

EMC TEST REPORT

For

Guangzhou Oceanview Sci-tech Co., Ltd.

32" LED Gaming Monitor

Model No.: 320R204

Prepared For : Guangzhou Oceanview Sci-tech Co., Ltd.
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TEST REPORT VERIFICATION

Applicant : Guangzhou Oceanview Sci-tech Co., Ltd.
 Manufacturer : Guangzhou Oceanview Sci-tech Co., Ltd.
 EUT : 32" LED Gaming Monitor
 Model No. : 320R204
 Ratings : For 32" LED Gaming Monitor: 12VDC, 4A;
 For AC/DC ADAPTOR (Model: SOY-1200400EU): Input:
 100-240V~, 50/60Hz, 1.2A Max; Output: 12VDC, 4.0A.

Measurement Procedure Used:

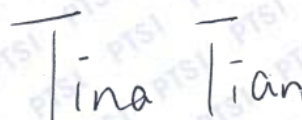
EN 55032:2015
 EN 61000-3-2:2014
 EN 61000-3-3:2013
 EN 55024:2010+A1:2015

The device described above is tested by Shenzhen PTSI Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels that the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen PTSI Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT is technically compliant with the EN 55032, EN 61000-3-2, EN 61000-3-3 and EN 55024 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen PTSI Testing Co., Ltd.

Prepared by

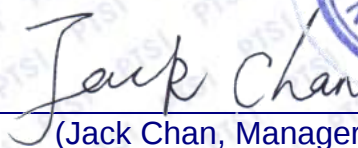
:



(Tina Tian, Engineer)

Reviewed by

:



(Jack Chan, Manager)



1. GENERAL INFORMATION

1.1 Description of Device (EUT)

EUT	:	32" LED Gaming Monitor
Model Number	:	320R204
Test Model Number	:	320R204
Remark:		--
Brand	:	VIEWG, KEEP OUT
Ratings	:	For 32" LED Gaming Monitor: 12VDC, 4A; For AC/DC ADAPTOR (Model: SOY-1200400EU): Input: 100-240V~, 50/60Hz, 1.2A Max; Output: 12VDC, 4.0A.
Applicant	:	Guangzhou Oceanview Sci-tech Co., Ltd.
Address	:	Building B, Block 1, Chaotian Industrial Zone, Shilou Town, Panyu District, Guangzhou, China
Manufacturer	:	Guangzhou Oceanview Sci-tech Co., Ltd.
Address	:	Building B, Block 1, Chaotian Industrial Zone, Shilou Town, Panyu District, Guangzhou, China
Date of Sample Receipt	:	August 13, 2018 to August 17, 2018
Date of Test	:	August 20, 2018

1.2 Measurement Uncertainty

Radiation Emission Uncertainty	:	Ur = 3.3
Conduction Emission Uncertainty	:	Uc = 2.8
Power clamp Emission Uncertainty	:	Uc = 2.6

1.3 Test Standards

The following report is prepared on behalf of Guangzhou Oceanview Sci-tech Co., Ltd. in accordance with EN 55032, Electromagnetic compatibility of multimedia equipment - Emission requirements, and EN 61000-3-2, Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase), and EN 61000-3-3, Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection, and EN 55024, Immunity characteristics Limits and methods of measurement.

The objective of the manufacturer is to demonstrate compliance with the standards EN55032, EN61000-3-2, EN61000-3-3, and EN55024 for Information Technology Equipment.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product may result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

1.4 Test Methodology

All measurements contained in this report were conducted with the standard EN 55032, EN 61000-3-2, EN 61000-3-3, and EN 55024 for Information Technology Equipment, and all related testing and measurement techniques intentional standards.

1.5 Performance Criteria for EMC

All the test data has been collected, reduced, and analyzed within this report in accordance with Immunity requires the following as specific performance criteria:

A. The apparatus shall continue to operate as intended during and after the test. The manufacturer specifies some minimum performance level. The performance level may be specified by the manufacturer as a permissible loss of performance.

B. The apparatus shall continue to operate as intended after the test. This indicates that the EUT does not need to function at normal performance levels during the test, but must recover. Again some minimal performance is defined by the manufacture. No change in operating state or loss of data is permitted.

C. Temporary loss of function is allowed. Operation of the EUT may stop as long as it is either automatically reset or can be manually restored by operation of the controls.

2. MEASURING DEVICES AND TEST EQUIPMENT

2.1 Test Equipment List and Details

Item	Equipment	Manufacturer	Model No.	Last Cal	Cal. Interval
1	EMI Test Receiver	R&S	ESCI	2018-5-18	1 Year
2	EMI Test Receiver	R&S	ESPI	2018-5-18	1 Year
3	Amplifier	HP	8447D	2018-5-18	1 Year
4	Single Power Conductor Module	R&S	NNBM 8813	2018-5-18	1 Year
5	Single Power Conductor Module	R&S	NNBM 8813	2018-5-18	1 Year
6	Power Clamp	SCHWARZBECK	MDS-21	2018-5-18	1 Year
7	Positioning Controller	C&C	CC-C-1F	N/A	N/A
8	Electrostatic Discharge Simulator	TESEQ	NSG437	2018-5-18	1 Year
9	Fast Transient Burst Generator	SCHAFFNER	MODULA6150	2018-5-18	1 Year
10	Fast Transient Noise Simulator	Noiseken	FNS-105AX	2018-5-18	1 Year
11	Color TV Pattern Genenerator	PHILIPS	PM5418	N/A	N/A
12	Power Frequency Magnetic Field Generator	EVERFINE	EMS61000-8K	2018-5-18	1 Year
14	Capacitive Coupling Clamp	TESEQ	CDN8014	2018-5-18	1 Year
15	High Field Biconical Antenna	ELECTRO-METRICS	EM-6913	2018-5-18	1 Year
16	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	2018-5-18	1 Year
17	Remote Active Vertical Antenna	ELECTRO-METRICS	EM-6892	2018-5-18	1 Year
18	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	2018-5-18	1 Year
19	Horn Antenna	SCHWARZBECK	BBHA9120A	2018-5-18	1 Year
20	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	2018-5-18	1 Year
21	Triple-Loop Antenna	EVERFINE	LLA-2	2018-5-18	1 Year
22	Electric bridge	Jhai	JK2812C	N/A	N/A
23	RF POWER AMPLIFIER	FRANKONIA	FLL-75	2018-5-18	1 Year
24	CDN	FRANKONIA	CDN M2+M3	2018-5-18	1 Year
25	6DB Attenuator	FRANKONIA	N/A	2018-5-18	1 Year
26	EM Injection clamp	FCC	F-203I-23mm	2018-5-18	1 Year

