

# TEST REPORT

Report No.: BCTC2401083541E

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Applicant: Vincent Medical Excel Limited

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Product Name: Red Light Tower

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Test Model: RLC-VM

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Tested Date: 2024-01-25 to 2024-01-26

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Issued Date: 2024-03-05

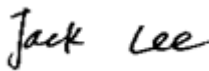
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**Shenzhen BCTC Testing Co., Ltd.**



Product Name: Red Light Tower  
Trademark: Clearlight  
Model/Type Reference: RLC-VM  
Prepared For: Vincent Medical Excel Limited  
Address: Units 1604-07A, 16/F., Two Harbourfront, 22 Tak Fung Street, Hung Hom, Kowloon, Hong Kong  
Manufacturer: Vincent Medical(Dongguan)Technology Company Limited  
Address: RM 101 And 201, Block 10, 1st Taoyuan Road, Songshan Lake Zone, Dongguan 523808, Guangdong P.R. China Dongguan, Guangdong CN 523808  
Prepared By: Shenzhen BCTC Testing Co., Ltd.  
Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China.  
Sample Received Date: 2024-01-25  
Sample Tested Date: 2024-01-25 to 2024-01-26  
Issue Date: 2024-03-05  
Report No.: BCTC2401083541E  
Test Standards: AS/NZS CISPR 14.1:2021  
Test Results: PASS

Tested by:



Jack Lee/ Project Handler

Approved by:



Zero Zhou/Reviewer

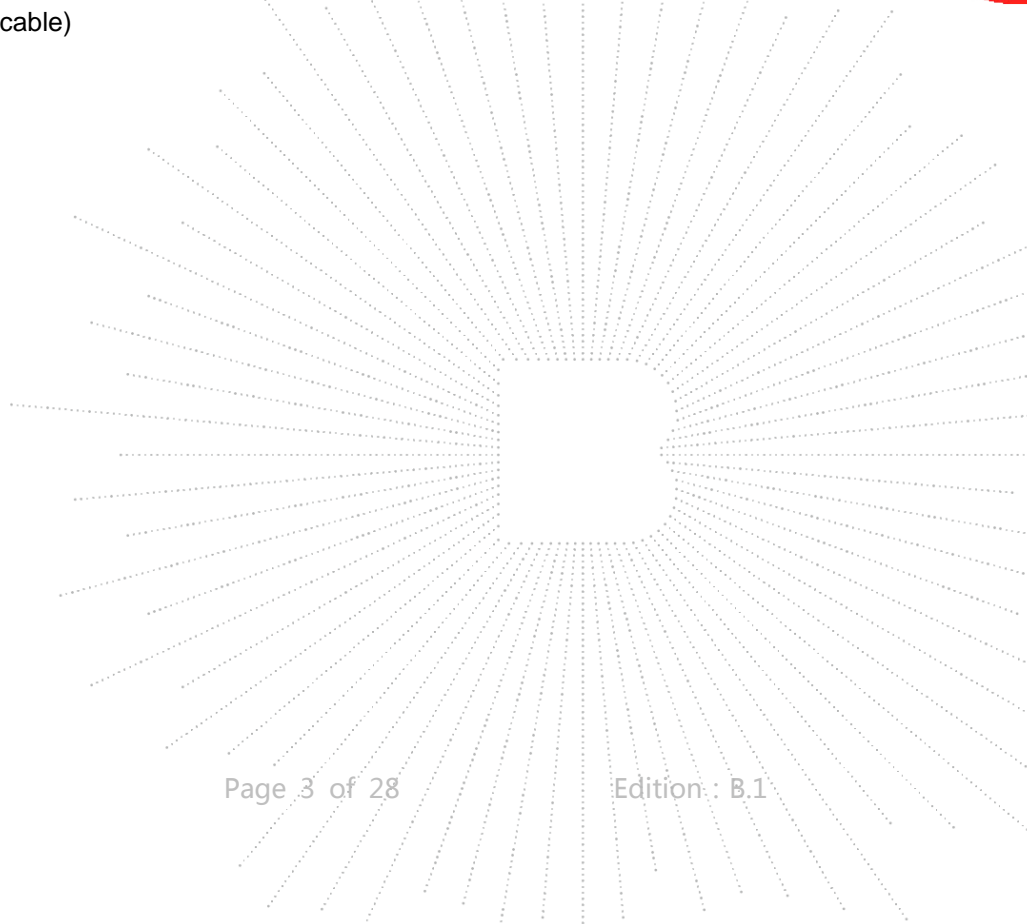
The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.



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(Note: N/A Means Not Applicable)

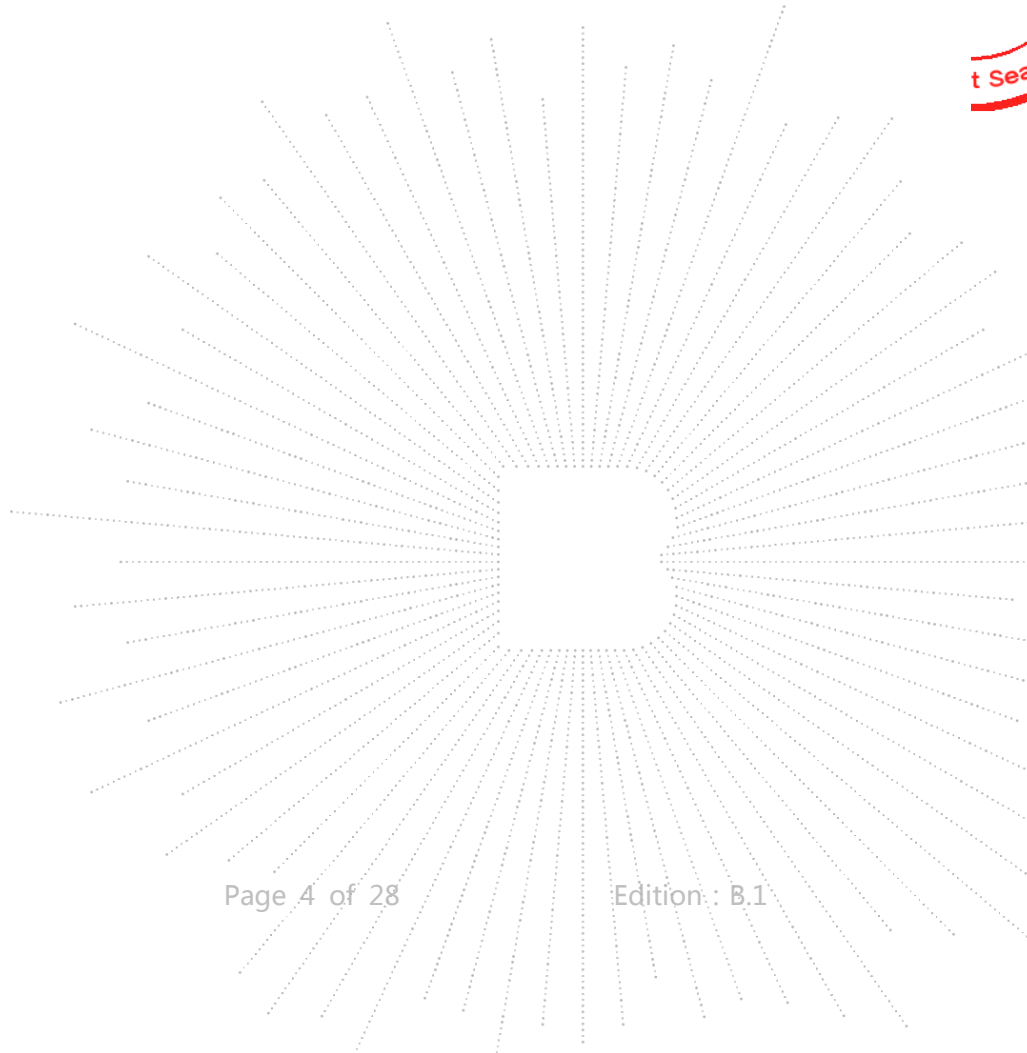


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 Report

**1. Version**

Report No.	Issue Date	Description	Approved
BCTC2401083541E	2024-03-05	Original	Valid

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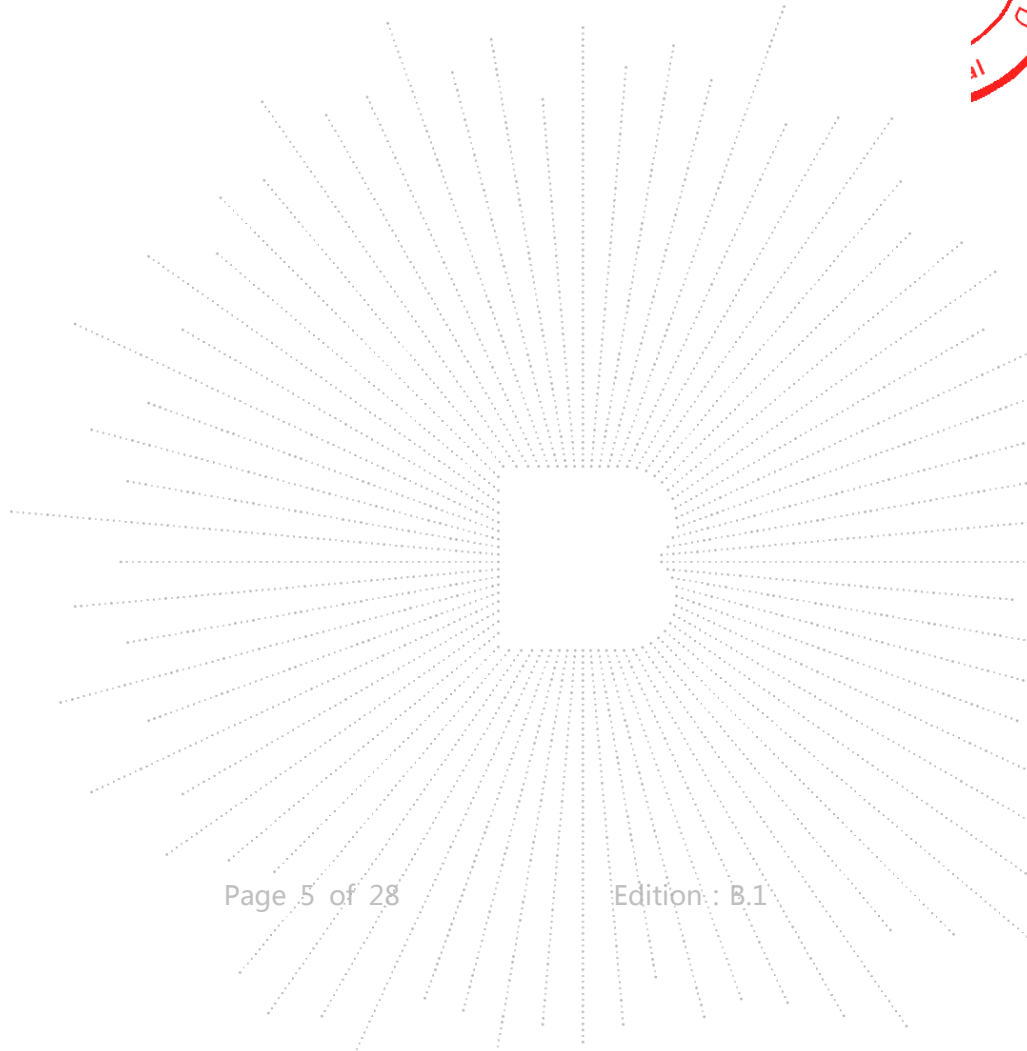
## 2. Test Summary

