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Certificate of Conformity

No. CA19091901-E-001

Applicant : Shenzhen Fabulux Technology Co.,Ltd

Address : Factory 1201, No.14 of Xiawei Industrial Zone, Zhangkengjing Community, Guanhu Street, Longhua District, Shenzhen, China

Trade Name :



Product : LED DISPLAY

Model No. : Master1.5;Master1.8;Master2.6;Master2.9;Master3.9;Master4.8

The submitted sample of the above equipment has been tested and found to comply with the following standards:

- FCC Part 15, Subpart A: 2017
- ANSI C63.4-2014

This verification is part of the full test report(s) and should be read in conjunction with it. The referred Test report(s) show that the product complies with standard(s) recognized as giving presumption of Compliance with the essential requirements in the specified FCC standard.

This Verification does not imply assessment of the production of the product.



Date: Sep.01, 2019

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FCC TEST REPORT

for

Shenzhen Fabulux Technology Co.,Ltd

LED DISPLAY

Model Number:Master1.5;Master1.8

Master2.6;Master2.9;Master3.9;Master4.8

Prepared for : Shenzhen Fabulux Technology Co.,Ltd
Address : Factory 1201, No.14 of Xiawei Industrial Zone,
Zhangkengjing Community, Guanhu Street, Longhua
District, Shenzhen, China

Prepared by : Guangdong keyway Testing Technology Co., Ltd.
Address : Baishun Industrial Zone, Zhangmutou Town,
Dongguan, Guangdong, China

Tel: 86-769-87182258
Fax: 86-769-87181058

Report No. : TR19091901-E1-000
Date of Test : Sep.10~19,2019
Date of Report : Sep.19, 2019

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Guangdong Keyway Testing Technology Co., Ltd.

Applicant:	Shenzhen Fabulux Technology Co.,Ltd		
Address:	Factory 1201, No.14 of Xiawei Industrial Zone, Zhangkengjing Community, Guanhu Street, Longhua District, Shenzhen, China		
Manufacturer:	Shenzhen Fabulux Technology Co.,Ltd		
Address:	Factory 1201, No.14 of Xiawei Industrial Zone, Zhangkengjing Community, Guanhu Street, Longhua District, Shenzhen, China		
E.U.T:	LED DISPLAY		
Model Number:	Master1.5;Master1.8;Master2.6;Master2.9;Master3.9;Master4.8		
Trade Name:		Serial No.:	-----
Date of Receipt:	Sep.19, 2019	Date of Test:	Sep.10~19, 2019
Test Specification :	FCC Part 15 Subpart A: 2017 ANSI C63.4-2014		
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied.		
			Issue Date: Sep.19, 2019
Tested by:	Reviewed by:	Approved by:	
			
Billy Zeng/ Engineer	Moore Cai / Supervisor	Andy Wang / Supervisor	
Other Aspects:	None.		
<i>Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested</i>			
<i>This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Guangdong Keyway Testing Technology Co., Ltd.</i>			

1. GENERAL PRODUCT INFORMATION

1.1. Product Function

Refer to Technical Construction Form and User Manual.

1.2. Description of Device (EUT)

Description	: LED DISPLAY
M/N	: Master1.5;Master1.8;Master2.6 Master2.9;Master3.9;Master4.8
Power Consumption	: 170W(Max) 65W(Average)
Adapter 1	: MEGMEET
Model	: MCP300WD-3.8/2.8
INPUT	: AC 100-240V 50/60Hz;4.5A Max
OUTPUT	: V01(+3.8V—30A);V02(+3.8V—30A)
Adapter 2	: MEGMEET
Model	: MCP200WS-3.8A-C
INPUT	: AC 100-240V 50/60Hz;4.5A Max
OUTPUT	: +3.8V—40A
Highest Frequency Of The Internal Sources	: <108 MHz

1.3. Difference between Model Numbers

1.3.1 Master1.5;Master1.8;Master2.6;Master2.9;Master3.9;Master4.8

All belong to Master series products. Have basically the same box structure and Appearance.The principle of the circuit and the same type of power switch.

1.3.2 The difference between different models is that the distance between the lamp beads and the lamp beads on the surface of the display screen is different.Make the layout and wiring of lamp board PCB different. The number / spacing of different types of lamp beads is as follows

1.4

Model	Lamp spacing (MM)	Number of light beads (pcs/m ²)
Master1.5	1.5625	409600
Master1.8	1.8939	278784
Master2.6	2.6041	147456
Master2.9	2.9761	112896
Master3.9	3.90625	65536
Master4.8	4.8076	43264

t Operation Modes

The basic operation mode is:

Pretest Mode	Description
Mode 1	<i>Max White Light(Adapter 1)</i>
Mode 2	<i>Max White Light(Adapter 2)</i>

1.5. Test Supporting System

None.

2. TEST SITES

2.1. Test Facilities

Lab Qualifications : 944 Shielded Room built by ETS-Lindgren, USA
Date of completion: March 28, 2011

966 Chamber built by ETS-Lindgren, USA
Date of completion: March 28, 2011

Certificated by TUV Rheinland, Germany.
Registration No.: UA 50207153
Date of registration: July 13, 2011

Certificated by UL, USA
Registration No.: 100567237
Date of registration: September 5, 2012

Certificated by Intertek
Registration No.: 2016-RTL-L2-199
Date of registration: May 10, 2016

Certificated by VCCI
Registration No.: R-4045
Date of registration: September 10, 2013

Certificated by PHOENIX TESTLAB GmbH
Registration No.: 702860c
Date of registration: May 11, 2016

Certificated by CNAS China
Registration No.: CNAS L5783
Date of registration: August 8, 2012

Name of Firm : Guangdong Keyway Testing Technology Co., Ltd.

Site Location : Baishun Industrial Zone, Zhangmutou Town,
Dongguan, Guangdong, China

Sub-contractor
Name of Firm : Huizhou keyway Testing Technology Co., Ltd.