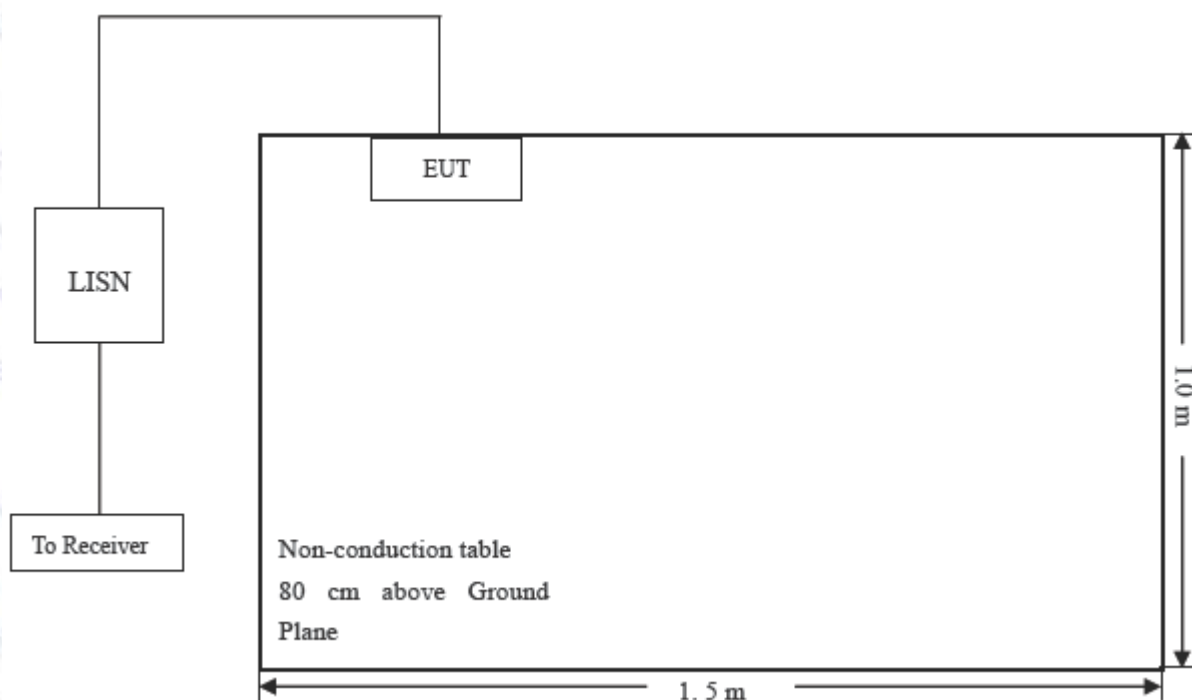
27	9kHz-2.4GHz signal generator 2024	MARCONI	10S/6625-99-457-8730	2018-5-18	1 Year
28	10dB attenuator	ELECTRO-METRICS	EM-7600	2018-5-18	1 Year
29	ISN	TESEQ	ISN-T800	2018-5-18	1 Year
30	10KV surge generator	SANKI	SKS-0510M	2018-5-18	1 Year
31	HRMONICS&FLICKER ANALYSER	VOLTECH	PM6000	2018-5-18	1 Year
32	Spectrum Analyzer	R&S	FSP	2018-5-18	1 Year
33	Broadband preamplifier	SCHWARZBECK	BBV9718	2018-5-18	1 Year

2.2 Test Summary

For the EUT described above, The standards used were EN55032 Class B for Emissions & EN 55024 for Immunity		
Standard	Test Items	Status
Test Carried Out Under EN 55032:2015		
EN 55032	Conducted Emissions	√
	Radiated Emissions	√
Test Carried Out Under EN 61000-3-2:2014/ EN 61000-3-3:2013		
EN 61000-3-2	Harmonic Current Measurement	√
EN 61000-3-3	Voltage Fluctuations & Flicker Measurement	√
Test Carried Out Under EN 55024:2010+A1:2015		
EN 61000-4-2	Electrostatic Discharge Measurement	√
EN 61000-4-3	RF Field Strength Susceptibility Measurement	√
EN 61000-4-4	Electrical Fast Transient/Burst Measurement	√
EN 61000-4-5	Surge Immunity Measurement	√
EN 61000-4-6	Conducted Susceptibility Measurement	√
EN 61000-4-8	Power Frequency Magnetic Field Immunity	×
EN 61000-4-11	Voltage Dips and Interruptions Measurement	√
√ Indicates that the test is applicable. × Indicates that the test is not applicable.		

3. CONDUCTED EMISSION

3.1 Block Diagram of Test Setup



(EUT: 32" LED Gaming Monitor)

3.2 Measurement Standard and Limits of Radiated Disturbances

3.2.1 Standard:

EN 55032:2015

3.2.2 Limits

Frequency (MHz)	Limit (dB μ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Note:

- (1) The tighter limit shall apply at the edge between two frequency bands.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

3.3 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

3.4 Test Procedure

Test is conducting under the description of EN 55032 Power line communication apparatus used in low-voltage installations - Radio disturbance characteristics - Limits and methods of measurement - Part 1: Apparatus for in-home use.

All scanning waveform is attached in Appendix I.

3.5 Measurement Results

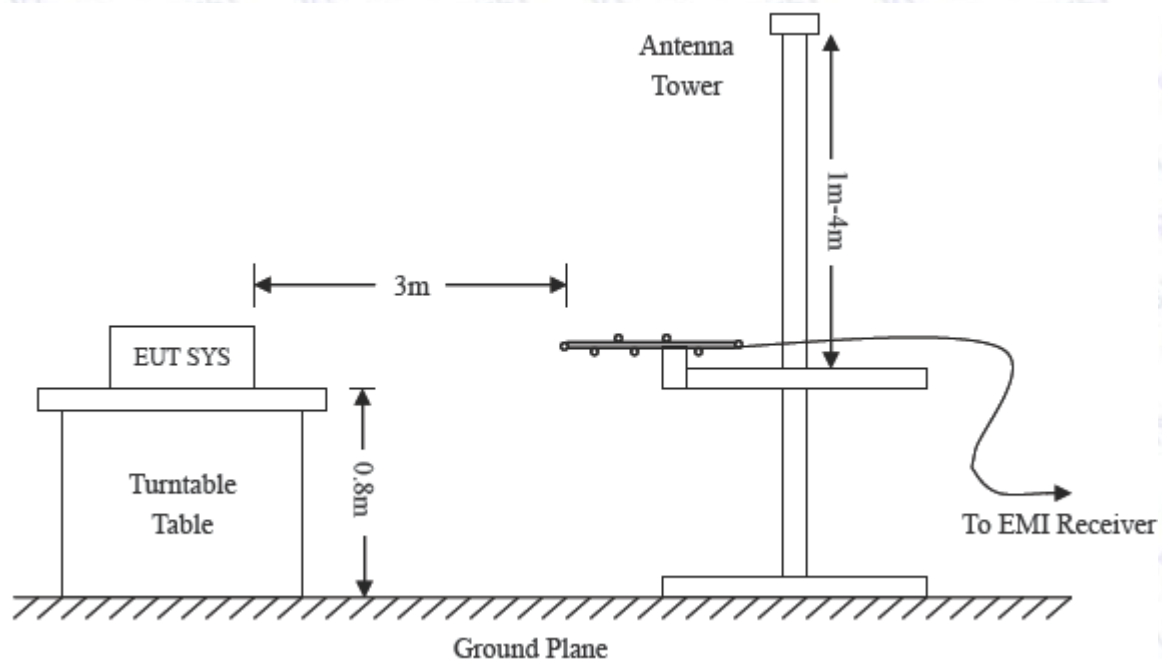
PASS.

According to the data in Appendix I, the EUT complied with the EN 55032 Conducted margin for a Class B device.

All scanning waveform is attached in Appendix I.

4. RADIATED EMISSIONS

4.1 Block Diagram of Test Setup



(EUT: 32" LED Gaming Monitor)

4.2 Measurement Standard and Limits of Radiated Disturbances

4.2.1 Standard:

EN 55032:2015

4.2.2 Limits

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dB μ V/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Frequency (MHz)	Distance (Meters)	Field Strengths Limits AV(dB μ V/m)	Field Strengths Limits PK(dB μ V/m)
1000~3000	3	50	70
3000-6000	3	54	74

Note: (1) The tighter limit shall apply at the edge between two frequency bands.
 (2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

4.3 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 5.10 dB.

