

## EN 55032: 2015+A11: 2020 EN 55035: 2017+A11: 2020 EN IEC 61000-3-2: 2019 EN 61000-3-3: 2013+A1: 2019

## **Test Report For**

## Full Strike Ltd.

Room 16C Wenwei Building, No. 322 Fuhua Road Futian Dist., Shenzhen, 518026 PRC.

Product Name:	Digital to Stereo Audio Converter
Model/Type No.:	MD121CV
Prepared By:	Shenzhen Hongcai Testing Technology Co., Ltd.
~	Building B, Tianji Industrial Park, Floor 1&2&3 No.30-9 Laiyin Road,
20	Xinsheng Community, Longgang Street, Longgang District, Shenzhen,
	Guangdong, China.
	Tel: 0755-84616666
. · · · · · · · · · · · · · · · · · · ·	Service Tel: 400-0066-989
Report Number:	WTH21H12135622E
Tested Date:	December 07 ~ 29, 2021
Issued Date:	December 29, 2021
Project Engineer:	Denise Tan/
~	HOT THE HOT

Reviewed By:

kyle Cin

Approved By:

Kyle Ling EMC Technical Manager



Owen Yang EMC General Manager

線圳市虹影強製技大有能公司 Shazuban Hongcui Tating Technology Co., Lid 广东省線浜市龙肉区及樹樹造新生社区菜園第40-9 号 1 辰、2 辰、3 長 (天道二北西 B 核厂房) Building B, Tangi Induxtrial Park/Tool 2 & 2 & A D S 光 CMA 标识报告中的结果仅用于客户科研、数学、内部质量控制、产品研发等目的、仅供内部参考、对社会不具有证明作用。 有 CNAS 标识报告中的 " \* " 代表读微测项目 推示申辩 CNAS 认可。The reaulify in no CMA logo report shall only be used for client's scient reservb, teaching, intranel quality control, product research and development, etc. and juit for internal reference, does not prove to society. The " \* " in CNAS logo report means that the test item(s) was (were) currently not applying for CNAS uscreditation. Etc 0755-840166666



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深圳市虹彩检测技术有限公司 Sher	izhen Hongeal Teating Technology Co., Ltd
广东省深圳市龙岗区龙岗街道新生	社区菜商路30-9号1层、2层、3层(天基工业园B栋厂房)
Building B, Tianji Industrial Park, Floo	r 1&2&3 No.30-9 Laiyin Road, Xinsheng Community,
Longgang Street, Longgang District, S	henzhen, Guangdong, China
Web: www.hct-test.com	Email: hongcai@hct-test.com



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海州市紅燈槍號技术有限公司 Shenzhen Hongesi Tarting Technology Co., Ltd 广东省海坝市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层(天蓝工业园 B 核厂房) Building B, Tianji Industrial Park, Floer 1 & 2& 2 No. 30-9 Laiyin Read, Xinsheng Community, Longgang Struct, Longgang District, Shenzhen, Guangdong, China Web: www.hot-test.com Email: hongeni@hot-test.com



# **1- GENERAL INFORMATION**

# **1.1 Product Description for Equipment under Test (EUT)**

**Client Information** 

Applicant:	Full Strike Ltd.
Address of applicant:	Room 16C Wenwei Building, No. 322 Fuhua Road Futian Dist., Shenzhen, 518026 PRC.
Manufacturer:	Full Strike Ltd.
Address of Manufacturer:	No. 123 Building A, Investment & Venture Center, Jinhui West Road, Yinzhou Dist., Ningbo City, Zhejiang Provice, China

## General Description of E.U.T

EUT Name:	Digital to Stereo Audio Converter	ć
Trade Mark:	N/A	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Model No.:	MD121CV	
Test Model No.:	MD121CV	
Operating Mode:	Mode1: Wroking	
Power Supply:	AC adaptor Input: 100-240V~, 50/60Hz, 0.3A	
	Output: DC5.0V === 1.0A	
	Digital to Stereo Audio Converter Input: DC5.0V 0.6A	
Product Class:	<ul> <li>Class A, apply to Class A limits</li> <li>Class B, apply to Class B limits</li> </ul>	2

Remark:

- \* The test data gathered are from the production sample provided by the manufacturer.
- \* Supplementary models have the same circuit, but with different appearance.

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採用市電影強差技术有限公司 Shazaban Hongeal Tataing Tachnology Co., Ltd 广东常狭间市炎岗区之岗物造凿地社区菜菜商第3-9号1层、2层、3层(天蓝二业质 B 栋厂房) Building B.Tuaji Industrial Park,Floor 182.82 No.30+9 Laiyin Road, Ximsheng Community, Longgong Street, Longgong Diarict, Shazaben, Guangdong,China Web: www.hot-test.com Email: hongsui@det-test.com



# **1.2 Test Standards**

The following Declaration of Conformity report of EUT is prepared in accordance with EN 55032: 2015+A11:2020 EN 55035: 2017+A11:2020 EN IEC 61000-3-2:2019 EN 61000-3-3:2013+A1:2019 Reference Standards: EN 61000-4-2:2009 EN 61000-4-3:2006+A2:2010 EN 61000-4-3:2016+A2:2010 EN 61000-4-5:2014+A1:2017 EN 61000-4-6:2014 EN 61000-4-8:2010

EN 61000-4-11:2004+A1:2017

The objective of the manufacturer is to demonstrate compliance with the described standards above.

## 1.3 Test Summary

For the EUT described above. The standards used were EN 55032 Class B for Emissions & EN 55035 for Immunity.

According to the "Table 1 – Required highest frequency for radiated measurement " of EN 55032: 2015+A11: 2020

Highest internal frequency	Highest measured frequency	
(F <sub>x</sub> )		
$F_{x} \leq 108 \text{ MHz}$	1 GHz	
108 MHz $< F_x \le$ 500 MHz	2 GHz	
500 MHz < $F_x \le 1$ GHz	5 GHz	
<i>F</i> <sub>x</sub> > 1 GHz	$5  imes F_x$ up to a maximum of 6 GHz	

Table 1 – Required highest frequency for radiated measurement

NOTE 1 For FM and TV broadcast receivers,  $F_x$  is determined from the highest frequency generated or used excluding the local oscillator and tuned frequencies.

NOTE 2 F, is defined in 3.1.18.

NOTE 3 For outdoor units of home satellite receiving systems highest measured frequency shall be 18 GHz.

Where  $F_x$  is unknown, the radiated emission measurements shall be performed up to 6 GHz.

The Highest Internal Frequency Source of EUT is More than 108MHz, then:

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等机前电影检测技术有能入有 Shenzhen Hongeal Teating Technology Co., Lid 广东省探测市龙岗区龙岗街道新生业区菜商第40-9 号 1 层、2 层、3 层 (天蓝工业版 B 核厂务) Building 3, Tanji Induirial Park, Joot (22:42) No. 30-9 Laiyin Road, Ximsheng Community, Longgong Street, Longgung District, Shenzhen, Guangdong, China Web: www.hot.test.com Email: hongguid@ht-test.com 5. CMA 标记报告中的结决权2用于完户科研、数学、内前质量控制、产品研究空用内,仅优内物参考,对社会不具有证明作用。 5 CNAS 茶识报告中的"\*\*"代表该检测项目营来申请 CNAS 认可、The result(a) in no CMA logo report shall only be used for elfent's scient search, teaching, internal quality control,product research and development, etc. and just for internal reference, does not prove to society. he \*\* in CNAS logo report means that the test iten(i) was (vere) currently not applying for CNAS sccreditation. という35-846166666



## Table 1: Tests Carried Out Under EN 55032: 2015+A11: 2020

Standard	Test Items	Status
<sup>2</sup> C	Conducted Disturbance at The Mains Terminals (150KHz to 30MHz)	$\boxtimes$
EN 55032:	Disturbance Voltage at The Antenna Terminal	ķ
2015+A11: 2020	Conducted Disturbance at The Telecommunication Ports	
30	Radiated Disturbances (30MHz to 1000MHz)	$\boxtimes$
1.	Radiated Disturbances (1GHz to 6GHz)	

Table 2: Tests Carried Out Under EN IEC 61000-3-2: 2019/ EN 61000-3-3: 2013+A1: 2019

Standard	Test Items	Status
EN IEC 61000-3-2:2019	Harmonic Current Test	$\square$
EN 61000-3-3:2013+A1:2019	Voltage Fluctuations and Flicker Test	$\boxtimes$

Table 3: Tests Carried Out Under EN 55035: 2017+A11: 2020

Standard	Test Items	Status
EN 55035: 2017+A11: 2020	Test items as below listed	$\square$
EN 61000-4-2:2009	Electrostatic discharge Immunity	$\square$
EN 61000-4-3:2006+A2:2010*		
EN 61000-4-4:2012	Electrical Fast Transient/Burst Immunity	$\boxtimes$
EN 61000-4-5:2014+A1:2017	Surge Immunity	$\boxtimes$
EN 61000-4-6:2014+AC:2015	Conducted Susceptibility (150kHz to 80MHz)	$\boxtimes$
EN 61000-4-8:2010	Power Frequency Magnetic Field Immunity (50/60Hz)	
EN 61000-4-11:2004+A1:2017	Voltage Dips, Short Interruptions Immunity	$\square$
EN 61000-4-6	Broadband impulse noise disturbances, repetitive	
EN 61000-4-6	Broadband impulse noise disturbances, isolated N/A(1	

Note: Indicates that the test is applicable, Indicates that the test is not applicable (1) Not applicable, Applicable only to CPE xDSL ports.

# 1.4 Test Facility

The measurement Radiated Susceptibility (80~1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz) was performed at Waltek Testing Group (Shenzhen) Co., Ltd. at 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

Other measurement required was performed at Building B, Tianji Industrial Park, Floor 1&2&3 No.30-9 Laiyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong, China.

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釋則前克那強美技术有能 次司 Shanzhen Hongeni Tsating Thebnology Co., Lid 广东省深圳市龙岗区龙岗街道都进新生社区菜商第-0-9 号 1 层、2 层、3 层 (天蓋工业辰 B 株) 一方 Shilding B, Tianji Induarial Park, Floor (Azda No. 30+9 Laiyin Road, Xinsheng Community, Longgang Street, Longgang Diarict, Shanzhen, Guangdong, China Wei: www.bit-test.com Email: hongeni@ht-test.com 記 CMA 标记报告中的统记仅用于客户科研、数学、内部质量控制、产品研发等目的,仅供内部参考,对社会不具有证明作用。 育 CNAS标识报告中的""""代表该做测算目带未申销 CNAS 认可、The reauli(i) in no CMA logo report shall only be used for difert's scient search, teaching, intrand quality control-product research and evelopment, etc... and just for internal reference, does not prove to society. The """ in CNAS logo report means that the test item(i) was (were) currently not applying for CNAS accerditation. Evrice 725: 496105666



# **2- SYSTEM TEST CONFIGURATION**

# 2.1 Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

# 2.2 EUT Exercise Software

The EUT exercising program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The software offered by manufacture, can let the EUT being normal operation.

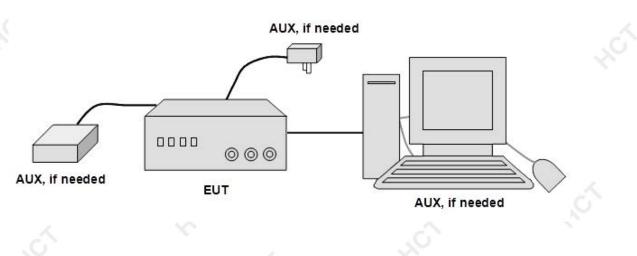
# 2.3 Equipment Modifications

The EUT tested was not modified by HCT.