Site Location : Building C, No. 16, Huifeng East Road,
ZhongKai industrial District, Huizhou, Guangdong, P.R.China

2.2. Test Summary

Test Item	Condition	Standard	Result
Conducted disturbance at mains terminals	150kHz to 30MHz	FCC Part 15 A	Pass
Radiated Emission (below 1 GHz)	30MHz to 1GHz	FCC Part 15 A	Pass
Remark: 1. The symbol "N/A" in above table means <u>N</u> ot <u>A</u> pplicable. 2. When determining the test results, measurement uncertainty of tests has been considered.			

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Radiated Emission in 3m chamber	3.60dB
Uncertainty for Conducted Emission.	2.60dB

2.3. List of Test and Measurement Instruments

2.3.1. For conducted emission at the mains terminals and signal port test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI	101156	Apr 12,18	Apr 11,19
Artificial Mains Network	Rohde&Schwarz	ENV216	101315	Apr 12,18	Apr 11,19
Artificial Mains Network (AUX)	Rohde&Schwarz	ENV216	101314	Apr 12,18	Apr 11,19
RF Cable	FUJIKURA	3D-2W	944 Cable	Apr 12,18	Apr 11,19
Voltage Probe	CHWARZBECK	A130302	KWE-053	Apr 12,18	Apr 11,19
Coupling/Decoupling Network	FRANKONIA	CDN M2+M3	A3011081	Apr 12,18	Apr 11,19

2.3.2. For radiated emission test (30MHz-1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI	101156	Apr 12,18	Apr 11,19
Bilog Antenna	ETS-LINDGREN	3142D	00135452	Apr 15,18	Apr 14,19
Spectrum Analyzer	Agilent	8593E	3911A04271	Apr 12,18	Apr 11,19
3m Semi-anechoic Chamber	ETS-LINDGREN	966	170326	Apr 15,18	Apr 14,19
Signal Amplifier	SONOMA	310	186956	Apr 12,18	Apr 11,19
RF Cable	IMRO	IMRO-400	966 Cable 1#	Apr 12,18	Apr 11,19
MULTI-DEVICE Controller	ETS-LINDGREN	2090	126913	N/A	N/A
Antenna Holder	ETS-LINDGREN	2070B	00109601	N/A	N/A

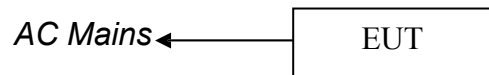
3. TEST SET-UP AND OPERATION MODES

3.1. Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

3.2. Block Diagram of Test Set-up

System Diagram of Connections between EUT and Simulators



(EUT: LED DISPLAY)

3.3. Test Operation Mode and Test Software

Refer to Test Setup in clause 4 & 5.

3.4. Special Accessories and Auxiliary Equipment

None.

3.5. Countermeasures to Achieve EMC Compliance

None.

4. TEST RESULTS

4.1. Conducted Emission at the Mains Terminals Test

Result : **Pass**
Test Site : 944 Shielded Room
Limits : FCC Part 15 A

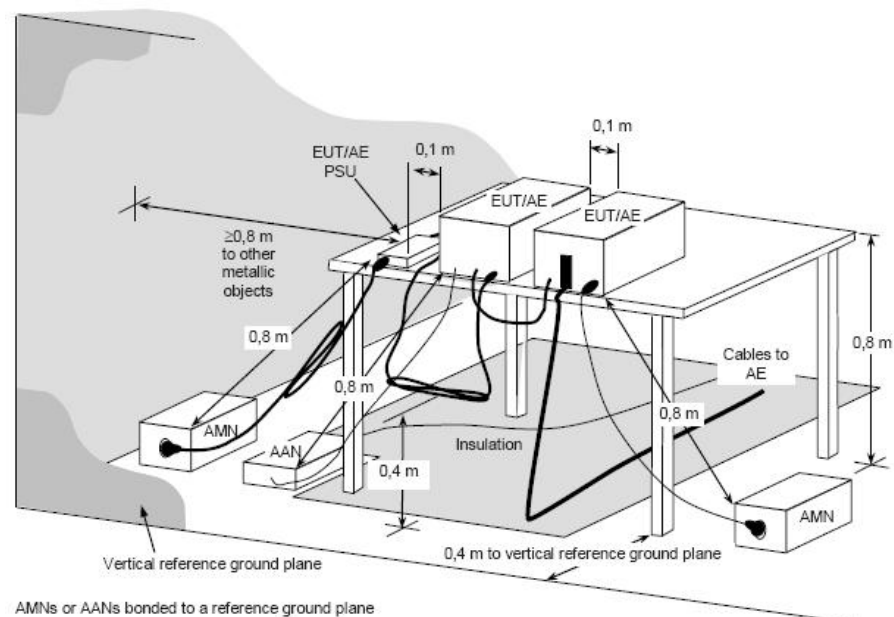
Frequency range MHz	Limits dB(μ V)	
	Quasi-peak	Average
0,15 to 0,50	79	66
0,50 to 30	73	60

NOTE: 1.The lower limit shall apply at the transition frequencies.
2.The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.