4.4 Test Procedure

Test is conducting under the description of EN 55032 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμ V means the emission is 6dBμ V below the maximum limit for Class B device. The equation for margin calculation is as follows:

Margin = EN 55032 Class B Limit –Corr. Ampl.

4.6 Measurement Results

PASS.

According to the data in Appendix II, the EUT complied with the EN 55032 Conducted margin for a Class B device.

All scanning waveform is attached in Appendix II.

5. HARMONIC CURRENT MEASUREMENT (EN 61000-3-2)

5.1 Measurement Standard and Limits of Harmonics Current

5.1.1 Standard:

EN 61000-3-2:2014, Clause 7.1 Limits for Class A equipment.

5.1.2 Limits

IEC 555-2					
Table - I			Table - II		
Equipment Category	Harmonic Order n	Max. Permissible Harmonic Current (in Amperes)	Equipment Category	Harmonic Order n	Max. Permissible Harmonic Current (in Amperes)
Non Portable Tools or TV Receivers	Odd Harmonics		TV Receivers	Odd Harmonics	
	3	2.30		3	0.80
	5	1.14		5	0.60
	7	0.77		7	0.45
	9	0.40		9	0.30
	11	0.33		11	0.17
	13	0.21		13	0.12
	15≤n≤39	0.15 · 15/n		15≤n≤39	0.10 · 15/n
	Even Harmonics			Even Harmonics	
	2	1.08		2	0.30
	4	0.43	4	0.15	
	8	0.30			
	8≤n≤40	0.23 · 8/n		DC	0.05

EN 61000-3-2/IEC 61000-3-2					
Equipment Category	Max. Permissible Harmonic Current (in Amperes)	Equipment Category	Harmonic Order n	Max. Permissible Harmonic Current (in A) (mA/w)	
Class A	Same as Limits Specified in 4-2.1, Table - I, but only odd harmonics required	Class D	3	2.30	3.4
			5	1.14	1.9
			7	0.77	1.0
			9	0.40	0.5
			11	0.33	0.35
			13≤n≤39	see Table I	3.85/n
			only odd harmonics required		

Class A POWER≤75W

5.2 Test Results

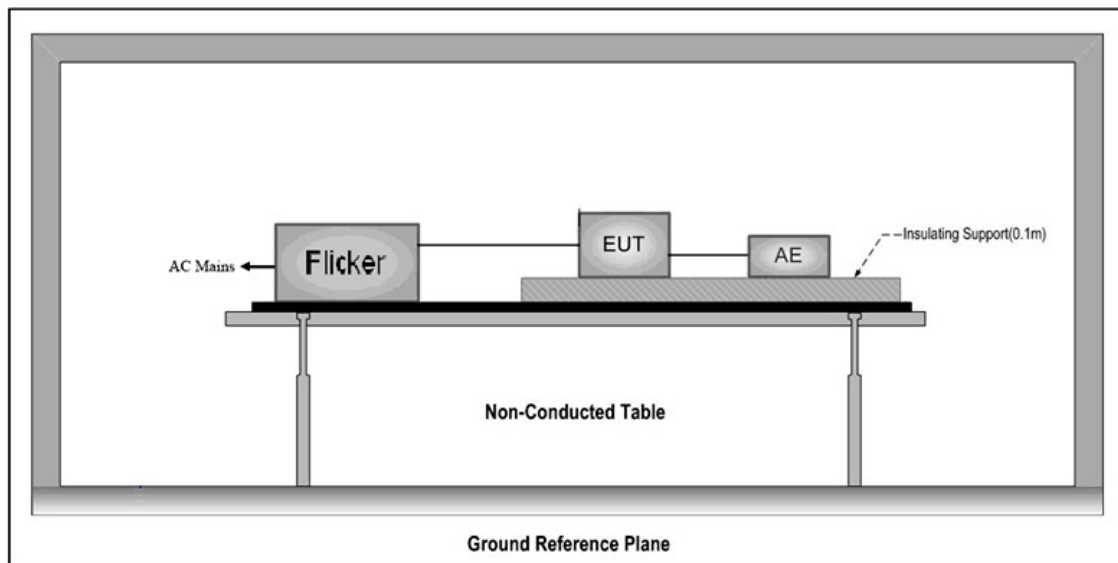
PASS.

According to Clause 7 of EN61000-3-2, the EUT rated power is less than 75W, belong to 'equipment with a rated power of 75W or less', therefore 'limits are not specified in this edition of the standards'. It is deem to full fit the requirements of the standards.

Result: The EUT complies with the requirements of this section

6. VOLTAGE FLUCTUATIONS & FLICKER MEASUREMENT

6.1 Block Diagram of Test Setup



(EUT: 32" LED Gaming Monitor)

6.2 Measurement Standard and Limits of Voltage Fluctuation and Flickers

6.2.1 Standard:

EN 61000-3-3:2013, Limit: Clause 5.

6.2.2 Limits

Tests	Limits		Descriptions
	IEC555-3	IEC/EN 61000-3-3	
Pst	≤ 1.0 , $T_p = 10$ min.	≤ 1.0 , $T_p = 10$ min.	Short Term Flicker Indicator
Plt	N/A	≤ 0.65 , $T_p = 2$ hr.	Long Term Flicker Indicator
dc	$\leq 3\%$	$\leq 3.3\%$	Relative Steady-State V-Chang
dmax	$\leq 4\%$	$\leq 4\%$	Maximum Relative V-change
d (t)	N/A	$\leq 3.3\%$ for > 500 ms	Relative V-change characteristic

6.3 Application of Voltage Fluctuations and Flicker Test

Compliance to these standards ensures that tested equipment will not generate harmonic currents at levels that cause unacceptable degradation of the main environment. This directly contributes to meeting compatibility levels established in other EMC standards, which defines compatibility levels for low-frequency conducted disturbances in low-voltage supply systems.

6.4 Test Results

PASS.

Result: The EUT complies with the requirements of this section.

Please refer to the following pages.

Test Report

Date of Test	: August 16, 2018
Standard Used	: EN/IEC 61000-3-3 Flicker
Short Time (Pst)	: 10 min
Observation Time	: 10 min (1 Flicker measurement)
Flicker Meter	: 230V / 50Hz
Customer	: Guangzhou Oceanview Sci-tech Co., Ltd.
E. U. T.	: 32" LED Gaming Monitor
M/N	: 320R204
Test Result	: PASS

Maximum Flicker Results

Pst, and limit line



Plt and limit line

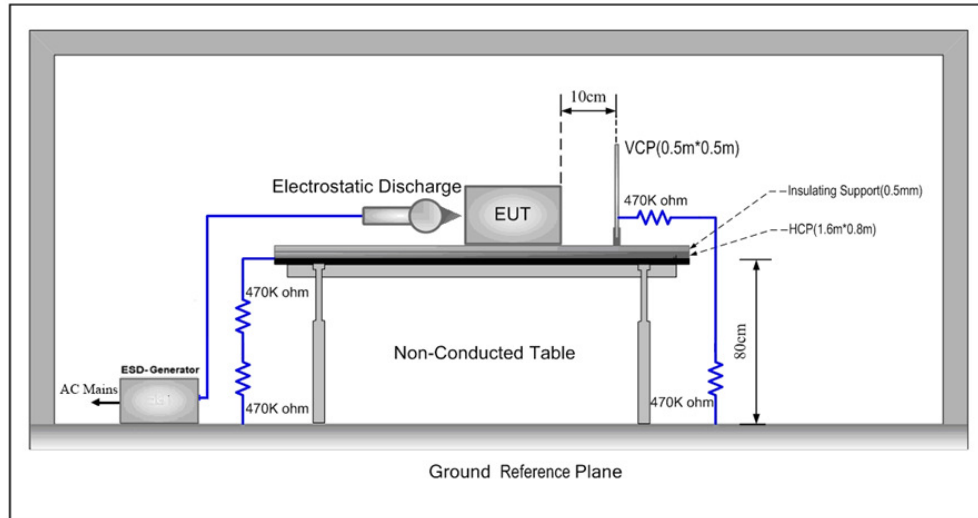


	EUT Values	Limit	Result
Pst	0.064	1.00	PASS
dc [%]	0.00	3.30	PASS
dmax [%]	0.00	4.00	PASS
dt >3.3%[s]	0.00	0.50	PASS

