

TEST REPORT

Product Name : LED table lamp
Model Number : (See the page 10 model list)

Prepared for : Power beauty (Dong guan) Industrial Co., Ltd.
Address : No.1, Eastern Industry Park, Shujiu Village, Changping Town, Dongguan City, China

Prepared by : EMTEK(DONGGUAN) CO., LTD.
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TEST REPORT VERIFICATION

Applicant : Power beauty (Dong guan) Industrial Co., Ltd.
Manufacturer : Power beauty (Dong guan) Industrial Co., Ltd.
Factory : Power beauty (Dong guan) Industrial Co., Ltd.
EUT : LED table lamp
Model No. : (See the page 10 model list)
Input Rating : DC 5V from USB Port, DC 3.7V from battery

Measurement Procedure Used:

EN IEC 55015:2019/A11:2020

EN IEC 61000-3-2: 2019

EN 61000-3-3:2013/A1:2019

EN 61547: 2009

(IEC 61000-4-2: 2008, IEC 61000-4-3: 2006+A1: 2007+A2: 2010, IEC 61000-4-4: 2012, IEC 61000-4-5: 2014+A1:2017, IEC 61000-4-6: 2013, IEC 61000-4-11: 2020)

The device described above is tested by EMTEK (DONGGUAN) CO., LTD. and EMTEK(SHENZHEN) CO., LTD to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and EMTEK (DONGGUAN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the EN55015, EN 61000-3-2, EN 61000-3-3 and EN61547 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of EMTEK (DONGGUAN) CO., LTD.

Date of Test :

January 11, 2021 to January 15, 2021

Bill Zhong

Prepared by :

Bill Zhong / Editor

Galen Xiao

Reviewer :

Galen Xiao / Supervisor

EMTEK (DONGGUAN) CO., LTD.
TESTING

Approved & Authorized Signer :

Sam Lv / Manager

Modified Information

Version	Summary	Revision Date	Report No.
Ver.1.0	Original Report	/	ED210111012E



1. DESCRIPTION OF STANDARDS AND RESULTS

EMISSION			
Description of Test Item	Standard	Limits	Results
Disturbance Voltage at the Mains Terminal	EN IEC 55015:2019/A11:2020	Table 1	Pass
Radiated Disturbance	EN IEC 55015:2019/A11:2020	Table 10	Pass
Magnetic Field Emission Measurement	EN IEC 55015:2019/A11:2020	Table 8	Pass
Harmonic Current Emissions	EN IEC 61000-3-2: 2019	Class C	N/A
Voltage Fluctuation and Flicker	EN 61000-3-3:2013/A1:2019	Section 5	Pass
IMMUNITY			
Description of Test Item	Basic Standard	Performance Criteria	Results
Electrostatic Discharge (ESD)	IEC 61000-4-2: 2008	B	Pass
RF Field Strength Susceptibility (R/S)	IEC 61000-4-3: 2006+A1: 2007+A2: 2010	A	Pass
Electro Fast Transient (EFT)	IEC 61000-4-4: 2012	B	Pass
Surge (Input AC Power Port)	IEC 61000-4-5: 2014+A1:2017	C	Pass
Radio-Frequency, Continuous Conducted Disturbance	IEC 61000-4-6: 2013	A	Pass
Power Frequency Magnetic Field	IEC 61000-4-8: 2009	A	N/A
Voltage Interruptions, 100%	IEC 61000-4-11: 2004	B	Pass
Voltage Dips, 30% Reduction		C	
Note: N/A is an abbreviation for Not Applicable.			

2. GENERAL INFORMATION

2.1 Description of Device (EUT)

EUT	: LED table lamp
Model Number	: (See the page 10 model list) These model are the same expect the model name, brand and appearance, Here select PBB-1630 for test.
Trade Mark	: N/A
Power Supply for Test	: AC 230V 50Hz, DC 3.7V
Operate mode	: Charging, ON
Applicant	: Power beauty (Dong guan) Industrial Co., Ltd.
Address	: No.1, Eastern Industry Park, Shujiu Village, Changping Town, Dongguan City, China
Manufacturer	: Power beauty (Dong guan) Industrial Co., Ltd.
Address	: No.1, Eastern Industry Park, Shujiu Village, Changping Town, Dongguan City, China
Factory	: Power beauty (Dong guan) Industrial Co., Ltd.
Address	: No.1, Eastern Industry Park, Shujiu Village, Changping Town, Dongguan City, China
Date of sample received	: January 11, 2021
Date of Test	: January 11, 2021 to January 15, 2021

2.2 Description of Test Facility

Site Description

EMC Lab. : Accredited by CNAS, 2020.08.27
The certificate is valid until 2024.07.05
The Laboratory has been assessed and proved to be in compliance with CNAS/CL01:2018
The Certificate Registration Number is L3150

Name of Firm

: EMTEK(DONGGUAN) CO., LTD.

Site Location

: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China

2.3 Support of Devices

Adapter

: Model : YSV6-0501000
Input: AC 100-240V, 50/60Hz
Output: DC 5V, 1000mA

2.4 Model list

PBB-1420, PBB-1220, PBB-1220-1, PBB-1220-2, PBB-1826, PBB-1626-1, PBB-1626-2
PBB-150, PBB-1115-1, PBB-1115-2, PBB-1115-3, PBB-1421, PBB-1626, PBB-1526, PBB-3141, PBB-2223,
PBB-2036, PBB-3430, PBB-2080, PBB-2050, PBB-1620, PBB-1626, PBB-1630, PBB-1427, PBB-150, PBB-200,
PBB-250, PBB-300, PBB-400, PBB-500, PBB-600, PBB-1809, PBB-5040, PBG-1824,
PBS-2024, PBG-1615, PBG-1615S, PBS-4050, PBS-4080, PBS-40120, PBS-40150, PBS-3050, PBS-3480,
PBS-34120, PBS-34150, PBS-3430, PBS-130, PBS-150, PBS-200, PBS-250, PBS-300, PBS-350, PBS-400,
PBS-2062, PBB-1625, PBB-1825, PBS-2031, PBS-2045, PBS-2030FLAT, PBS-2030BALL, PBG-1626,
PBG-1026, PBG-1022, PBG-1023, PBG-1024, PBG-1034, PBG-1005, PBG-1002, PBG-3455, PBG-1006, PBG-1007,
PBG-4536, PBG-3390, PBG-4328, PBG-9000, PBG-3782, PBG-5054, PBG-6268, PBG-3432, PBG-3560, PBG-2645,
PBG-5811, PBG-8517

2.5 Measurement Uncertainty

Test Item	Uncertainty
Conducted Emission	: 2.08dB(9K-150KHz) 2.42dB(150K-30MHz)
Radiated Emission (3m Chamber)	: 3.32dB (30M~1GHz Polarize: H) 3.24dB (30M~1GHz Polarize: V)
Uncertainty for Flicker test	: 0.07%
Uncertainty for Harmonic test	: 1.8%
Uncertainty for test site temperature and humidity	: 0.6℃ 4%

3. MEASURING DEVICES AND TEST EQUIPMENT

3.1 For Power Line Conducted Emission

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde&Schwarz	ESCI	100137	May 22, 2020	1 Year
2.	L.I.S.N.	Rohde&Schwarz	ENV216	101209	May 22, 2020	1 Year
3.	RF Switching Unit	CDS	RSU-M2	38401	May 22, 2020	1 Year
4.	Artificial Mains Network	Schwarzbeck	NNLK-8121-641	8121-641	May 22, 2020	1 Year

3.2 For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	101415	May 22, 2020	1 Year
2.	Bilog Antenna	Schwarzbeck	VULB9163	9163-143	May 22, 2020	1 Year
3.	Power Amplifier	HP	8447F	EED184	May 22, 2020	1 Year
4.	Cable	N/A	CBL-26	N/A	May 22, 2020	1 Year
5.	Cable	N/A	CBL-26	N/A	May 22, 2020	1 Year
6.	Cable	N/A	CBL-26	N/A	May 22, 2020	1 Year
7.	Signal Analyzer	R&S	FSV30	103040	May 22, 2020	1 Year
8.	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1272	May 22, 2020	1 Year
9.	Power Amplifier	LUNAR EM	LNA1G18-40	J10100000081	May 22, 2020	1 Year
10.	Cable	H+S	RG 233/U	525178	May 22, 2020	1 Year
11.	Cable	H+S	RG 233/U	528948 WP	May 22, 2020	1 Year
12.	Cable	H+S	RG 233/U	525179	May 22, 2020	1 Year

3.3 For Magnetic Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	26115-010-0027	May 22, 2020	1 Year
2.	Loop Antenna	SLaplace Instrument Ltd	RF300	8006	May 22, 2020	1 Year
3.	50Ω Coaxial Switch	Anritsu	MP59B	6100175539	May 22, 2020	1 Year

3.4 For Harmonic Current / Flicker Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Power Frequency Test System	TESEQ	5001IX-CTS-400-SCH	1805A03008	May 22, 2020	1 Year
2.	AC Frequency Conversion Power	TESEQ	100-CTS-230-TSQ	1804A03259	May 22, 2020	1 Year
3.	PC	LENOVO	T2900D	SS12485303	May 22, 2020	1 Year

3.5 For Electrostatic Discharge Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	ESD Tester	TESEQ	NSG437	409	May 22, 2020	1 Year

3.6 For RF Strength Susceptibility Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Power Amplifier	MILMEGA	AS0102-55	1018770	2020/5/22	1 Year
2	50ohm Diode Power Sensor	BOONTON	51011EMC	34236	2020/5/22	1 Year
3	RF Power Meter. Dual Channel	BOONTON	4232A	10539	2020/5/22	1 Year
4	Log.-Per. Antenna	SCHWARZBECK	VULP 9118E	811	N/A	N/A
5	Signal Generator	Agilent	N5181A	MY50145187	2020/5/22	1 Year
6	50ohm Diode Power Sensor	BOONTON	51011EMC	36164	2020/5/22	1 Year
7	Broad-Band Horn Antenna	SCHWARZBECK	STLP 9149	9149-227	N/A	N/A
8	Field Strength Meter	DARE	RSS1006A	10I00037SNO22	2020/5/22	1 Year
9	Multi-function interface system	DARE	CTR1009B	12I00250SNO72	N/A	N/A
10	Automatic switch group	DARE	RSW1004A	N/A	N/A	N/A
11	Power Amplifier	MILMEGA	AS1860-50	1059346	2020/5/22	1 Year
12	Power Amplifier	MILMEGA	80RF1000-175	1059345	2020/5/22	1 Year
13	Directional Coupler	MILMEGA	DC6180AM1	0340463	2020/5/22	1 Year
14	Audio Analyzer	R&S	UPV	101473	2020/5/22	1 Year
15	Audio Test System	AUDIO PRECISION	ATS-1	41100	2020/5/22	1 Year