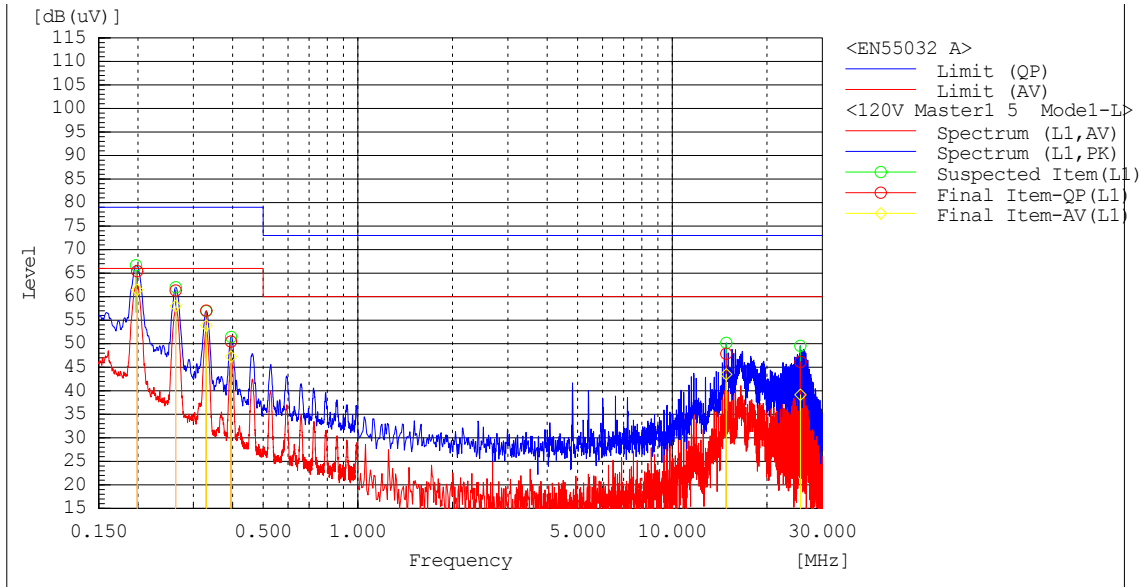
Test Specification

- 1.The EUT was put on a wooden table which was 0.8 m high above the ground and connected to the AC mains through the Artificial Mains Network (AMN). Where the mains cable supplied by the manufacture was longer than 1 m, the excess was folded back and forth parallel to the cable at the centre so as to form a bundle no longer than 0.4 m.
- 2.The EUT was kept 0.4 m from any other earthed conducting surface. Both sides of AC line were checked to find out the maximum conducted emission levels according to the test procedure during the conducted emission test.
- 3.The bandwidth of the test receiver was set at 9 kHz.

Block Diagram of Test Set-up

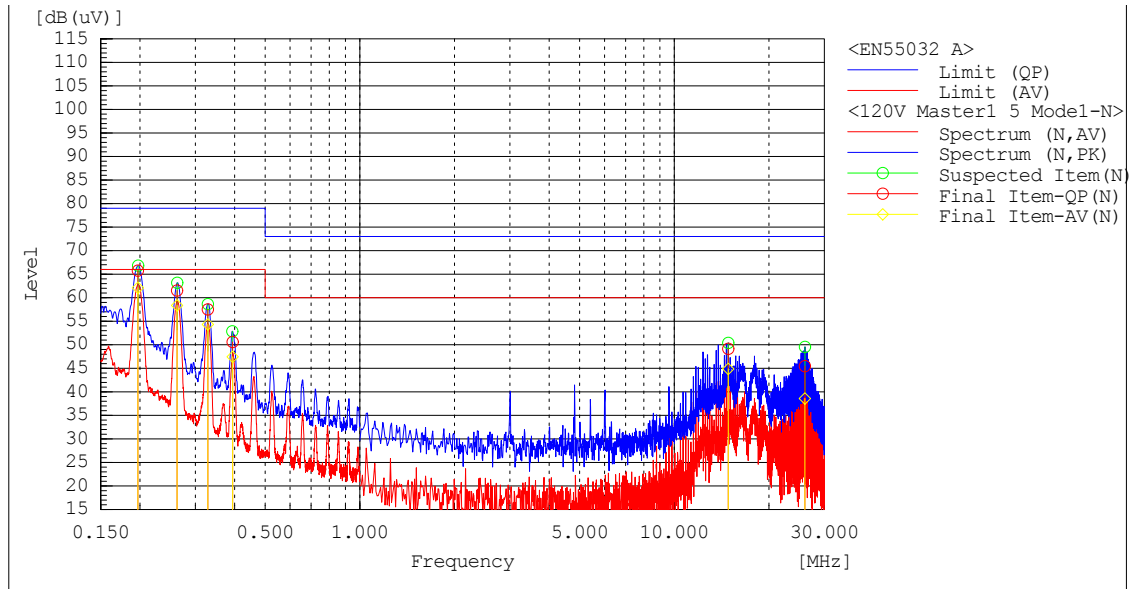


M/N : Master1.5
 Operation Mode : Mode 1
 Test Voltage : AC 120V/60Hz
 Test Specification : Power Line; Line
 Temperature (° C): : 24.9 Relative Humidity (%) : 56 Atmospheric Pressure(mbar) : 1015