7. ELECTROSTATIC DISCHARGE TEST

7.1 Block Diagram of Test Setup

Block Diagram of connection between the EUT and simulators



(EUT: 32" LED Gaming Monitor)

7.2 Test Standard

EN 55024: 2010+A1:2015 (EN 61000-4-2)

7.3 Severity Levels and Performance Criterion

7.3.1 Severity Level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	±2	±2
2.	±4	±4
3.	±6	±8
4.	±8	±15
X	Special	Special

7.3.2 Performance Criterion: B

7.4 Test Results

PASS

Electrostatic discharge immunity test data, Please refer to the following page.

ELECTROSTATIC DISCHARGE TEST

Shenzhen PTSI Testing Co., Ltd.

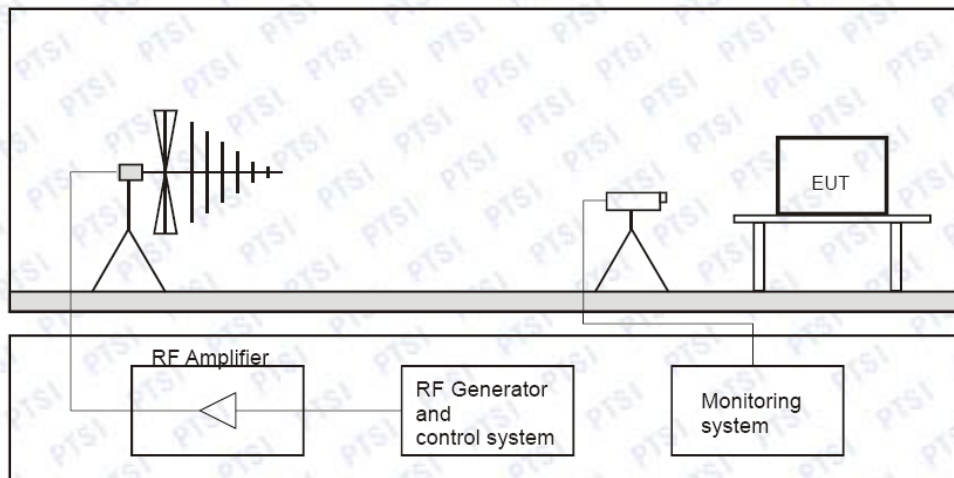
Applicant	: Guangzhou Oceanview Sci-tech Co., Ltd.	Test Date	: August 17, 2018
EUT	: 32" LED Gaming Monitor	Temperature	: 22℃
M/N	: 320R204	Humidity	: 52%
Power Supply	: AC 230V/50Hz	Criterion	: B

Test Mode: ON

	Test Levels (kV)							
	-2	+2	-4	+4	-6	+6	-8	+8
Air Discharge								
Aperture	A	A	A	A	A	A	A	A
Surface	A	A	A	A	A	A	A	A
Port	A	A	A	A	A	A	A	A
Others	A	A	A	A	A	A	A	A
Direct Contact Discharge								
/	/	/	/	/				
	Test Levels (kV)							
	Indirect Contact Discharge(HCP)				Indirect Contact Discharge(VCP)			
	-2	+2	-4	+4	-2	+2	-4	+4
Front Side	A	A	A	A	A	A	A	A
Top Side	A	A	A	A	A	A	A	A
Back Side	A	A	A	A	A	A	A	A
Left Side	A	A	A	A	A	A	A	A
Right Side	A	A	A	A	A	A	A	A

8. RADIO FREQUENCY ELECTROMAGNETIC FIELD TEST

8.1 Block Diagram of Test Setup



(EUT: 32" LED Gaming Monitor)

8.2 Test Standard

EN 55024:2010+A1:2015 (EN 61000-4-3)

8.3 Severity Levels and Performance Criterion

8.3.1 Severity Level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X.	Special

8.3.2 Performance Criterion: A

8.4 Test Results

PASS.

Continuous radiated disturbances test data, please refer to the following page.

Radio Frequency Electromagnetic Field Test

Shenzhen PTSI Testing Co., Ltd.

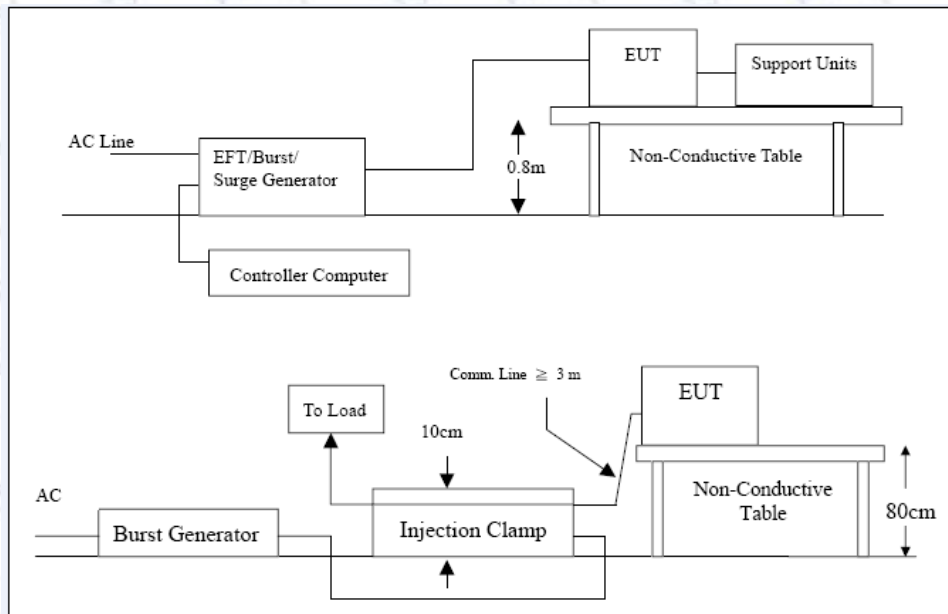
Applicant	: Guangzhou Oceanview Sci-tech Co., Ltd.	Test Date	: August 18, 2018
EUT	: 32" LED Gaming Monitor	Temperature	: 22℃
M/N	: 320R204	Humidity	: 52%
Power Supply	: AC 230V/50Hz	Criterion	: A

Test Mode: ON

Frequency Range(MHz)	Field (V/m)	Front		Rear		Left Side		Right Side	
		Vert	Hori	Vert	Hori	Vert	Hori	Vert	Hori
80-1000	3	A	A	A	A	A	A	A	A
1400-2700	3	A	A	A	A	A	A	A	A

9. ELECTRICAL FAST TRANSIENT/BURST TEST

9.1 Block Diagram of Test Setup



(EUT: 32" LED Gaming Monitor)

9.2 Test Standard

EN 55024:2010+A1:2015 (EN 61000-4-4)

9.3 Severity Levels and Performance Criterion

9.3.1 Severity Level

Open Circuit Output Test Voltage and Repetition Rate of The Impulses		
Level	On PC Lines	On I/O (Input/Output) Signal data and control lines
1	±0.5 KV	±0.25 KV
2	±1 KV	±0.5 KV
3	±2 KV	±1 KV
4	±4 KV	±2 KV
X	Special	Special

NOTE 1: Use of 5 KHz repetition rates is traditional; however, 100 KHz is closer to reality. Product committees should determine which frequencies are relevant for specific products or product types.