The Product has been tested according to the following specifications:

EMISSION		
Standard	Test Item	Test result
AS/NZS CISPR 14.1	Disturbance voltages	Pass
AS/NZS CISPR 14.1	Discontinuous disturbance (Clicks)	N/A <sup>1</sup>
AS/NZS CISPR 14.1	Disturbance power	N/A <sup>2</sup>
AS/NZS CISPR 14.1	Radiated disturbance	Pass

Remark:

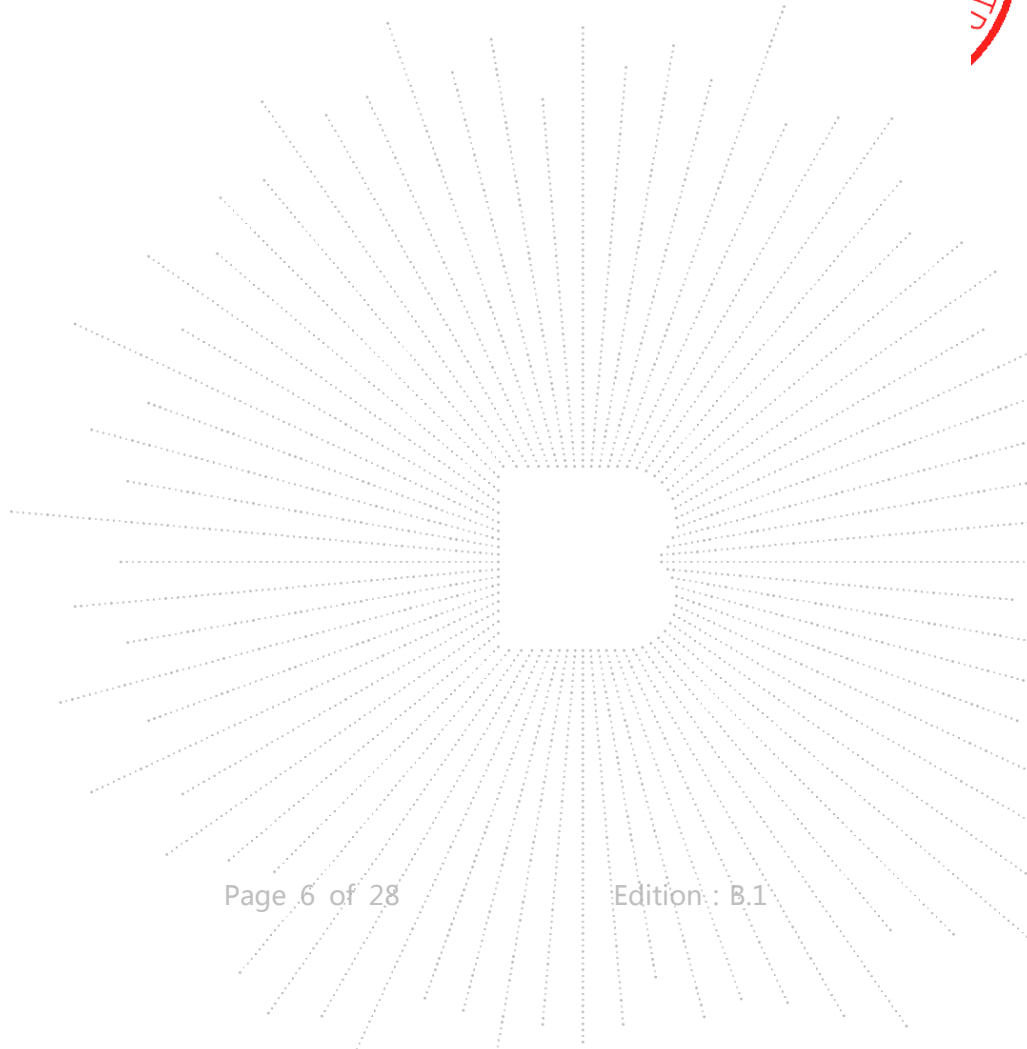
- 1.The Product has no switching operations, automatic programme or other electrically controlled or operated functions
- 2.The Product shall be evaluated for emissions in the 30 MHz to 1 000 MHz range by testing in accordance with method b as described in clause 4.3.4.2 of EN55014-1.



### 3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

Test item	Value (dB)
Disturbance voltages (150K-30MHZ)	3.10
Radiated disturbance (30MHz-200MHz)	4.60
Radiated disturbance (200MHz-1000MHz)	5.20

A red circular stamp is located on the right side of the page, partially cut off. The text inside the stamp is oriented vertically and reads "CO., LTD".

## 4. Product Information And Test Setup

### 4.1 Product Information

**Ratings:**

The highest frequency of the internal sources of the EUT is (less than 108)MHz:

Input :100-240V/200W/2A

- less than 108 MHz, the measurement shall only be made up to 1 GHz.  
 between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz.  
 between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz.  
 above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

**Cable of Product**

No.	Cable Type	Quantity	Provider	Length (m)	Specification	Note
1	--	--	Applicant	---	No	With a ferrite ring in mid Detachable
2	--	--	BCTC	--	No	--

### 4.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP Photographs for the actual connections between Product and support equipment.

### 4.3 Support Equipment

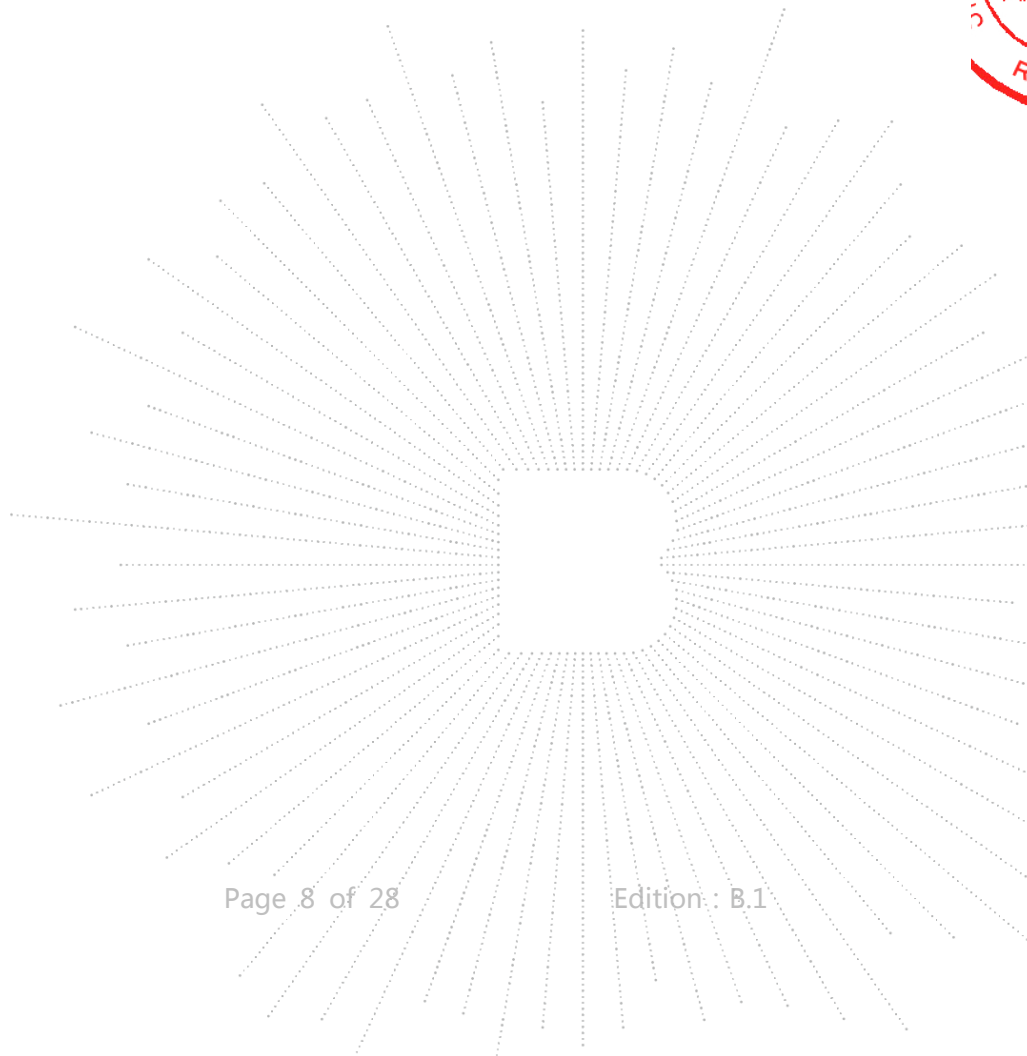
No.	Device Type	Brand	Model	Series No.	Note
1.	---	---	---	---	---