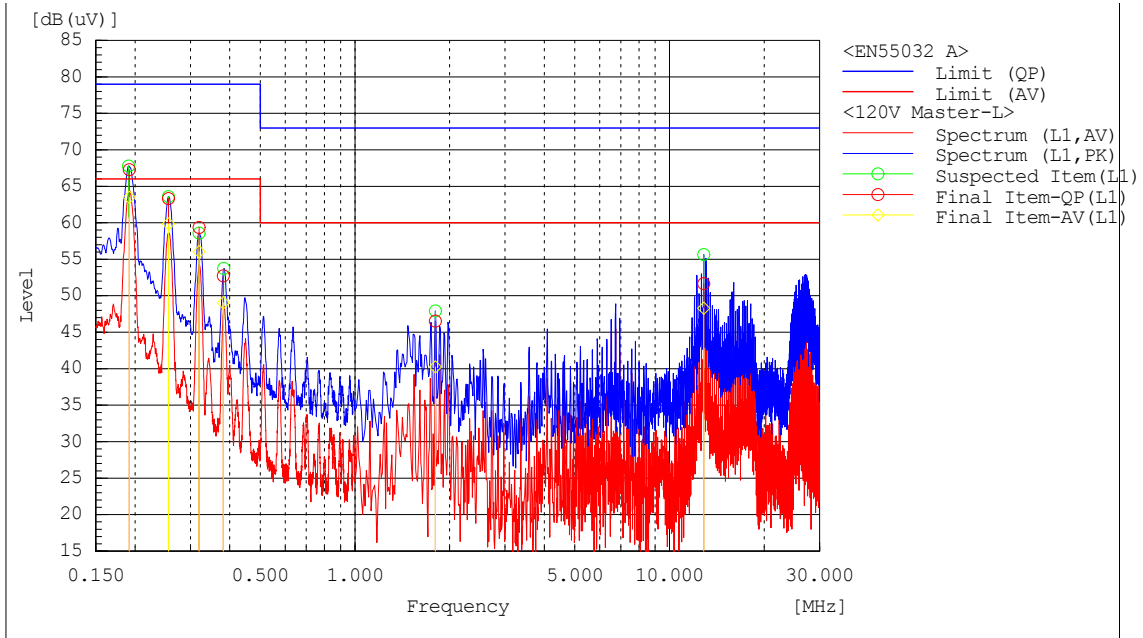
Frequency	Line Phase	Reading		Factor	Level		Limit		Margin		Pass/Fail	Remark
MHz		dB(uV)		dB	dB(uV)		dB(uV)		dB			
		QP/CAV/AV			QP/CAV/AV		QP/AV		QP/CAV/AV			
0.19887	L1	55.7	51.8	9.7	65.4	61.5	79.0	66.0	13.6	4.5	Pass	
0.26342	L1	51.6	48.3	9.7	61.3	58.0	79.0	66.0	17.7	8.0	Pass	
0.32963	L1	47.3	44.2	9.7	57.0	53.9	79.0	66.0	22.0	12.1	Pass	
0.39508	L1	40.8	37.6	9.7	50.5	47.3	79.0	66.0	28.5	18.7	Pass	
14.84194	L1	37.8	33.4	10.1	47.9	43.5	73.0	60.0	25.1	16.5	Pass	
25.55353	L1	35.9	28.9	10.2	46.1	39.1	73.0	60.0	26.9	20.9	Pass	

M/N : Master1.5
 Operation Mode : Mode 1
 Test Voltage : AC 120V/60Hz
 Test Specification : Power Line; Neutral
 Temperature (° C): : 24.9 Relative Humidity (%) : 56 Atmospheric Pressure(mbar) : 1015



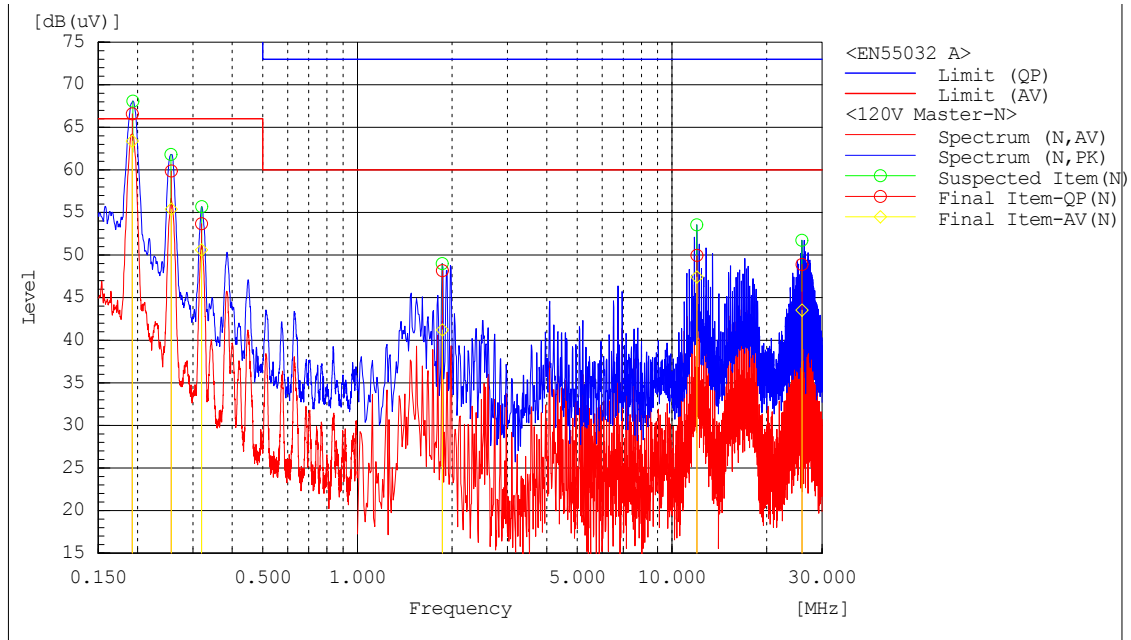
Frequency	Line Phase	Reading		Factor	Level		Limit		Margin		Pass/Fail	Remark
MHz		dB(uV)			dB(uV)		dB(uV)		dB			
		QP/CAV/AV			QP/CAV/AV		QP/AV		QP/CAV/AV			
0.19691	N	56.1	52.4	9.7	65.8	62.1	79.0	66.0	13.2	3.9		Pass
0.26233	N	51.8	48.7	9.7	61.5	58.4	79.0	66.0	17.5	7.6		Pass
0.32872	N	47.8	44.6	9.7	57.5	54.3	79.0	66.0	21.5	11.7		Pass
0.39407	N	40.9	37.7	9.7	50.6	47.4	79.0	66.0	28.4	18.6		Pass
14.8459	N	39.0	34.8	10.1	49.1	44.9	73.0	60.0	23.9	15.1		Pass
26.0086	N	35.1	28.2	10.4	45.5	38.6	73.0	60.0	27.5	21.4		Pass

M/N : Master1.5
 Operation Mode : Mode 2
 Test Voltage : AC 120V/60Hz
 Test Specification : Power Line; Line
 Temperature (° C): : 24.9 Relative Humidity (%) : 56 Atmospheric Pressure(mbar) : 1015



