°	A	A	-	-			
		+/-	180°	A	A	-	-			
		+/-	270°	A	A	-	-			

Wave Form EUT Ports Tested		1.2/50(8/20)Tr/Thµs						Criterion	Result	Judgment
		Polarity	Phase	Voltage						
				0.5kV	1kV	2kV	-- kV			
AC	L – PE (12 ohm)	+/-	0°	A	A	A	-	B	A	PASS
		+/-	90°	A	A	A	-			
		+/-	180°	A	A	A	-			
		+/-	270°	A	A	A	-			
	N – PE (12 ohm)	+/-	0°	A	A	A	-	B	A	PASS
		+/-	90°	A	A	A	-			
		+/-	180°	A	A	A	-			
		+/-	270°	A	A	A	-			

Note:

- 1) Polarity and Numbers of Impulses: 5 Pst / Ngt at each tested mode
- 2) N/A - denotes test is not applicable in this Test Report
- 3) Criterion A: No observation of any performance degradation.
- 4) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
- 5) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

## 7.7 IMMUNITY TO CONDUCTED DISTURBANCES, INDUCED BY RADIO-FREQUENCY FIELDS TEST (CS)

### 7.7.1 TEST SPECIFICATION

Basic Standard	EN 61000-4-6
Required Performance	A
Frequency Range	0.15 MHz - 80 MHz
Field Strength	3 V (unmodulated, r.m.s.)
Modulation	1 kHz Sine Wave, 80%, AM Modulation
Frequency Step	1% of fundamental
Dwell Time	at least 3 seconds

### 7.7.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power CDN	FCC	FCC-801-M 2/M3-16A	100270	Mar. 11, 2019
2	TEST SYSTEM FOR CONDUCTED AND RADIATED IMMUNITY	TESEQ	NSG 4070B	37513	Sep. 04, 2018
3	Measurement Software	Farad	EZ-CS(V2. 0.1.2)	N/A	N/A

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

### 7.7.3 TEST PROCEDURE

The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m\*1m min. and 0.65mm thick min.

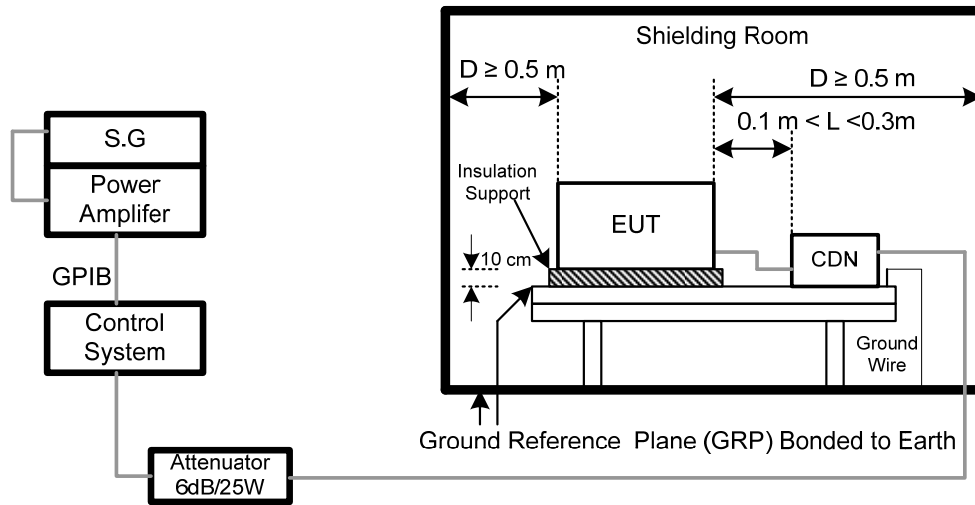
The other condition as following manner:

- The field strength level was 3 V (unmodulated, r.m.s.)
- The frequency range is swept from 150 kHz to 80 MHz, with the signal 80%amplitude modulated with a 1 kHz sine wave. The rate of sweep did not exceed  $1.5 \times 10^{-3}$  decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
- The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.

### 7.7.4 DEVIATION FROM TEST STANDARD

No deviation

**7.7.5 TEST SETUP**



**NOTE:**

**FLOOR-STANDING EQUIPMENT**

The equipment to be tested is placed on an insulating support of 0.1 meters height above a ground reference plane. All relevant cables shall be provided with the appropriate coupling and decoupling devices at a distance between 0.1 meters and 0.3 meters from the projected geometry of the EUT on the ground reference plane.

### 7.7.6 TEST RESULTS

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	50%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1 & mainboard 2		

Test Ports (Mode)	Freq.Range (MHz)	Field Strength	Criteria	Results	Judgment
Input/ Output AC.PowerPort	0.15 ---80	3V(unmodulated, r.m.s) AM Modulated 1000Hz, 80%	A	A	PASS
Input/ Output DC. PowerPort	0.15 --- 80		A	N/A	N/A
Signal Line (N/A)	0.15 --- 80		A	N/A	N/A

Note:

- 1). N/A - denotes test is not applicable in this test report.
- 2) Criterion A: No observation of any performance degradation.
- 3) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
- 4) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.



## 7.8 POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST (PFMF)

### 7.8.1 TEST SPECIFICATION

Basic Standard	EN 61000-4-8
Required Performance	A
Frequency Range	50/60 Hz
Field Strength	1 A/m
Observation Time	1 minute
Inductance Coil	Rectangular type, 1mx1m

### 7.8.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Magnetic Field test Generator	FCC	F-1000-4-8-G-125A	04032	Mar. 24, 2019
2	Magnetic Field immunity loop	Thermo KeyTek	F-1000-4-8/9/10-L-1M	04024	Mar. 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.