**Notes:**

- All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

## 4.4 Test Mode

Test item	Test Mode	Test Voltage
Disturbance voltages (150KHz-30MHz)	Working	AC 240V/50Hz
Radiated disturbance(30MHz-1000MHz)	Working	AC 240V/50Hz*



## 5. Test Facility And Test Instrument Used

### 5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

### 5.2 Test Instrument Used

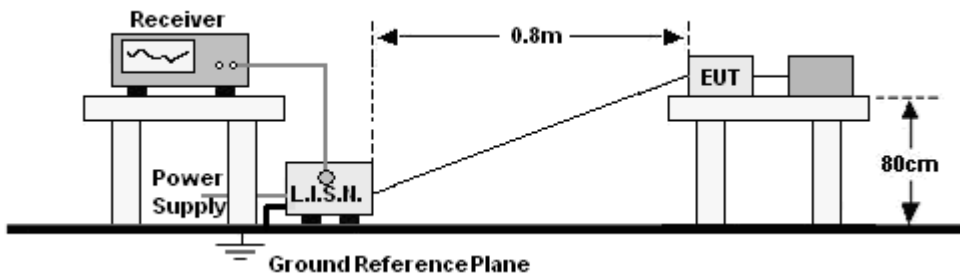
Disturbance voltagesTest					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024
LISN	R&S	ENV216	101375	May 15, 2023	May 14, 2024
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\

Radiated Emissions Test (966 Chamber#01)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	May 15, 2023	May 14, 2026
Receiver	R&S	ESRP	101154	May 15, 2023	May 14, 2024
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024
Amplifier	SKET	LAPA_01G1 8G-45dB	SK2021040901	May 15, 2023	May 14, 2024
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 15, 2023	May 14, 2024
TRILOG Broadband Antenna	schwarzbeck	VULB9163	942	May 29, 2023	May 28, 2024
Horn Antenna	schwarzbeck	BBHA9120D	1541	May 31, 2023	May 30, 2024
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

## 6. Disturbance Voltages

### 6.1 Block Diagram Of Test Setup

For mains ports:



### 6.2 Limit

At mains ports Limits for Household Appliance

Frequency (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0,15 ~ 0,50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. \*Decreasing linearly with logarithm of frequency.  
2. The lower limit shall apply at the transition frequencies.

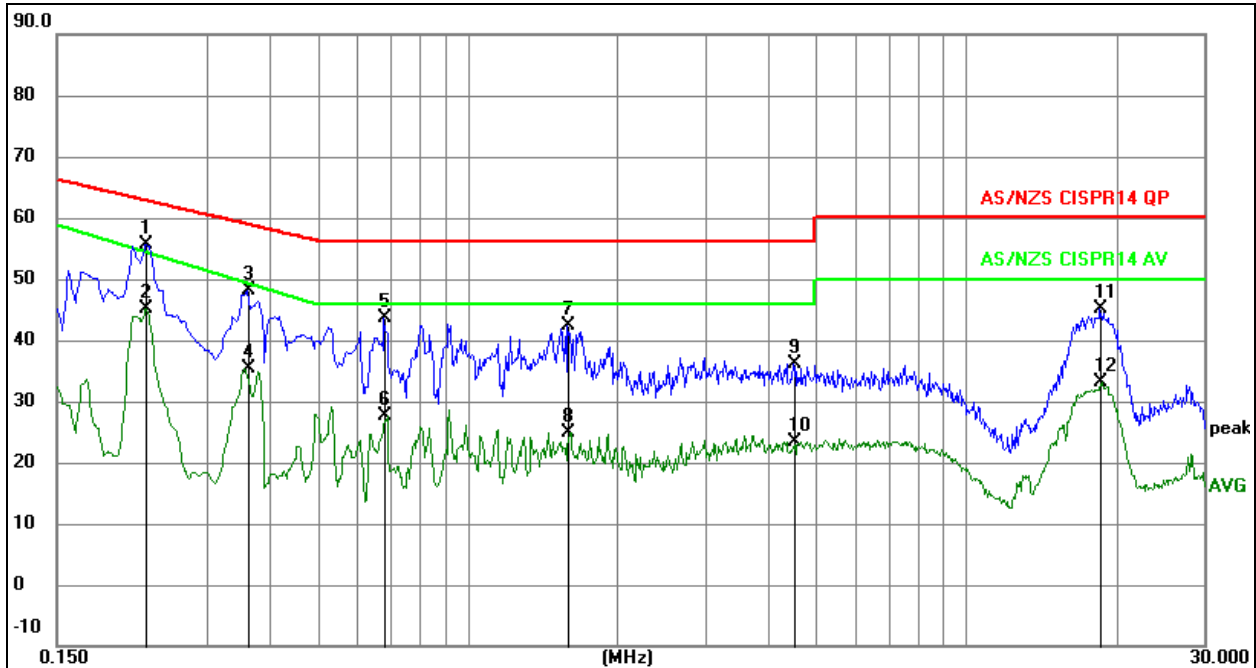
### 6.3 Test procedure

**For mains ports:**

- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

### 6.4 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Line
Test Voltage :	AC 240V/50Hz	Test Mode:	Working



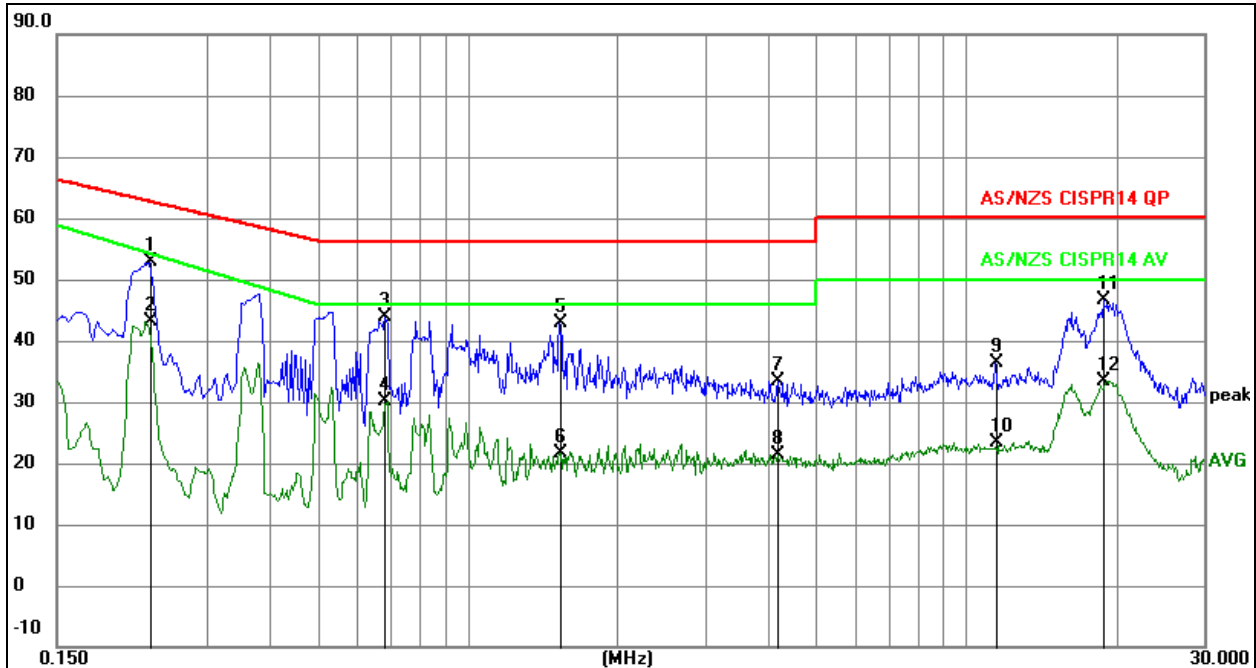
**Remark:**

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq. MHz	Reading Level dB	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.2265	35.76	19.83	55.59	62.58	-6.99	QP
2		0.2265	25.40	19.83	45.23	54.55	-9.32	AVG
3		0.3615	28.39	19.84	48.23	58.69	-10.46	QP
4		0.3615	15.50	19.84	35.34	49.50	-14.16	AVG
5		0.6809	23.90	19.84	43.74	56.00	-12.26	QP
6		0.6809	7.73	19.84	27.57	46.00	-18.43	AVG
7		1.5900	22.55	19.95	42.50	56.00	-13.50	QP
8		1.5900	4.93	19.95	24.88	46.00	-21.12	AVG
9		4.5240	15.61	20.54	36.15	56.00	-19.85	QP
10		4.5240	2.94	20.54	23.48	46.00	-22.52	AVG
11		18.5415	25.29	19.96	45.25	60.00	-14.75	QP
12		18.5415	13.16	19.96	33.12	50.00	-16.88	AVG



Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Neutral
Test Voltage :	AC 240V/50Hz	Test Mode:	Working