Frequency MHz	Line Phase	Reading		Factor	Level		Limit		Margin		Pass/ Fail	Remark
		QP/CAV/AV			dB	dB(uV)	dB(uV)	dB(uV)	dB	dB		
0.19168	L1	57.6	53.8	9.7	67.3	63.5	79.0	66.0	11.7	2.5	Pass	
0.25547	L1	53.6	50.2	9.7	63.3	59.9	79.0	66.0	15.7	6.1	Pass	
0.31943	L1	49.7	46.3	9.7	59.4	56.0	79.0	66.0	19.6	10.0	Pass	
0.38152	L1	43.0	39.3	9.7	52.7	49.0	79.0	66.0	26.3	17.0	Pass	
1.80083	L1	36.7	30.4	9.8	46.5	40.2	73.0	60.0	26.5	19.8	Pass	
12.84864	L1	41.6	38.2	10.1	51.7	48.3	73.0	60.0	21.3	11.7	Pass	

M/N : Master1.5
 Operation Mode : Mode 2
 Test Voltage : AC 120V/60Hz
 Test Specification : Power Line; Neutral
 Temperature (° C): : 24.9 Relative Humidity (%) : 56 Atmospheric Pressure(mbar) : 1015



Frequency MHz	Line Phase	Reading		Factor	Level		Limit		Margin		Pass/ Fail	Remark
		dB(uV)			dB		dB(uV)		dB			
		QP/CAV/AV			QP/CAV/AV		QP/AV		QP/CAV/AV			
0.19257	N	56.9	53.7	9.7	66.6	63.4	79.0	66.0	12.4	2.6		Pass
0.2561	N	50.2	45.7	9.7	59.9	55.4	79.0	66.0	19.1	10.6		Pass
0.31967	N	44.0	40.9	9.7	53.7	50.6	79.0	66.0	25.3	15.4		Pass
1.86233	N	38.4	31.4	9.8	48.2	41.2	73.0	60.0	24.8	18.8		Pass
11.9952	N	39.9	37.3	10.1	50.0	47.4	73.0	60.0	23.0	12.6		Pass
25.8947	N	38.5	33.1	10.4	48.9	43.5	73.0	60.0	24.1	16.5		Pass

4.2. Radiated Emission Test (below 1 GHz)

Result : **PASS**
Test Site : 966 Chamber
Limits : FCC Part 15 A

Frequency range MHz	Quasi-peak limits dB(μ V/m)
30-88	49
88-216	53.5
216-960	56.4
960-1000	59.5

Note: 1.The lower limit shall apply at the transition frequency.
2.Additional provisions may be required for cases where interference occurs.

Test Setup

1.The EUT was placed on a turn table which was 0.8 m above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m away from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

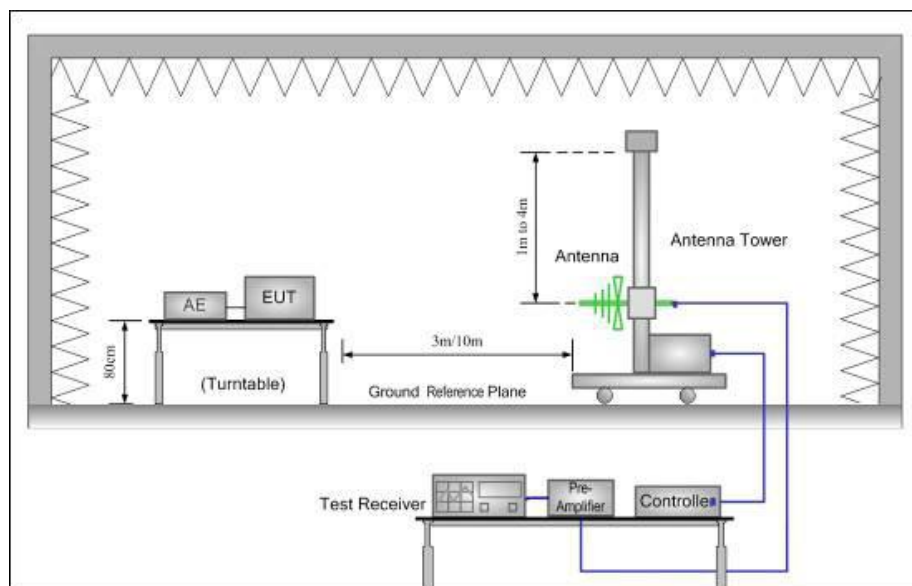
2.The highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz.

2.The EUT was tested in the Chamber Site. It was pre-scanned with a Peak detector from the spectrum, and all the final readings from the test receiver were measured with the Quasi-Peak detector.

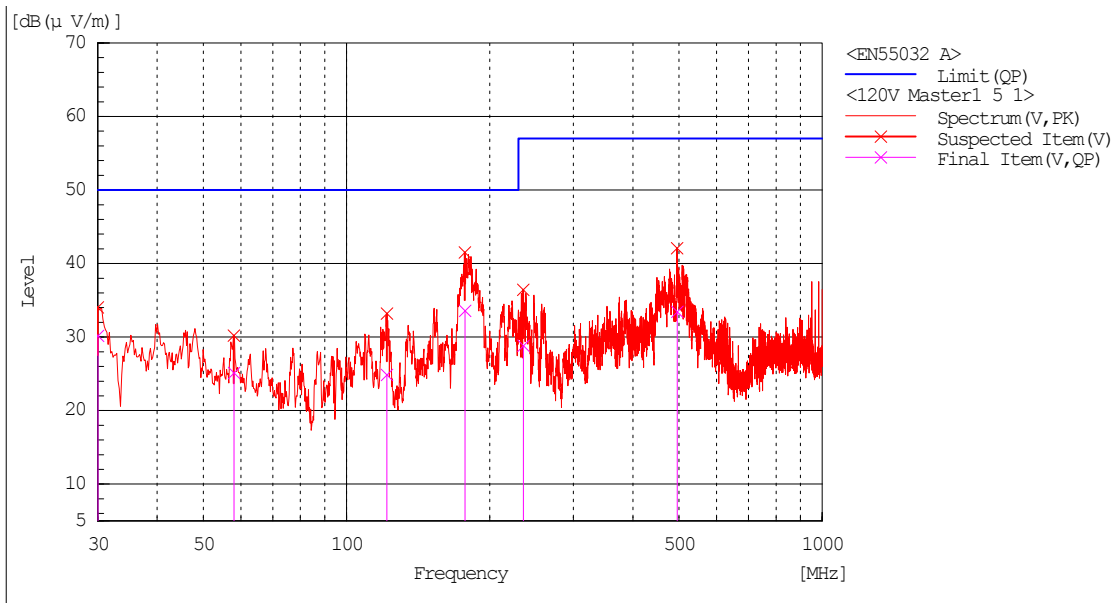
3.The bandwidth setting on the test receiver was 120 kHz.