NOTE 2: With some products, there may be no clear distinction, between power ports and I/O ports, in which case it is up to product committees to make this determination for test purposes.

"X" is an open level. The level has to be specified in the dedicated equipment specification.

9.3.2 Performance Criterion: B

9.4 Test Results

PASS

Electrical fast transients test data, please refer to the following page.

Electrical Fast Transient/Burst Test Results

Shenzhen PTSI Testing Co., Ltd.

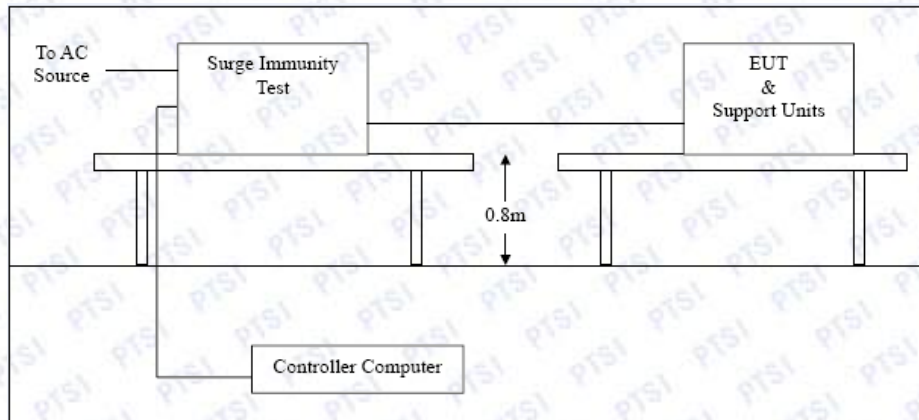
Standard	:	☐ IEC 61000-4-4 ☒ EN 61000-4-4	Result : ☒ PASS / ☐ FAIL
Applicant	:	Guangzhou Oceanview Sci-tech Co., Ltd.	
EUT	:	32" LED Gaming Monitor	
M/N	:	320R204	
Input Voltage	:	AC 230V/ 50Hz	
Criterion	:	B	
Ambient Condition	:	20°C, 50%RH	

Test Mode: ON

EN 61000-4-4		Test Levels (kV)							
		-0.5	+0.5	-1.0	+1.0	-2.0	+2.0	-4.0	+4.0
Power Supply Power Port of EUT	L1	A	A	A	A	/	/	/	/
	L2	A	A	A	A	/	/	/	/
	PE	A	A	A	A	/	/	/	/
	L1+L2	A	A	A	A	/	/	/	/
	L1+PE	A	A	A	A	/	/	/	/
	L2+PE	A	A	A	A	/	/	/	/
	L1+L2+PE	A	A	A	A	/	/	/	/
Signal ports		/	/	/	/	/	/	/	/

10. SURGE IMMUNITY TEST

10.1 Block Diagram of Test Setup



(EUT: 32" LED Gaming Monitor)

10.2 Test Standard

EN 55024:2010+A1:2015 (EN 61000-4-5)

10.3 Severity Levels and Performance Criterion

10.3.1 Severity Level

Severity Level	Open-Circuit Test Voltage KV
1	±0.5
2	±1.0
3	±2.0
4	±4.0
*	Special

10.3.2 Performance Criterion: B

10.4 Test Results

PASS.

Surge test data, please refer to the following page.

Surge Immunity Test Results

Shenzhen PTSI Testing Co., Ltd.

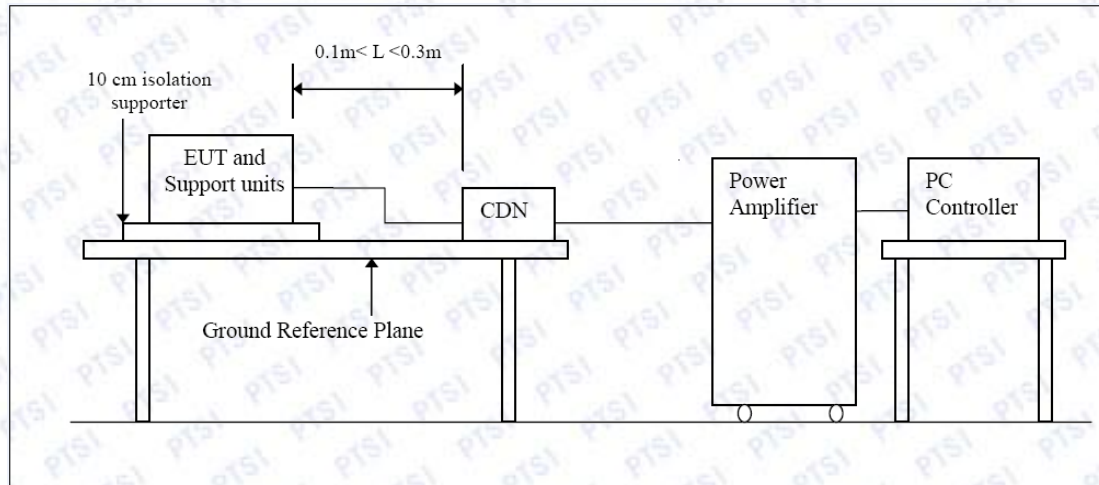
Applicant	:	Guangzhou Oceanview Sci-tech Co., Ltd.	Test Date	:	August 16, 2018
EUT	:	32" LED Gaming Monitor	Temperature	:	20°C
M/N	:	320R204	Humidity	:	50%
Power Supply	:	AC 230V/50Hz	Test Engineer	:	Jees

Test Mode: ON

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N	A	/
2	1 kV	±	L-N	A	/
3	2 kV	±	L-PE, N-PE	A	/
4	4 kV	±	L-N, L-PE, N-PE	A	/

11. CONDUCTED SUSCEPTIBILITY TEST

11.1 Block Diagram of Test Setup



(EUT: 32" LED Gaming Monitor)

11.2 Test Standard

EN 55024:2010+A1:2015 (EN 61000-4-6)

11.3 Severity Levels and Performance Criterion

11.3.1 Severity Level

Level	Field Strength V
1	1
2	3
3	10
X	Special

11.3.2 Performance Criterion: A

11.4 Test Results

PASS

Continuous conducted disturbances test data, please refer to the following page.

Conducted Susceptibility Test Results

Shenzhen PTSI Testing Co., Ltd.