**Remark:**

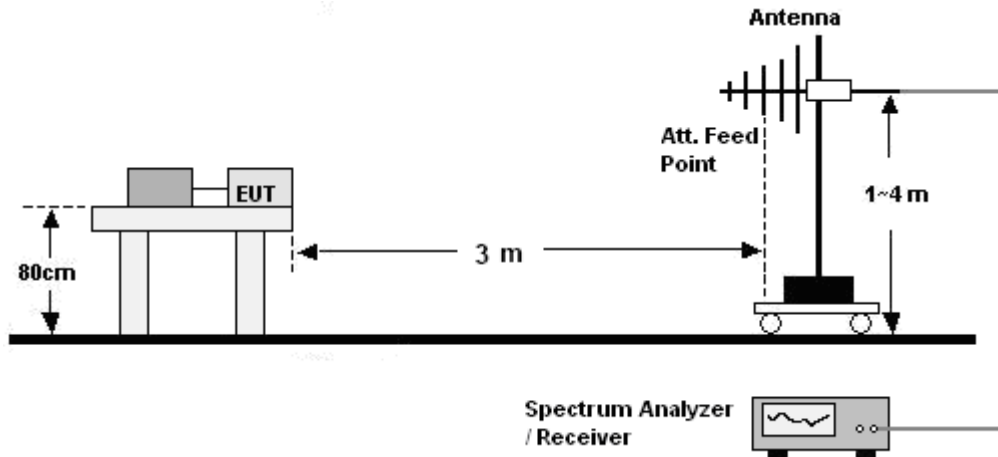
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.2304	32.95	19.83	52.78	62.44	-9.66	QP
2		0.2304	23.25	19.83	43.08	54.37	-11.29	AVG
3		0.6826	23.96	19.84	43.80	56.00	-12.20	QP
4		0.6826	10.21	19.84	30.05	46.00	-15.95	AVG
5		1.5274	22.93	19.95	42.88	56.00	-13.12	QP
6		1.5274	1.80	19.95	21.75	46.00	-24.25	AVG
7		4.1796	12.76	20.62	33.38	56.00	-22.62	QP
8		4.1796	0.85	20.62	21.47	46.00	-24.53	AVG
9		11.4376	16.44	19.88	36.32	60.00	-23.68	QP
10		11.4376	3.40	19.88	23.28	50.00	-26.72	AVG
11		18.8205	26.72	19.96	46.68	60.00	-13.32	QP
12		18.8205	13.52	19.96	33.48	50.00	-16.52	AVG

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## 7. Radiated Disturbance Test

### 7.1 Block Diagram Of Test Setup



### 7.2 Limits

Frequency (MHz)	Quasi-peak limits at 3m dB( $\mu$ V/m)
30-230	40
230-1000	47

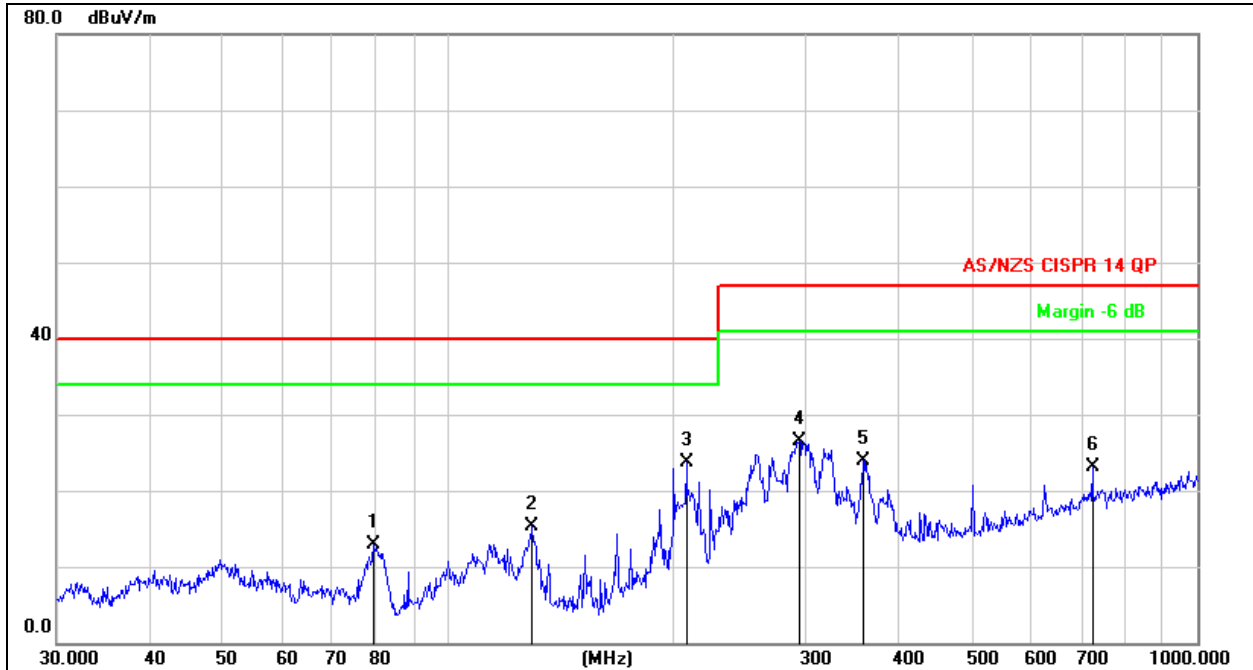
**Note:** The lower limit shall apply at the transition frequencies.

### 7.3 Test Procedure

- The Product was placed on the nonconductive turntable 0.8 m above the ground at a chamber.
- Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

## 7.4 Test Results

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Voltage :	AC 240V/50Hz	Test Mode:	Working

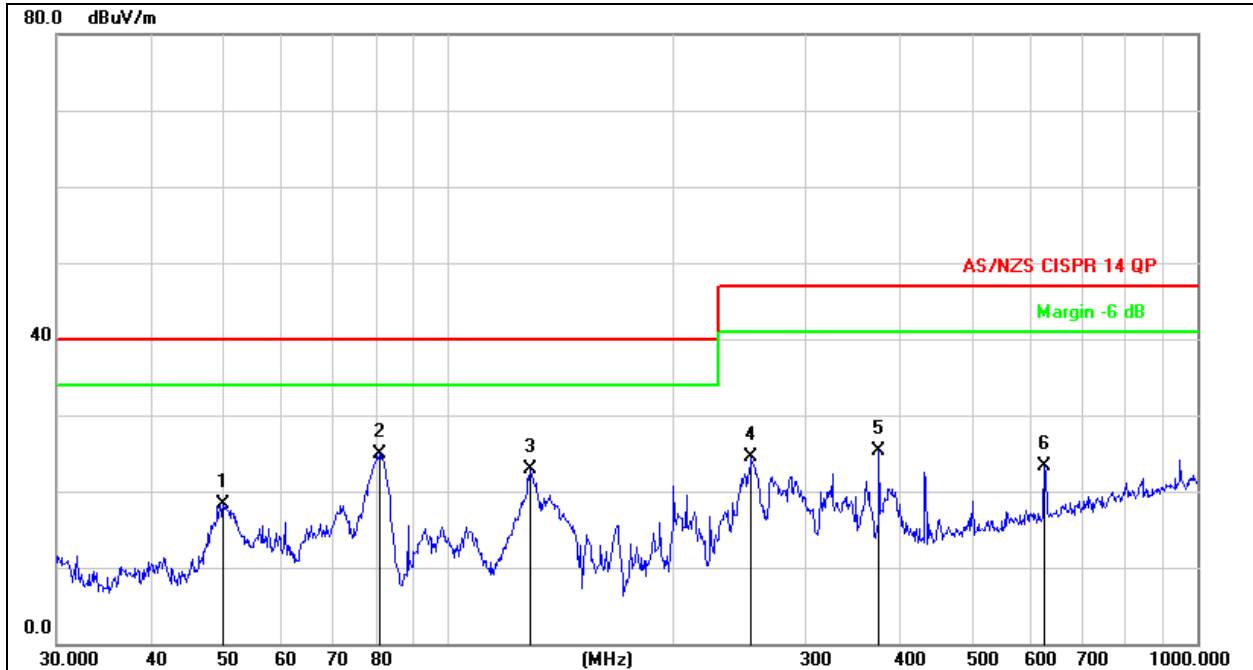


## Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Measurement = Reading Level + Correct Factor
- Over = Measurement - Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV/m	dB/m	dB	
1		79.5209	34.42	-21.48	12.94	40.00	-27.06	QP
2		129.4677	34.95	-19.70	15.25	40.00	-24.75	QP
3	*	207.8501	40.77	-17.13	23.64	40.00	-16.36	QP
4		294.1137	41.19	-14.73	26.46	47.00	-20.54	QP
5		357.9287	36.65	-12.70	23.95	47.00	-23.05	QP
6		724.2611	29.95	-6.79	23.16	47.00	-23.84	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Voltage :	AC 240V/50Hz	Test Mode:	Working