4.Emission Level = Antenna Factor + Cable Loss + Meter Reading - Preamp Factor.

Block Diagram of Test Set-up

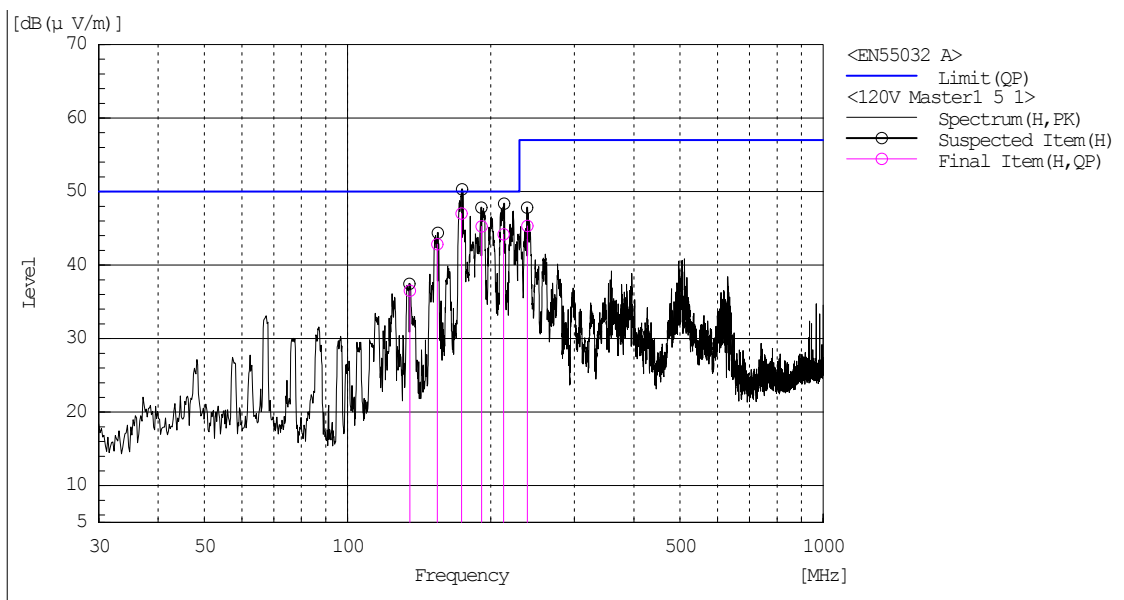


M/N : Master1.5
 Operation Mode : Mode 1
 Test Voltage : AC 120V/60Hz
 Test Specification : Vertical
 Temperature (° C) : 24.9 Relative Humidity (%) : 56 Atmospheric Pressure(mbar) : 1015



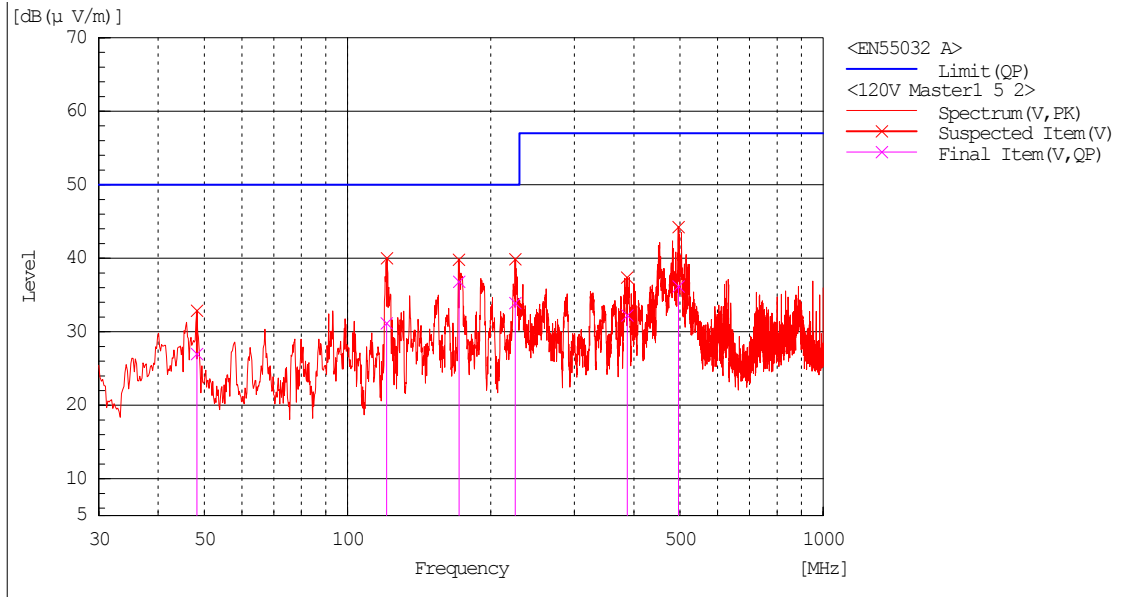
Frequency (MHz)	Polarization	Reading QP (dBuV)	Factor dB(1/m)	Level QP (dBuV/m)	Limit QP (dBuV/m)	Marge QP (dB)	Height (cm)	Angle deg	Remark
30.022	V	45.6	-15.4	30.2	50.0	19.8	100.0	40.7	
58.055	V	39.0	-13.9	25.1	50.0	24.9	100.0	8.7	
121.571	V	41.6	-16.7	24.9	50.0	25.1	100.0	342.5	
177.573	V	50.7	-17.1	33.6	50.0	16.4	100.0	161.1	
235.478	V	43.2	-14.4	28.8	57.0	28.2	100.0	129.9	
495.866	V	42.8	-9.4	33.4	57.0	23.6	100.0	25.0	