### 7.8.3 TEST PROCEDURE

The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m\*1m min. and 0.65mm thick min.

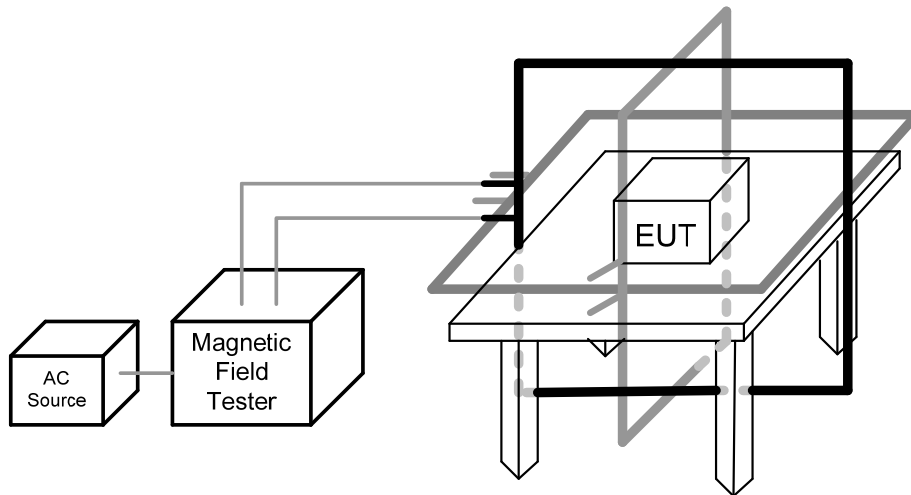
The other condition as following manner:

- a. The equipment cabinets shall be connected to the safety earth directly on the GRP via the earth terminal of the EUT.
- b. The cables supplied or recommended by the equipment manufacturer shall be used. 1 meter of all cables used shall be exposed to the magnetic field.

### 7.8.4 DEVIATION FROM TEST STANDARD

No deviation

**7.8.5 TEST SETUP**



Note:

**TABLE-TOP EQUIPMENT**

The equipment shall be subjected to the test magnetic field by using the induction coil of standard dimension (1 m x 1 m). The induction coil shall then be rotated by 90 degrees in order to expose the EUT to the test field with different orientations.

**FLOOR-STANDING EQUIPMENT**

The equipment shall be subjected to the test magnetic field by using induction coils of suitable dimensions. The test shall be repeated by moving and shifting the induction coils, in order to test the whole volume of the EUT for each orthogonal direction. The test shall be repeated with the coil shifted to different positions along the side of the EUT, in steps corresponding to 50 percent of the shortest side of the coil. The induction coil shall then be rotated by 90 degrees in order to expose the EUT to the test field with different orientations.

### 7.8.6 TEST RESULTS

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	51%
Test Voltage	AC 230V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1 & mainboard 2		

#### 50Hz

Test Mode	Test Level	Antenna aspect	Duration (s)	Criteria	Results	Judgment
Enclosure	1 A/m	X	60	A	A	PASS
Enclosure	1 A/m	Y	60	A	A	PASS
Enclosure	1 A/m	Z	60	A	A	PASS

#### 60Hz

Test Mode	Test Level	Antenna aspect	Duration (s)	Criteria	Results	Judgment
Enclosure	1 A/m	X	60	A	A	PASS
Enclosure	1 A/m	Y	60	A	A	PASS
Enclosure	1 A/m	Z	60	A	A	PASS

Note:

- 1). N/A - denotes test is not applicable in this test report.
- 2) Criterion A: No observation of any performance degradation.
- 3) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
- 4) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

## 7.9 VOLTAGE DIPS, SHORT INTERRUPTIONS AND VOLTAGE VARIATIONS IMMUNITY TEST

### 7.9.1 TEST SPECIFICATION

Basic Standard	EN 61000-4-11
Required Performance	B (For >95% Voltage Dips) C (For 30% Voltage Dips) C (For >95% Voltage Interruptions)
Test Duration Time	Minimum three test events in sequence
Interval between Event	Minimum ten seconds
Phase Angle	0°/180°
Test Cycle	3 times

### 7.9.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	THE MODULAR SOLUTION FOR 6 KV APPLICATIONS	Teseq	NSG 3060	1423	Aug. 20, 2018
2	Measurement Software	Teseq	Win 3000 Version 1.2.0	N/A	N/A

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

All calibration period of equipment list is one year.