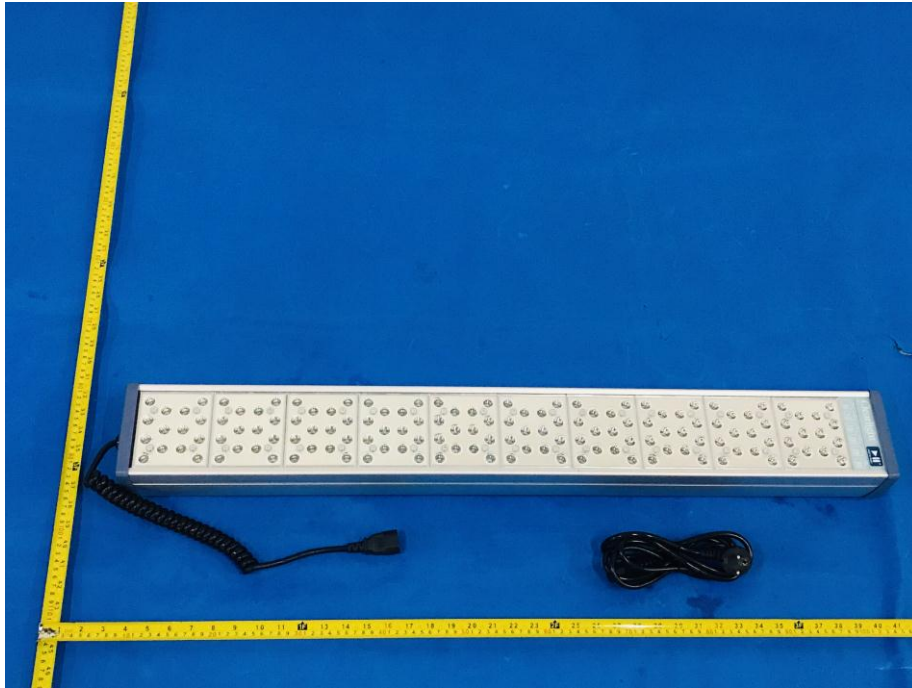

**Remark:**

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

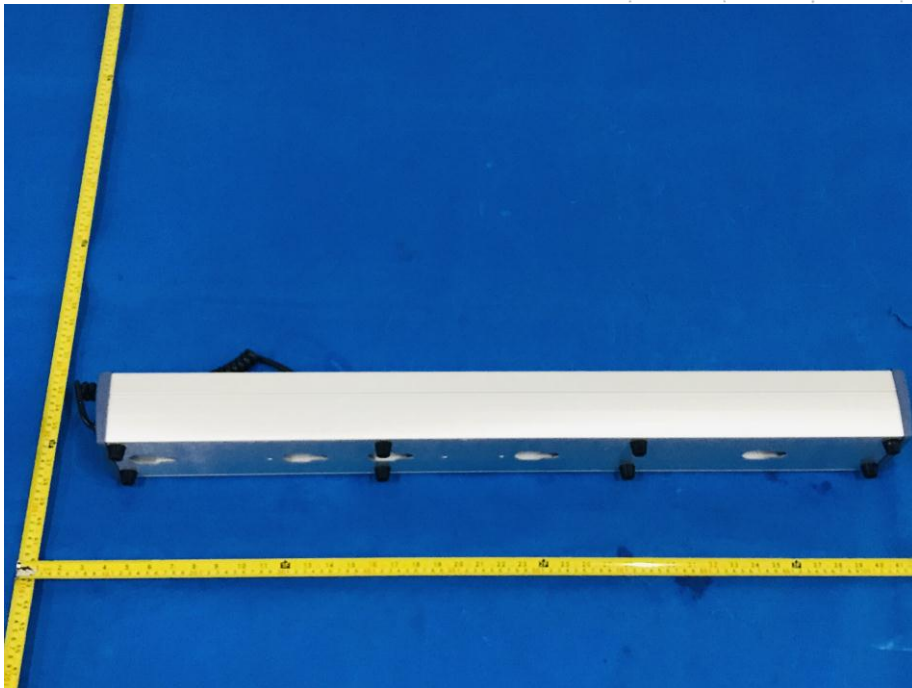
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		50.0566	33.87	-15.60	18.27	40.00	-21.73	QP
2	*	80.9275	46.30	-21.34	24.96	40.00	-15.04	QP
3		128.5630	42.63	-19.64	22.99	40.00	-17.01	QP
4		253.8367	40.32	-15.73	24.59	47.00	-22.41	QP
5		375.9385	37.71	-12.49	25.22	47.00	-21.78	QP
6		625.0780	31.37	-8.05	23.32	47.00	-23.68	QP