# 2.4 Basic Configuration of Test System

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.

Immunity: The equipment under test (EUT) was configured to the representative operating mode and conditions.



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# 2.5 General Description of Test Auxiliary

## EUT Cable List and Details

Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
1	$\mathcal{D}$	1	
	1	1 5	1

## Special Cable List and Details

Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
1	1	1	1
/	/		1 🔨

Auxiliary Equipment List and Details							
Description	Manufacturer	Model		Serial Number			
Loudspeaker box	1,0	/	X	1	120		
DVD	SHENZHEN GIEC E	BDP-G4350	6.	1			

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裸川市紅彩境測技术有限公司 Shenzhen Hongeai Teating Technology Co., Lid 广东常様圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层(天蓝工业层 B 核厂房) Building B, Tianji Industrial Park, Floer 1 & 2& 2 Mo. 3 O 9 Lalyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong, China Web: www.hot-test.com Email: hongeni@hot-test.com



# **3- CONDUCTED DISTURBANCE AT THE MAINS TERMINALS**

## 3.1 Measurement Uncertainty

Test Site: Shielding Room

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Measurement Uncertainty:

As shown in the table above our conducted emissions U lab is less than the corresponding U CISPR.

Measurement	Frequency Range	Expanded Uncertainty (k=2)	Ucispr
AC Line Conducted Emissions	150 kHz - 30 MHz	2.7 dB	3.4dB

As shown in the table above our radiated emissions U<sub>*lab*</sub> is less than the corresponding U<sub>*CISPR*</sub> reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required, based on CISPR 32 and CISPR 11 (for 2006 and later revisions) Clause 11.

# 3.2 Limit of Conducted Disturbance at The Mains Terminals

	Class B Equi	pment Limits
Frequency Range (MHz)	Quasi-Peak (dBuV)	Average (dBuV)
0.150~0.500	66~56	56~46
0.500~5.000	56	46
5.000~30.00	60	50

NOTE 1: The tighter limit shall apply at the edge between two frequency bands. NOTE 2: The limits decrease linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

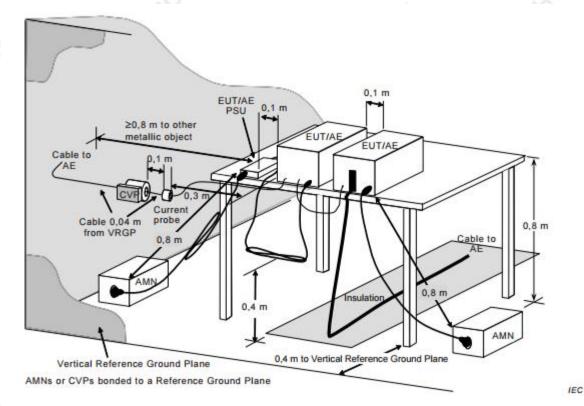
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# 3.3 EUT Setup



The setup of EUT is according with CISPR 16-1-1: 2019, CISPR 16-2-3: 2016+A1:2019 measurement procedure. The specification used was the EN 55032: 2015+A11: 2020 limits.

The EUT was placed center and the back edge of the test table. The AV cables were draped along the test table and bundled to 30-40cm in the middle.

The spacing between the peripherals was 10 cm.

Maximum emission emitted from EUT was determined by manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation and the levels in the final result of the test were recorded with the EUT running in the operating mode that maximum emission was emitted.

# 3.4 Instrument Setup

The test receiver was set with the following configurations:

Test Receiver Setting:

Frequency Range	150 KHz to 30 MHz
Detector	Peak & Quasi-Peak & Average
Sweep Speed	-
IF Band Width	

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深圳市虹影独装技术介绍公式 Shanzhen Hongeel Tasting Thechnology Co., Lid 广东省派训市龙岗区龙岗街道新生社区菜商第40-9号 1 晨、2 展、3 展(天蓋工业版 B 株厂房) Building B, Tasji Induxiri J Park, Floor 28:242 No. 30-9 Laiyin Road, Xinsheng Community, Longgong Street, Longgung District, Shanzhen, Guangdong, China Web: www.hot-test.com Email: hongsui@ht-test.com



# 3.5 Test Procedure

- 1. During the conducted emission test, the EUT power cord was connected to the auxiliary outlet of the first Artificial Mains.
- 2. Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance using all installation combination.
- All data was recorded in the peak detection mode. Quasi-peak and Average readings were only performed when an emission was found to be marginal (within -10 dB<sub>μ</sub>V of specification limits). Quasi-peak readings are distinguished with a "QP". Average readings are distinguished with a "AV".

## 3.6 Test Equipment List and Details

No.	Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator
12	LG/EMC-05-001	EMI Test Receiver	R&S	ESCI 3	100687	2021-03-30	2022-03-29
2	LG/EMC-05-003	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	8128249	2021-03-31	2022-03-30
3	LG/EMC-05-002	10dB attenuator SCHWARZBECK		9561-F061	8360009	2021-03-30	2022-03-29
			Software L	ist		<u>х</u>	
	Description Manufacturer		Mod	lel	Ver	sion	
Test Software Farad		EZ-E	МС	EME	C-3A1		

# 3.7 Corrected Amplitude & Margin Calculation

Sample Calculations:

The following is how net line-conducted readings were determined:

NF = RF + LF + CF + AF

Where NF = Net Reading in  $dB\mu V$ 

RF = Reading from receiver in  $dB\mu V$ 

LF = LISN or ISN Correction Factor in dB

CF = Cable Correction Factor in dB

AF = Attenuator Loss Factor in dB

To convert from  $dB\mu V$  to $\mu V$  or mV the following was used: UF = 10(NF / 20)

where UF = Net Reading in  $\mu V$ 

NF = Net Reading in  $dB\mu V$ 

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釋用前電影檢選結於不需於奇 Shazuben Hongeal Tusting Thebnology Co., Lid 广东省深圳市龙岗区龙岗物造新生社区菜商第-0-9号 1 层、2 层、3 层(天蓝工业版 B 练厂房) Building B.Tinaji Industrial Park,Floor 1 & 2.& 2 A No. 30-9 Laiyin Road, Xinsheng Community, Longgang Street, Longgang District, Shazuben, Guangdong,China Web: www.het.reat.com Enrolis hongeau(aduction) Enrols Hongeau(aduction) CMA 标识报告中的编记仪用于客户科研、数学、内和质量控制、产品研发等目的、仅供内容参考、对社会不具有证明作用。 CNAS 标识报告中的"\*\*"代表该按道项目带未申请CNAS 认可、The result(e) in no CMA logo report hall only be used for client's scie search, teaching, intrand quality control, product research in add development, etc., und just for intramal reference, does not prove to asociety. he \*\* in CNAS logo report means that the test iten(i), was (vere) currently not applying for CNAS accordination. E 0755-846166666



# 3.8 Test Data And Test Result

Temperature:	<b>24</b> ( °C )	de la companya de la comp	
Humidity:	55( %RH )	18 A.	A.
Atmospheric pressure:	101 (kPa)		5
Operating Mode:	Mode1	<u>A</u>	×.
Test Result:	Pass		

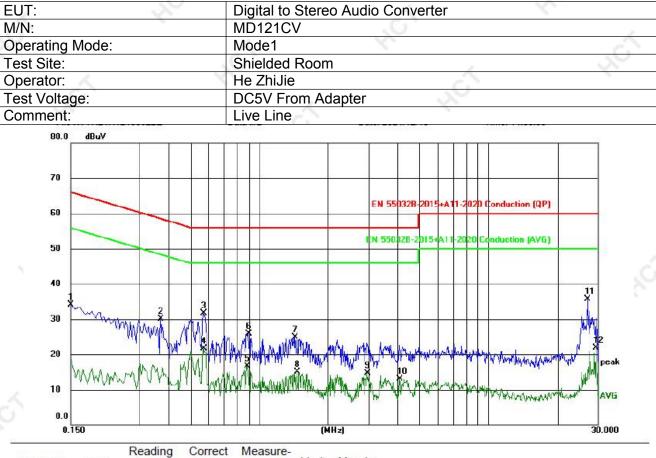
## Report No.: WTH21H12135622E

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裸川市紅彩境測技术有限公司 Shenzhen Hongeai Teating Technology Co., Lid 广东常様圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层(天蓝工业层 B 核厂房) Building B, Tianji Industrial Park, Floer 1 & 2& 2 Mo 30 9 Ladyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong, China Web: www.hot-test.com Email: hongeni@hot-test.com



## **Conducted Emission Test**



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	0.1500	24.89	9.29	34.18	66.00	-31.82	QP		
2	0.3700	20.25	9.87	30.12	58.50	-28.38	QP		
3 *	0.5700	21.70	9.91	31.61	56.00	-24.39	QP		
4	0.5700	11.70	9.91	21.61	46.00	-24.39	AVG		
5	0.8820	6.68	10.05	16.73	46.00	-29.27	AVG		
6	0.8980	15.91	10.05	25.96	56.00	-30.04	QP		
7	1.4260	14.60	10.28	24.88	56.00	-31.12	QP		
8	1.4620	4.83	10.34	15.17	46.00	-30.83	AVG		
9	2.9500	4.15	10.50	14.65	46.00	-31.35	AVG		
10	4.0900	2.88	10.21	13.09	46.00	-32.91	AVG		
11	27.0460	24.58	11.03	35.61	60.00	-24.39	QP		
12	29.4860	10.77	11.05	21.82	50.00	-28.18	AVG		

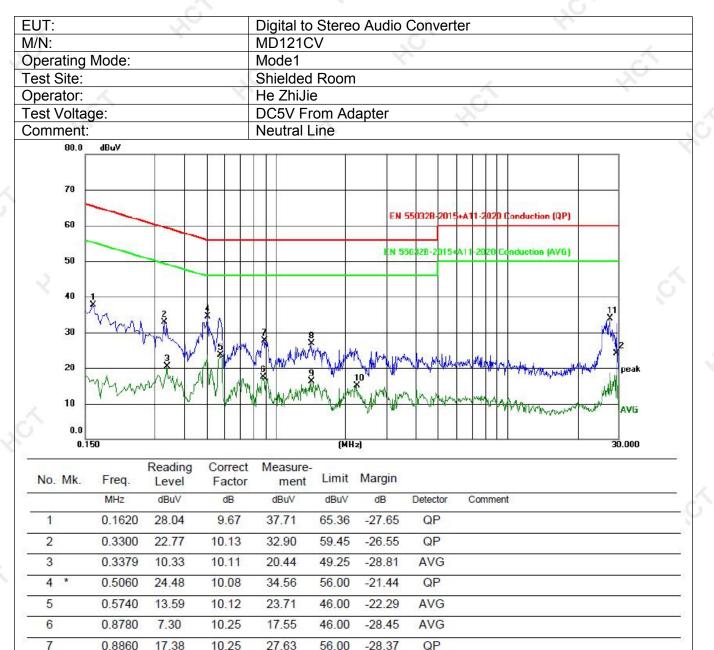
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深圳市紅彩燈製技术有能公司 Shenzhen Hongesi Tasting Technology Co., Ld 广东省深圳市龙岗区龙岗街道新生社区菜茵第30-9号1层、2层、3层(天蓝工业匠B核厂费) Building B, Tianji Industrial Park, Floor 1&2&83 No.30-9 Latyin Road, Xinsheng Community, Longgong Street, Longgang District, Shenzhen, Guangdong, China Web: www.hct-test.com Email: hongesi@hct-test.com



## **Conducted Emission Test**



27.6020 22.74 11.18 33.92 60.00 -26.08 QP 29.4900 12.95 11.22 24.17 50.00 -25.83 AVG

26.89

16.28

15.19

56.00

46.00

46.00

-29.11

-29.72

-30.81

10.40

10.40

10.41

#### Report No.: WTH21H12135622E

1.4140

1.4140

2.2260

16.49

5.88

4.78

8

9

10

11

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線圳市紅彩燈製技术有限公司 Shenzhen Hongeni Testing Technology Co., Ltd 广东省線圳市龙岗区龙岗街道新生社区菜窗路 90-9 号 1 层、2 层、3 层 (天蓋工业辰 B 栋厂房) Building B, Itanji Industrial Park, Floer 1&2&2 No. 30-9 Laiyin Road, Xinsheng Community, Longgong Street, Longgang District, Shenzhen, Guangdong, China Web: www.hct-test.com Email: hongesi@hct-test.com 无 CMA 标识报告中的结果仅用于客户科研、数学、内视质量控制、产品研发等目的、仅供内容参考、对社会不具有证明作用。 有 CNAS 标识报告中的 " e " 代表读被编项目整未申请 CNAS 认可、The result(a) in no CMA logo report shall only be used for client's scientific research, teaching, internal quality control, product research and development, etc. and just for internal reference, does not prove to society. The " a " in CNAS logo report means that the test item() was (were) currently not applying for CNAS accreditation. Tel: 0755-84616666 Factor Tel: 400-0066-989 Fac: 0755-89594380

QP

AVG

AVG



# **4- RADIATED DISTURBANCES**

## 4.1 Measurement Uncertainty

## Test Site: 3m SAC

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is as below table.

