ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORTUNINTENTIONAL RADIATORS CERTIFICATION TO FCC PART 15 SUBPART B REQUIREMENT

for

LED Wall Light

Model No.: WLU01R-15LS-YXA, WLU01R-13LS-YXA, OUT-LIN-XXXXXX

('YX', 'XXXXXX' are variables, please refer to page 6 for specific meanings)

Trademark: TWINSEL Electronic Technology artika

FCC ID: 2AYFP-OUT-LIN

Report No.: EA21090477F00901

Issue Date: Oct. 11, 2021

Prepared for

ARTIKA FOR LIVING INC

1756 50th avenue, Lachine, Quebec, Canada, H8T 2V5

Prepared by

Dong Guan Anci Electronic Technology Co., Ltd.

1-2 Floor, Building A, No.11, Headquarters 2 Road, Songshan, Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.

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TEST REPORT DESCRIPTION

Applicant	:	ARTIKA FOR LIVING INC
Manufacturer	:	ZHEJIANG TWINSEL ELECTRONIC TECHNOLOGY CO.,LTD
Factory	:	ZHEJIANG SHUANGYU ELECTRONIC TECHNOLOGY CO.,LTD
Trade Mark	:	TWINSEL Electronic Technology artika
EUT	:	LED Wall Light
Model No.	:	WLU01R-15LS-YXA, WLU01R-13LS-YXA, OUT-LIN-XXXXXX ('YX', 'XXXXXX' are variables, please refer to page 6 for specific meanings)
Power Supply	:	AC 120V/60Hz

Measurement Procedure Used:

CFR 47, FCC Part 15 Subpart B
ANSI C63.4-2014

The device described above is tested by Dong Guan Anci Electronic Technology 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 Dong Guan Anci Electronic Technology Co., Ltd. is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Dong Guan Anci Electronic Technology Co., Ltd.

Date of Test : Sept. 27, 2021 to Oct. 11, 2021

Prepared by : Tomas Yang/Supervisor

Approved & Authorized Signer : Alan He/Manager

Modified Information

Version	Report No.	Revision Data	Summary
Ver.1.0	EA21090477F00901	/	Original Version

1. SUMMARY OF TEST RESULTS

EMISSION		
Description of Test Item	Standard & Limits	Results
Conducted Emission at Mains Terminals	FCC Part 15, Subpart B, Class B ANSI C63.4-2014	Pass
Radiated Emission(30MHz-1GHz)	FCC Part 15, Subpart B, Class B ANSI C63.4-2014	Pass
Radiated Emission(Above 1GHz)	FCC Part 15, Subpart B, Class B ANSI C63.4-2014	N/A

Node: The manufacturer declare that the highest operating frequency of the product is 4.5MHz, so no test is required for radiated emission above 1GHz.

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT	:	LED Wall Light
Model Number	:	WLU01R-15LS-YXA, WLU01R-13LS-YXA, OUT-LIN-XXXXXX Please refer to the following model difference table
Test Model	:	WLU01R-15LS-830A
Test Voltage	:	AC 120V/60Hz
Applicant	:	ARTIKA FOR LIVING INC
Address	:	1756 50th avenue, Lachine, Quebec, Canada, H8T 2V5
Manufacturer	:	ZHEJIANG TWINSEL ELECTRONIC TECHNOLOGY CO.,LTD
Address	:	Tashan Industry Zone, Meilin Street, Ninghai County, Ningbo City, 315609, Zhejiang, P.R.China
Factory	:	ZHEJIANG SHUANGYU ELECTRONIC TECHNOLOGY CO.,LTD
Address	:	Tashan Industry Zone, Meilin Street, Ninghai County, Ningbo City, 315609, Zhejiang, P.R.China
Date of Received	:	Sept. 27, 2021
Date of Test	:	Sept. 27, 2021 to Oct. 11, 2021

Model difference table:

Size	Model	Customer model	Number of lamp beads	Input	Power	Driver Model
280*110*129mm	WLU01R-15LS-YXA	/	30	120V/60Hz, 140mA	15W	EB-ELS15W300I-120V
280*110*129mm	WLU01R-13LS-YXA	OUT-LIN-XXXXXX	30	120V/60Hz, 120mA	13W	EB-ELS13W250I-120V

Note 1 :YX in the model designation could be any numbers, where each Y could be one number to indicate Color Rendering Index (like 8 represents CRI 80, 9 represents CRI 90), each X could be two numbers or two number ranges to indicate color temperature (like 22 represents 2200K, 65 represents 6500K).
Note 2: XXXXXX in the model designation could be any numbers or letters, which indicates customer code.
Note 3: The two series models are different in the power output of the driver, and the others are exactly the same. We choose the maximum power model for testing. The driver has the same circuit principle.