### 8. EUT Photographs

EUT Photo 1

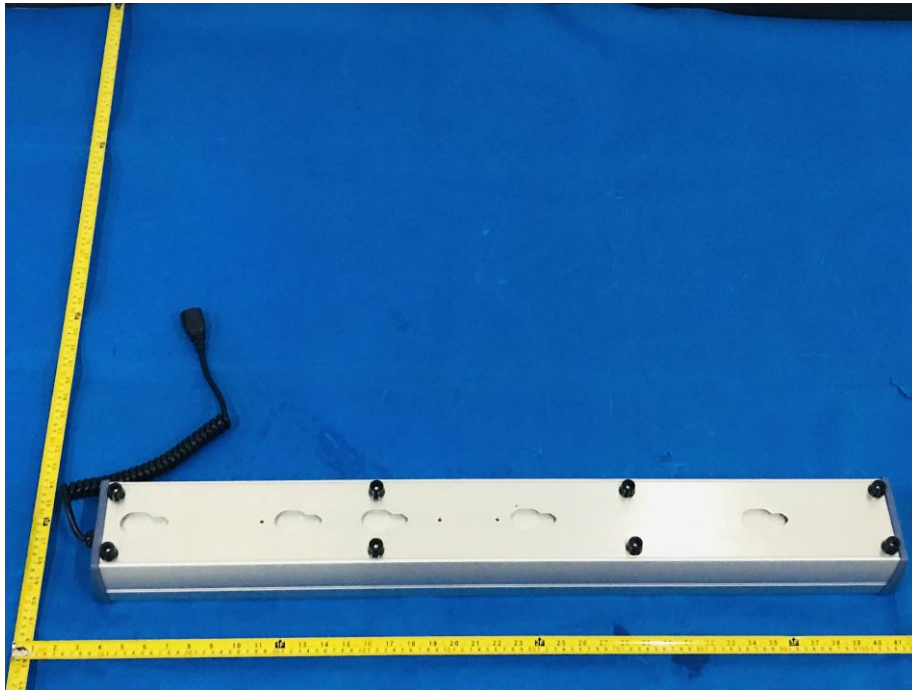


EUT Photo 2

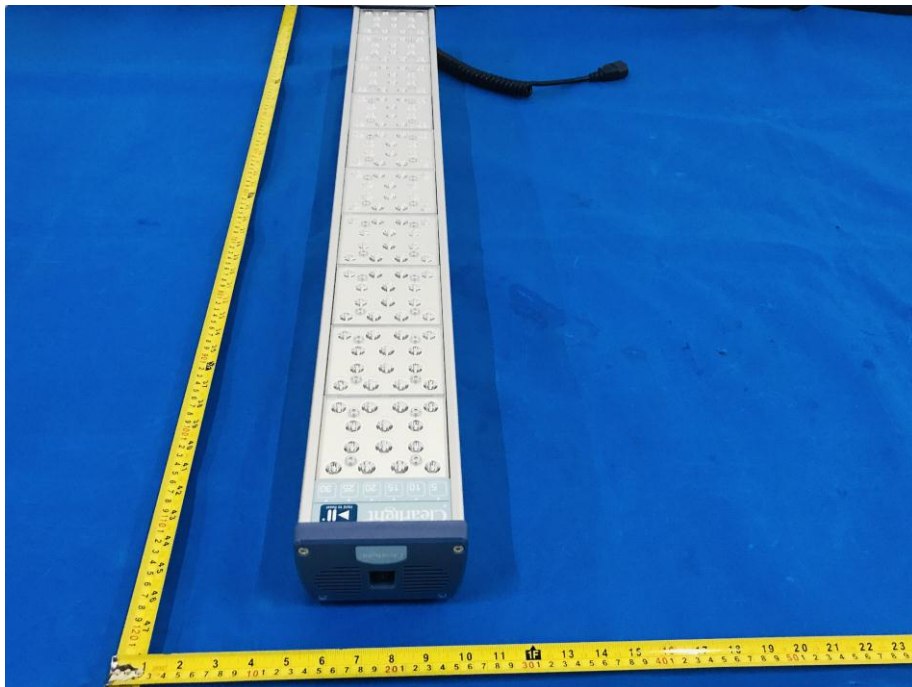


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EUT Photo 3



EUT Photo 4



EUT Photo 5



EUT Photo 6



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EUT Photo 7

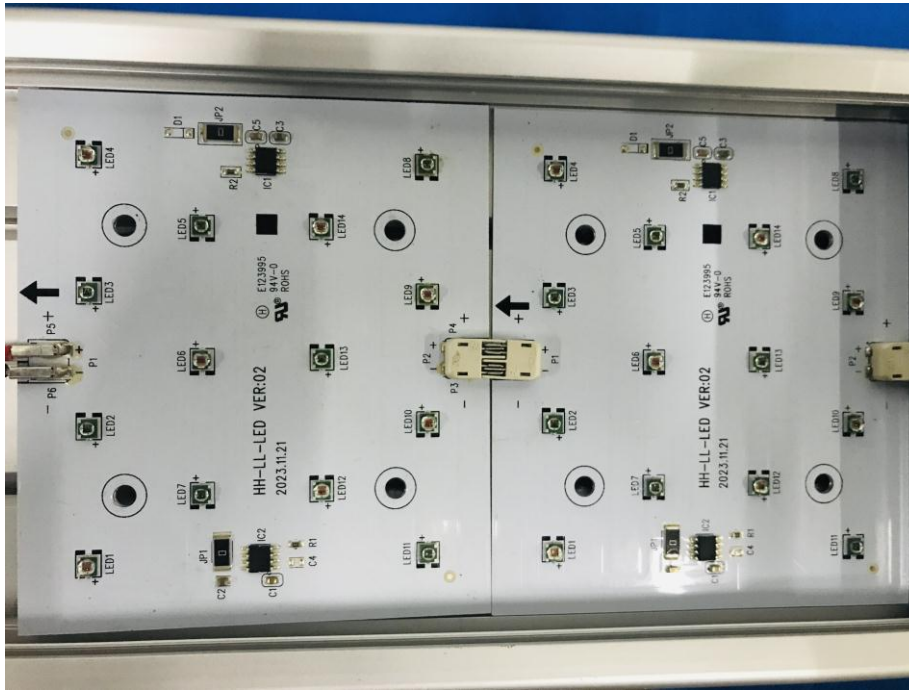


EUT Photo 8

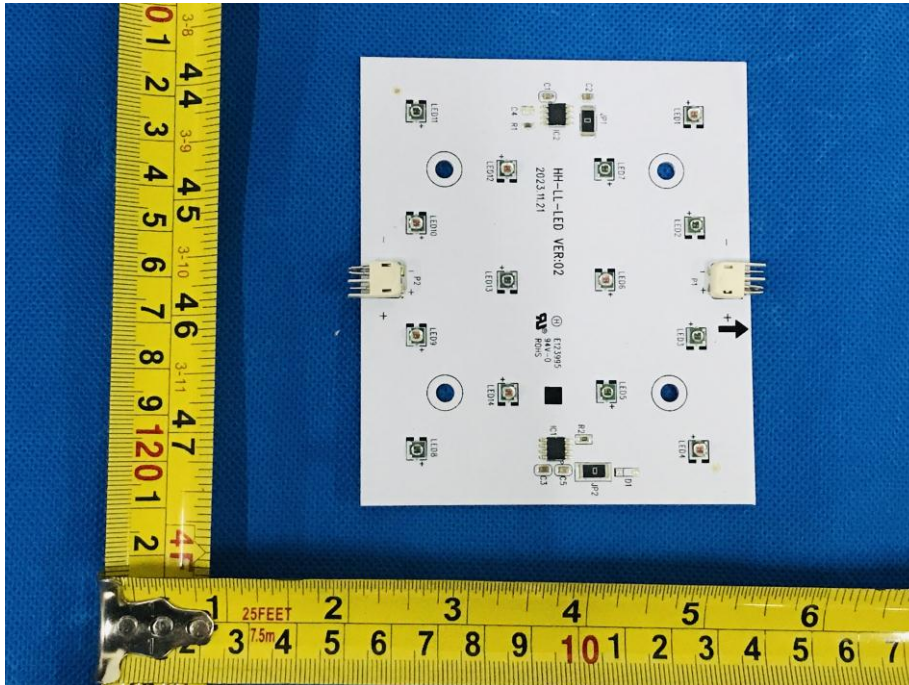


SHENZHEN

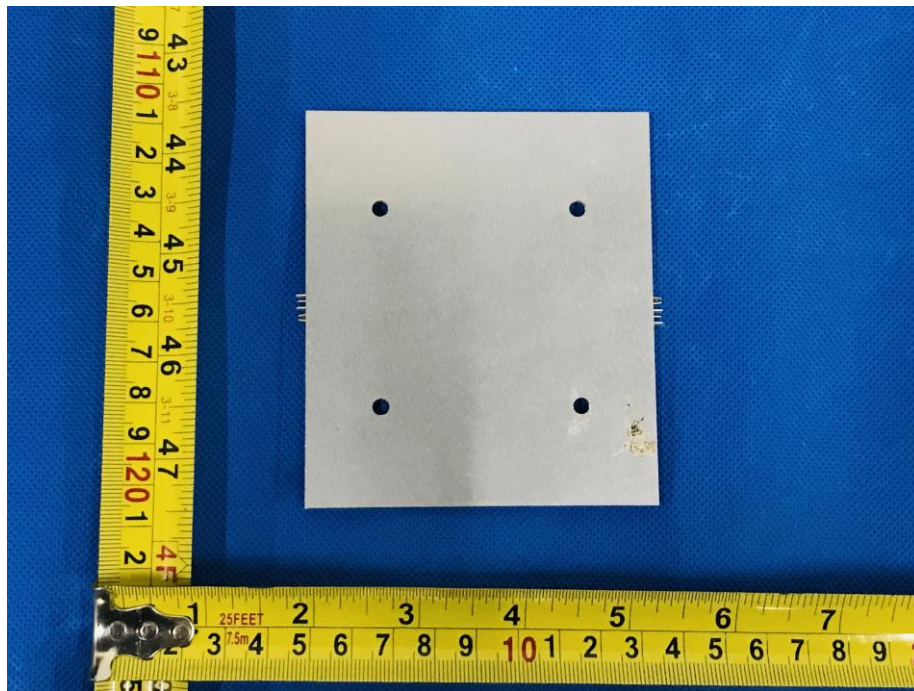
EUT Photo 9



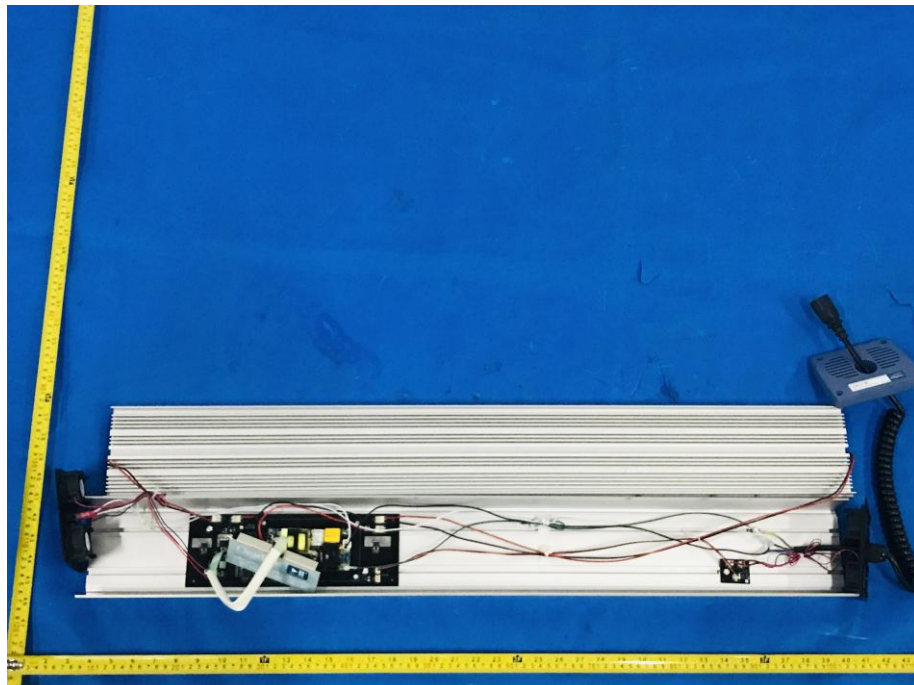
EUT Photo 10