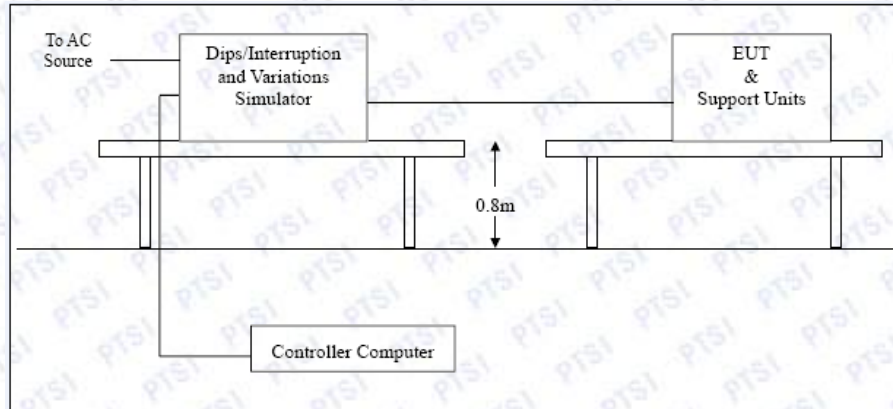
Applicant	: Guangzhou Oceanview Sci-tech Co., Ltd.	Test Date	: August 16, 2018
EUT	: 32" LED Gaming Monitor	Temperature	: 20°C
M/N	: 320R204	Humidity	: 50%
Power Supply	: AC 230V/50Hz	Frequency step	: 1% of fundamental
Frequency Range	: 150KHz-80MHz	Dwell time	: 1s

Test Mode: ON

Level	Voltage(V) (rms, unmodulated)	Modulated	Pass	Fail
1	1	AM 80%, 1kHz sinewave	/	/
2	3	AM 80%, 1kHz sinewave	A	/
3	10	AM 80%, 1kHz sinewave	/	/
X	Special	/	/	/

12. VOLTAGE DIPS AND INTERRUPTIONS TEST

12.1 Block Diagram of Test Setup



(EUT: 32" LED Gaming Monitor)

12.2 Test Standard

EN 55024:2010+A1:2015 (EN 61000-4-11)

12.3 Severity Levels and Performance Criterion

12.3.1 Severity Level

Test Level %UT	Voltage Dip and Short Interruptions %UT	Duration (in period)
0	100	0.5
40	60	1
		5
		10
70	30	25
		50
		*

12.3.2 Performance Criterion: B&C

12.4 Test Results

PASS.

Voltage dips and interruptions test data, please refer to the following page.

Voltage Dips and Interruptions Test Results

Shenzhen PTSI Testing Co., Ltd.

Applicant	: Guangzhou Oceanview Sci-tech Co., Ltd.	Test Date	: August 17, 2018
EUT	: 32" LED Gaming Monitor	Temperature	: 20°C
M/N	: 320R204	Humidity	: 50%
Power Supply	: AC 230V/50Hz	Test Engineer	: Jeess
U	: Vlotage dips in % UT (UT is rated voltage for the EUT)		

Test Mode: ON

Level	U	Test duration	Phase Angle	N	Pass	Fail
1	100%	10ms	0/90/180/270	3	B	/
3	30%	500ms	0/90/180/270	3	C	/
4	100%	5000ms	0/90/180/270	3	C	/

13. IMMUNITY TEST RESULTS

13.1 IEC 61000-4-2 Electrostatic Discharge Test Results

The EUT was subjected to the electrostatic discharge tests required by EN 55024 and all lower levels specified in IEC 61000-4-2.

The EUT continued to perform as intended during and after the application of the ESD.

13.2 IEC 61000-4-3 Radio Frequency Electromagnetic Field Test Results

The EUT was subjected to a 3-volt/meter, 80% Amplitude, 1 kHz Sine wave field as required by EN 55024 and all lower levels specified in IEC 61000-4-3.

The EUT continued to perform as intended during and after the application of the electromagnetic field.

13.3 IEC 61000-4-4 Electrical Fast Transient/Burst Test Results

The EUT was subjected to the electrical fast transient tests required by EN 55024 and all lower levels specified in IEC 61000-4-4.

The EUT continued to perform as intended during and after the application of the EFT/B.

13.4 IEC 61000-4-5 Surge Test Results

The EUT was subjected to the Surge tests required by EN 55024 and all lower levels specified in IEC 61000-4-5.

The EUT continued to perform as intended during and after the application of the Surge Test.

13.5 IEC 61000-4-6 Conducted Susceptibility Tests Results

The EUT was subjected to the Conducted Susceptibility tests required by EN 55024 and all lower levels specified in IEC 61000-4-6.

The EUT continued to perform as intended during and after the application of the Conducted Susceptibility Test.

13.6 IEC 61000-4-11 Voltage Dips & Interruptions Test Results

The EUT was subjected to the Voltage Dips & Interruptions tests required by EN 55024 and all lower levels specified in IEC 61000-4-11.

The EUT continued to perform as intended during and after the application of the Voltage Dips & Interruptions Test.

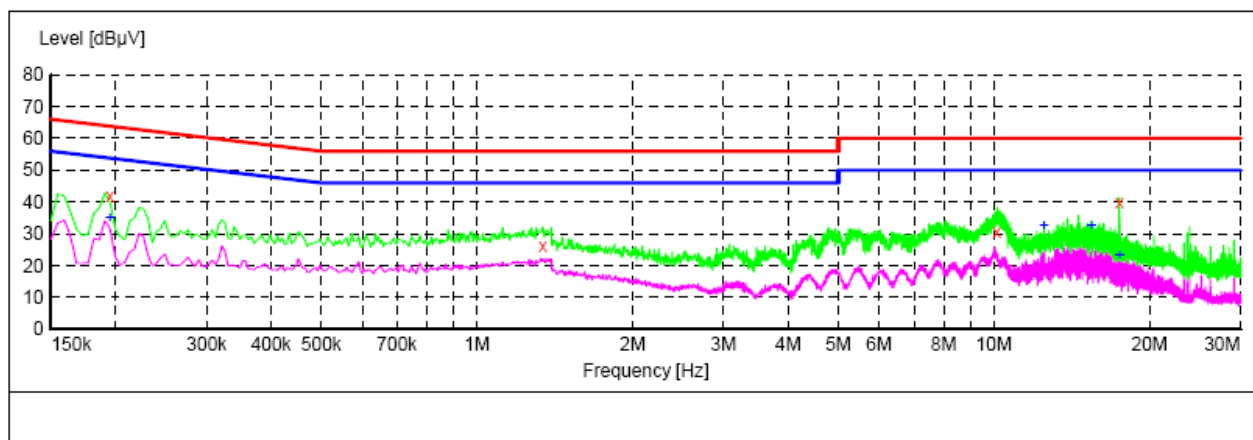
14. APPENDIX

14.1 APPENDIX I

EUT : 32" LED Gaming Monitor Applicant : Guangzhou Oceanview
 M/N : 320R204 Mode : ON
 Test Item : Conducted Emission Phase Polarity : Line

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT:

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.195000	41.70	10.1	64	22.1	QP	L1	GND
1.341500	26.40	10.4	56	29.6	QP	L1	GND
10.125500	30.60	10.6	60	29.4	QP	L1	GND
17.487500	40.10	10.7	60	19.9	QP	L1	GND

MEASUREMENT RESULT:

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.195000	34.80	10.1	54	19.0	AV	L1	GND
12.506000	32.60	10.6	50	17.4	AV	L1	GND
15.453500	32.60	10.7	50	17.4	AV	L1	GND
17.487500	23.30	10.7	50	26.7	AV	L1	GND

EUT : 32" LED Gaming Monitor

Applicant : Guangzhou Oceanview
Sci-tech Co., Ltd.