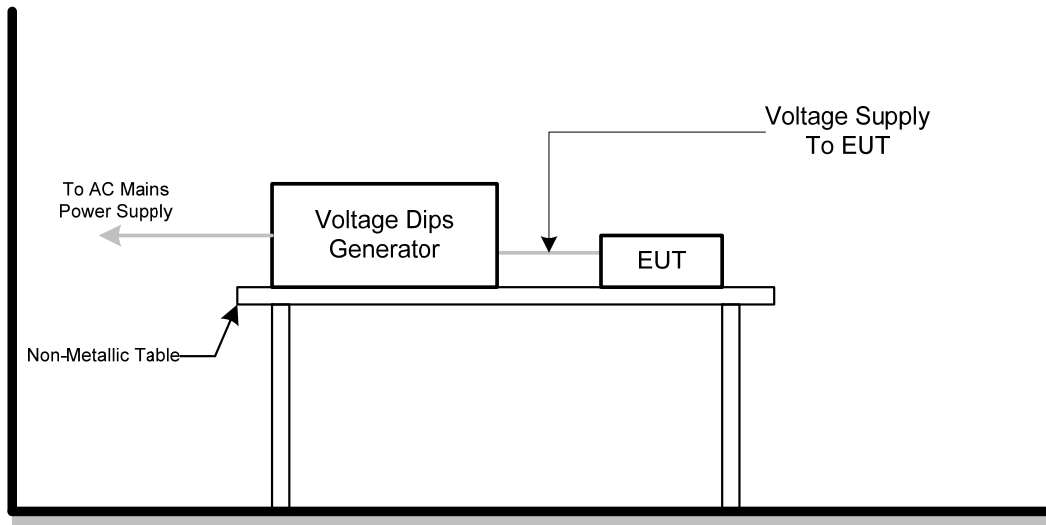
### 7.9.3 TEST PROCEDURE

The EUT shall be tested for each selected combination of test levels and duration with a sequence of three dips/interruptions with intervals of 10 s minimum (between each test event). Each representative mode of operation shall be tested. Abrupt changes in supply voltage shall occur at zero crossings of the voltage waveform.

### 7.9.4 DEVIATION FROM TEST STANDARD

No deviation

### 7.9.5 TEST SETUP



### 7.9.6 TEST RESULTS

EUT	LCD Monitor	Model Name	**32G1*****
Temperature	25°C	Relative Humidity	51%
Test Voltage	AC 100V/50Hz, AC 230V/50Hz, AC 240V/50Hz		
Test Mode	HDMI 2 1920*1080/144Hz		
Note	Mainboard 1 & mainboard 2		

AC 100V/50Hz				
Voltage Reduction	Periods	Criteria	Results	Judgment
Voltage dip >95%	0.5	B	A	PASS
Voltage dip 30%	25	C	A	PASS
Interruption >95%	250	C	C	PASS

AC 230V/50Hz				
Voltage Reduction	Periods	Criteria	Results	Judgment
Voltage dip >95%	0.5	B	A	PASS
Voltage dip 30%	25	C	A	PASS
Interruption >95%	250	C	C	PASS

AC 240V/50Hz				
Voltage Reduction	Periods	Criteria	Results	Judgment
Voltage dip >95%	0.5	B	A	PASS
Voltage dip 30%	25	C	A	PASS
Interruption >95%	250	C	C	PASS

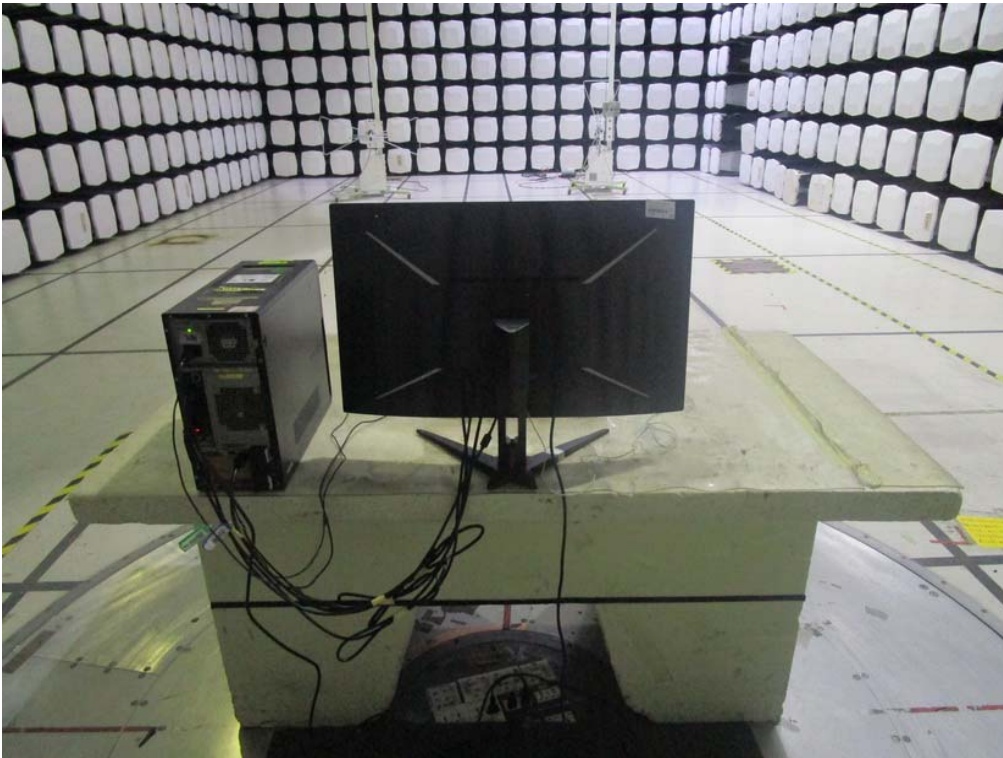
**Note:**

- 1). N/A - denotes test is not applicable in this test report.
- 2) Criterion A: No observation of any performance degradation.
- 3) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
- 4) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