Measurement	Frequency Range	Expanded Uncertainty (k=2)	Ucispr
Radiated Emissions, 3m	30-1000MHz	4.5 dB	6.3 dB

As shown in the table above our radiated emissions U<sub>*lab*</sub> is less than the corresponding U<sub>*CISPR*</sub> reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required, based on CISPR 32 and CISPR 11 (for 2006 and later revisions) Clause 11.

# 4.2 Limit of Radiated Disturbances

Below 1GHz Class B Equipment Limits				
Frequency (MHz)	Distance (Meters)	Quasi-Peak (dBμV/m)		
30 ~ 230	3	40		
230 ~ 1000	3	47		

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

Above 1GHz Class B Equipment Limits					
Frequency (GHz)	Distance (Meters)	Average (dBµV/m)	Peak (dBμV/m)		
1~3	3	50	70		
3~6	3	54	74		
NOTE 1 The lower limit sh	all apply at the transition free	nuency			

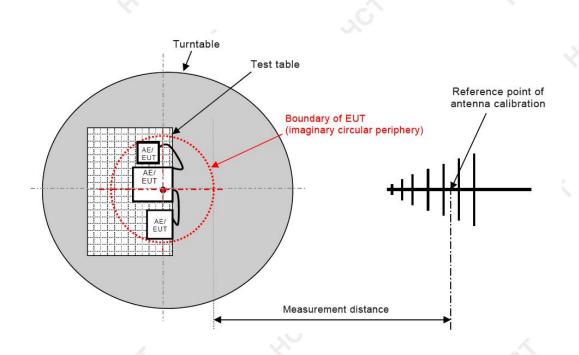
## Report No.: WTH21H12135622E

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際川市近野発展社法本有限公司 Shnazhen Hongeal Tarting Thehnology Co., Ld 「奈全漢圳市之間反之炭物資源社主に区家商第30-9号 1 层、2 层、3 层 (天蓋工业版 B 株)「房) Maliding B, Tianji Industrial Park, Floor 1 & 2 & & No. 30-9 Laiyin Road, Ximsheng Community, Longgang Sitvet, Longgang District, Shnazhen, Guangdong, China Wei: www.hot-test.com Ernal: hongsui@Act-test.com CMA 承诺准告中的结果仅用于客户制矸、载华、内部质量控制、产品研究等目的。仅低并需要者,对社会不具有证则作用。 CNAS 标识报告中的 \*\* 《 代表读检测项目营未申请 CNAS 认可、The reault(9) in no CMA logo report shall only be used for client's scie excit, tacking, imtrasil quality control, product research and development, etc...md just for internal reference, does not prove to society. \*\* \* in CNAS logo report mesan that the test item(6) was (veree) currently not applying for CNAS accreditation. \*0755-846166666 Fax:



# 4.3 EUT Setup



The Radiated Emission Test Data of Below 1GHz s were performed in the open area 3-meter test site, using the setup accordance with the CISPR 16-1-1: 2019, CISPR 16-2-3: 2016+A1:2019. The specification used was EN 55032 Class B limits.

The EUT was placed on the center of the test table.

Maximum emission emitted from EUT was determined by manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation and the levels in the final result of the test were recorded with the EUT running in the operating mode that maximum emission was emitted.

## 4.4 Test Receiver Setup

According to EN 55032:2015+A11:2020 rules, the frequency was investigated from 30 to 1000 MHz. During the Radiated Emission Test Data of Below 1GHz , the test receiver was set with the following configurations:

Detector	Peak & Quasi-Peak
IF Band Width	
Frequency Range	
Turntable Rotated	0 to 360 degrees

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Test Receiver Setting above 1000MHz:

Detector	Peak & Average
IF Band Width	1MHz
Frequency Range	1000MHz to 6000MHz
Turntable Rotated	0 to 360 degrees

Antenna Position:

Height	1m to 4m
Polarity	Horizontal and Vertical

## 4.5 Test Procedure

- 1. Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.
- All data was recorded in the peak detection mode. Quasi-peak readings performed only when an emission was found to be marginal (within -10 dB<sub>μ</sub>V of specification limits), and are distinguished with a "QP" in the data table.

## 4.6 Corrected Amplitude & Margin Calculation

Sample Calculation:

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

## FS = RA + AF + CF - AG

Where 🕥

FS = Field Strength in  $dB\mu V/m$ 

RA = Receiver Amplitude (including preamplifier) in  $dB\mu V$ 

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in

dB AG = Amplifier Gain

in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 dB $\mu$ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added.

The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in V/m.

RA = 52.0  $dB\mu V AF = 7.4$  dB/mCF = 1.6 dB AG = 29.0 dB FS = 32  $dB\mu V/m$ 

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察川市這彩微就技术有限公司 Sheazhen Hongeal Tataing Thehnology Co., Lid 广东省港圳市龙岗区龙岗物造新生社区菜菜简第30-9 号 1 层、2 层、3 层(天蓝工业版 B 核厂房) Saliding B, Tianji Industrial Park, Floor 1 82&26 No. 30-9 Laiyin Road, Ximsheng Community, Longgang Sitzet, Longgang District, Sheazhen, Guangdong, China Web: www.hot-vest.com Email: hongeau@dath-test.com CMA 新订就集中的結果仅用于客户转研、数学、内就质量控制、产品研发等目的、仅供均衡等小、对社会不具有证则作用。 CNAS 新识报告中的"\*\*"代表该被编项目营来申请CNAS 认可、The result(s) in no CMA logo report shall only be used for client's scie search, teaching, internal quality control, product research and development, etc., and just for internal reference, does not prove to society. te \*\*\* in CNAS logo report means that the test iten(s) was (were) currently not applying for CNAS accreditation. : 0735546166666 Fax: 0735-084166666



To convert from  $dB\mu V to\mu V$  or mV the following was used: UF =  $10^{(NF / 20)}$ where UF = Net Reading in $\mu V$ NF = Net Reading in  $dB\mu V$ 

# 4.7 Test Equipment List and Details

					and the second sec			
No.	Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator	
1	LG/EMC-02- 001	EMI Test Receiver	R&S	ESPI7	100097	2021-05-27	2022-05-26	
2	LG/EMC-02- 007	Broadband Logarithmic Period Antenna	SCHWARZBECK	VULB 9162	/	2019-08-08	2022-08-07	
3	LG/EMC-02- 004	Broadband preamplifier	SCH WARZBECK	9718-182	9718-182	2021-03-31	2022-03-30	
4	LG/EMC-02- 005	Preamplifier	Agilent	8447D	1937A02492	2021-05-28	2022-05-27	
	. 6°	•	Software	List	SC.			
	Description	Manufa	cturer	Mo	odel	Version		
-	Test Software Far		ad	EZ-	EMC	EMEC-3A1		

# 4.8 Test Data And Test Result

Temperature:	24(°C)	.6`	
Humidity:	55( %RH )	×	
Atmospheric pressure:	101 (kPa)		-
Operating Mode:	Mode1	6	
Test Result:	Pass	A.	

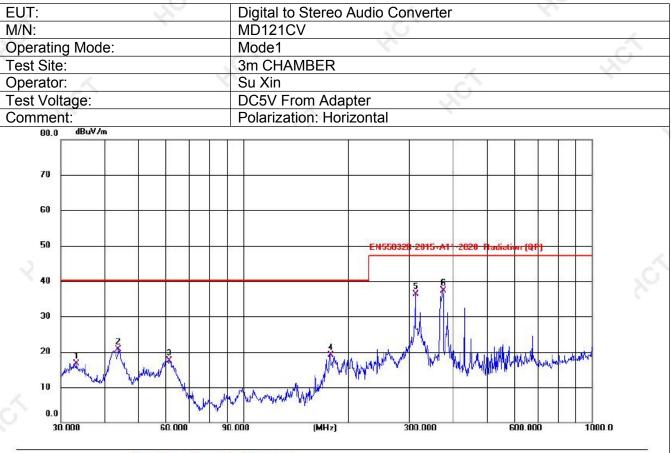
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線圳市虹影強製技术有限公司 Shenzhen Hongeni Tarting Technology Co., Ltd 广水音楽浜市之地国江設備運動生社区菜園第30-9 年、辰、2 辰、3 辰 (天蓋工业辰 B 栋厂房) Building B, Tangi Induztrial Jark, Floor 20:263 No.309-Liziyin Road, Xinsheng Community, Longgong Street, Longgung District, Shenzhen, Gumgdong, China Web: wwwhot-test.com



## **Radiated Emission Test Data of Below 1GHz**



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		33.2112	31.50	- <mark>14.</mark> 86	16.64	40.00	23.36	QP		
2		43.9658	37.74	-16.97	20.77	40.00	19.23	QP		
3		61.3463	31.58	-13.98	17.60	40.00	22.40	QP		
4		177.5092	42.68	-23.64	19.04	40.00	20.96	QP		¥
5		312.1794	55.61	-19.35	36.26	47.00	10.74	QP		
6	* (	373.3112	55.88	-18.48	37.40	47.00	9.60	QP		-2

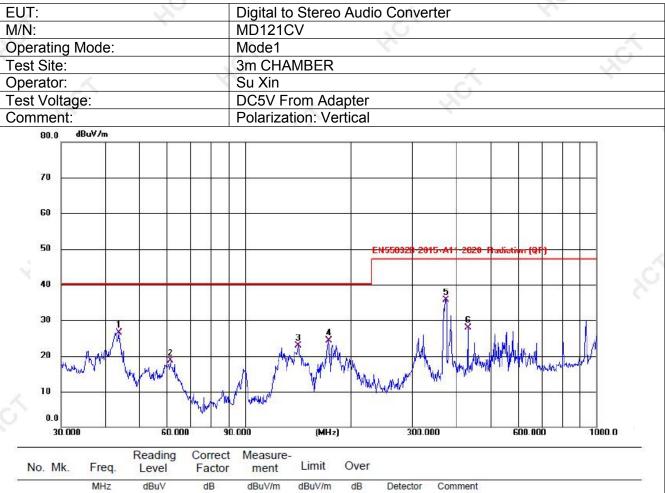
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深圳市紅彩燈製技术有能公司 Shenzhen Hongesi Tasting Technology Co., Ld 广东省深圳市龙岗区龙岗街道新生社区菜茵第30-9号1层、2层、3层(天蓝工业匠B核厂费) Building B, Tianji Industrial Park, Floor 1&2&83 No.30-9 Latyin Road, Xinsheng Community, Longgong Street, Longgang District, Shenzhen, Guangdong, China Web: www.hct-test.com Email: hongesi@hct-test.com