3.7 For Electrical Fast Transient/Burst Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Three-in-one tester	HTEC	HCOMPACT 7	190305	May 22, 2020	1 Year
2.	Coupling Clamp	EM TEST	HFK	0605-10	May 22, 2020	1Year

3.8 For Surge Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Three-in-one tester	HTEC	HCOMPACT 7	190305	May 22, 2020	1 Year

3.9 For Injected Currents Susceptibility Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	signal source	Rohde& Schwarz	SMB100A	103042	2020/5/22	1 Year
2	Single channel power meter	Rohde& Schwarz	NRVS	101761	2020/5/22	1 Year
3	Attenuator	AR-WORLDWIDE	6dB/50FH-006-100	324011	2020/5/22	1 Year
4	CDN	SKET	CDN M2+M3	204303	2020/10/28	1 Year
5	Power amplifier	Rohde& Schwarz	BSA 1515-25	097483	2020/5/22	1 Year

3.10 For Voltage Dips and Interruptions Test

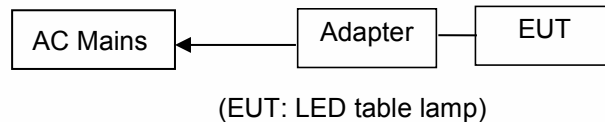
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Three-in-one tester	HTEC	HCOMPACT 7	190305	May 22, 2020	1 Year



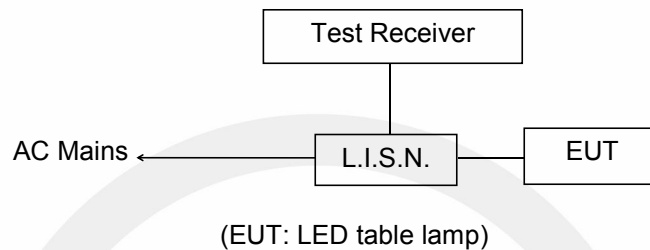
4. POWER LINE CONDUCTED MEASUREMENT

4.1 Block Diagram of Test Setup

4.1.1 Block diagram of connection between the EUT and simulators



4.1.2 Block Diagram of Test Setup



4.2 Conducted Power Line Emission Measurement Standard and Limits

4.2.1 Standard:

EN IEC 55015:2019/A11:2020

4.2.2 Limits

Frequency	At mains terminals (dBμV)	
	Quasi-peak Level	Average Level
9KHz ~ 50KHz	110	--
50KHz ~ 150KHz	90 ~ 80*	--
150KHz ~ 0.5MHz	66 ~ 56*	56 ~ 46*
0.5MHz ~ 5.0MHz	56	46
5.0MHz ~ 30MHz	60	50

1. At the transition frequency the lower limit applies.
2. * decreasing linearly with logarithm of the frequency.

4.3 EUT Configuration on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

EUT : LED table lamp
Model Number : PBB-1630

4.4 Operating Condition of EUT

Step 1: Setup the EUT as shown in Section 4.1.

Step 2: Turn on the power of all equipments.

Step 3: Let the EUT work in test mode (Charging) and measure it.

4.5 Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground and connected to the AC mains through a Line Impedance Stabilization Network (L.I.S.N.). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission according to the EN55015 regulations during conducted emission measurement. And the voltage probe had been used for the load terminals measurement according to the EN55015 standard.

The bandwidth of the test receiver (ESCI) is set at 200Hz in 9KHz~150KHz range and 9KHz in 150KHz~30MHz range.

The frequency range from 9KHz to 30MHz is checked.

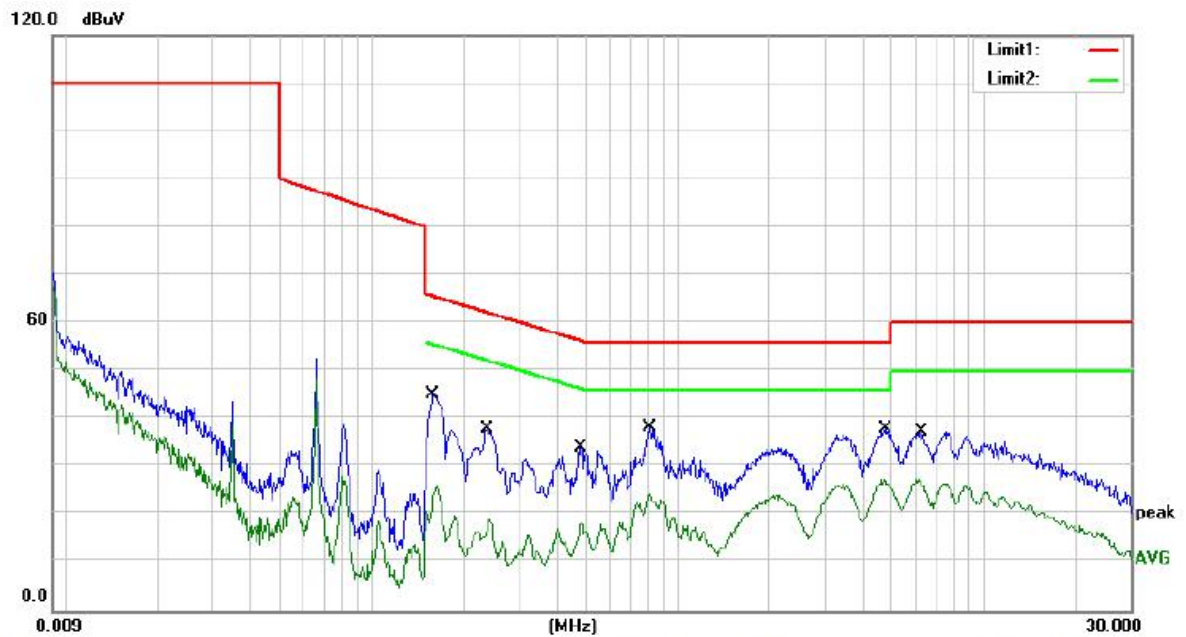
All the test results are listed in Section 4.6.

4.6 Measurement Results

PASS.

The frequency range from 9KHz to 30MHz is investigated.

The test data are attached in the following pages.



Site site #1

Phase: **L1**

Temperature: 22.6

Limit: EN IEC 55015_QP (CE)

Power: AC 230V/50Hz

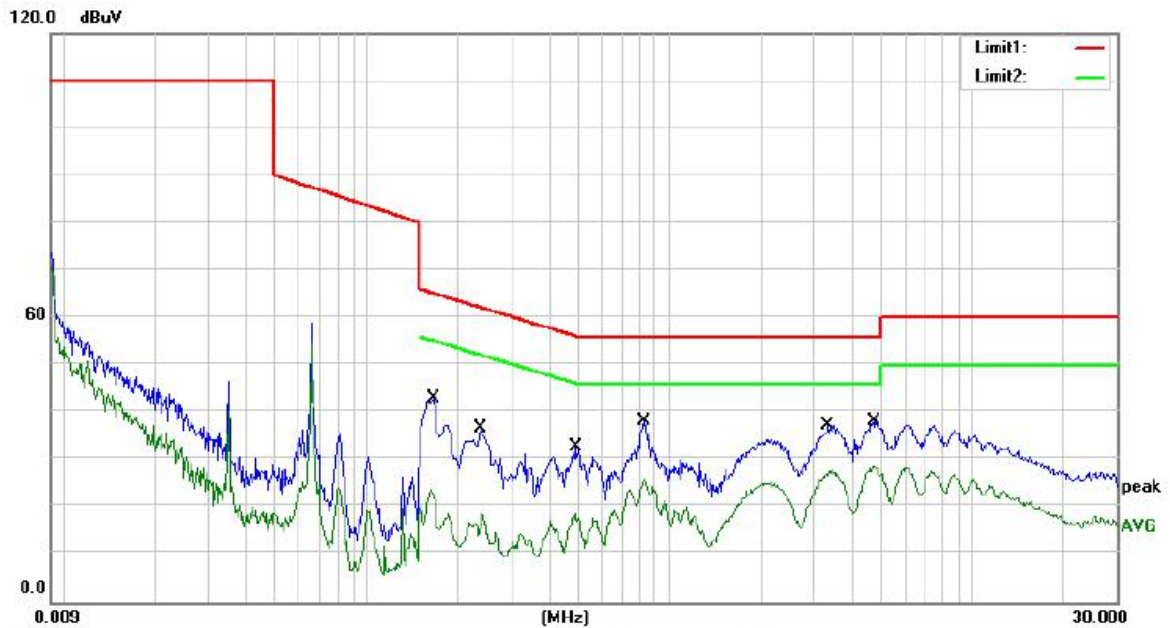
Humidity: 36 %

Mode: Charging

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1580	34.59	10.48	45.07	65.57	-20.50	QP	
2		0.1580	15.90	10.48	26.38	55.57	-29.19	AVG	
3		0.2380	27.49	10.40	37.89	62.17	-24.28	QP	
4		0.2380	8.61	10.40	19.01	52.17	-33.16	AVG	
5		0.4820	23.92	10.15	34.07	56.30	-22.23	QP	
6		0.4820	8.32	10.15	18.47	46.30	-27.83	AVG	
7	*	0.8060	28.05	10.12	38.17	56.00	-17.83	QP	
8		0.8060	14.24	10.12	24.36	46.00	-21.64	AVG	
9		4.7700	27.99	10.05	38.04	56.00	-17.96	QP	
10		4.7700	17.42	10.05	27.47	46.00	-18.53	AVG	
11		6.2540	27.27	10.05	37.32	60.00	-22.68	QP	
12		6.2540	17.46	10.05	27.51	50.00	-22.49	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: Ccyf



Site site #1

Phase: **N**

Temperature: 22.6

Limit: EN IEC 55015_QP (CE)

Power: AC 230V/50Hz

Humidity: 36 %

Mode: Charging

Note:

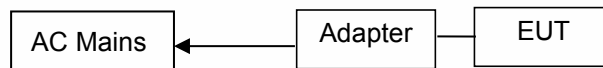
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1660	32.62	10.47	43.09	65.16	-22.07	QP	
2		0.1660	13.38	10.47	23.85	55.16	-31.31	AVG	
3		0.2380	26.35	10.40	36.75	62.17	-25.42	QP	
4		0.2380	8.23	10.40	18.63	52.17	-33.54	AVG	
5		0.4900	22.65	10.14	32.79	56.17	-23.38	QP	
6		0.4900	8.70	10.14	18.84	46.17	-27.33	AVG	
7		0.8220	28.11	10.12	38.23	56.00	-17.77	QP	
8		0.8220	15.83	10.12	25.95	46.00	-20.05	AVG	
9		3.3420	27.42	10.08	37.50	56.00	-18.50	QP	
10		3.3420	17.91	10.08	27.99	46.00	-18.01	AVG	
11		4.7820	28.15	10.05	38.20	56.00	-17.80	QP	
12	*	4.7820	18.64	10.05	28.69	46.00	-17.31	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: Ccyf