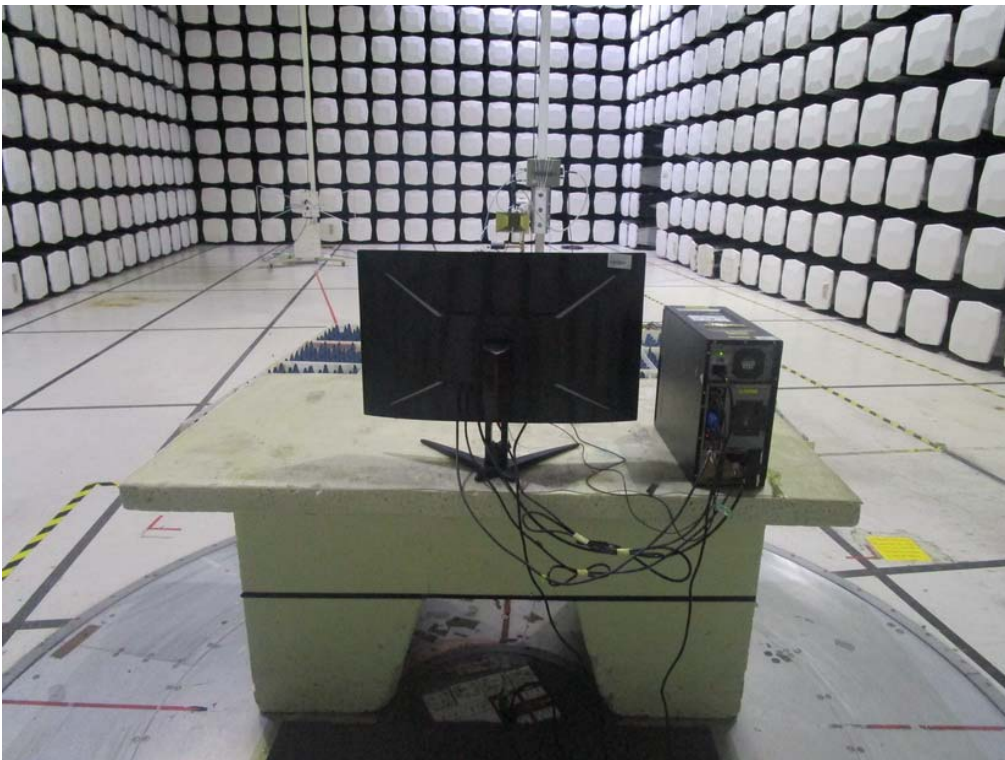
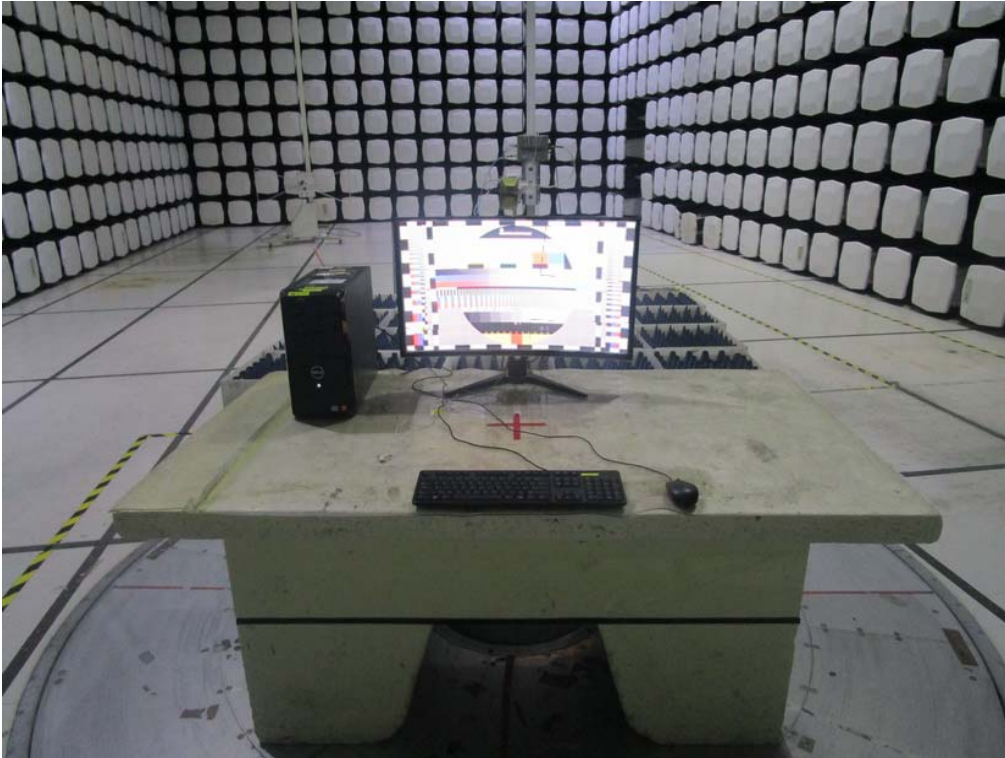
**8. EUT TEST PHOTO**