M/N : 320R204

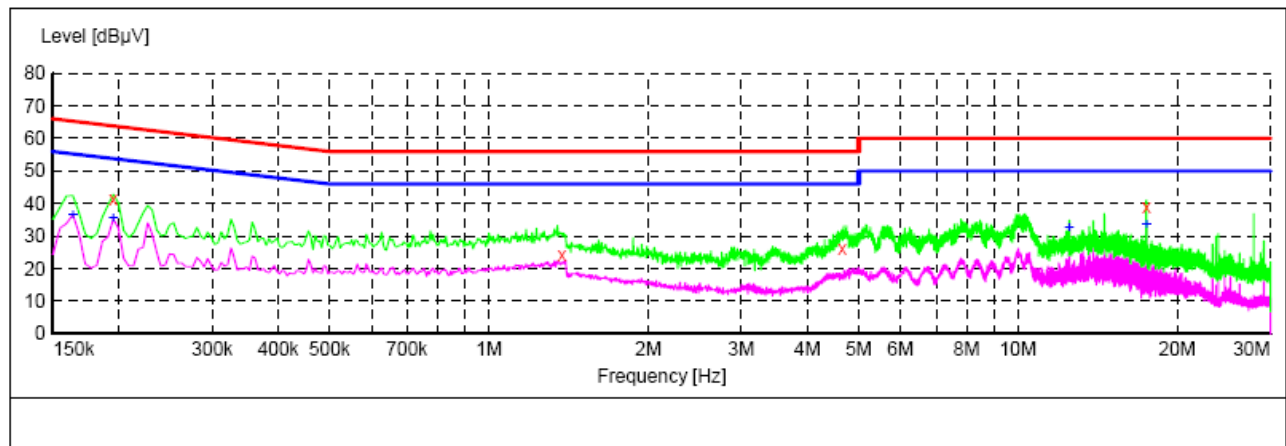
Mode : ON

Test Site : Conducted Emission

Phase Polarity : Neutral

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT:

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.195000	41.40	10.1	64	22.4	QP	N	GND
1.373000	24.40	10.3	56	31.6	QP	N	GND
4.658000	26.30	10.5	56	29.7	QP	N	GND
17.483000	39.00	10.7	60	21.0	QP	N	GND

MEASUREMENT RESULT:

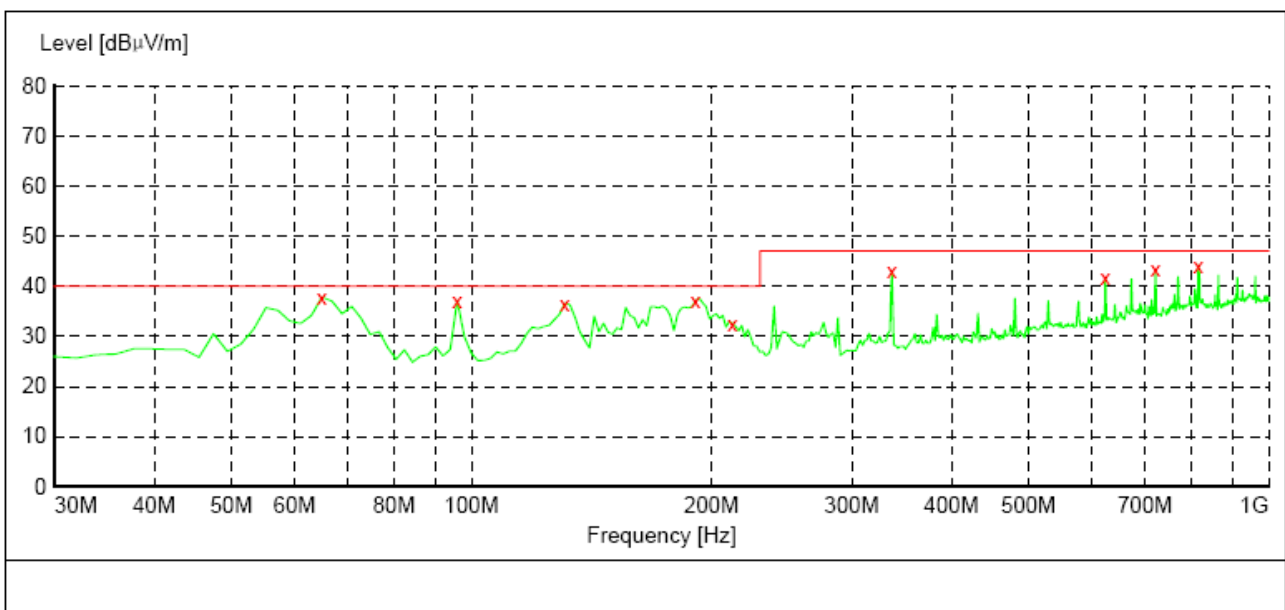
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.163500	36.30	10.1	55	19.0	AV	N	GND
0.195000	35.40	10.1	54	18.4	AV	N	GND
12.506000	32.50	10.6	50	17.5	AV	N	GND
17.483000	33.40	10.7	50	16.6	AV	N	GND

14.2 APPENDIX II

EUT : 32" LED Gaming Monitor Applicant : Guangzhou Oceanview
 M/N : 320R204 Mode : ON
 Test Site : Radiated Emission Test Specification : Horizontal

SWEEP TABLE: "test (30M-1G)"

Short Description:		Field Strength			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
Frequency 30.0 MHz	Frequency 1.0 GHz	MaxPeak	500.0 ms	100 kHz	VULB9168



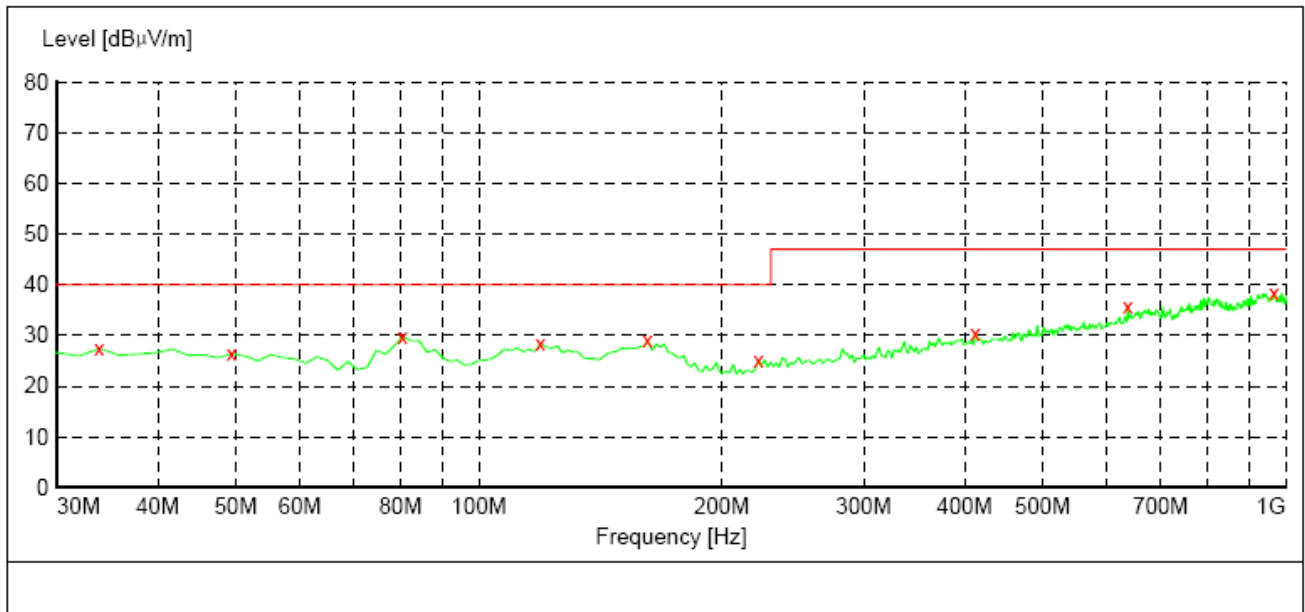
MEASUREMENT RESULT:

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
64.920000	37.70	12.5	40.0	2.3	---	200.0	0.00	HORIZONTAL
95.960000	37.20	10.8	40.0	2.8	---	200.0	0.00	HORIZONTAL
130.880000	36.50	13.8	40.0	3.5	---	200.0	0.00	HORIZONTAL
191.020000	37.16	11.8	40.0	2.9	---	200.0	0.00	HORIZONTAL
212.360000	32.60	11.7	40.0	7.4	---	100.0	0.00	HORIZONTAL
336.520000	43.10	15.4	47.0	3.9	---	100.0	0.00	HORIZONTAL
623.640000	41.70	21.3	47.0	5.3	---	100.0	0.00	HORIZONTAL
720.640000	43.40	22.7	47.0	3.6	---	100.0	0.00	HORIZONTAL
815.700000	44.20	23.8	47.0	2.8	---	100.0	0.00	HORIZONTAL

EUT : 32" LED Gaming Monitor Applicant : Guangzhou Oceanview
 M/N : 320R204 Mode : ON
 Test Site : Radiated Emission Test Specification : Vertical
 Sci-tech Co., Ltd.

SWEEP TABLE: "test (30M-1G)"

Short Description:		Field Strength			
Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
30.0 MHz	1.0 GHz	MaxPeak	500.0 ms	100 kHz	VULB9168



MEASUREMENT RESULT:

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
33.880000	27.40	13.9	40.0	12.6	---	100.0	0.00	VERTICAL
49.400000	26.40	14.1	40.0	13.6	---	100.0	0.00	VERTICAL
80.440000	29.70	10.2	40.0	10.3	---	100.0	0.00	VERTICAL
119.240000	28.40	13.1	40.0	11.6	---	100.0	0.00	VERTICAL
161.920000	29.10	15.2	40.0	10.9	---	100.0	0.00	VERTICAL
222.060000	25.20	12.3	40.0	14.8	---	100.0	0.00	VERTICAL
412.180000	30.60	17.1	47.0	16.4	---	100.0	0.00	VERTICAL
637.220000	35.80	21.5	47.0	11.2	---	100.0	0.00	VERTICAL
967.020000	38.50	25.4	47.0	8.5	---	100.0	0.00	VERTICAL

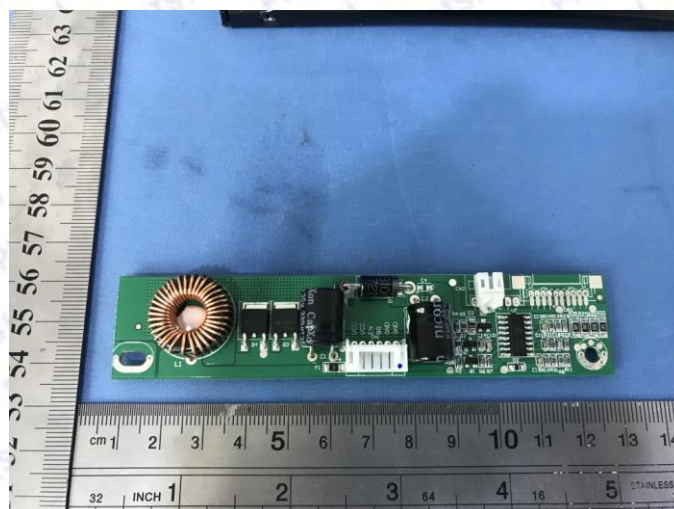
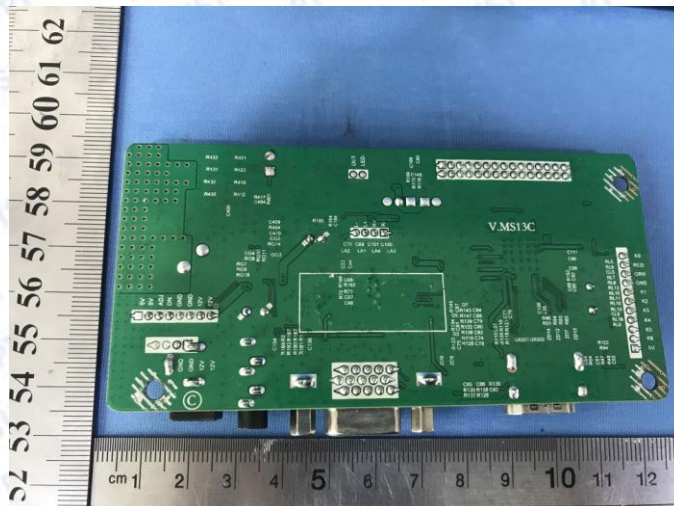
14.3 APPENDIX III Photos of EUT

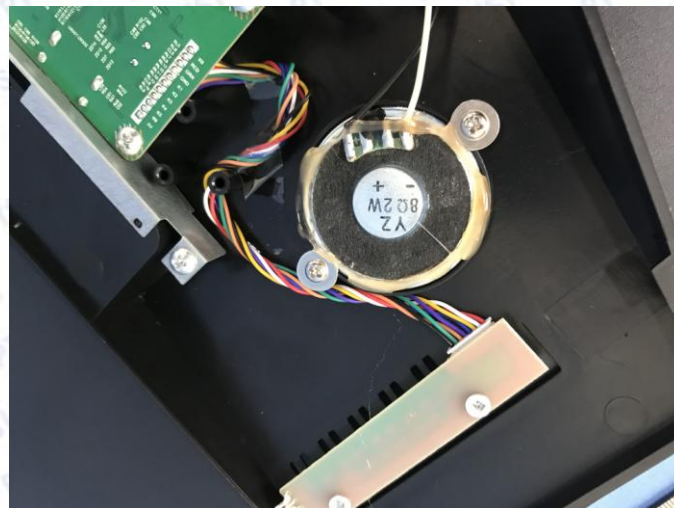
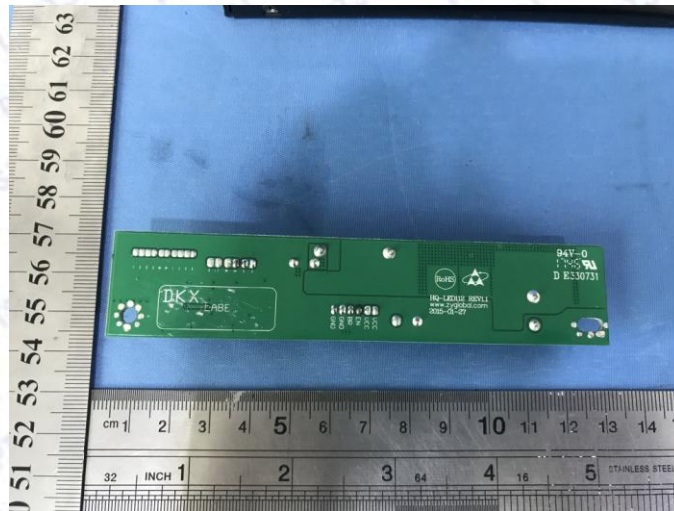
Photo Documentation

Type of Equipment, Model: 32" LED Gaming Monitor, 320R204











*****End of Report*****