## Radiated Emission Test Data of Below 1GHz



MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
43.8119	43.53	-16.98	26.55	40.00	<mark>13.4</mark> 5	QP		
61.3463	32.68	-13.98	18.70	40.00	21.30	QP		<u>_</u>
141.8262	47.64	-24.68	22.96	40.00	17.04	QP		74
172.5988	48.18	-23.90	24.28	40.00	15.72	QP		
373.3112	54.20	-18.48	35.72	47.00	11.28	QP		
431.0316	45.81	-17.81	28.00	47.00	19.00	QP		
	43.8119 61.3463 141.8262 172.5988 373.3112	43.811943.5361.346332.68141.826247.64172.598848.18373.311254.20	43.811943.53-16.9861.346332.68-13.98141.826247.64-24.68172.598848.18-23.90373.311254.20-18.48	43.811943.53-16.9826.5561.346332.68-13.9818.70141.826247.64-24.6822.96172.598848.18-23.9024.28373.311254.20-18.4835.72	43.811943.53-16.9826.5540.0061.346332.68-13.9818.7040.00141.826247.64-24.6822.9640.00172.598848.18-23.9024.2840.00373.311254.20-18.4835.7247.00	43.811943.53-16.9826.5540.0013.4561.346332.68-13.9818.7040.0021.30141.826247.64-24.6822.9640.0017.04172.598848.18-23.9024.2840.0015.72373.311254.20-18.4835.7247.0011.28	43.811943.53-16.9826.5540.0013.45QP61.346332.68-13.9818.7040.0021.30QP141.826247.64-24.6822.9640.0017.04QP172.598848.18-23.9024.2840.0015.72QP373.311254.20-18.4835.7247.0011.28QP	43.811943.53-16.9826.5540.0013.45QP61.346332.68-13.9818.7040.0021.30QP141.826247.64-24.6822.9640.0017.04QP172.598848.18-23.9024.2840.0015.72QP373.311254.20-18.4835.7247.0011.28QP

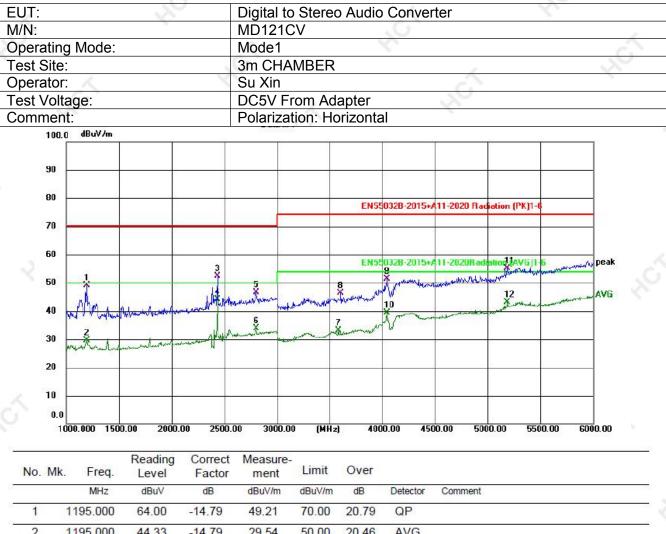
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深圳市紅彩燈製技术有能公司 Shenzhen Hongesi Tasting Technology Co., Ld 广东省深圳市龙岗区龙岗街道新生社区菜茵第30-9号1层、2层、3层(天蓝工业匠B核厂费) Building B, Tianji Industrial Park, Floor 1&2&83 No.30-9 Latyin Road, Xinsheng Community, Longgong Street, Longgang District, Shenzhen, Guangdong, China Web: www.hct-test.com Email: hongesi@hct-test.com



## Radiated Emission Test Data of Above 1GHz



12	5185.000	38.95	4.07	43.02	54.00	10.98	AVG	
11	5185.000	51.00	4.07	55.07	74.00	18.93	QP	
10	4040.000	34.88	4.60	39.48	54.00	14.52	AVG	
9	4040.000	46.81	4.60	51.41	74.00	22.59	QP	
8	3605.000	50.70	-4.35	46.35	74.00	27.65	QP	
7	3585.000	37.50	-4.48	33.02	54.00	20.98	AVG	
6	2800.000	42.00	-8.12	33.88	50.00	16.12	AVG	
5	2800.000	54.72	-8.12	46.60	70.00	23.40	QP	
4 *	2435.000	55.19	-11.17	44.02	50.00	5.98	AVG	
3	2435.000	63.54	-11.17	52.37	70.00	17.63	QP	
2	1195.000	44.33	-14.79	29.54	50.00	20.46	AVG	

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線川市紅彩燈製技术有限公司 Shenzhen Hongeai Tasting Technology Co., Ld 广东省線河市龙岗区龙岗街道新生社区菜園第90-9号1层、2层、3层(天蓋工业版B 旅厂房) Building B,Tianji Industrial Park,Floor 1&2&243 No.30-9 Ladyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong,China Web: www.hct-test.com Email: hongesi@hct-test.com



## Radiated Emission Test Data of Above 1GHz

EUT:		1	-	Digital to	o Stere	o Audio	o Conve	rter		N.		
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No. I	10 0.0 1000.000 15	500.00 200 Reading Level	0.00 250 Correct Factor	0.00 3000 Measure- ment	.00 (M Limit	Hz) A	1000.00	4500.00 5	5000.00	5500.00	6000.00	) 
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No. 1	10 0.0 1000.000 19 Mk. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			5000.00	5500.00	6000.00	) 
	10 0.0 1000.000 19 Mk. Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector		5000.00	5500.00	6000.00	
1	10 0.0 1000.000 19 Mk. Freq. MHz 1195.000	Reading Level dBuV 61.71	Correct Factor dB -14.79	Measure- ment dBuV/m 46.92	Limit dBuV/m 70.00	Over dB 23.08	Detector QP		5000.00	5500.00	6000.00	) 
1	10 0.0 1000.000 19 Mk. Freq. MHz 1195.000 1195.000	Reading Level dBuV 61.71 43.18	Correct Factor dB -14.79 -14.79	Measure- ment dBuV/m 46.92 28.39	Limit dBuV/m 70.00 50.00	Over dB 23.08 21.61	Detector QP AVG		5000.00	5500.00	6000. OC	
1 2 3	10 0.0 1000.000 19 Mk. Freq. MHz 1195.000 1195.000 1795.000	Reading Level dBuV 61.71 43.18 56.76	Correct Factor dB -14.79 -14.79 -13.06	Measure- ment dBuV/m 46.92 28.39 43.70	Limit dBuV/m 70.00 50.00 70.00	Over dB 23.08 21.61 26.30	Detector QP AVG QP		5000.00	5500.00	6000.00	
1 2 3 4 5	10 0.0 1000.000 19 Mk. Freq. MHz 1195.000 1195.000 1795.000 1795.000 2435.000	Reading Level dBuV 61.71 43.18 56.76 42.07 61.01	Correct Factor dB -14.79 -13.06 -13.06 -11.17	Measure- ment dBuV/m 46.92 28.39 43.70 29.01 49.84	Limit dBuV/m 70.00 50.00 70.00 50.00 70.00	Over dB 23.08 21.61 26.30 20.99	Detector QP AVG QP AVG QP		5000.00	5500.00	5000. OC	
1 2 3 4 5 6	10 0.0 1000.000 19 Mk. Freq. MHz 1195.000 1195.000 1795.000 2435.000 * 2435.000	Reading Level dBuV 61.71 43.18 56.76 42.07 61.01 52.80	Correct Factor dB -14.79 -14.79 -13.06 -13.06 -11.17 -11.17	Measure- ment dBuV/m 46.92 28.39 43.70 29.01 49.84 41.63	Limit dBuV/m 70.00 50.00 70.00 50.00 70.00 50.00	Over dB 23.08 21.61 26.30 20.99 20.16 8.37	Detector QP AVG QP AVG QP AVG		5000.00	5500.00	6000.00	
1 2 3 4 5 6 7	10 1000.000 19 Mk. Freq. MHz 1195.000 1195.000 1795.000 1795.000 2435.000 * 2435.000	Reading Level dBuV 61.71 43.18 56.76 42.07 61.01 52.80 41.63	Correct Factor dB -14.79 -14.79 -13.06 -13.06 -11.17 -11.17 -8.75	Measure- ment dBuV/m 46.92 28.39 43.70 29.01 49.84 41.63 32.88	Limit dBuV/m 70.00 50.00 70.00 50.00 50.00 50.00	Over dB 23.08 21.61 26.30 20.99 20.16 8.37 17.12	Detector QP AVG QP AVG QP AVG AVG		5000.00	5500.00	6000.00	•
	10 0.0 1000.000 19 Mk. Freq. MHz 1195.000 1195.000 1795.000 2435.000 2435.000 2735.000 2795.000	Reading Level dBuV 61.71 43.18 56.76 42.07 61.01 52.80 41.63 59.88	Correct Factor dB -14.79 -14.79 -13.06 -13.06 -13.06 -11.17 -11.17 -8.75 -8.16	Measure- ment dBuV/m 46.92 28.39 43.70 29.01 49.84 41.63 32.88 51.72	Limit dBuV/m 70.00 50.00 70.00 50.00 50.00 50.00 70.00	Over dB 23.08 21.61 26.30 20.99 20.16 8.37 17.12 18.28	Detector QP AVG QP AVG QP AVG AVG QP		5000.00	5500.00	6000.00	
1 2 3 4 5 6 7 8 9	10 1000.000 19 Mk. Freq. MHz 1195.000 1795.000 1795.000 2435.000 * 2435.000 * 2435.000 2735.000 2795.000 4040.000	Reading Level dBuV 61.71 43.18 56.76 42.07 61.01 52.80 41.63 59.88 46.68	Correct Factor dB -14.79 -14.79 -13.06 -13.06 -11.17 -11.17 -8.75 -8.16 4.60	Measure- ment dBuV/m 46.92 28.39 43.70 29.01 49.84 41.63 32.88 51.72 51.28	Limit dBuV/m 70.00 50.00 70.00 50.00 50.00 50.00 70.00 70.00 70.00	Over dB 23.08 21.61 26.30 20.99 20.16 8.37 17.12 18.28 22.72	Detector QP AVG QP AVG QP AVG AVG QP QP		5000.00	5500.00	6000.00	
	10 0.0 1000.000 19 Mk. Freq. MHz 1195.000 1195.000 1795.000 2435.000 2435.000 2735.000 2795.000	Reading Level dBuV 61.71 43.18 56.76 42.07 61.01 52.80 41.63 59.88	Correct Factor dB -14.79 -14.79 -13.06 -13.06 -13.06 -11.17 -11.17 -8.75 -8.16	Measure- ment dBuV/m 46.92 28.39 43.70 29.01 49.84 41.63 32.88 51.72	Limit dBuV/m 70.00 50.00 70.00 50.00 50.00 50.00 70.00	Over dB 23.08 21.61 26.30 20.99 20.16 8.37 17.12 18.28	Detector QP AVG QP AVG QP AVG AVG QP		5000.00	5500.00	6000.00	

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第圳市紅鄉撞號技术有限公司 Shenzhen Hongesi Testing Technology Co., Ltd 广东省港圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层 (天蓝工业园 B 核厂房) Building B, Tianji Industrial Park,Floer 1&2&2 No. 30-9 Laiyin Read, Xinsheng Community, Longgang Struct, Longgang District, Shenzhen, Guangdong,China Web: www.hot-test.com Email: hongeni@hot-test.com

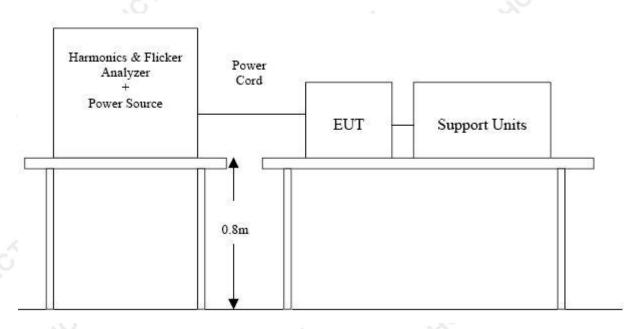


# **5 HARMONIC CURRENT TEST**

# 5.1 Application of Harmonic Current Emission

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.