EN 55032:2012+AC:2013&amp; 2015

Radiated emissions up to 1 GHz



Radiated emissions above 1 GHz

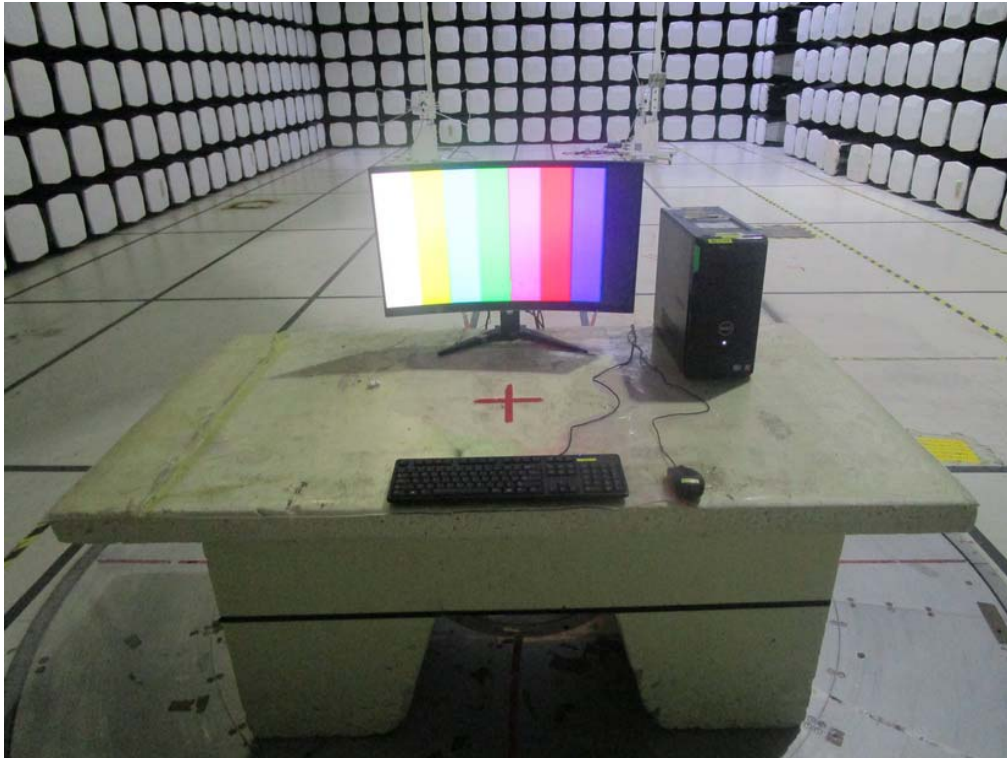




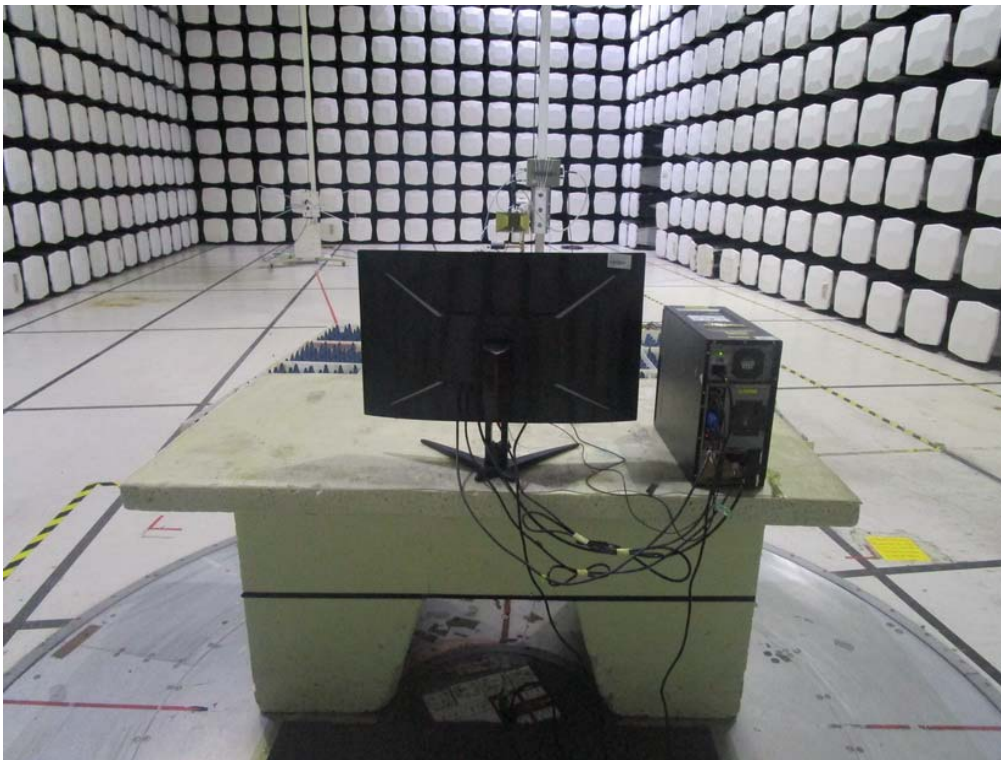
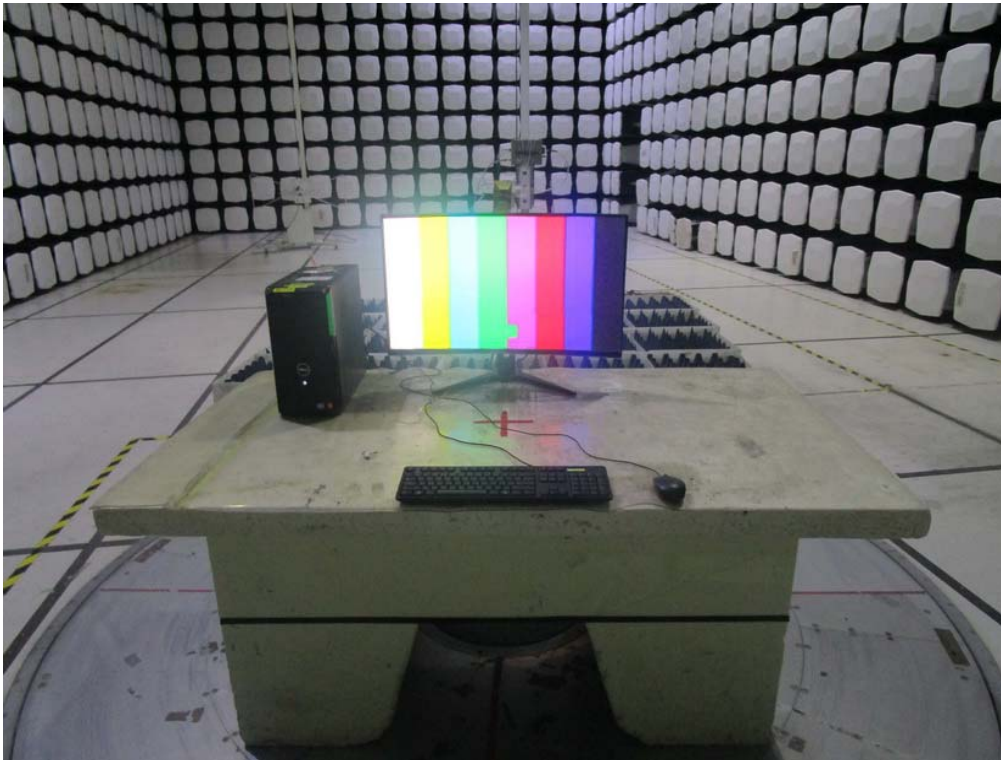
Conducted emissions AC mains power port