2.2. Input / Output Ports

Port #	Name	Type*	Cable Max. >3m	Cable Shielded	Comments
0	Enclosure	N/E	--	--	None
1	AC Input port	AC	--	--	1 Port
2	USB Port	I/O	--	--	None
3	Aux Port	I/O	--	--	None
4	Earphone	I/O	--	--	None

* Note: Use abbreviations:
AC= AC Power Port
DC= DC Power Port
N/E= Non-Electrical
I/O= Signal Input or Output Port (Not Involved in Process Control)
TP= Telecommunication Ports

2.3. Independent Operation Modes

A. On
B. Off

2.4. Test Manner

Test Items	Test Voltage	Operation Modes	Worst case
Conducted Emission	AC 120V/60Hz	Mode A	On
Radiated Emission	AC 120V/60Hz	Mode A	On

2.5. Description of Test Facility

Site Description		
EMC Lab.	:	Accredited by CNAS, 2017.06.26 The certificate is valid until 2022.10.28 The Laboratory has been assessed and proved to be in compliance with CNAS-CL01:2006 (identical to ISO/IEC 17025:2005) The Certificate Registration Number is L0468. Accredited by A2LA, 2018.03.15 The Certificate Number is 4422.01.
Name of Firm	:	Dong Guan Anci Electronic Technology Co., Ltd.
Site Location	:	1-2 Floor, Building A, No.11, Headquarters 2 Road, Songshan, Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.

2.6. Test Software

Item		Software
Conducted Emission	:	EZ-EMC Ver:ANCI-3A1
Radiated Emission	:	EZ-EMC Ver:ANCI-3A1

2.7. Description of Support Device

N/A

2.8. Measurement Uncertainty

Test Item		Uncertainty
Conducted Emission Uncertainty	:	2.96dB(9k~150kHz Conduction 1#) 2.74dB(150k-30MHz Conduction 1#)
Radiated Emission Uncertainty (3m Chamber)	:	3.78dB (30M~1GHz Polarize: H) 4.27dB (30M~1GHz Polarize: V)

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1. For Power Line Conducted Emission Measurement

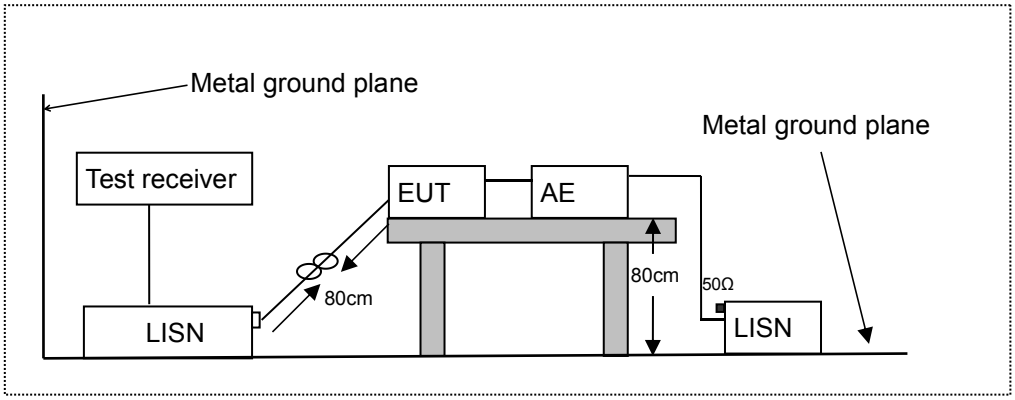
Item	EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	Calibrated until
1.	L.I.S.N	SCHWARZBECK	NSLK 8127	8127-669	2022-05-22
2.	10 db attenuator	JFW	50FP-010-H4	4360846-427-1	2022-05-22
3.	RF Cable	N/A	N/A	2#	2022-05-22
4.	EMI Test Receiver	ROHDE&SCHWARZ	ESCI	101358	2022-05-22

3.2. For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
5.	EMI Test Receiver	Rohde & Schwarz	ESPI	100502	2021-11-19
6.	Pre-Amplifier	HP	8447D	2727A06172	2022-05-22
7.	Bilog Antenna	Schwarzbeck	VULB9163	VULB9163-588	2022-05-22
8.	Loop Antenna	Schwarzbeck	FMZB 1516	1516-141	2022-05-22
9.	RF Cable	Gigalink Microwave	ZT40-2.92J-2.92 J-2m	N/A	2022-05-22
10.	RF Cable	Gigalink Microwave	ZT40-2.92J-2.92 J-0.3m	N/A	2022-05-22
11.	RF Cable	N/A	N/A	6#	2022-05-22
12.	3m Semi-anechoic Chamber	chengyu	9m*6m*6m	N/A	2022-05-22
13.	Test Software	Farad	EZ-EMC Ver:ANCI-3A1	N/A	N/A

4. POWER LINE CONDUCTED EMISSION MEASUREMENT

4.1. Block Diagram of Test Setup



LISN: Line Impedance Stabilization Network
AE: Associated equipment
EUT: Equipment under test

4.2. Limits

FCC Part 15, Subpart B, Class B

Frequency (MHz)			Limit (dBμV)	
			Quasi-peak Level	Average Level
0.15	~	0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
0.50	~	5.00	56.0	46.0
5.00	~	30.00	60.0	50.0
NOTE1-The lower limit shall apply at the transition frequencies. NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.				