## 5.2 Block Diagram of Test Setup:



## 5.3 Test Procedure:

- 1. 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 for each successive harmonic component in turn.
- 2. 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.

# 5.4 Test Equipment List and Details

N	о.	Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator
1	1	LG/EMC-14-001	HARMONICS&FLICK ER ANALYSER	VOLTECH	PM6000	20000670043 3	2021-05-28	2022-05-27
2	2	LG/EMC-14-002	Linear power supply	VOLTECH	AFC- 150	/	2021-06-11	2022-06-10

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練別市紅彩捡菜技大不有能公司 Shanzhen Hongeni Tating Tuchnology Co., Ltd 广东省茶河市龙岗区之岗构造造并社区菜商路-0-9 号 1 晨, 2 美 B、 3 层 (天蓋工业版 B 株厂房) Building B, Tangii Induxtrial Park/Hoz (Azad No. 30+9 Laiyin Road, Xinsheng Community, Longgong Street, Longgang District, Sheazhen, Guangdong,China Web: www.hot-test.com 

# 5.5 Test Data And Test Result

Basic Standard:	EN IEC 61000-3-2:2019
Observation time	150s
Windows width:	10 periods - (EN 61000-4-7 Edition 2000)
Temperature:	23.6 ( °C )
Humidity:	55 ( %RH )
Atmospheric pressure:	101.1 (kPa)
Operating Mode:	Mode1
Operator:	Wu ZhiHan
Test Result:	Pass
Note:	The input power of the EUT is less than 75W, then this EUT could be deemed to comply with the requirements of EN IEC 61000-3-2:2019 without test.

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裸川市紅彩境測技术有限公司 Shenzhen Hongeai Teating Technology Co., Lid 广东常様圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层(天蓝工业层 B 核厂房) Building B, Tianji Industrial Park, Floer 1 & 2& 2 Mo 30 9 Ladyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong, China Web: www.hot-test.com Email: hongeni@hot-test.com

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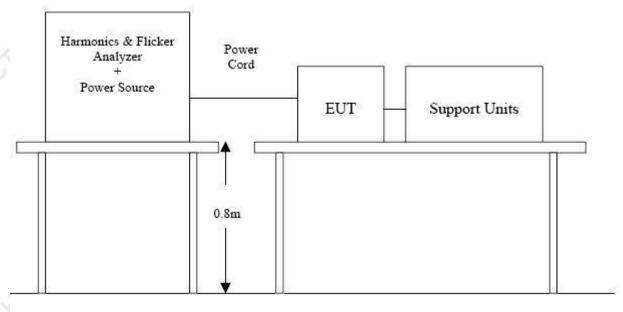
# 6 – VOLTAGE FLUCTUATIONS AND FLICKER TEST

# 6.1 Application and Limit of Voltage Fluctuations and Flicker Test

Compliance to these standards ensures that tested equipment will not generate flickers and voltage change 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.

Test Item	Limit	Remark
Pst 🔷	1.0	Pst means short-term flicker indicator.
Plt	0.65	Plt means long-term flicker indicator.
Tdt (ms)	500	Tdt means maximum time that dt exceeds 3 %.
dmax (%)	4%	dmax means maximum relative voltage change.
dc (%)	3.3%	dc means relative steady-state voltage change

# 6.2 Block Diagram of Test Setup:



# 6.3 Test Procedure:

- 1. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the most unfavorable sequence of voltage changes under normal operating conditions.
- 2. During the flick measurement, the measure time shall include that part of whole operation cycle in which the EUT produce the most unfavorable sequence of voltage changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.

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深圳市虹彩检测技术有限公司 Shenzhen B	longcal Testing Technology Co., Ltd
广东省深圳市龙岗区龙岗街道新生社区菜	菌路30-9号1层、2层、3层(天基工业园B栋厂房)
Building B, Tianji Industrial Park, Floor 1&2&	13 No.30-9 Ledyin Road, Xinsheng Community,
Longgang Street, Longgang District, Shenzhe	m, Guangdong, China
Web: www.hct-test.com	Email: hongeai@hct-test.com

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# 6.4 Test Equipment List and Details

No.	Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator
1	LG/EMC-14-001	HARMONICS&FLIC KER ANALYSER	VOLTECH	PM6000	20000670043 3	2021-05-28	2022-05-27
2	LG/EMC-14-002	Linear power supply	VOLTECH	AFC-150	J.	2021-06-11	2022-06-10

# 6.5 Test Data And Test Result

Basic Standard:	EN 61000-3-3:2013+A1:2019	N.
Short time (Pst)	10 min	
Observation time	10 min (1 Flicker measurement)	A
Temperature:	23.6( °C )	ž
Humidity:	55 (%RH )	
Atmospheric pressure:	101.1 (kPa )	1
Operating Mode:	Mode1	
Operator:	Wu ZhiHan	
Test Result:	Pass	

	Maximum Flicker results						
Test Item	EUT values	Limit	Result				
Pst	0.087	1.000	PASS				
💛 dc [%]	0.005	3.300	PASS				
dmax [%]	0.217	4.000	PASS				
dt [ms]	0	500	PASS				

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海圳市紅鄉推測技术有限公司 Shenzhen Hongeal Testing Technology Co., Ltd 广东常横圳市龙岗区龙岗街道新生社区菜商第30-9号1层、2层、3层(天蓝工业园 B 核厂房) Building B, Tianji Industrial Park, Floor 1&2&E No.30-9 Laiyin Road, Xinsheng Community, Longgang Struct, Longgang District, Shenzhen, Guangdong, China Web: www.hct-test.com Email: hongeni@hct-test.com



# 7- IMMUNITY TEST DESCRIPTION

# 7.1 General Description

Product Standard		EN 55035
	EN 61000-4-2	Electrostatic Discharge – ESD: ±8kV air discharge, ±4kV Contact discharge, Performance Criterion B
	EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test – RS: 80~1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz, 3V/m, 80% AM (1kHz), Performance Criterion A
	EN 61000-4-4	Electrical Fast Transient/Burst - EFT, Power line: ±1kV, Signal line: ±0.5kV, Performance Criterion B
Decis Standard	EN 61000-4-5	Surge Immunity Test: 1.2/50 us Open Circuit Voltage, 8 /20 us Short Circuit Current, Power Line: line to line $\pm$ 1 kV, line to ground $\pm$ 2 kV Signal line: $\pm$ 0.5kV, Performance Criterion B
Basic Standard, Specification, and Performance Criterion required	EN 61000-4-6	Conducted Radio Frequency Disturbances Test – CS: The frequency range is swept from 0.150MHz to 10MHz using 3V signal level; 10MHz to 30MHz using 3V to 1V signal level; 30MHz to 80MHz using 1V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave, Performance Criterion A
	EN 61000-4-8	Power Frequency Magnetic Field Tests: 1 A/m, 50/60Hz, X,Y,Z orientation, Performance Criterion A
	EN 61000-4-11	Voltage Dips: 1) 0% residual for 0.5 cycle, Performance Criterion B 2) 70% residual for 25/30 cycles for 50/60Hz, Performance Criterion C Voltage Interruptions: 0% residual for 250/300 cycles for 50/60Hz, Performance Criterion C

# 7.2 The phenomena allowed during and after test in each criterion are clearly stated in the following table

	Performance criteria					
Criteria	During test	After test				
A	Shall operate as intended. May show degradation of performance (see note1). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance (see note 2). Shall be no loss of function. Shall be no loss of stored data or user programmable functions.				

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陳圳市虹彩检测技术有限公司 Shenzhen Hongeai Tasting Technology Co., Ld 广东省狭圳市龙岗区龙岗街道新生社区菜園降90-9号1层、2层、3层(天基工业版 B 核厂房) Building B,Tianji Industrial Park,Floor 1&2&24 No.30-9 Ladyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong,China Web: www.hct-test.com Email: hongesi@hct-test.com



в	May show loss of function (one or more). May show degradation of performance (see note 1). No unintentional transmissions.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no degradation of performance (see note 2). Shall be no loss of stored data or user programmable functions.
С	May be loss of function (one or more).	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no degradation of performance (see note 2).

## NOTE 1:

Degradation of performance during the test is understood as a degradation to a level not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

## NOTE 2:

No degradation of performance after the test is understood as no degradation below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. After the test no change of actual operating data or user retrievable data is allowed. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect form the apparatus if used as intended.

## 7.3 Deviations from the standard

No deviations from EN 55032/EN 55035 were made when performing the tests described in this report.

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琴川前北部強烈法水希爾公司 Stharzben Hongeal Tarting Thehnology Co., Ld 广永省湊川市之防区之因物運動生社に区策障略30-9号1层、2层、3层(天蓋工北臣 B 株厂房) Building B.Tinaji Industrial Park,Floor 1 & 2& 26 No. 30-91 Laiyin Road, Xinsheng Community, Longgong Street, Longgong District, Shenzhen, Guangdong,China Web: www.hot-test.com Emsil: hongsui@ht-test.com CMA S标记报告中的结果仅用于客户制研、数学、内就质量控制、产品研发等目的,仅供内部参考,对社会不具有证则作用。 CNAS 标识报告中的"\*"代表该推测项目管未申请CNAS 试可。The result(s) in no CMA logor report shall only be used for clicen's scien search, teaching, internal quality control-product research and development, etc...and just for internal reference, does not prove to society. see "\* " in CNAS logor report means that the test iten(s) was (were) currently not applying for CNAS secretilation. : 0755546166666



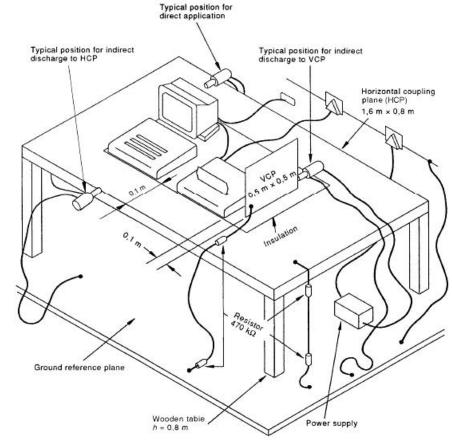
# **8- IMMUNITY TEST RESULTS**

# 8.1 Electrostatic Discharge Immunity Test

# 8.1.1 Test Specification

61000-4-2:2009				
, 4, 8 kV (Air Disc kV (Contact Disc kV (Indirect Cont kV (Indirect Cont	harge) act HCP)		XÓ	
6 ( °C )	.G`			
(%RH)	~			2
.1 (kPa )		1		3
de1		6		
ZhiHan		~		1
(	%RH ) 1 (kPa ) e1	%RH ) 1 (kPa ) le1	%RH ) 1 (kPa ) e1	%RH ) 1 (kPa ) e1

# 8.1.2 Test Setup



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裸川市紅彩境測技术有限公司 Shenzhen Hongeai Teating Technology Co., Lid 广东常様圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层(天蓝工业层 B 核厂房) Building B, Tianji Industrial Park, Floer 1 & 2& 2 Mo 30 9 Ladyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong, China Web: www.hot-test.com Email: hongeni@hot-test.com



# 8.1.3 Test Procedure

- 1. Electrostatic discharges were applied only to those points and surfaces of the EUT that are accessible to users during normal operation.
- 2. The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.
- 3. The time interval between two successive single discharges was at least 1 second.
- 4. The ESD generator was held perpendicularly to the surface to which the discharge was applied and the return cable was at least 0.2 meters from the EUT.
- 5. Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.
- 6. Air discharges were applied with the round discharge tip of the discharge electrode approaching the EUT as fast as possible (without causing mechanical damage) to touch the EUT. After each discharge, the ESD generator was removed from the EUT and re-triggered for a new single discharge. The test was repeated until all discharges were complete.
- 7. At least ten single discharges (in the most sensitive polarity) were applied to the Horizontal Coupling Plane at points on each side of the EUT. The ESD generator was positioned horizontally at a distance of 0.1 meters from the EUT with the discharge electrode touching the HCP.