EN 55032:2015+AC:2016  
Radiated emissions up to 1 GHz



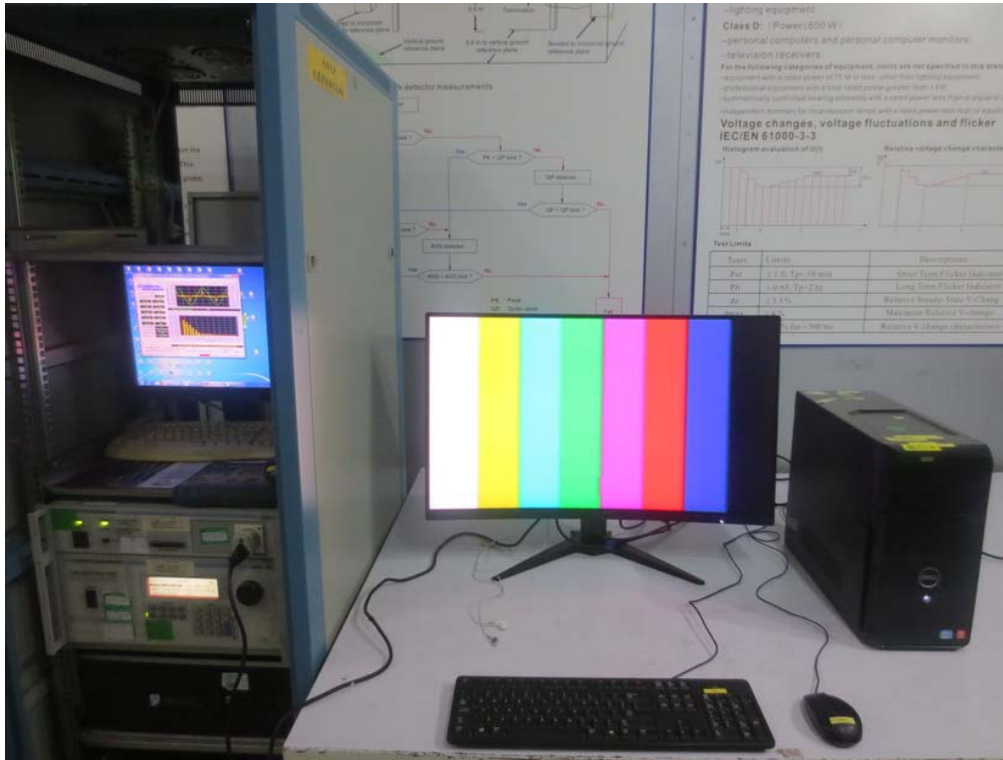
Radiated emissions above 1 GHz



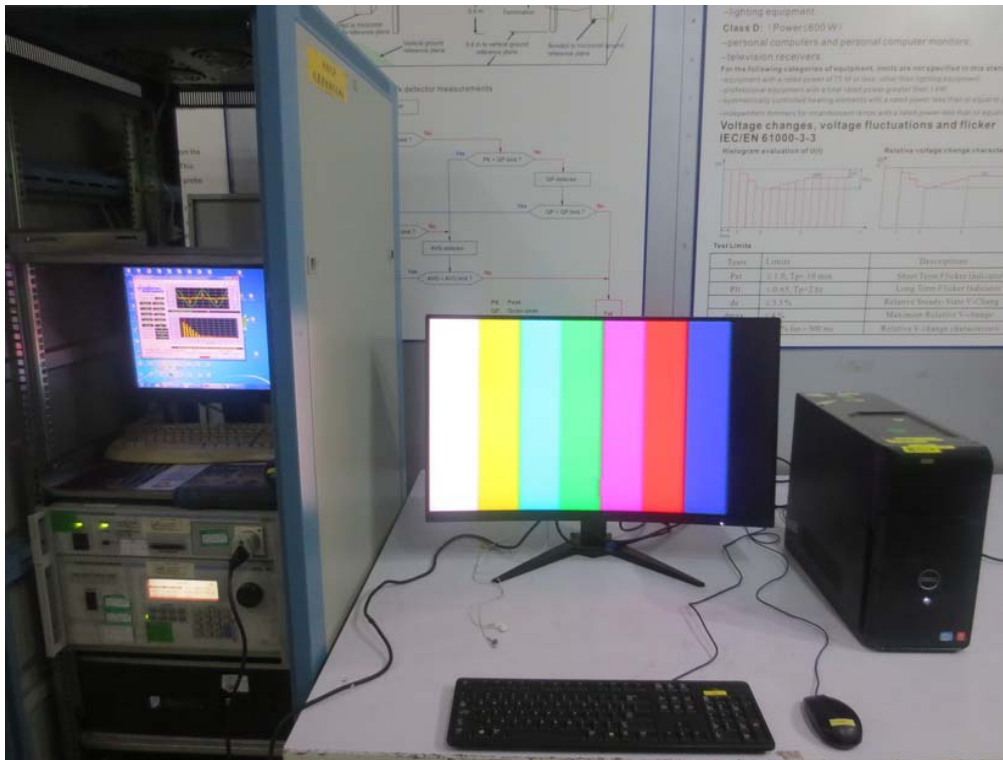
Conducted emissions AC mains power port



### Harmonic current emissions



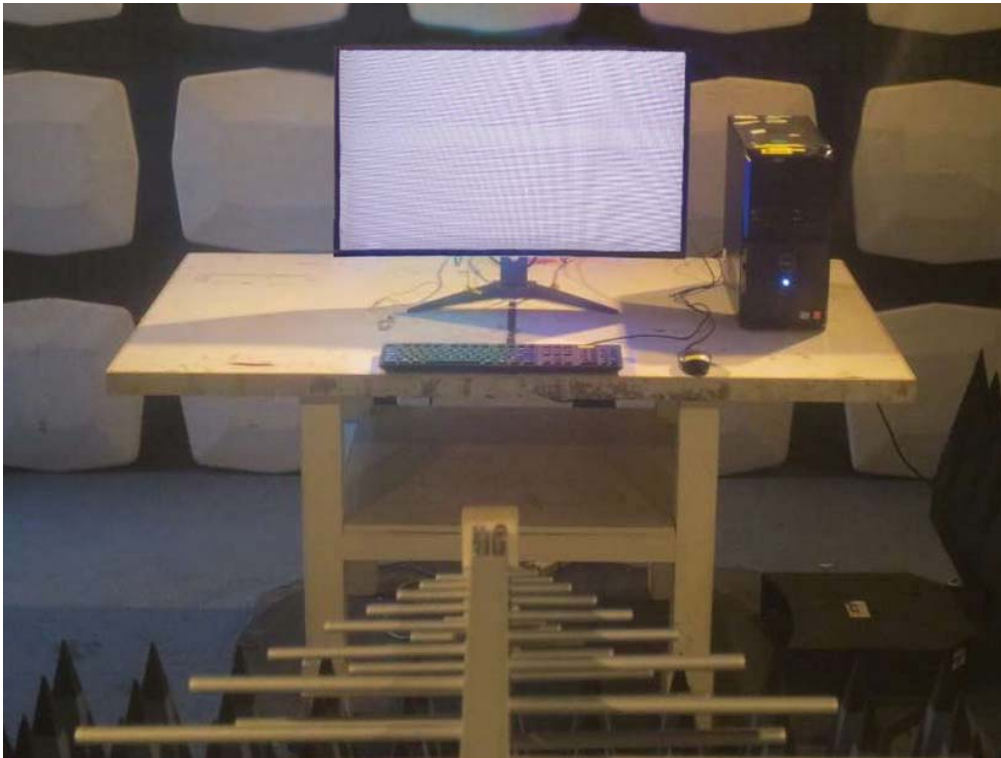
### Voltage changes, voltage fluctuations and flicker