M/N : Master1.5
 Operation Mode : Mode 1
 Test Voltage : AC 120V/60Hz
 Test Specification : Horizontal
 Temperature (° C) : 24.9 Relative Humidity (%) : 56 Atmospheric Pressure(mbar) : 1015



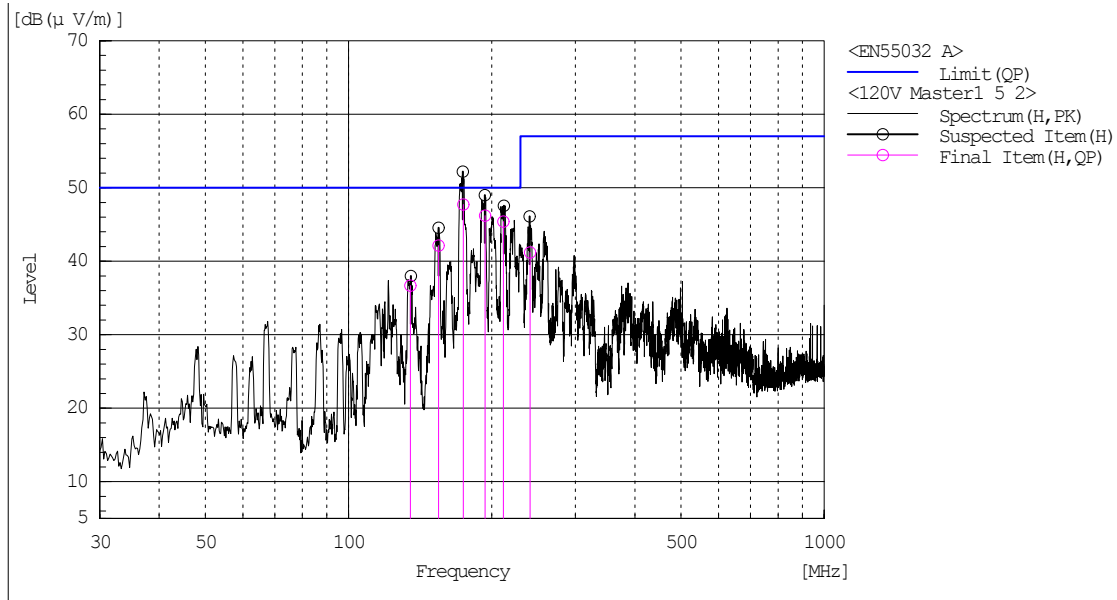
Frequency (MHz)	Polarization	Reading QP (dBuV)	Factor dB(1/m)	Level QP (dBuV/m)	Limit QP (dBuV/m)	Marge QP (dB)	Height (cm)	Angle deg	Remark
135.344	H	54.7	-18.2	36.5	50.0	13.5	304.0	175.9	
154.554	H	60.9	-18.1	42.8	50.0	7.2	100.0	168.0	
173.811	H	64.3	-17.3	47.0	50.0	3.0	100.0	352.5	
191.349	H	61.1	-15.8	45.3	50.0	4.7	100.0	202.5	
212.891	H	59.6	-15.4	44.2	50.0	5.8	100.0	167.9	
238.938	H	59.6	-14.3	45.3	57.0	11.7	100.0	192.1	

M/N : Master1.5
 Operation Mode : Mode 2
 Test Voltage : AC 120V/60Hz
 Test Specification : Vertical
 Temperature (° C) : 24.9 Relative Humidity (%) : 56 Atmospheric Pressure(mbar) : 1015



Frequency (MHz)	Polarization	Reading QP (dBuV)	Factor dB(1/m)	Level QP (dBuV/m)	Limit QP (dBuV/m)	Marge QP (dB)	Height (cm)	Angle deg	Remark
120.816	V	47.8	-16.6	31.2	50.0	18.8	100.0	6.5	
225.269	V	48.7	-14.8	33.9	50.0	16.1	100.0	176.8	
496.218	V	45.6	-9.4	36.2	57.0	20.8	100.0	351.0	
387.311	V	43.5	-11.3	32.2	57.0	24.8	100.0	140.7	
171.606	V	54.3	-17.5	36.8	50.0	13.2	100.0	310.3	
48.281	V	39.6	-12.6	27.0	50.0	23.0	100.0	178.0	