5. RADIATED EMISSION MEASUREMENT

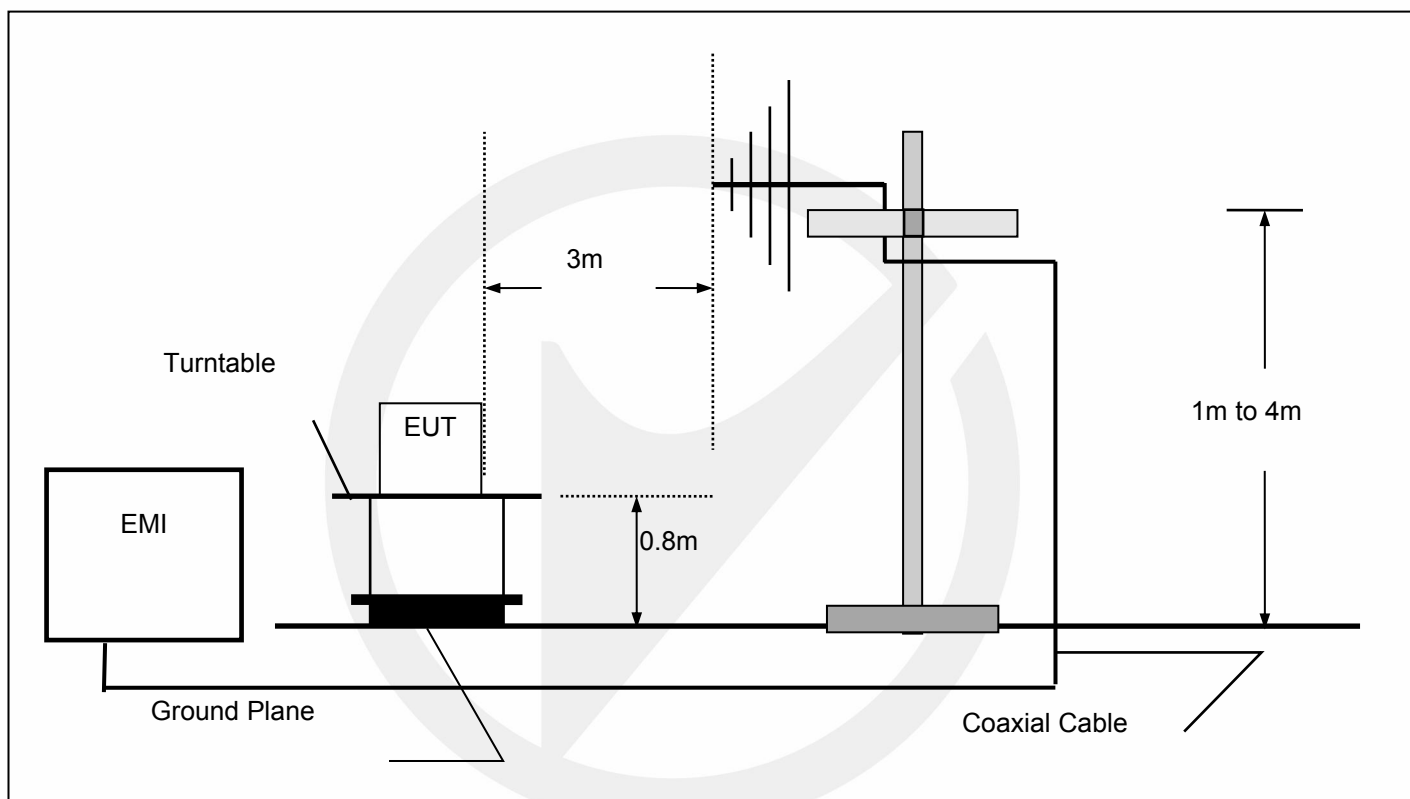
5.1 Block Diagram of Test

5.1.1 Block diagram of connection between the EUT and simulators



(EUT: LED table lamp)

5.1.2 Block diagram of test setup (In chamber)



(EUT: LED table lamp)

5.2 Measuring Standard

EN IEC 55015:2019/A11:2020

5.3 Radiated Emission Limits

All emanations from a device or system shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (DbmV/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Note: (1) The smaller limit shall apply at the combination point between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

5.4 EUT Configuration on Test

The EN55015 regulations test method must be used to find the maximum emission during radiated emission measurement.

EUT : LED table lamp

Model No. : PBB-1630

5.5 Operating Condition of EUT

Step 1: Turn on the power.

Step 2: Let the EUT work in test mode (Charging, ON) and measure it.

5.6 Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meter to find out the maximum emission level. Bilog antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarizations of the antenna are set on test.

The bandwidth of the Receiver (ESCI) is set at 120kHz.

5.7 Test Results

PASS.

The frequency range from 30MHz to 1000MHz is investigated.

The worst test data are attached in the following pages.



Site Chamber #1

Polarization: **Horizontal**

Temperature: 24.1

Limit: EN IEC 55015_3m(RE)

Power: AC 230V/50Hz

Humidity: 50 %

Mode: Charging

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		33.3280	39.30	-18.97	20.33	40.00	-19.67	QP		
2		35.8746	41.26	-18.24	23.02	40.00	-16.98	QP		
3	*	182.5592	42.99	-19.19	23.80	40.00	-16.20	QP		
4		264.7457	37.62	-14.81	22.81	47.00	-24.19	QP		
5		319.9370	34.64	-13.41	21.23	47.00	-25.77	QP		
6		633.9073	32.30	-5.49	26.81	47.00	-20.19	QP		

*:Maximum data x:Over limit !:over margin

Operator: XIA



Site: Chamber #1
 Limit: EN IEC 55015_3m(RE)
 Mode: Charging
 Note:

Polarization: **Vertical**
 Power: AC 230V/50Hz
 Temperature: 24.1
 Humidity: 50 %

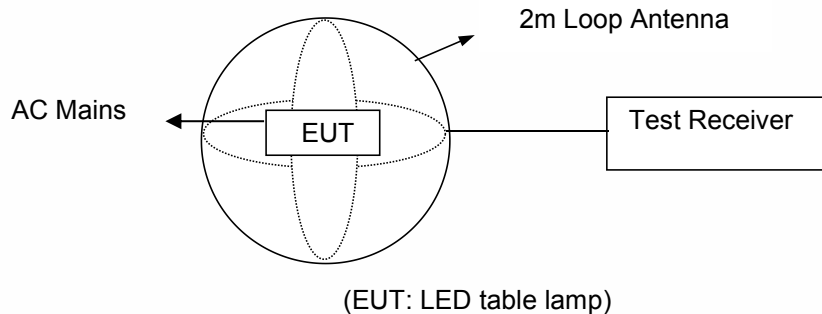
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	30.2111	50.19	-18.79	31.40	40.00	-8.60	QP		
2		60.7044	42.28	-17.16	25.12	40.00	-14.88	QP		
3		183.2005	43.72	-19.13	24.59	40.00	-15.41	QP		
4		240.8304	41.76	-15.72	26.04	47.00	-20.96	QP		
5		319.9370	37.34	-13.41	23.93	47.00	-23.07	QP		
6		677.5798	32.34	-4.73	27.61	47.00	-19.39	QP		

*:Maximum data x:Over limit !:over margin

Operator: XIA

6. MAGNETIC FIELD EMISSION MEASUREMENT

6.1 Block Diagram of Test Setup



6.2 Magnetic Field Emission Measurement Standard and Limits

6.2.1 Test Standard

EN IEC 55015:2019/A11:2020

6.2.2 Test Limits

Frequency	Limits for loop diameter (dB μ A)
	2m
9KHz ~ 70KHz	88
70KHz ~ 150KHz	88 ~ 53*
150KHz ~ 3.0MHz	53 ~ 22*
3.0MHz ~ 30MHz	22

1. At the transition frequency the lower limit applies.
2. * decreasing linearly with logarithm of the frequency.

6.3 EUT Configuration on Measurement

The configuration of the EUT is same as Section 6.1.

6.4 Operating Condition of EUT

Same as conducted measurement which is listed in Section 4.4, except that the test setup replaced by Section 6.1.

6.5 Test Procedure

The EUT is placed on a wood table in the center of a loop antenna. The induced current in the loop antenna is measured by means of a current probe and the test receiver.

Three field components are checked by means of a coaxial switch.

The frequency range from 9KHz to 30MHz is investigated. The receiver is measured with the quasi-peak detector. For frequency band 9KHz to 150KHz, the bandwidth of the field strength meter (test receiver ESCI) is set at 200Hz. For frequency band 150KHz to 30MHz, the bandwidth is set at 9KHz.

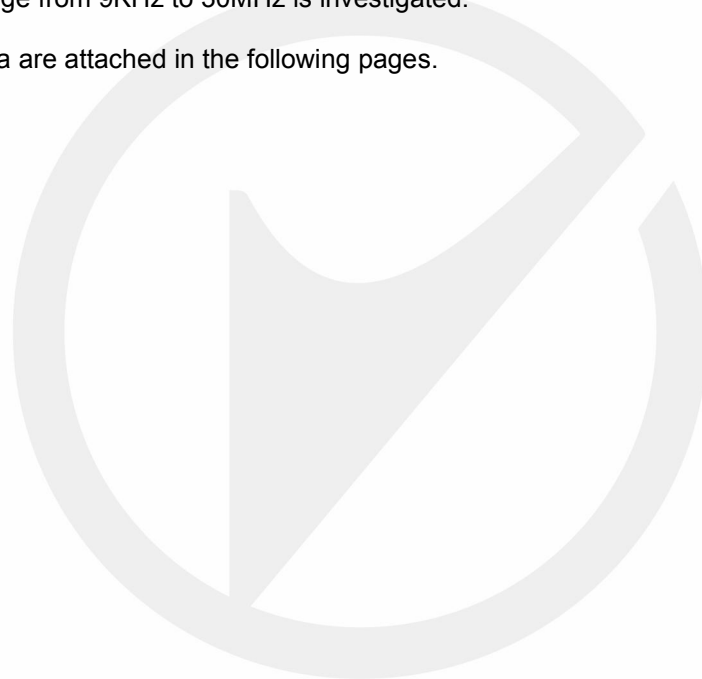
6.6 Test Results

PASS.

These test result outsourced to EMTEK (SHENZHEN) CO., LTD

The frequency range from 9KHz to 30MHz is investigated.

The worst test data are attached in the following pages.