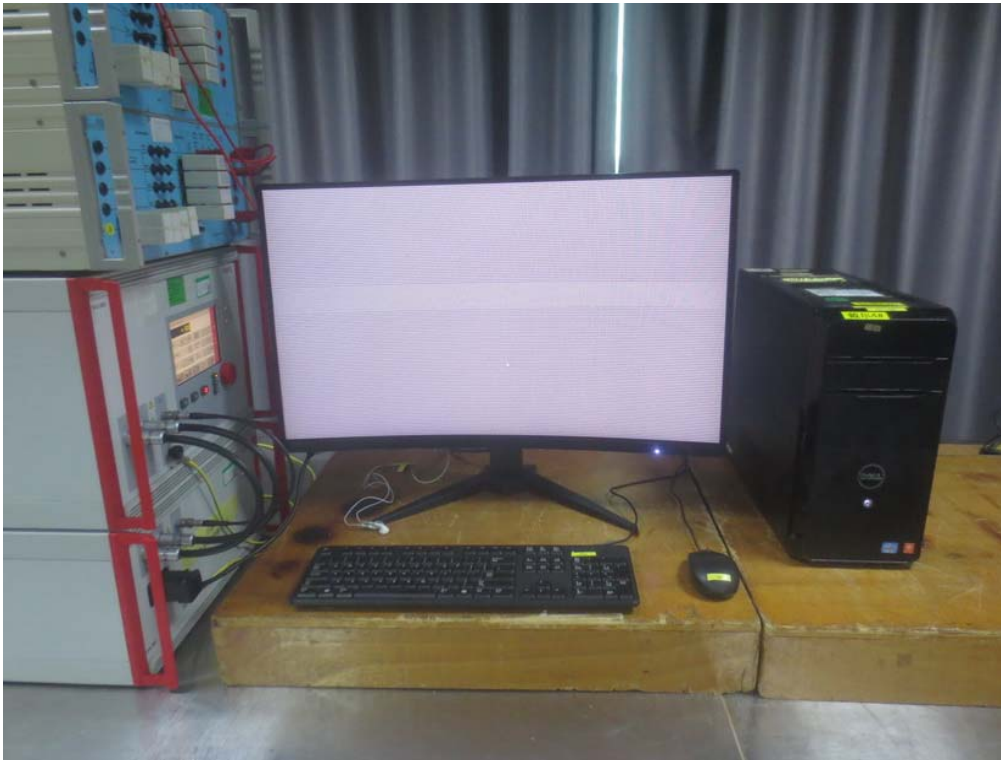
Electrostatic discharge immunity



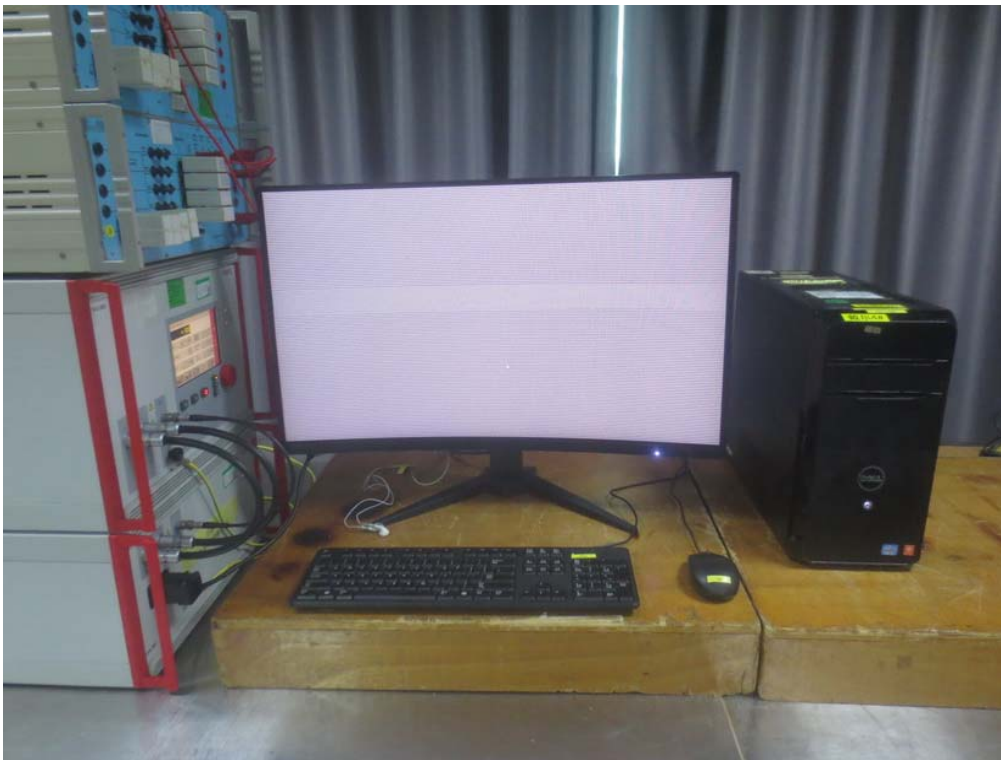
Radiated, radio-frequency, electromagnetic field immunity



Electrical fast transient/burst immunity