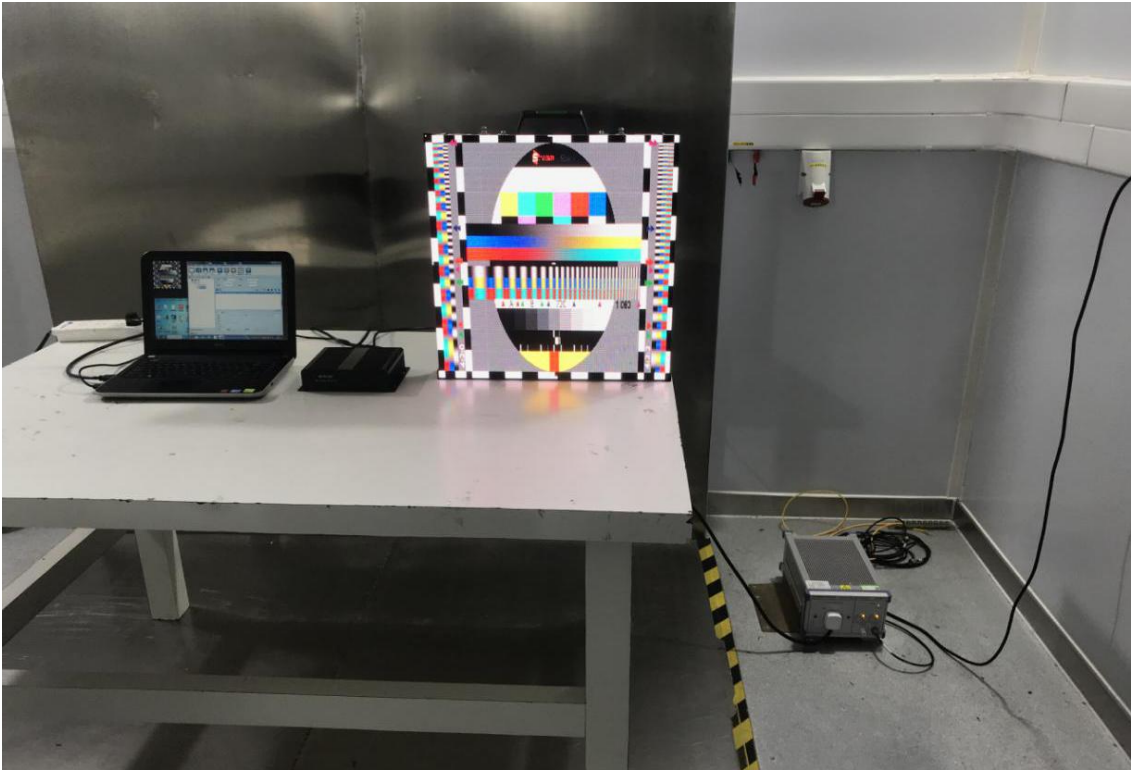
M/N : Master1.5
 Operation Mode : Mode 2
 Test Voltage : AC 120V/60Hz
 Test Specification : Horizontal
 Temperature (° C) : 24.9 Relative Humidity (%) : 56 Atmospheric Pressure(mbar) : 1015



Frequency (MHz)	Polarization	Reading QP (dBuV)	Factor dB(1/m)	Level QP (dBuV/m)	Limit QP (dBuV/m)	Marge QP (dB)	Height (cm)	Angle deg	Remark
174.351	H	65.0	-17.3	47.7	50.0	2.3	100.0	2.0	
193.762	H	61.8	-15.6	46.2	50.0	3.8	100.0	182.4	
211.702	H	60.8	-15.4	45.4	50.0	4.6	100.0	179.2	
240.744	H	55.4	-14.2	41.2	57.0	15.8	100.0	168.7	
154.656	H	60.2	-18.1	42.1	50.0	7.9	100.0	172.1	
134.899	H	54.9	-18.2	36.7	50.0	13.3	306.0	191.2	

5. PHOTOGRAPHS OF TEST SET-UP

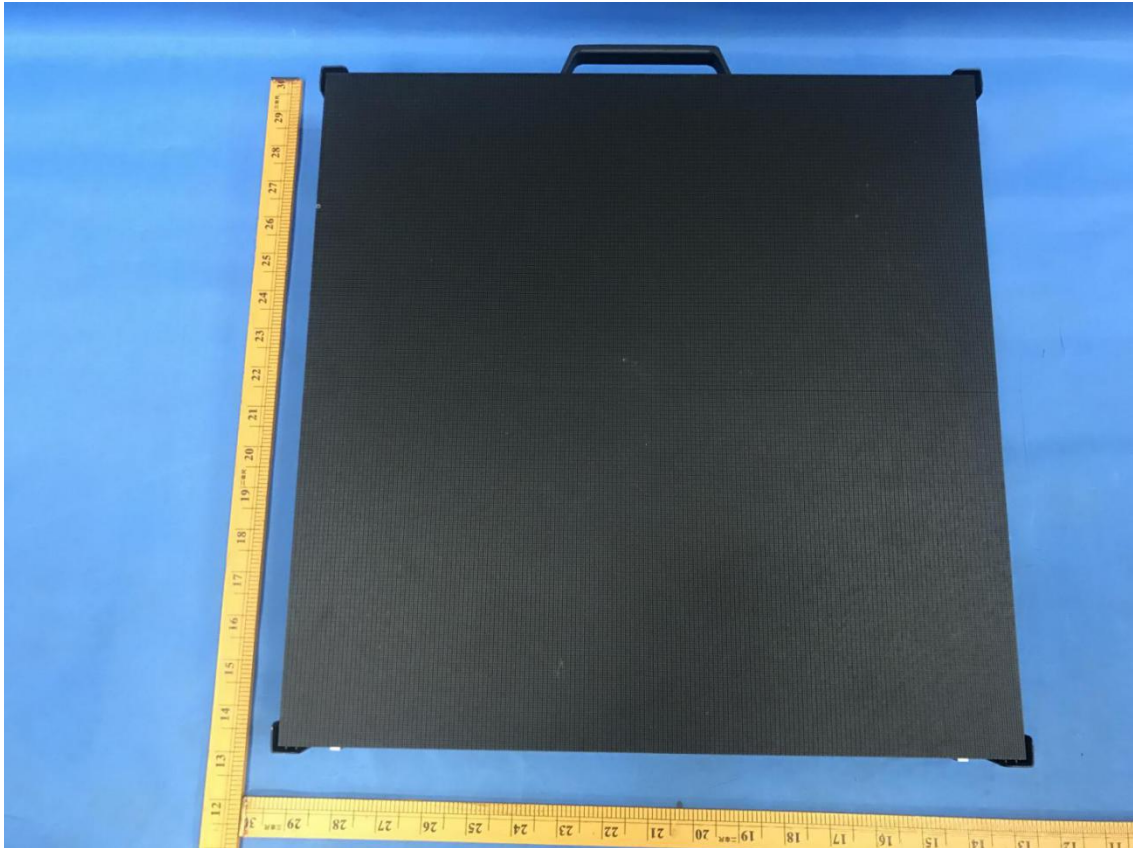
Conducted Emission at the Mains Terminals Test



Radiated Emission Test



6. PHOTOGRAPHS OF THE EUT



*** the end of report ***