No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuA	dB	dBuA	dBuA	dB	Detector	Comment
1		0.3300	23.19	0.00	23.19	48.53	-25.34	QP	
2		3.0460	12.12	0.00	12.12	22.00	-9.88	QP	
3		5.5100	10.57	0.00	10.57	22.00	-11.43	QP	
4		9.1780	11.95	0.00	11.95	22.00	-10.05	QP	
5		15.8400	13.00	0.00	13.00	22.00	-9.00	QP	
6	*	22.3600	13.87	0.00	13.87	22.00	-8.13	QP	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: CSL



Site site #1

Phase: **Loop B**

Temperature: 22

Limit: (ME)EN IEC 55015

Power: Battery 3.7V

Humidity: 50 %

Mode: ON

Note:

No.	Mk.	Freq. MHz	Reading Level dBuA	Correct Factor dB	Measure- ment dBuA	Limit dBuA	Over dB	Detector	Comment
1		2.4180	15.07	0.00	15.07	24.59	-9.52	QP	
2		6.1020	13.14	0.00	13.14	22.00	-8.86	QP	
3		7.5220	12.02	0.00	12.02	22.00	-9.98	QP	
4		14.5600	11.77	0.00	11.77	22.00	-10.23	QP	
5		18.0400	12.06	0.00	12.06	22.00	-9.94	QP	
6	*	26.6800	15.31	0.00	15.31	22.00	-6.69	QP	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: CSL



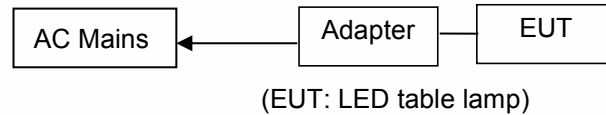
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		MHz	Level	Factor	ment			Detector	Comment
			dBuA	dB	dBuA	dBuA	dB		
1		0.0855	35.79	0.00	35.79	80.13	-44.34	QP	
2		0.7820	16.25	0.00	16.25	38.16	-21.91	QP	
3		3.1420	13.01	0.00	13.01	22.00	-8.99	QP	
4		4.4780	13.83	0.00	13.83	22.00	-8.17	QP	
5	*	11.5600	15.11	0.00	15.11	22.00	-6.89	QP	
6		15.5200	14.39	0.00	14.39	22.00	-7.61	QP	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: CSL

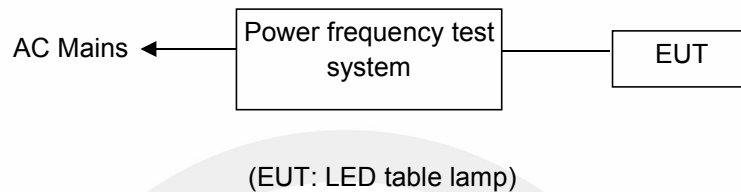
7. HARMONIC CURRENT MEASUREMENT

7.1 Block Diagram of Test Setup

7.1.1 Block diagram of connection between the EUT and simulators



7.1.2 Block Diagram of Test Setup



7.2 Measuring Standard

EN IEC 61000-3-2: 2019 Class C Power<5W

7.3 Operating Condition of EUT

- Step 1: Setup the EUT as shown in Section 7.1.
- Step 2: Turn on the power of all equipments.
- Step 3: Let the EUT work in test mode (Charging) and measure it.

7.4 Test Results

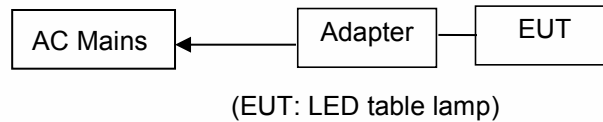
Not Applicable.

Because operating power of EUT is less than 5W, according to standard EN 61000-3-2, Harmonics Current is not required.

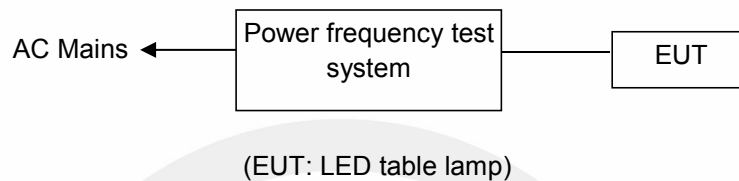
8. VOLTAGE FLUCTUATIONS & FLICKER MEASUREMENT

8.1 Block Diagram of Test Setup

8.1.1 Block diagram of connection between the EUT and simulators



8.1.2 Block Diagram of Test Setup



8.2 Measuring Standard

EN 61000-3-3:2013/A1:2019

8.3 Operating Condition of EUT

Step: Setup the EUT as shown in Section 8.1.

Step 2: Turn on the power of all equipments.

Step 3: Let the EUT work in test mode (Charging) and measure it.

8.4 Test Results

PASS.

Please refer to the following page.

Flicker Test Summary per EN/IEC61000-3-3 Ed. 3.0 (2013) (Run time)

EUT: PBB1630

Test category: All parameters (European limits)

Test date: 2021-1-14

Test duration (min): 10

Comment: Charging

Customer: Customer information

Tested by: ON

Test Margin: 100

End time: 9:31:47

Start time: 9:21:20

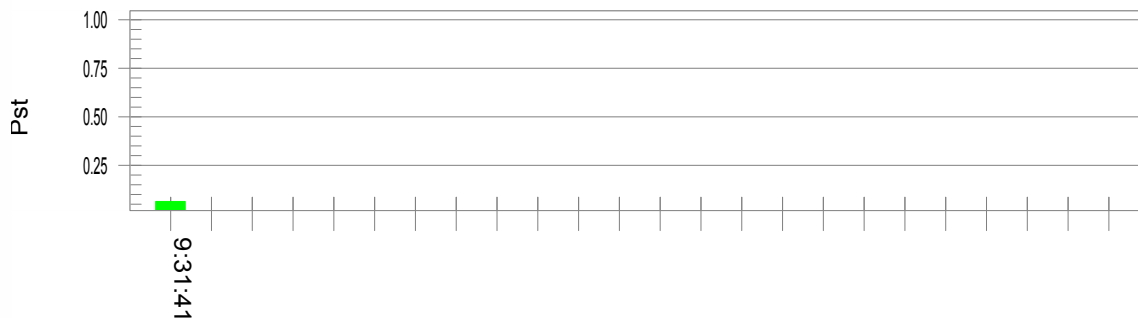
Data file name: F-000059.cts_data

Test Result: Pass

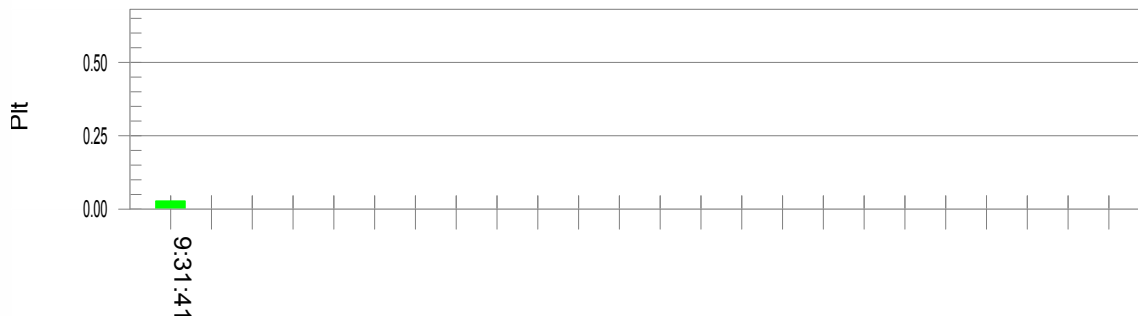
Status: Test Completed

Pst_i and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt): 229.70

T-max (mS): 0

Highest dc (%): 0.00

Highest dmax (%): 0.00

Highest Pst (10 min. period): 0.064

Highest Plt (2 hr. period): 0.028

Test limit (mS): 500.0 Pass

Test limit (%): 3.30 Pass

Test limit (%): 4.00 Pass

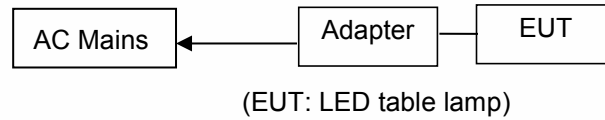
Test limit: 1.000 Pass

Test limit: 0.650 Pass

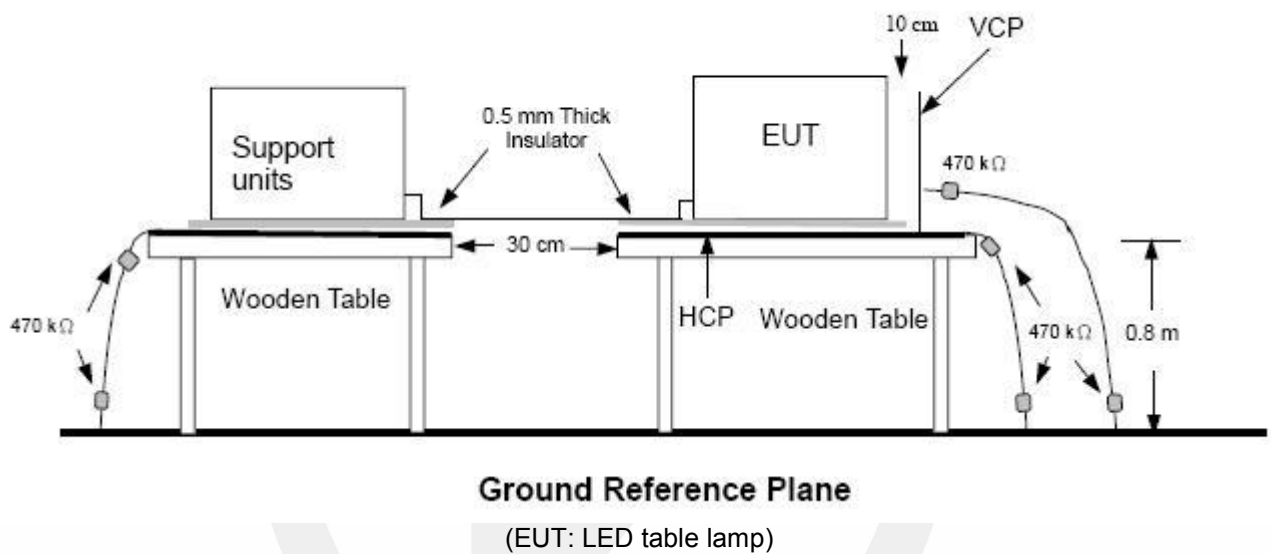
9. ELECTROSTATIC DISCHARGE TEST

9.1 Block Diagram of Test Setup

9.1.1 Block Diagram of the EUT



9.1.2 Block Diagram of ESD Test Setup



9.2 Test Standard

EN 61547: 2009

(IEC 61000-4-2: 2008, Severity Level: Air Discharge: Level 3, ±8KV/Contact Discharge: Level 2, ±4KV)

9.3 Severity Levels and Performance Criterion

9.3.1 Severity level

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

Performance criterion: B

9.4 EUT Configuration

The configuration of EUT is listed in Section 9.1.

9.5 Operating Condition of EUT

Step 1: Setup the EUT as shown in Section 9.1.

Step 2: Turn on the power of all equipments.

Step 3: Let the EUT work in test mode (Charging, ON) and measure it.