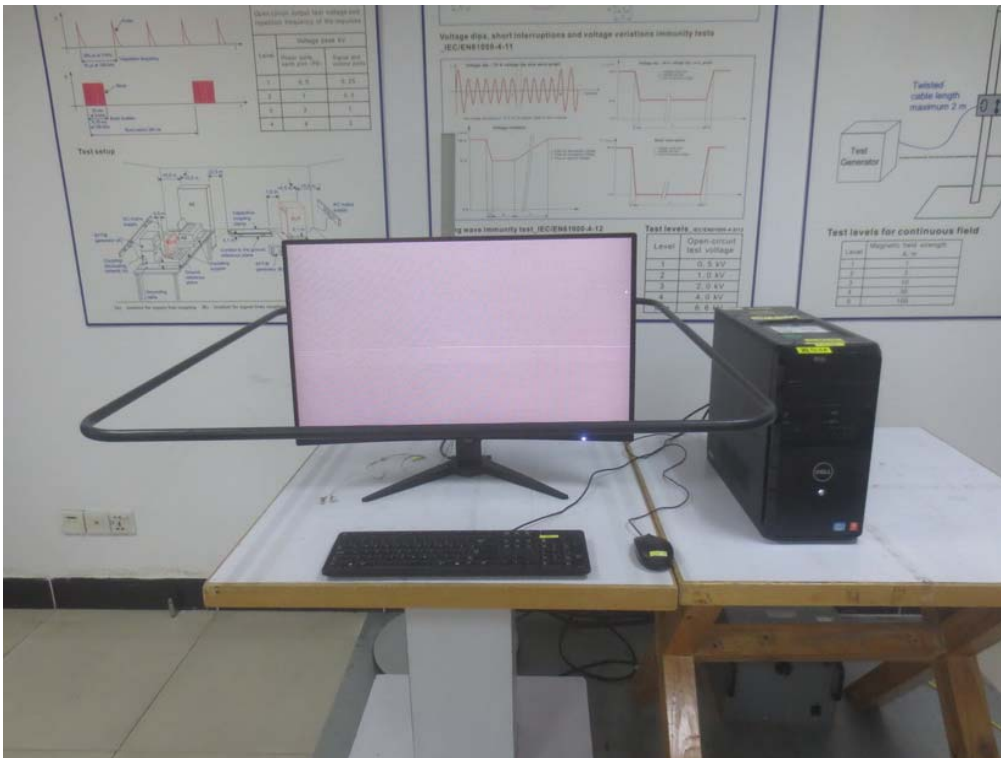
Surge immunity



Immunity to conducted disturbances, induced by radio-frequency fields



Power frequency magnetic field immunity





Voltage dips, short interruptions and voltage variations immunity