8.

At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the Vertical Coupling Plane in sufficiently different positions that the four faces of the EUT were completely illuminated. The VCP (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the EUT.

# 8.1.4 Test Equipment List and Details

No.	Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator
1	LG/EMC-07-001	Electrostatic Discharge Simulator	TESEQ	NSG437	125	2021-05-20	2022-05-19

# 8.1.5 Performance Criterion Required & Test Result

☑ Passed □ Not Applicable

Table 1: Electrostatic Discharge Immunity (Air Discharge)

	Test Level		Test Points	Observation	Criterion	
±2 kV	±4kV	±8kV		Performance	Required	
$\square$	$\square$	$\boxtimes$	SPDIF	A	В	
$\square$	$\boxtimes$	$\square$	DC Port	A	В	

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琴川前這彩燈製技术有能公司 Shenzhen Hongeal Tating Thehnology Co., Lid 广东省狭圳市龙岗区龙岗塘道新生社区菜菜商第30-9 号 1 层、2 层、3 层(天蓝工业版 B 核厂务) Building B, Tisaji Industrial Park, Floor 182.62 No. 30-9 Laiyin Road, Xinsheng Community, Longgong Street, Longgong District, Shenzhen, Gungdong, China Web: www.hot-test.com Email: hongenu(2at-test.com CMA 新记诺律中的线架仅用于客户辩研、载举、内部质量控制、产品研发等目的,仅供内容参考,对社会不具有证则作用。 CNAS 标识报告中的"\*\*"代表读模糊项目管末申请 CNAS 认可。The result(a) in no CMA logo report hall cally be used for client's scie carb, teaching, intrasti quality control, product research and development, etc., and just for internal reference, does not prove to society. e \* \* \* in CNAS logo report means that the test item(a) was (were) currently not applying for CNAS ascrediation. C 9755-84616666



Table 2: Electrostatic Discharge Immunity (Direct Contact)

	Test Leve		Toot Dointe	Observation	Criterion
±2 kV	±4kV	±8kV	Test Points	Performance	Required
	$\square$		Shell	A	В
			Earphone	A	В
			Output(R/L)	A	В
	$\square$		COAXIAL	А	В

 Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

		Test Level		Test Points	Observation	Criterion
	±2 kV	±4kV	±8kV		Performance	Required
Γ		$\boxtimes$		Front Side	A	В
Γ	Í.	$\boxtimes$		Back Side	A	В
Γ		$\boxtimes$		Left Side	A	В
		$\boxtimes$		Right Side	A	В

 Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

		Test Level		Test Points	Observation	Criterion
4	±2 kV	±4kV	±8kV		Performance	Required
4		$\boxtimes$		Front Side	А	В
		$\boxtimes$	5	Back Side	A	В
	2	$\square$		Left Side	A	В
		$\boxtimes$		Right Side	А	В

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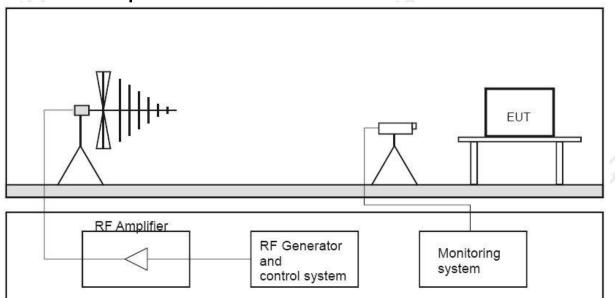


# 8.2 Radiated Susceptibility Test

# 8.2.1 Test Specification

	No.	
Basic Standard:	EN 61000-4-3:2006+A2:2010	5
Frequency Range:	80~1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz	1. C.
Modulation:	Amplitude 80%, 1kHz sinewave	
Test Level:	3V/m	
Temperature:	23.6 ( °C )	
Humidity:	55 (%RH )	
Atmospheric pressure:	101.1 (kPa )	
Operating Mode:	Mode1	6
Operator:	Harris Pan	61

# 9.2.2 Test Setup



# 8.2.3 Test Procedure

- 1. The testing was performed in a fully-anechoic chamber.
- 2. The frequency range is swept from 80~1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz, with the signal 80% amplitude modulated with a 1kHz sine wave.
- 3. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised and to respond, but shall in no case be less than 0,5s.
- 4. The field strength level was 3V/m.
- 5. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

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# 8.2.4 Test Equipment List and Details

No.	Equipment	Manufacturer	Model No.	S/N	Calibration Date	Next Calibration Date
1	Signal Generater	HP	8688B	3438A00604	2021-03-30	2022-03-29
2	Power Meter	KEITHLEY	3500	1162591	2021-03-27	2022-03-26
3	Power Meter	KEITHLEY	3500	1121428	2021-03-27	2022-03-26
4	RF Power Amplifier	Місо Тор	MPA-80- 1000-250	MPA1906239	2021-03-27	2022-03-26
5	RF Power Amplifier	Місо Тор	MPA-80- 1000-100	MPA1906238	2021-03-27	2022-03-26
6	Antenna	SCHWARZBE CK	STLP 9129	9129 114	N/A	N/A

# 8.2.5 Performance Criterion Required & Test Result

 $\boxtimes$  Passed

Not Applicable

Frequency Band (MHz)	Test Level	Test Points	Observation Performance	Criterion Required
80-1000	3V/m	Front Side	А	А
80-1000	3V/m	Rear Side	A	A
80-1000	3V/m	Left Side	A	А
80-1000	3V/m	Right Side	А	A

Frequency Band (MHz)	Test Level	Test Points	Observation Performance	Criterion Required		
1800	3V/m	Front Side	А	A		
1800	3V/m	Rear Side	A	A		
1800	3V/m	Left Side	A	A		
1800	3V/m	Right Side	A	A		
	62			0		

Frequency Band (MHz)	Test Level	Test Points	Observation Performance	Criterion Required
	0) //	= 1011	renoilliance	Δ
2600	3V/m	Front Side	A	A
2600	3V/m	Rear Side	A	A
2600	3V/m	Left Side	А	A
2600	3V/m	Right Side	A	A

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Frequency Band (MHz)			Observation Performance	Criterion Required
3500	3V/m	Front Side	A	А
3500	3V/m	Rear Side	A	A
3500	3V/m	Left Side	A	A
3500	3V/m	Right Side	A	A

Frequency Band (MHz)	Test Level	Test Points	Observation Performance	Criterion Required
5000	3V/m	Front Side	А	A
5000	3V/m	Rear Side	А	A
5000	3V/m	Left Side	A	A
5000	3V/m	Right Side	A	A

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裸川市紅彩境測技术有限公司 Shenzhen Hongeai Teating Technology Co., Lid 广东常様圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层(天蓝工业层 B 核厂房) Building B, Tianji Industrial Park, Floer 1 & 2& 2 Mo 30 9 Ladyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong, China Web: www.hot-test.com Email: hongeni@hot-test.com

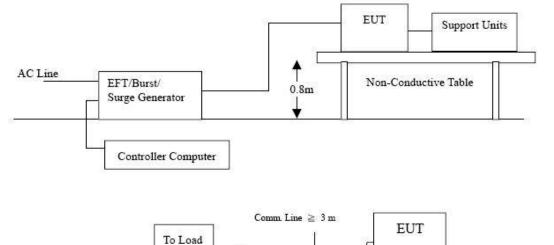


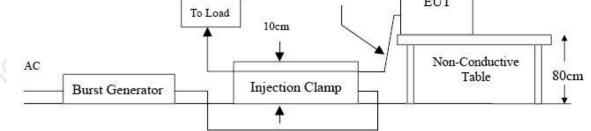
# 8.3 Electrical Fast Transient/Burst Immunity Test

# 8.3.1 Test Specification

Basic Standard :	EN 61000-4-4:2012		0
Test Level:	±1 kV for AC Power Line ±0.5 kV for Communication Lir	ne (If applicable)	K.,
Impulse Frequency:	5kHz	N	
Impulse Wave-shape:	5/50ns		1.
Burst Duration:	15ms		61
Burst Period:	300ms	×	
Test Duration:	1 min. 🔍 💭		
Temperature:	23.6 ( °C )		- G
Humidity:	55 ( %RH )	1	1
Atmospheric pressure:	101 (kPa )	.6`	
Operating Mode:	Mode1	<u> </u>	1
Operator:	Wu ZhiHan 🔘	5	X.

# 8.3.2 Test Setup





# 8.3.3 Test Procedure

- 1. Both positive and negative polarity discharges were applied.
- 2. The length of the "hot wire" from the coaxial output of the EFT generator to the terminals on the EUT should be 0.5m.
- 3. The duration time of each test sequential was 1 minute.

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深圳市虹影捡到技术有限公司 Sheazhen Hongcai Tarting Technology Co., Ld 广东省港河市龙岗区龙岗街道新生社区菜商第30-9 年 1 辰、2 辰、3 辰 (天蓋工业辰 B 核厂房) Building B, Tianji Industrial Park, Floor 1&2&3 No. 30-9 Laiyin Road, Xinsheng Community, Longgang Street, Longgang District, Sheazhen, Guangdong, China Web: www.hct-test.com Email: hongoxi@hct-test.com



4. The transient/burst waveform was in accordance with EN 61000-4-4, 5/50ns.

# 8.3.4 Test Equipment List and Details

No	. Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator
1	LG/EMC-08-001	Fast Transient Burst Generator	SCHAFFNER	MODULA6150	34572	2021-05-28	2022-05-27
2	LG/EMC-08-002	Capacitive Coupling Clamp	16	CDN8014	25096	2021-05-28	2022-05-27

# 8.3.5 Performance Criterion Required & Test Result

⊠ Passed

□ Not Applicable

Voltage	Test Points	Observation Performance	Criterion Required
±1kV	LO	А	В
±1kV	N	А	В
±1kV	Earth	/	1
±1kV	L+N	А	В
±1kV	L + Earth	/	1
±1kV	N + Earth	/	/
±1kV	L+N+Earth	/	1
±0.5kV	Control Line	/	/
±0.5kV	DSL (RJ11)	1	1
±0.5kV	LAN (RJ45)	/	1