9.6 Test Procedure

9.6.1 Air Discharge

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

9.6.2 Contact Discharge

All the procedure shall be same as Section 9.6.1 except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

9.6.3 Indirect discharge for horizontal coupling plane

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

9.6.4 Indirect discharge for vertical coupling plane

At least 20 single discharge shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

9.7 Test Results

PASS.

Please refer to the following page.

Electrostatic Discharge Test Results

EMTEK(DONGGUAN) CO., LTD.

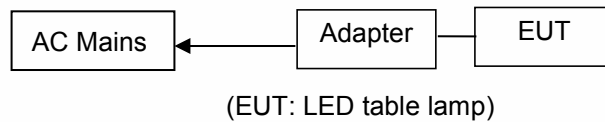
Applicant	: Power beauty (Dong guan) Industrial Co., Ltd.	Test Date	: January 15, 2021
EUT	: LED table lamp	Temperature	: 18.7℃
M/N	: PBB-1630	Humidity	: 37%
Power Supply	: AC 230V/50Hz, DC 3.7V	Test Engineer:	Huang
Test Mode	: Charging, ON	Criterion	: B
Air Discharge: $\pm 8KV$ Contact Discharge: $\pm 4KV$ # For each point positive 10 times and negative 10 times			
Location	Kind A-Air Discharge C-Contact Discharge	Result	
HCP	C	PASS	
VCP	C	PASS	
Enclosure	A	PASS	
Metal	C	PASS	
Remark :	Test Equipment : ESD Tester (TESEQ, 409)		

Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).

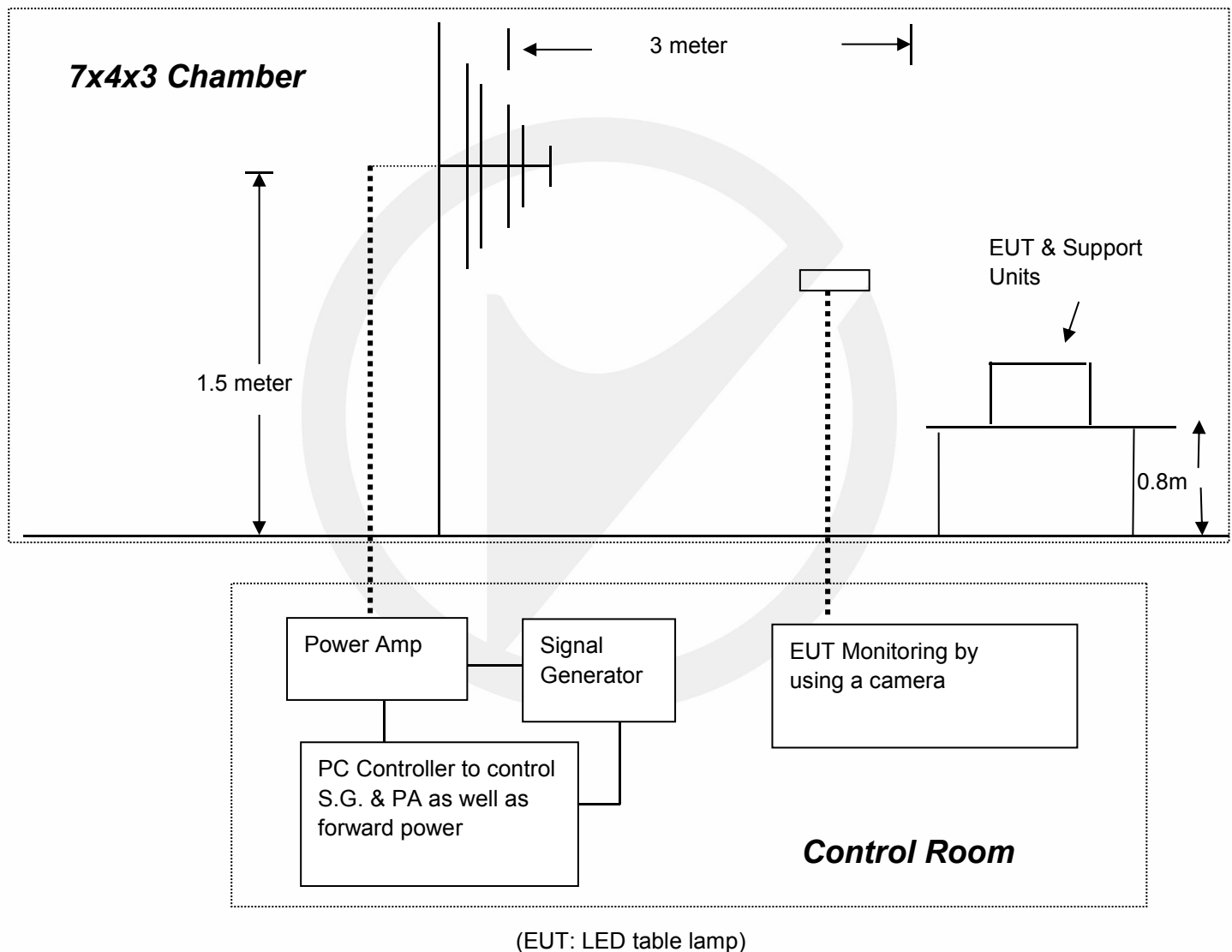
10. RF FIELD STRENGTH SUSCEPTIBILITY TEST

10.1 Block Diagram of Test Setup

10.1.1 Block Diagram of the EUT and the simulators



10.1.2 R/S Test Setup



10.2 Test Standard

EN 61547: 2009

(IEC 61000-4-3: 2006+A1: 2007+A2: 2010, Severity Level: 2, 3V / m)

10.3 Severity Levels and Performance Criterion

10.3.1 Severity level

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

Performance criterion: A

10.4 EUT Configuration

The configurations of EUT are listed in Section 10.1.

10.5 Operating Condition of EUT

Step 1: Setup the EUT as shown in Section 10.1.

Step 2: Turn on the power of all equipments.

Step 3: Let the EUT work in test mode (Charging, ON) and measure it.

10.6 Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. EUT is set 3 meter away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarizations of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD camera is used to monitor EUT screen. All the scanning conditions are as follows:

Condition of Test	Remarks
1. Fielded Strength	3 V/m (Severity Level 2)
2. Radiated Signal	Modulated
3. Scanning Frequency	80 - 1000 MHz
4. Dwell time of radiated	0.0015 decade/s
5. Waiting Time	1 Sec.

10.7 Test Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

EMTEK(DONGGUAN) CO., LTD

Applicant: Power beauty (Dong guan) Industrial Co., Ltd.

Test Date : January 15, 2021

EUT : LED table lamp

Temperature : 20.1℃

M/N : PBB-1630

Humidity : 39%

Field Strength: 3 V/m

Criterion: A

Power Supply: AC 230V/50Hz, DC 3.7V

Frequency Range: 80 MHz to 1000 MHz

Test Engineer: HUANG

Modulation: ☒ AM ☐ Pulse ☐ none 1 KHz 80%

Test Mode : Charging, ON

Frequency Range : 80-1000MHz

Steps

/ %

Horizontal

Vertical

Front

PASS

PASS

Right

PASS

PASS

Rear

PASS

PASS

Left

PASS

PASS

Test Equipment :

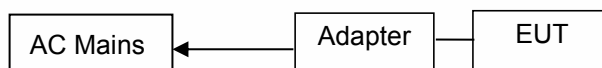
1. Signal Generator : N5181A (Agilent)
2. Power Amplifier : 80RF1000-175 (MILMEGA)& AS0102-55 (MILMEGA)& AS1860-50 (MILMEGA)
3. Log.-Per. Antenna: VULP 9118E(SCHWARZBECK)
4. Broad-Band Horn Antenna: STLP 9149 (SCHWARZBECK)
5. RF Power Meter. Dual Channel : 4232A (BOONTON)
6. Field Strength Meter: RSS1006A (DARE)

Note:

11. ELECTRICAL FAST TRANSIENT/BURST TEST

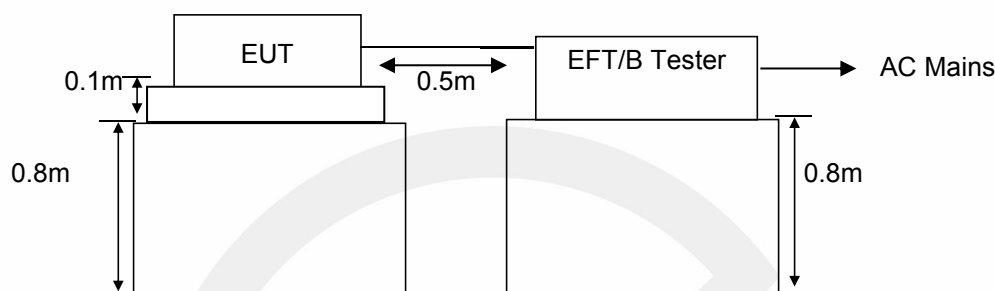
11.1 Block Diagram of Test Setup

11.1.1 Block Diagram of the EUT and the simulators



(EUT: LED table lamp)

11.1.2 Block Diagram of Test Setup



(EUT: LED table lamp)

11.2 Test Standard

EN 61547: 2009
(IEC 61000-4-4: 2012, Severity Level, Level 2: 1KV)

11.3 Severity Levels and Performance Criterion

11.3.1 Severity level

Open circuit output test voltage and repetition rate of the impulses				
Level	On power port, PE		On I/O (Input/Output) Signal data and control ports	
	Voltage peak KV	Repetition rate KHz	Voltage peak KV	Repetition rate KHz
1.	0.5 KV	5 or 100	0.25 KV	5 or 100
2.	1 KV	5 or 100	0.5 KV	5 or 100
3.	2 KV	5 or 100	1 KV	5 or 100
4.	4 KV	5 or 100	2 KV	5 or 100
X	Special	Special	Special	Special

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

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

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

Performance criterion: B

11.4 EUT Configuration

The configurations of EUT are listed in Section 11.1.

11.5 Operating Condition of EUT

Step 1: Setup the EUT as shown in Section 11.1.

Step 2: Turn on the power of all equipments.

Step 3: Let the EUT work in test mode (Charging) and measure it.

11.6 Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 mins.

For signal lines and control lines ports:

No I/O ports. It's unnecessary to test.

For DC output line ports:

No ports. It's unnecessary to test.

11.7 Test Results

PASS.

Please refer to the following page.

Electrical Fast Transient/Burst Test Results

EMTEK(DONGGUAN) CO., LTD.