EUT Photo 11

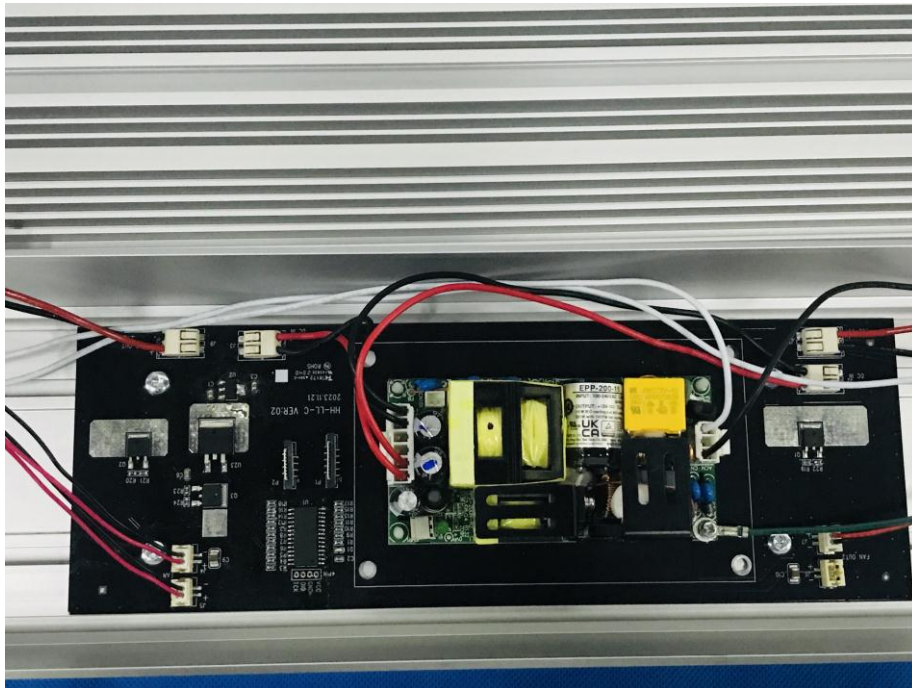


EUT Photo 12

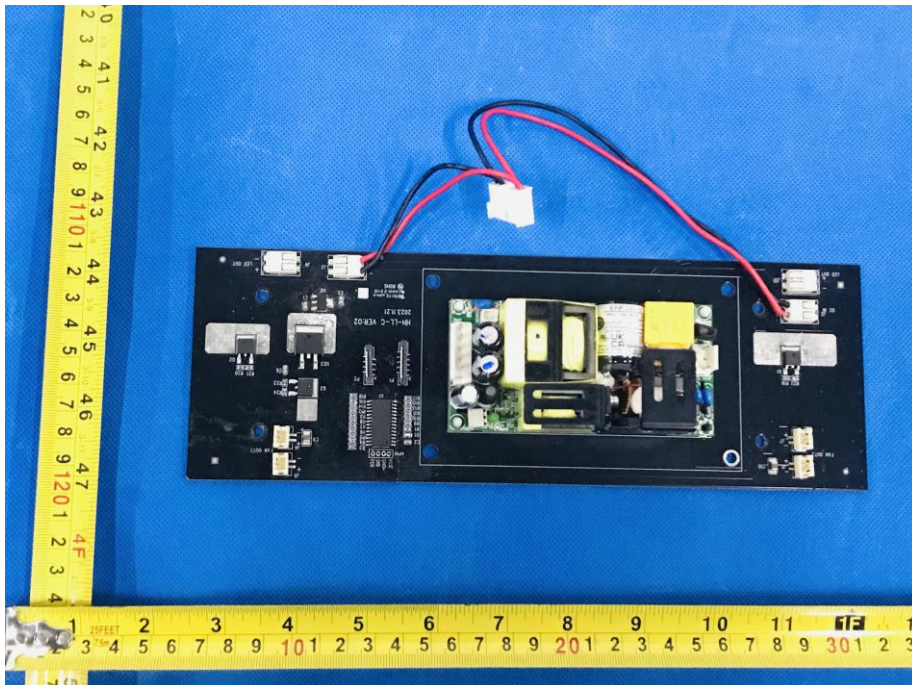


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EUT Photo 13

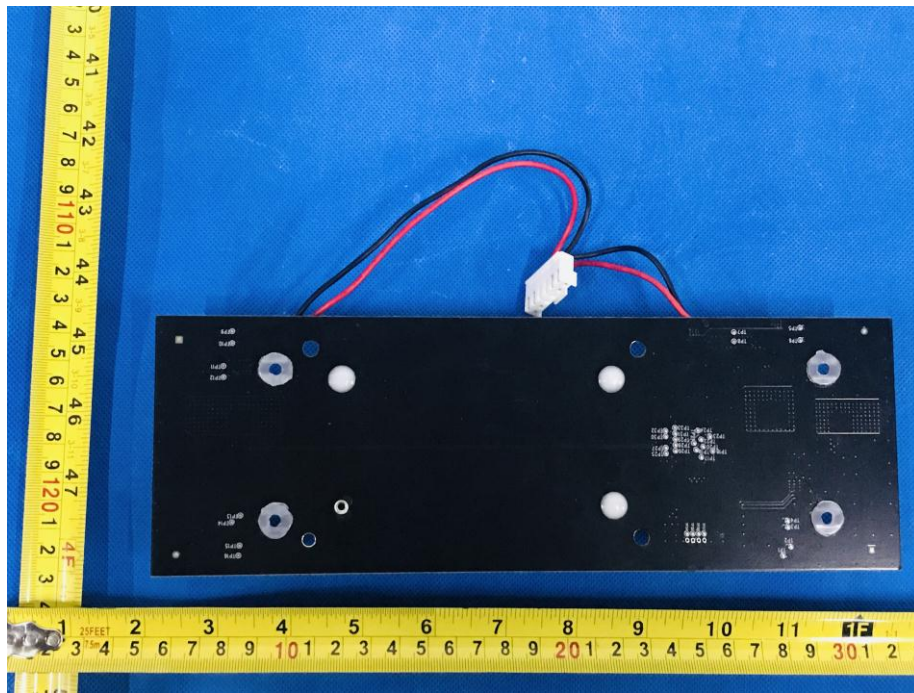


EUT Photo 14

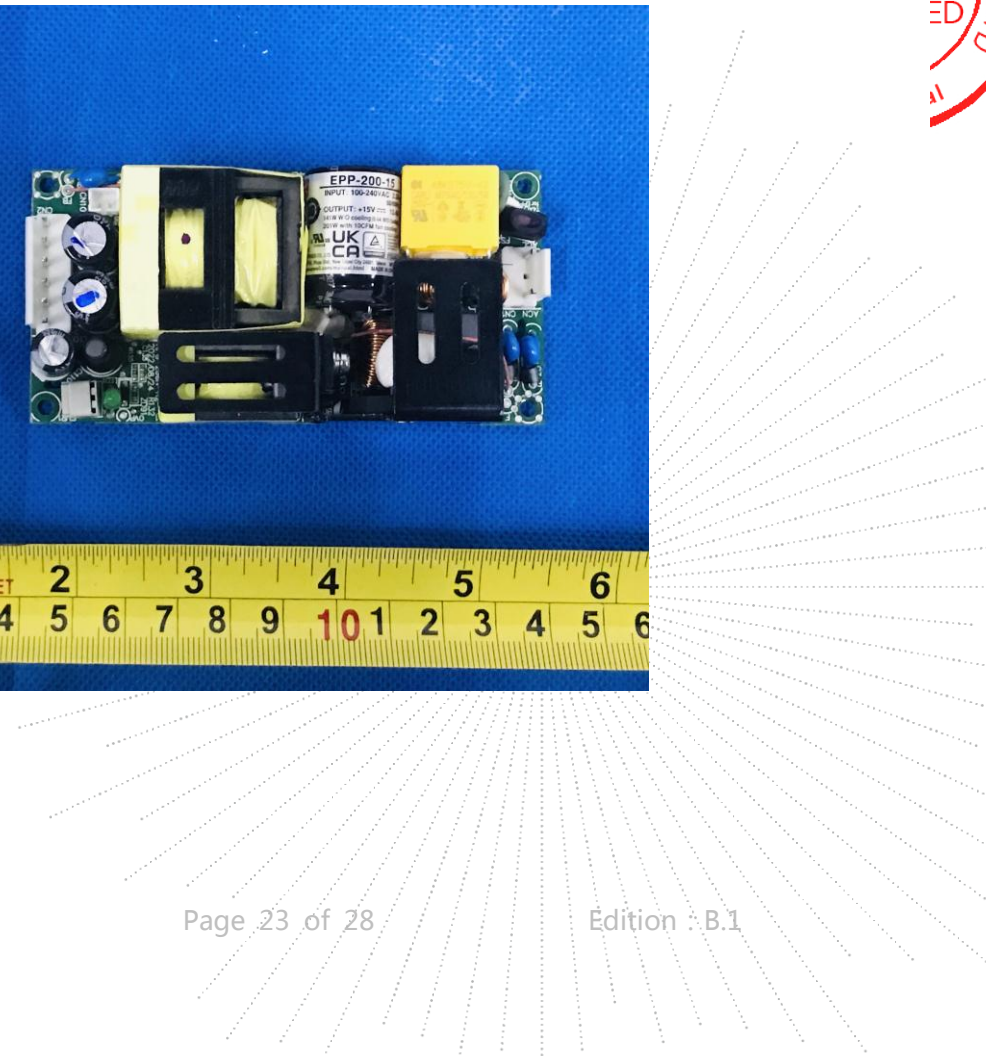
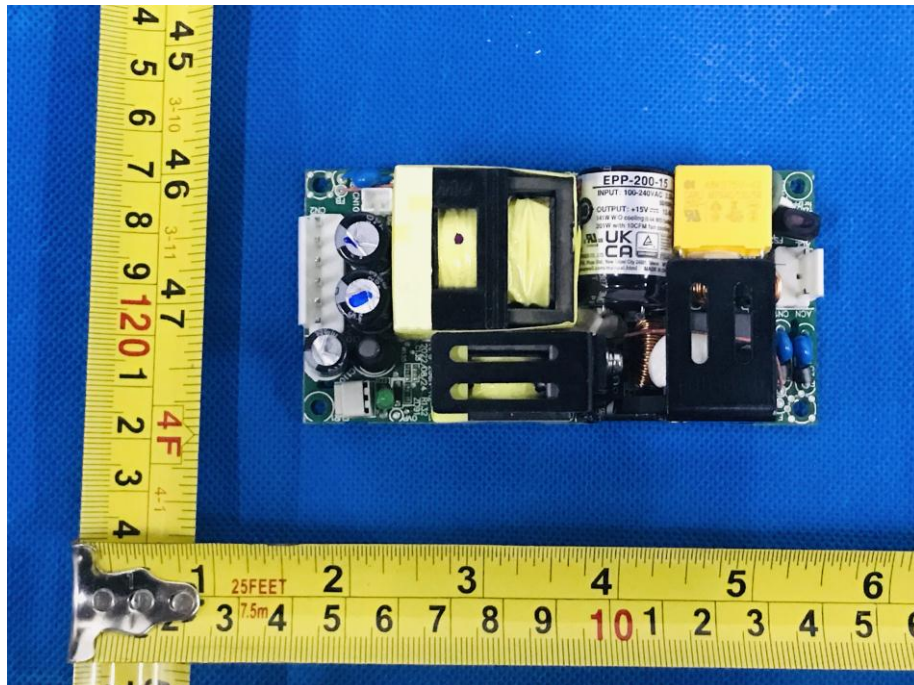


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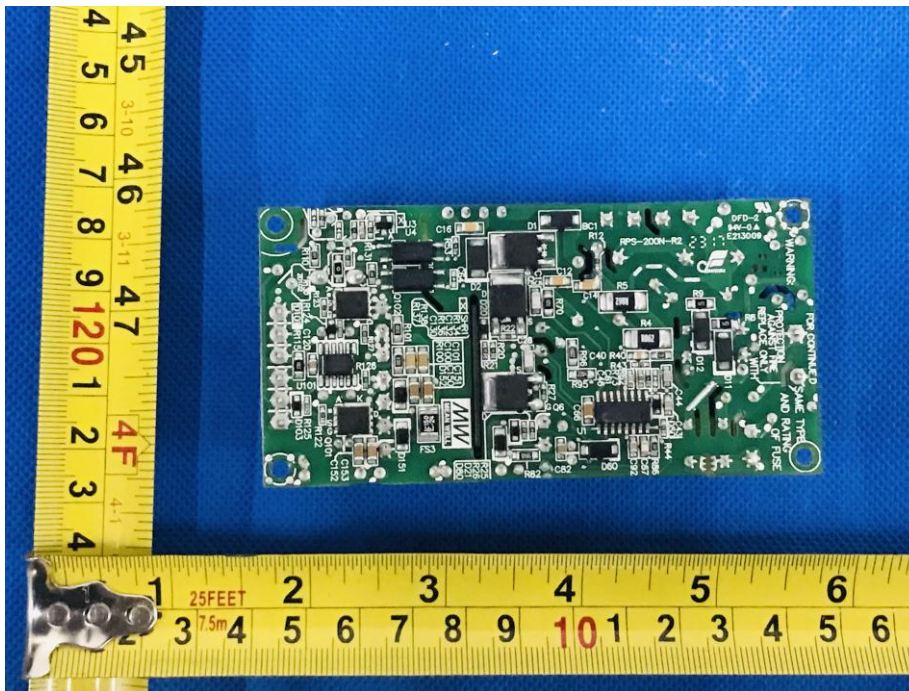
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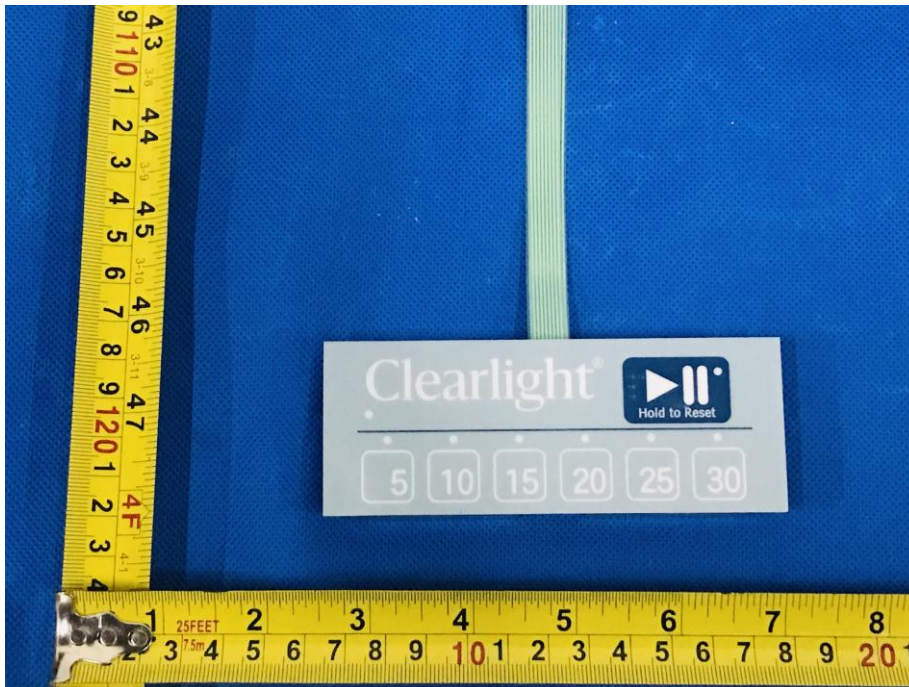
EUT Photo 16