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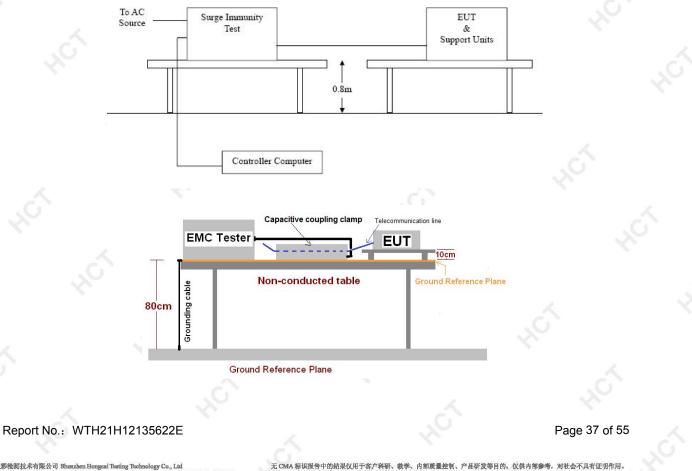


# 8.4 Surge Immunity Test

# 8.4.1 Test Specification

Basic Standard :	EN 61000-4-5:2014+A1:2017		
Test Level:	<ul> <li>± 0.5, 1 kV (Line to Line) for AC Power Line</li> <li>±0.5, 1, 2 kV (Line(s) to Ground) for AC Power Line</li> <li>± 0.5 kV for unshielded unsymmetrically operated interconnection lines (If applicable)</li> </ul>		
Wave-Shape:	Combination Wave 1.2/50 us Open Circuit Voltage 8/20 us Short Circuit Current		
Generator Impedance:	42 ohm between signal line and ground 2 ohm between networks		
Phase Angle:	90°/270°		
Pulse Repetition Rate:	1 time / min		
Number of Tests:	5 positive and 5 negative at selected points		
Temperature:	23.6 ( °C )		
Humidity:	55 ( %RH )		
Atmospheric pressure:	101.1 (kPa )		
Operating Mode:	Mode1		
Operator:	Wu ZhiHan		

# 8.4.2 Test Setup



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# 8.4.3 Test Procedure

1. For EUT power supply:

The surge is 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 was shorter than 2 meters in length.

2. For test applied to unshielded unsymmetrically operated interconnection lines of EUT: (If applicable)

The surge was applied to the lines via the capacitive coupling. The coupling / decoupling networks didn't influence the specified functional conditions of the EUT. The interconnection line between the EUT and the coupling/decoupling networks was shorter than 2 meters in length.

No.	Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator
1	LG/EMC-12-001	10KV/Telecom Surge Generator	Lioncel	LSG-510CB	1	2021-03-30	2022-03-29
2	LG/EMC-12-002	10KV/Telecom Surge Generator	Lioncel	LSG-506CT	/	2021-03-30	2022-03-29
3	LG/EMC-12-003	Surge	Lioncel	FHR-T82	/	2021-03-30	2022-03-29
4	LG/EMC-12-004	Surge	Lioncel	CN533P	/	2021-03-30	2022-03-29

## 8.4.4Test Equipment List and Details

## 8.4.5 Performance Criterion Required & Test Result

☑ Passed □ Not Applicable

Voltage	e Tes	t Points	Observation Performance	Criterion Required
±0.5k\	/	L-N	/	1
±1kV	. G	L-N	А	В
±2kV	L- Ear	th, N- Earth	/	/
±0.5k\	/ Cor	ntrol Line	/	/
±0.5k\	/ DS	_ (RJ11)	/	/
±0.5k\	LAI	LAN (RJ45) /		/

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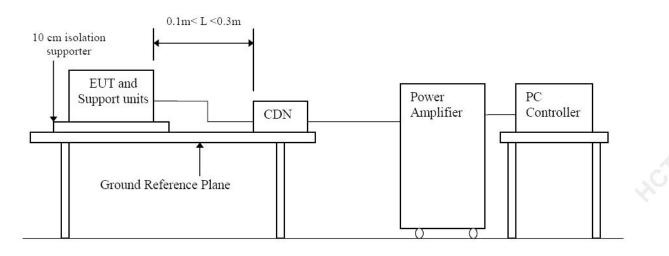


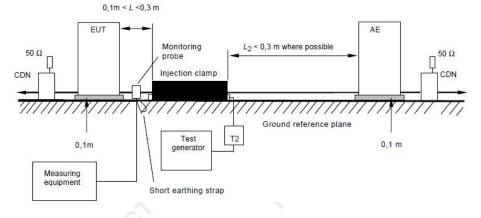
# 8.5 Conducted Susceptibility Test

# 8.5.1 Test Specification

1			
Basic Standard:	EN 61000-4-6:2014+AC:2015		.0
Test Level:	0.15~10MHz:3Vr.m.s		N.
	10MHz~30MHz: 3Vr.m.s. to 1Vr.m.s.		
	30~80MHz: 1Vr.m.s		
Frequency Range:	0.15~80MHz (MHz)	1	
Modulation:	Amplitude 80%, 1kHz sinewave	.6	
Frequency Step:	1 % of preceding frequency value	N.	
Temperature:	23.6 ( °C )		
Humidity:	55 ( %RH )		- 62
Atmospheric pressure:	101.1 (kPa )		2
Operating Mode:	Mode1		
Operator:	Wu ZhiHan		

### 8.5.2 Test Setup





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### 8.5.3 Test Procedure

- 1. The test was performed with the test generator connected to each of the coupling and decoupling devices in turn, while the other non-excited RF input ports of the coupling devices are terminated by a 50-ohm load resistor.
- 2. The frequency range was swept from 150 kHz to 80 MHz, using the signal level established during the setting process and with a disturbance signal of 80 % amplitude. The signal was modulated with a 1 kHz sine wave, pausing to adjust the RF signal level or the switch coupling devices as necessary. The sweep rate was 1.5 x 10-3 decades/s. Where the frequency range is swept incrementally, the step size was 1 % of preceding frequency value from 150 kHz to 80 MHz.
- 3. The dwell time at each frequency was less than the time necessary for the EUT to be exercised, and able to respond. Sensitive frequencies such as clock frequency(ies) and harmonics or frequencies of dominant interest, was analyzed separately.
- 4. Attempts was made to fully exercise the EUT during testing, and to fully interrogate all exercise modes selected for susceptibility.

No.	Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator
1	LG/EMC-09-001	RF POWER AMPLIFIER	FRANKONIA	FLL-75	1020A1109	2021-05-28	2022-05-27
2	LG/EMC-09-002	CDN	FRANKONIA	CDN M2+M3	A3027019	2021-03-31	2022-03-30
3	LG/EMC-09-003	6DB Attenuator	FRANKONIA	1	1001698	2021-03-31	2022-03-30
4	LG/EMC-09-004	EM Injection clamp	FCC	F-203I-23mm	091536	2021-06-02	2022-06-01

# 8.5.4 Test Equipment List and Details

## 8.5.5 Performance Criterion Required & Test Result

☑ Passed □ Not Applicable

Frequency Band (MHz)	Voltage (Vrms)	Test Points	Observation Performance	Criterion Required
0.15-10	3	L-N	A	A
10-30	3 to 1	L-N	A	A
30-80	J_1	L-N	A	A
0.15-10	3	LAN (RJ45)	/	/
10-30	3 to 1	LAN (RJ45)	/	/
30-80	1	LAN (RJ45)	/	/
0.15-10	3	HDMI	/	/
10-30	3 to 1	HDMI	/	/
30-80	<u> </u>	HDMI	/	/
0.15-10	3	USB	/	/
10-30	3 to 1	USB	/	/
30-80	1	USB	/	/

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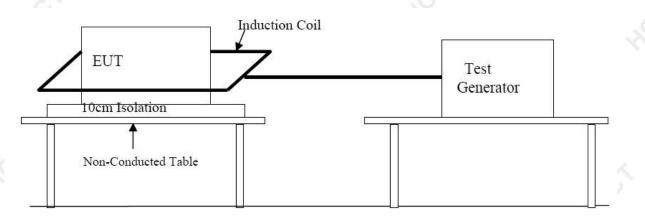


# 8.6 Power Frequency Magnetic Field Immunity Tests

## 8.6.1 Test Specification

9			
Basic Standard:	EN 61000-4-8:2010		0
Test Level:	1 A/m	<u> </u>	10
Orientation:	X,Y,Z		
Temperature:	23.6 ( °C )		
Humidity:	55 ( %RH )		
Atmospheric pressure:	101.1 (kPa)	, O	
Operating Mode:	Mode1	× ×.	
Operator:	Wu ZhiHan	20	j.

# 9.6.2 Test Setup



# 8.6.3 Test Procedure

- 1. The EUT and its load are placed on a table that is 0.8 meter above the metal ground plane dimension is at least 1 meter x 1 meter. The test magnetic field shall be placed at least than 3 meter distance from the induction coil.
- 2. The test magnetic field shall be applied by the immersion method to the EUT. The induction coil shall be rotated by 90° in order to expose the EUT to the test field with different orientation (X, Y, Z orientation).

# 8.6.4 Test Equipment List and Details

No	. Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator
1	LG/EMC-10-001	Power Frequency Magnetic Field Generator	EVERFINE	EMS61000-8K	608002	2021-03-29	2022-03-28

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陳圳市這影檢測技术有限公司 Starzban Hongcui Tating Technology Co., Lti 广东省横河市龙岗区之岗构造第生社区菜商第-90-9 「 辰、2 辰、3 辰 (天蓋工北西 B 栋厂房) Building B,Tangi Imdutrial Park,Floor 18:228 No.399 Laiyin Bead, Xinshang Community, Web: www.hot-test.com Web: www.hot-test.com 完 CMA 标识批告中的结果仅用于客户科研、数学、内部质量控制、产品研发等目的,仅供为部参考,对社会不具有证明作用。 有 CFAS 标识脱色中的"\*°"代表该体制项目常未带着CNAS 认可, The reaubi(s) in no CMA logo report hall any be used for disent's sciet reserveb, teaching, internal quality control, yroduct research and diversion terminal reference, does not prove to as ociety. The "\*" in CNAS logo report means that the test item() was (verse) surrently not applying for CNAS accreditation. Tei: 0755-846166666



### 8.6.5 Performance Criterion Required & Test Result

 $\boxtimes$  Passed

Not Applicable

Frequency (Hz)	Voltage (A/m)	Test Orientation	Observation Performance	Criterion Required
50	1	Х	А	А
50	1	Y	А	А
50	1	Z	A	A

Frequency (Hz)	Voltage (A/m)	Test Orientation	Observation Performance	Criterion Required
60	1	Х	А	A
60	1	Y	A	A
60	1	Z	A	A

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第圳市紅燈燈號拉术有限公司 Shenzhen Hongesi Testing Technology Co., Ltd 广东常凝圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层 (天蓝工业园 B 核厂房) Building B, Tianji Industrial Park,Floer 1&2&2 No. 30-9 Laiyin Read, Xinsheng Community, Longgang Struct, Longgang District, Shenzhen, Guangdong,China Web: www.hot-test.com Email: hongeni@hot-test.com

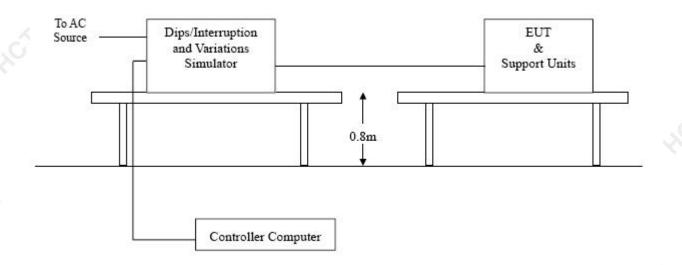


## 8.7 Voltage Dips, Short Interruptions Immunity Tests

## 8.7.1 Test Specification

Basic Standard:	EN 61000-4-11:2004+A1:2017	5
Test Level:	<ul> <li>Voltage Dips:</li> <li>1) 0% residual voltage for 0.5 cycle,</li> <li>2) 70% residual voltage for 25/30 cycles for 50/60Hz.</li> <li>Voltage Interruptions:</li> <li>0% residual voltage for 250/300 cycles for 50/60Hz.</li> </ul>	
Interval between event:	10 seconds	
Phase Angle:	0°/90°/270°	
Test cycle:	3 times	~
Temperature:	23.6 ( ℃ )	
Humidity:	55 ( %RH )	
Atmospheric pressure:	101.1 (kPa )	1
Operating Mode:	Mode1	v
Operator:	Wu ZhiHan	1 C C

### 8.7.2 Test Setup



## 8.7.3 Test Procedure

The EUT was tested for each selected combination of test levels and duration with a sequence of 3 dips/interruptions with intervals of 10s (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.