Standard :	☒ IEC 61000-4-4 ☐ EN 61000-4-4	Result : ☒ PASS / ☐ FAIL	
Applicant : <u>Power beauty (Dong guan) Industrial Co., Ltd.</u> EUT : <u>LED table lamp</u> M/N : <u>PBB-1630</u> Power Supply: <u>AC 230V/50Hz</u> Criterion : <u>B</u> Ambient Condition : <u>18.7℃</u> <u>37% RH</u>			
Operation Mode : Charging			
Line : ☒ AC Mains		Line : ☐ Signal ☐ I/O Cable	
Coupling : ☒ Direct		Coupling : ☒ Capacitive	
Test Time : 120s			
Line	Test Voltage	Result (+)	Result (-)
L	1KV	PASS	PASS
N	1KV	PASS	PASS
PE			
L、N	1KV	PASS	PASS
L、PE			
N、PE			
L、N、PE			
Signal Line			
DC Line			
Note:			
Test Equipment		Burst Tester Model : UCS500M6B	

12. SURGE IMMUNITY TEST

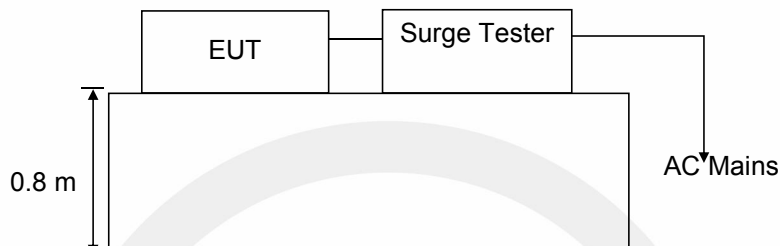
12.1 Block Diagram of Test Setup

12.1.1 Block Diagram of the EUT



(EUT: LED table lamp)

12.1.2 Surge Test Setup



(EUT: LED table lamp)

12.2 Test Standard

EN 61547: 2009

(IEC 61000-4-5: 2014+A1:2017, Severity Level: Line to Line: Level 1, 0.5KV)

12.3 Severity Levels and Performance Criterion

12.3.1 Severity level

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

Performance criterion: C

12.4 EUT Configuration

The configurations of EUT are listed in Section 12.1.

12.5 Operating Condition of EUT

Step 1: Setup the EUT as shown in Section 12.1.

Step 2: Turn on the power of all equipments.

Step 3: Let the EUT work in test mode (Charging) and measure it.

12.6 Test Procedure

- 1) Set up the EUT and test generator as shown on Section 12.1.2.
- 2) For line to line coupling mode, respectively provide 0.5KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.
- 3) At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
- 4) Different phase angles are done individually.
- 5) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

12.7 Test Results

PASS.

Please refer to the following page.



Surge Immunity Test Results

EMTEK(DONGGUAN) CO., LTD.

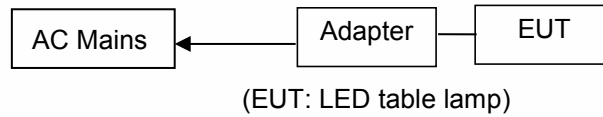
Applicant : <u>Power beauty (Dong guan) Industrial Co., Ltd.</u>				Test Date : <u>January 15, 2021</u>	
EUT : <u>LED table lamp</u>				Temperature : <u>18.7℃</u>	
M/N : <u>PBB-1630</u>				Humidity : <u>37%</u>	
Power Supply : <u>AC 230V/50Hz</u>				Test Engineer : <u>Huang</u>	
Test Mode : <u>Charging</u>				Criterion : <u>C</u>	

Location	Polarity	Phase Angle	No of Pulse	Pulse Voltage (KV)	Result
L-N	+	90°	5	0.5	PASS
	-	270°	5	0.5	PASS
L-PE					
N-PE					
Remark:				Test Equipment : Surge Generator VCS 500M6T	

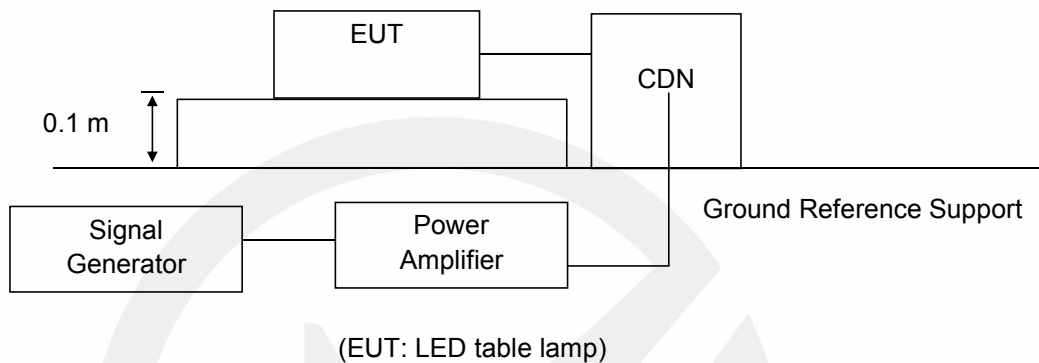
13. INJECTED CURRENTS SUSCEPTIBILITY TEST

13.1 Block Diagram of Test Setup

13.1.1 Block Diagram of the EUT



13.1.2 Block Diagram of Test Setup



13.2 Test Standard

EN 61547: 2009
(IEC 61000-4-6: 2013, Severity Level 2: 3V (rms), 0.15MHz ~ 80MHz)

13.3 Severity Levels and Performance Criterion

13.3.1 Severity level

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

Performance criterion: A

13.4 EUT Configuration

The configurations of EUT are listed in Section 13.1.

13.5 Operating Condition of EUT

Step 1: Setup the EUT as shown in Section 13.1.

Step 2: Turn on the power of all equipments.

Step 3: Let the EUT work in test mode (Charging) and measure it.

13.6 Test Procedure

- 1) Set up the EUT, CDN and test generators as shown on Section 13.1.2.
- 2) Let the EUT work in test mode and measure it.
- 3) The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).
- 4) The disturbance signal described below is injected to EUT through CDN.
- 5) The EUT operates within its operational mode(s) under intended climatic conditions after power on.
- 6) The frequency range is swept from 150KHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.
- 7) The rate of sweep shall not exceed 1.5×10^{-3} decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.
- 8) Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

13.7 Test Results

PASS.

Please refer to the following page.

Injected Currents Susceptibility Test Results

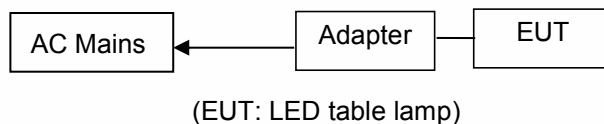
EMTEK(DONGGUAN) CO., LTD

Applicant : <u>Power beauty (Dong guan) Industrial Co., Ltd.</u>			Test Date : <u>January 15, 2021</u>	
EUT : <u>LED table lamp</u>			Temperature : <u>18.7℃</u>	
M/N : <u>PBB-1630</u>			Humidity : <u>37%</u>	
Power Supply : <u>AC 230V/50Hz</u>			Test Engineer : <u>Tom</u>	
Test Mode : <u>Charging</u>				
Frequency Range (MHz)	Injected Position	Strength	Criterion	Result
0.15 ~ 80	AC Mains	3V(rms)	A	PASS
Test Mode : _____				
Frequency Range (MHz)	Injected Position	Strength	Criterion	Result
Remark : 1. Modulation Signal:1KHz 80% AM Measurement Equipment : Simulator: CWS500C (SWITZERLAND EMTEST) CDN : ☒ CDN-M2 (SWITZERLAND EMTEST) ☐ CDN-M3 (SWITZERLAND EMTEST)		Note:		

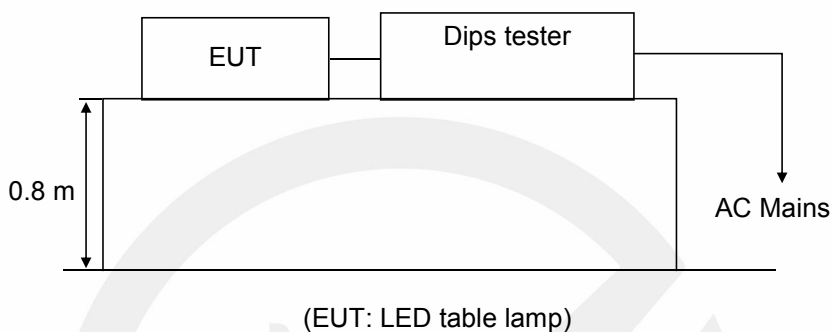
14. VOLTAGE DIPS AND INTERRUPTIONS TEST

14.1 Block Diagram of Test Setup

14.1.1 Block Diagram of the EUT



14.1.2 Dips Test Setup



14.2 Test Standard

EN 61547: 2009
(IEC 61000-4-11: 2004)

14.3 Severity Levels and Performance Criterion

14.3.1 Severity level

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

Performance criterion: B, C

14.4 EUT Configuration

The configurations of EUT are listed in Section 14.1.

14.5 Operating Condition of EUT

Step 1: Setup the EUT as shown in Section 14.1.

Step 2: Turn on the power of all equipments.

Step 3: Let the EUT work in test mode (Charging) and measure it.

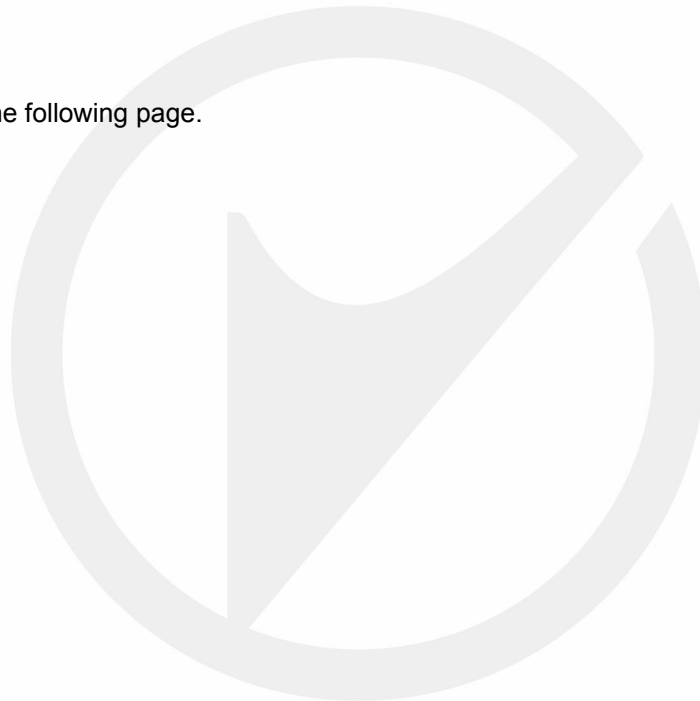
14.6 Test Procedure

- 1) Set up the EUT and test generator as shown on Section 14.1.2.
- 2) The interruption is introduced at selected phase angles with specified duration.
- 3) Record any degradation of performance.

14.7 Test Results

PASS.

Please refer to the following page.