EUT Photo 17

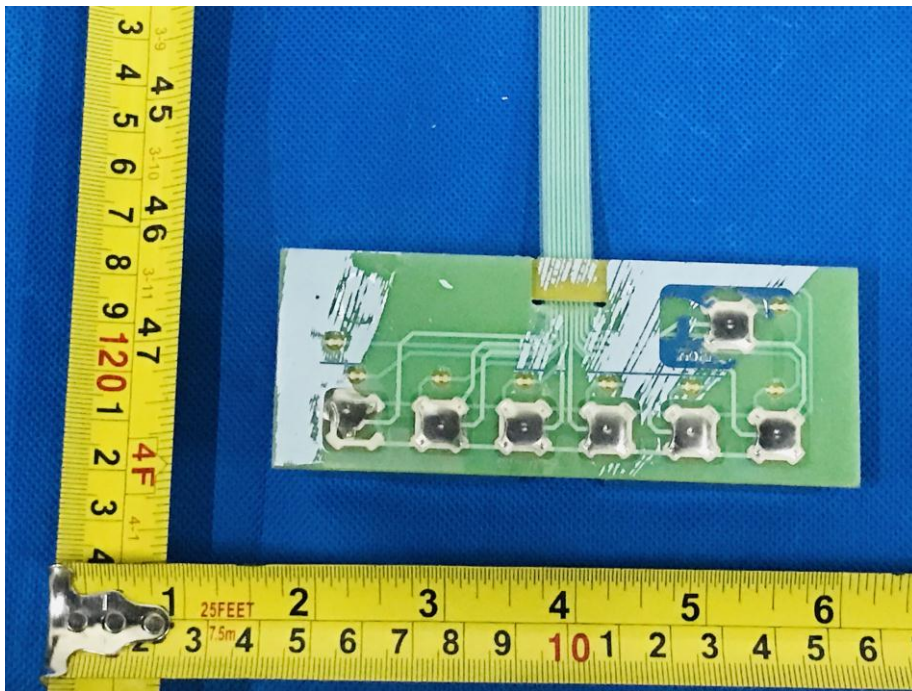


EUT Photo 18

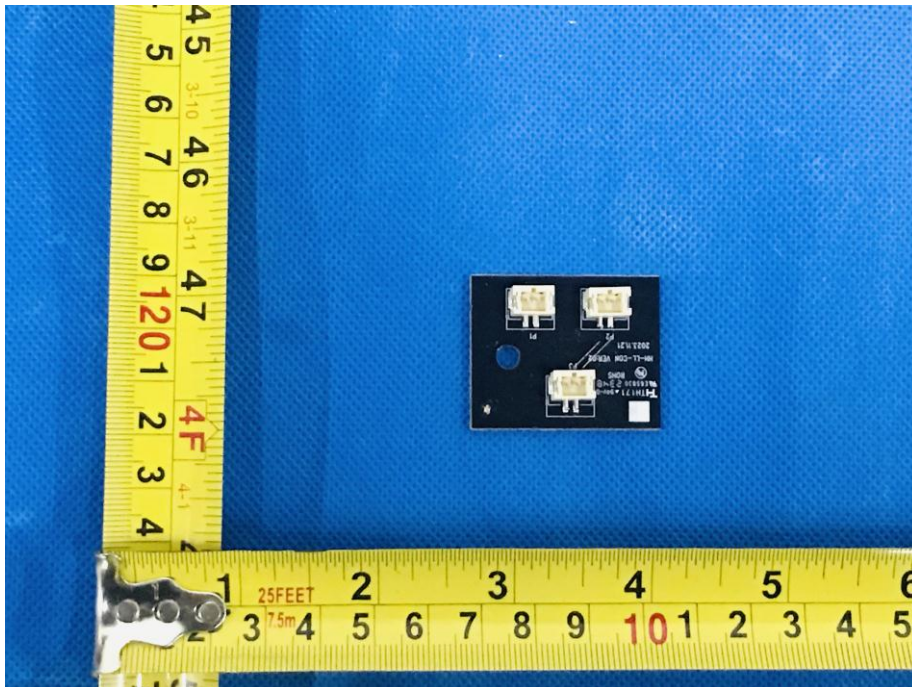


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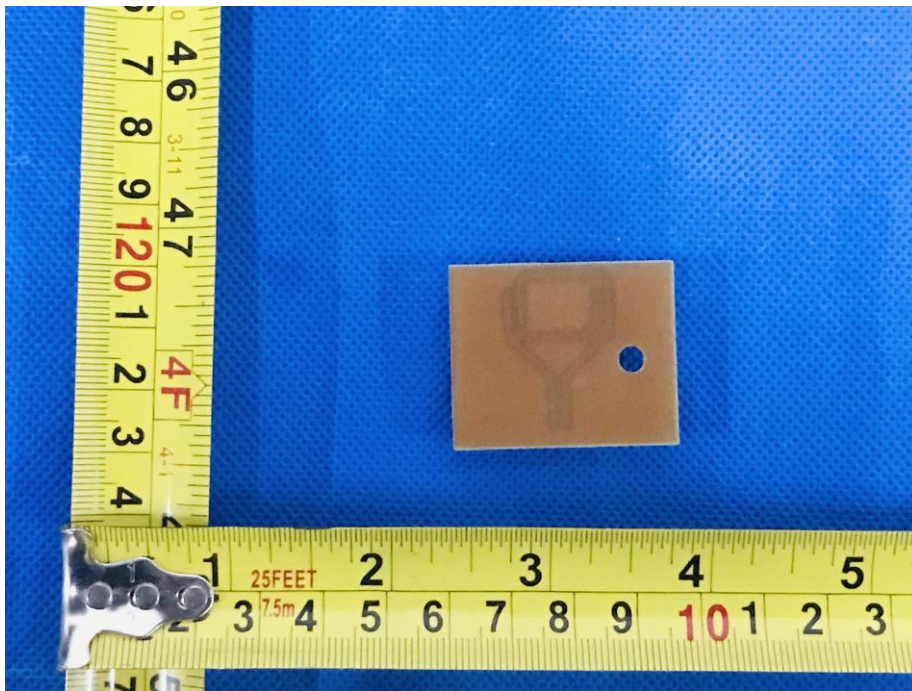
EUT Photo 19



EUT Photo 20



EUT Photo 21



EUT Photo 22



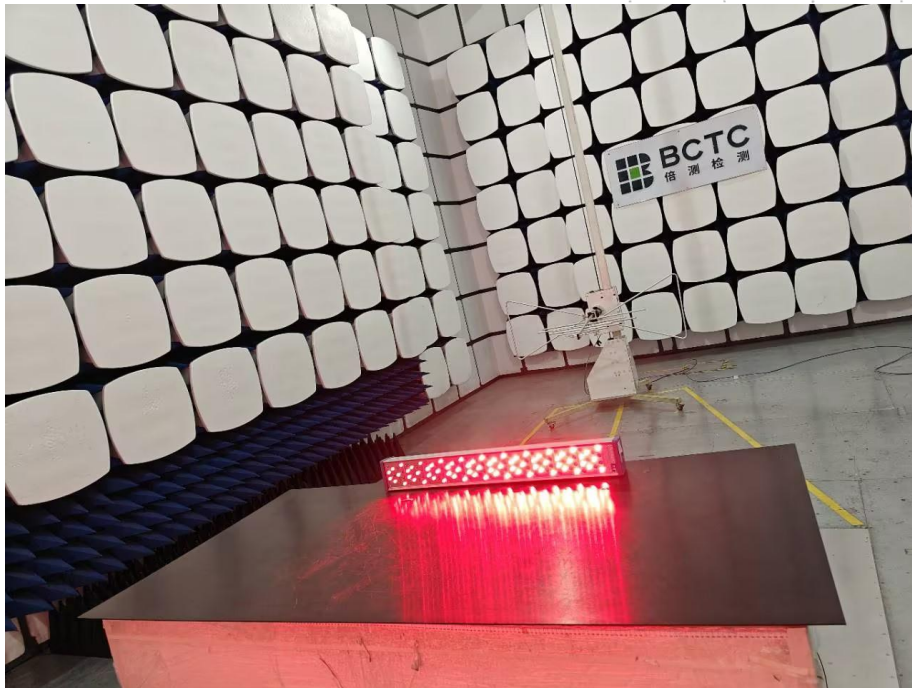
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BC  
APPR  
Report

### 9. EUT Test Setup Photographs

Disturbance voltages



Radiated disturbance



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**STATEMENT**

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The quality system of our laboratory is in accordance with ISO/IEC17025.
8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

## Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: <http://www.chnbctc.com>E-Mail: [bctc@bctc-lab.com.cn](mailto:bctc@bctc-lab.com.cn)

\*\*\*\*\* END \*\*\*\*\*