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採用市電影強差法未常需公司 Sthuzzban Hongeul Tauting Tuchnology Co., Ltd 广东常狭川市龙岗区之岗物造都生长区菜商路30-9号 1 晨、2 展、3 层 (天蓋工业后 2 核丁房) Building B, Tuaji Industrial Park,Floor 1 & 2& & No. 30-9 Laiyin Road, Xinaheng Community, Longgong Street, Longgong District, Shonzben, Guangdong,China Web: www.hot-test.com Email: hongsui@hot-test.com



# 8.7.4 Test Equipment List and Details

No.	Instrument no.	Equipment	Manufacturer	Model No.	S/N	Last Calculator	Due Calculator
1	LG/EMC-15-001	Surge/Dips Generator	Thermo Scientific	TRA2000	0902262	2021-03-30	2022-03-29

# 8.7.5 Performance Criterion Required & Test Result

☑ Passed □ Not Applicable

Ut: 230V AC, 50Hz				
Voltage (% Residual)	Duration (Period)	Observation Performance	Criterion Required	
<u> </u>	0.5	A	В	
70	25	A	С	
0	250	В	С	

Ut: 230V AC, 60Hz				
Voltage (% Residual)	Duration (Period)	Observation Performance	Criterion Required	
0	0.5	A 🔍	В	
70	30	A	c 🟑	
0	300	В	С	

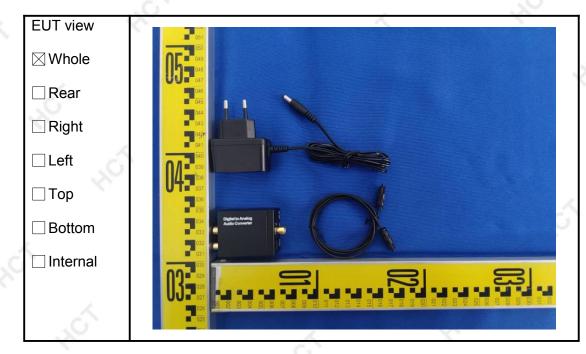
#### Report No.: WTH21H12135622E

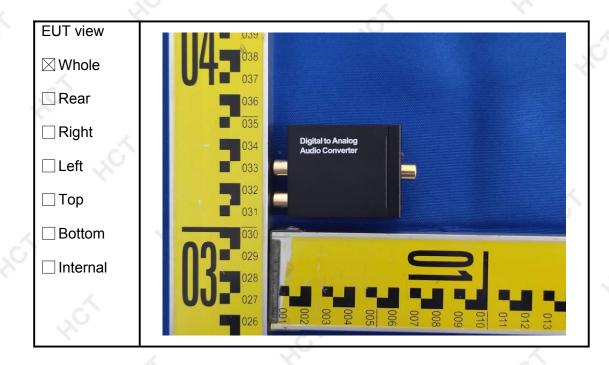
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哪圳市紅彩检测技术有限公司 Shenzhen Hongeai Tarting Technology Co., Ltd 广东省煤圳市龙岗区龙岗街道新生社区菜窗第30-9号1层、2层、3层(天蓝工业面 B 核厂房) Building B, Tilanji Industrial Park, Floor 1&2&3 No. 30-9 Latyin Road, Xinsheng Community, Longgong Street, Longgang District, Shenzhen, Guangdong, China Web: www.hct-test.com Email: hongsni@hct-test.com



# **APPENDIX A - EUT PHOTOGRAPHS**



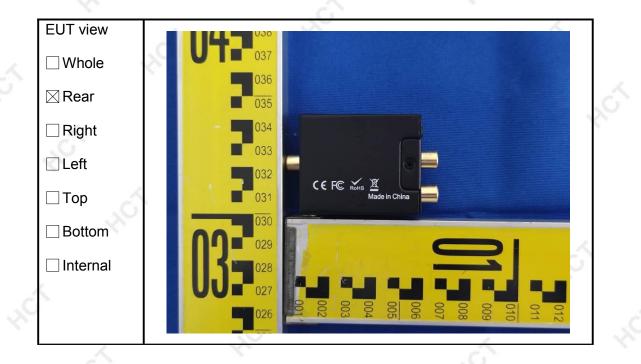


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等圳市紅彩境號技术有限公司 Shenzhen Hongeai Teating Technology Co., Lid 广东常德圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层(天蓝工业层 B 核厂房) Building B, Tianji Industrial Park, Floer 1 & 2& 2 No. 30-9 Lalyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong, China Web: www.hot-test.com Email: hongeni@hot-test.com





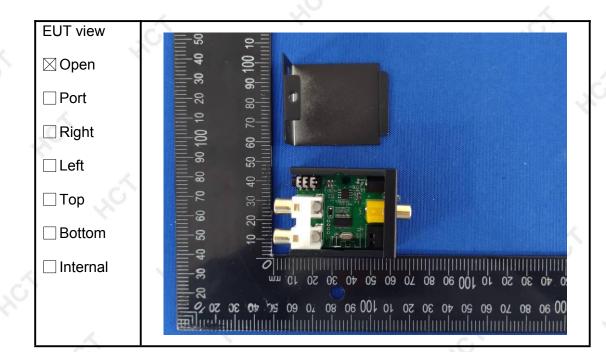


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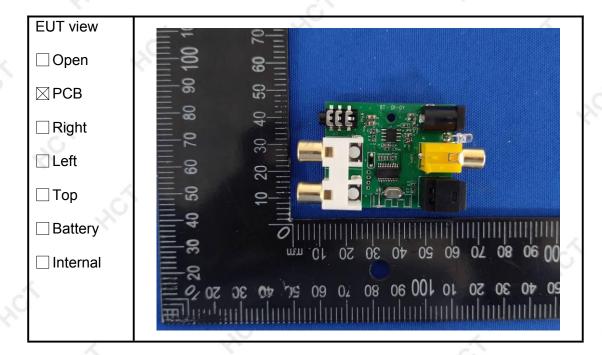


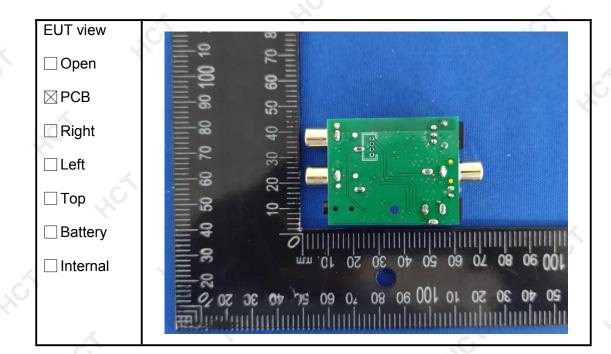


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等圳市紅彩燈製技术有限公司 Shenzhen Hongeai Ttaring Thehnology Co., Ld 广东省探圳市龙岗区龙岗街道新生社区菜園第30-9号1层、2层、3层(天蓝工业匠 B 核厂房) Building B, Tilanji Industrial Park, Floor J&Z&B No. 30-9 Laiyin Road, Xinsheng Community, Longgong Street, Longgang District, Shenzhen, Guangdong, China Web: www.hct-test.com



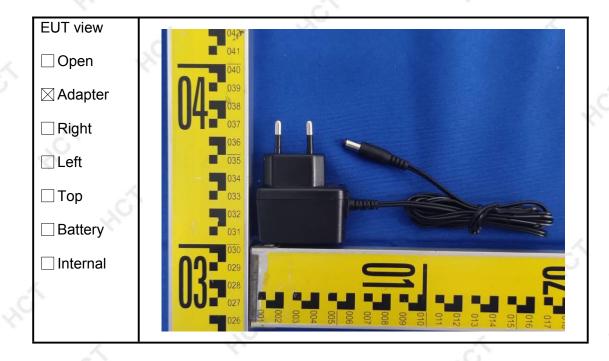




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## **APPENDIX B - TEST SETUP PHOTOGRAPHS**

#### **Conducted Disturbance at The Mains Terminals**



### **Radiated Disturbance of Below 1G**



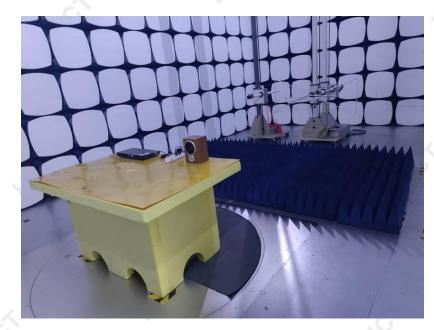
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等圳市紅彩境號技术有限公司 Shenzhen Hongeai Teating Technology Co., Lid 广东常德圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层(天蓝工业层 B 核厂房) Building B, Tianji Industrial Park, Floer 1 & 2& 2 No. 30-9 Lalyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong, China Web: www.hot-test.com Email: hongeni@hot-test.com



### **Radiated Disturbance of Above 1G**



Harmonic Current / Voltage Fluctuations and Flicker Test



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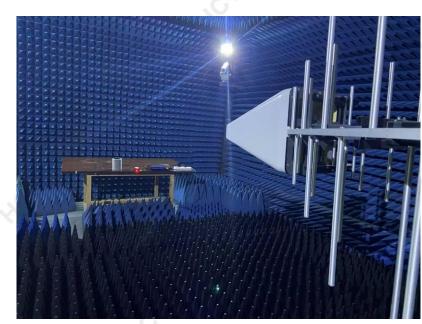
等圳市紅彩境號技术有限公司 Shenzhen Hongeai Teating Technology Co., Lid 广东常德圳市龙岗区龙岗街道新生社区菜窗第30-9 号 1 层、2 层、3 层(天蓝工业层 B 核厂房) Building B, Tianji Industrial Park, Floer 1 & 2& 2 No. 30-9 Lalyin Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen, Guangdong, China Web: www.hot-test.com Email: hongeni@hot-test.com



### **Electrostatic Discharge Immunity Test**



### **Radiated Susceptibility**



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### **Electrical Fast Transient Immunity Test**



### **Voltage Dips and Interruptions Immunity Test**



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### Surge Immunity Test



### **Conducted Susceptibility Test**



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### Statement:

- 1. This report is considered invalid without approved signature and special;
- 2. The Applicant name and Address, the sample(s) and sample information was/were provided by th
- e applicant who should be responsible for the authenticity which HCT hasn't verified;
- 3. The result(s) shown in this report refer(s) only to the sample(s) tested;
- 4. Without written approval of HCT, this report can't be reproduced except in full.

\*\*\*\*\* END OF REPORT \*\*\*\*\*

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郷川市江彩強発技大術館公司 Sthenzben Hongeal Tarting Tuchnology Co., Ltd 广东省線河市之街区之規構造器世社に区策障略30-9 号 1 层、2 层、3 层 (天蓋工业匠 B 旅厂房) Bilding B; Tuaji Industrial Park;Floor 1 & 2 & 2 Ko 30-9 Lajin Road, Xinaheng Community, Longgong Street, Longgong District, Shenzben, Guangdong,China Web: www.hot-test.com Emnil: hongsui@hot-test.com