Voltage Dips And Interruptions Test Results

EMTEK(DONGGUAN) CO., LTD

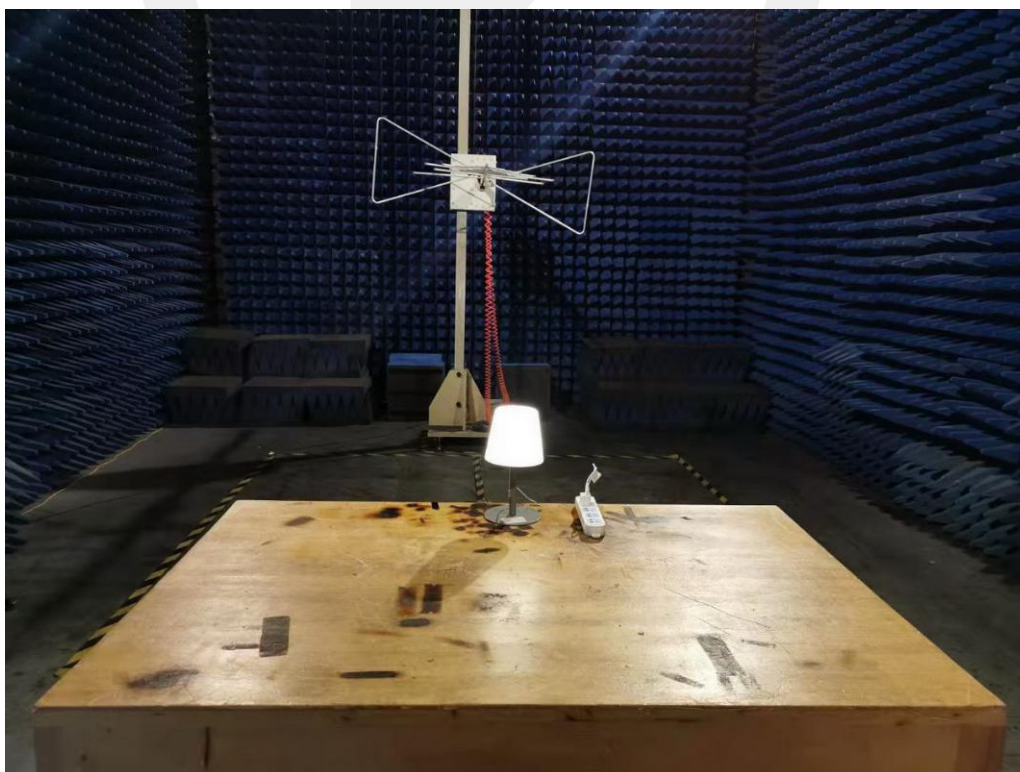
Applicant : <u>Power beauty (Dong guan) Industrial Co., Ltd.</u> EUT : <u>LED table lamp</u> M/N : <u>PBB-1630</u> Power Supply : <u>AC 230V/50Hz</u>			Test Date : <u>January 15, 2021</u> Temperature : <u>18.7℃</u> Humidity : <u>37%</u> Test Engineer : <u>Huang</u>	
Test Model : <u>Charging</u>				
Test Level % U_T	Voltage Dips & Short Interruptions % U_T	Duration (in period)	Criterion ☐ A ☒ B ☒ C ☐ D	Result
0	100	0.5P	B	PASS
70	30	10P	C	PASS
Test Model :				
Test Level % U_T	Voltage Dips & Short Interruptions % U_T	Duration (in period)	Criterion ☐ A ☐ B ☐ C ☐ D	Result
Remark: U_T is the rated voltage for the equipment.			Test Equipment : Dips Tester Pline1610	

15. PHOTOGRAPH

15.1 Photo of Conducted Emission Measurement



15.2 Photo of Radiation Emission Measurement



15.3 Photo of Magnetic field emission Measurement



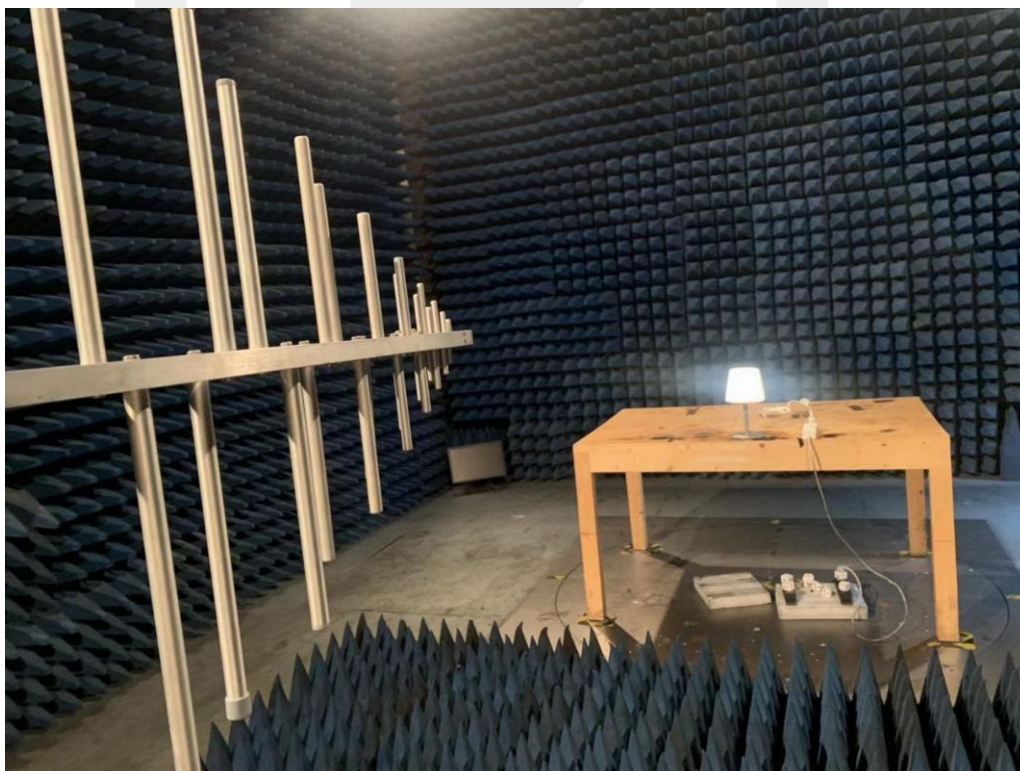
15.4 Photo of Harmonic / Flicker Measurement



15.5 Photo of Electrostatic Discharge Test



15.6 Photo of RF Field Strength susceptibility



15.7 Photo of Electrical Fast Transient /Burst Test



15.8 Photo of Surge Immunity Test



15.9 Photo of Injected Currents Susceptibility Test

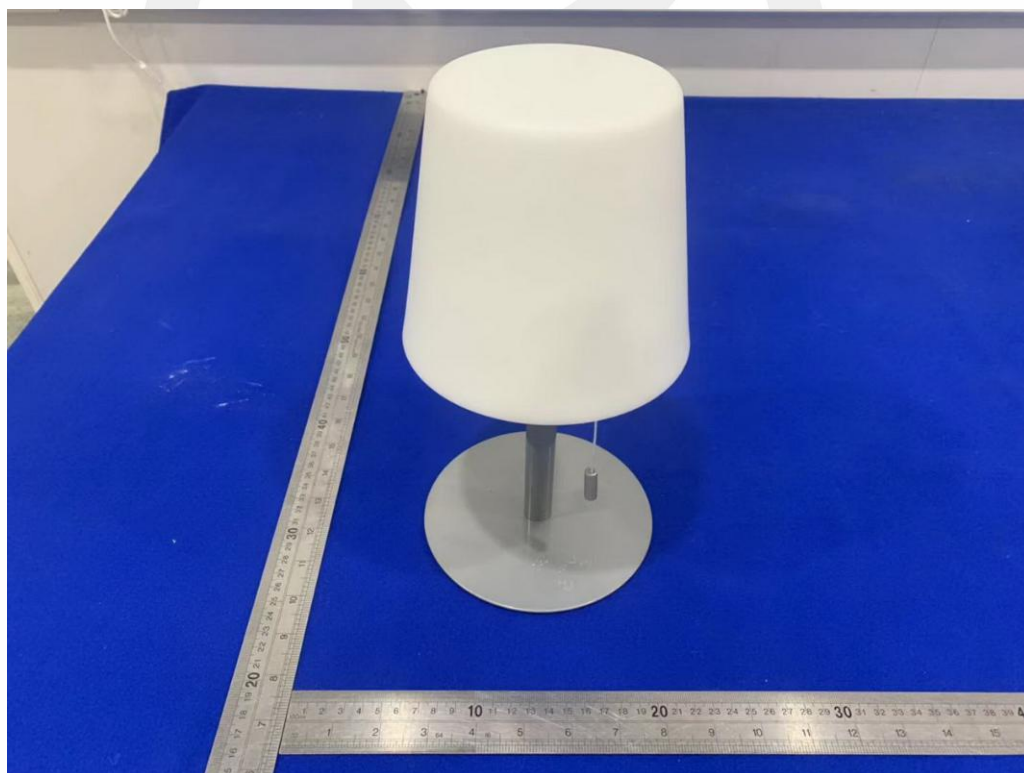


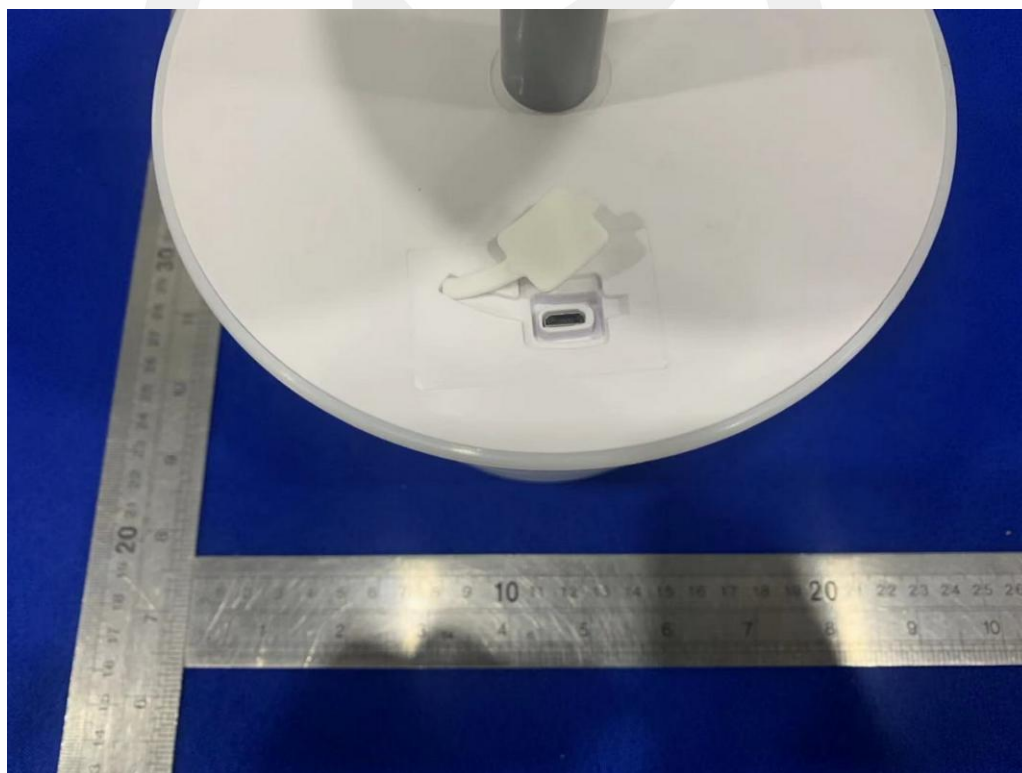
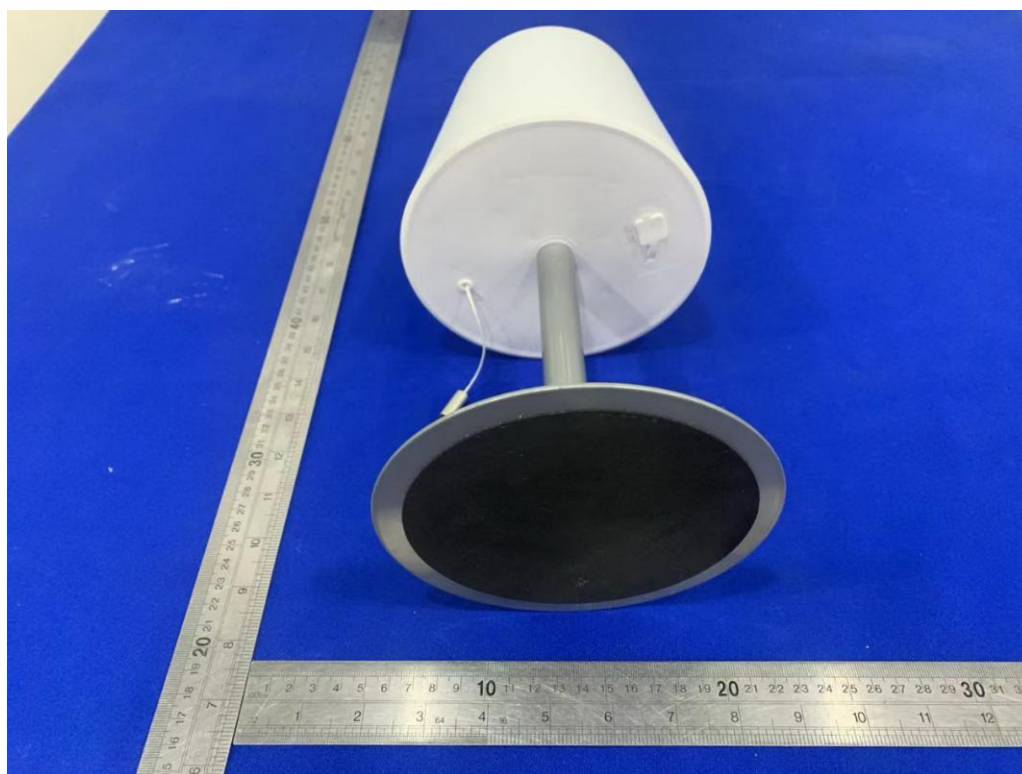
15.10 Photo of Voltage Dips and Interruption Immunity Test

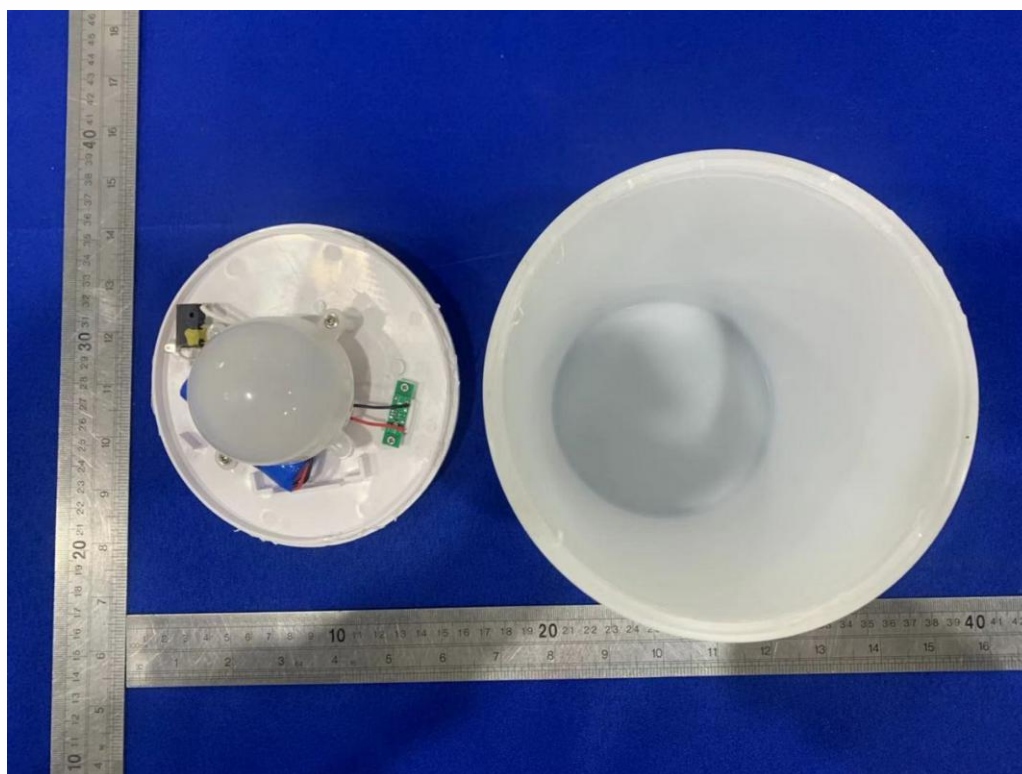


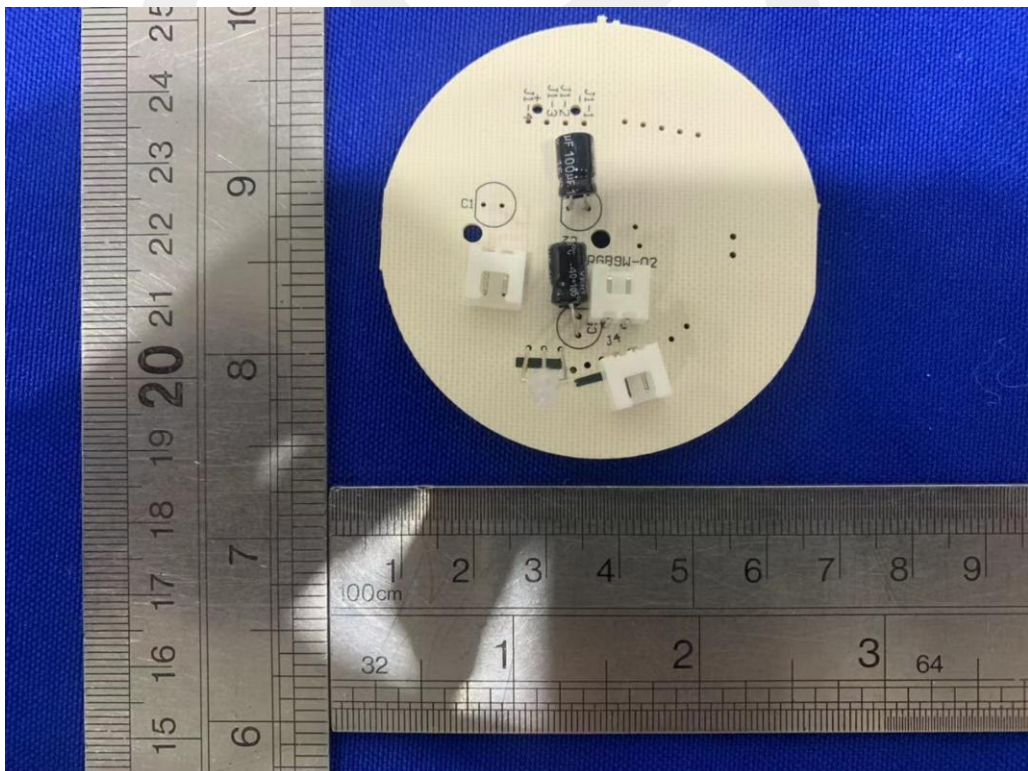
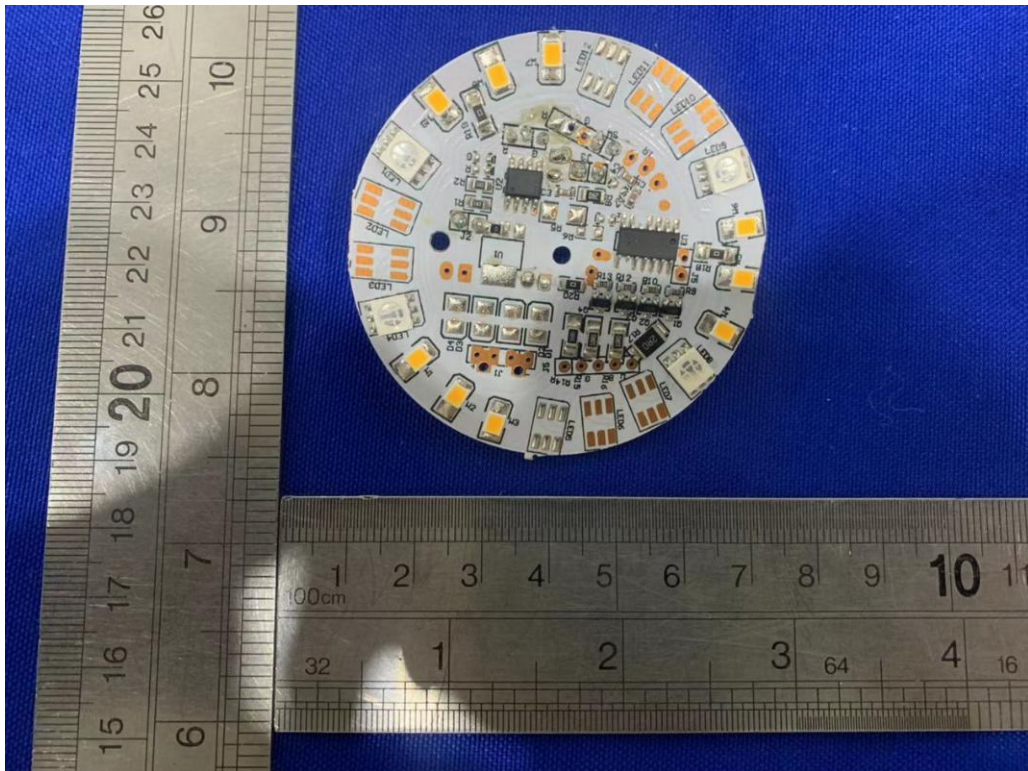


APPENDIX (Photos of EUT)









*** End of Report ***

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