4.3. Test Procedure

The EUT was placed on a desk 0.8 m height from the metal ground plane and 0.4 m from the conducting wall of the shielding room and it was kept at least 0.8 m from any other grounded conducting surface. The size of the table will nominally be 1.5 m x1.0 m.

The rear of the arrangement shall be flush with the back of the supporting tabletop unless that would not be possible or typical of normal use.

All units of equipment forming the system under test (includes the EUT as well as connected peripherals and associated equipment or devices) shall be arranged such that a nominal 0.1 m separation is achieved between the neighboring units.

Connect EUT to the power mains through a line impedance stabilization network (LISN). Where the mains cable supplied by the manufacturer is longer than 1 m, the excess should be folded at the centre into a bundle no longer than 0.4 m, so that its length is shortened to 1 m.

All the support units are connecting to the other LISN.

The LISN provides 50 ohm coupling impedance for the measuring instrument.

Both sides of AC line were checked for maximum conducted interference.

The frequency range from 150 kHz to 30 MHz was sweep.

Set the test-receiver system to quasi peak detect function and average detect function, and to

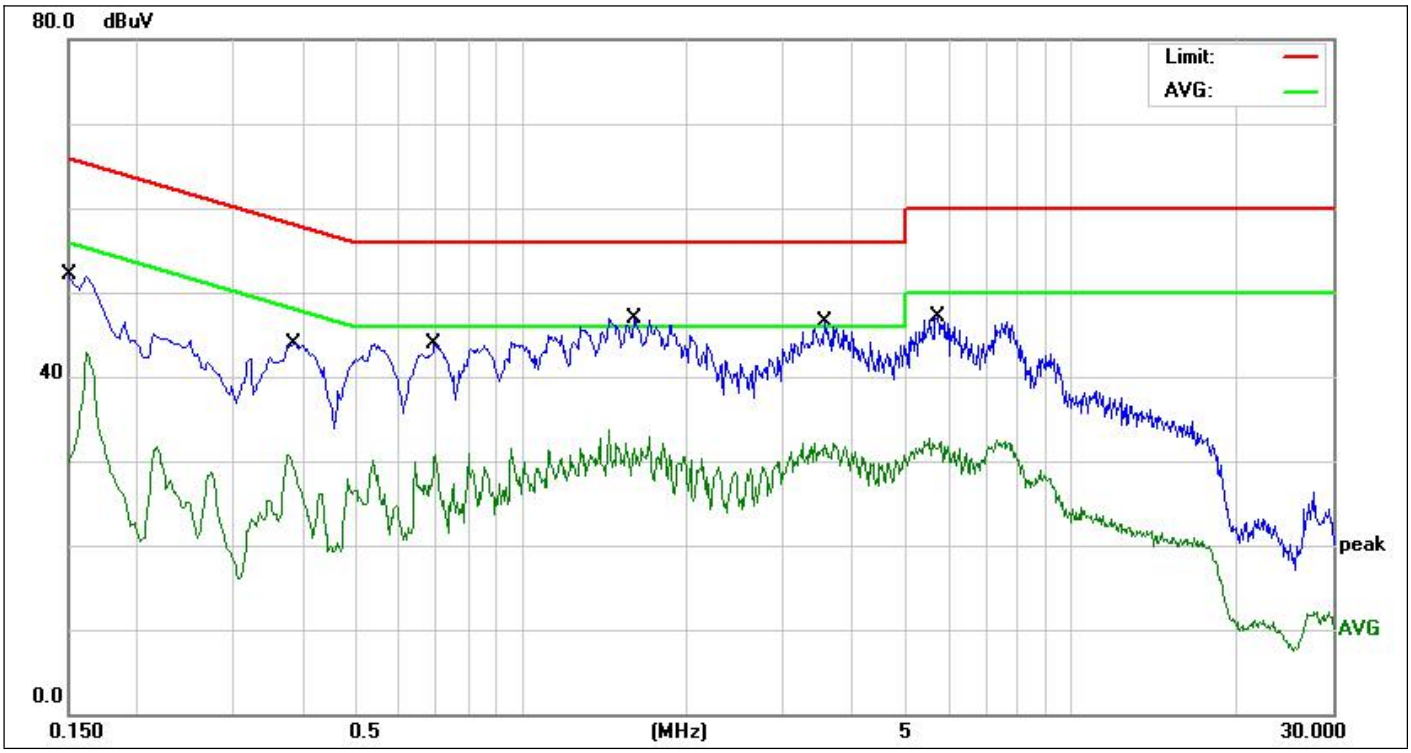
measure the conducted emissions values.

Test results were obtained from the following equation:
Emission Level (dBμV) = LISN Factor (dB) + Cable Loss (dB) + Reading (dBμV)
Margin (dB) = Emission Level (dBμV) - Limit (dBμV)

4.4. Measuring Results

PASS.

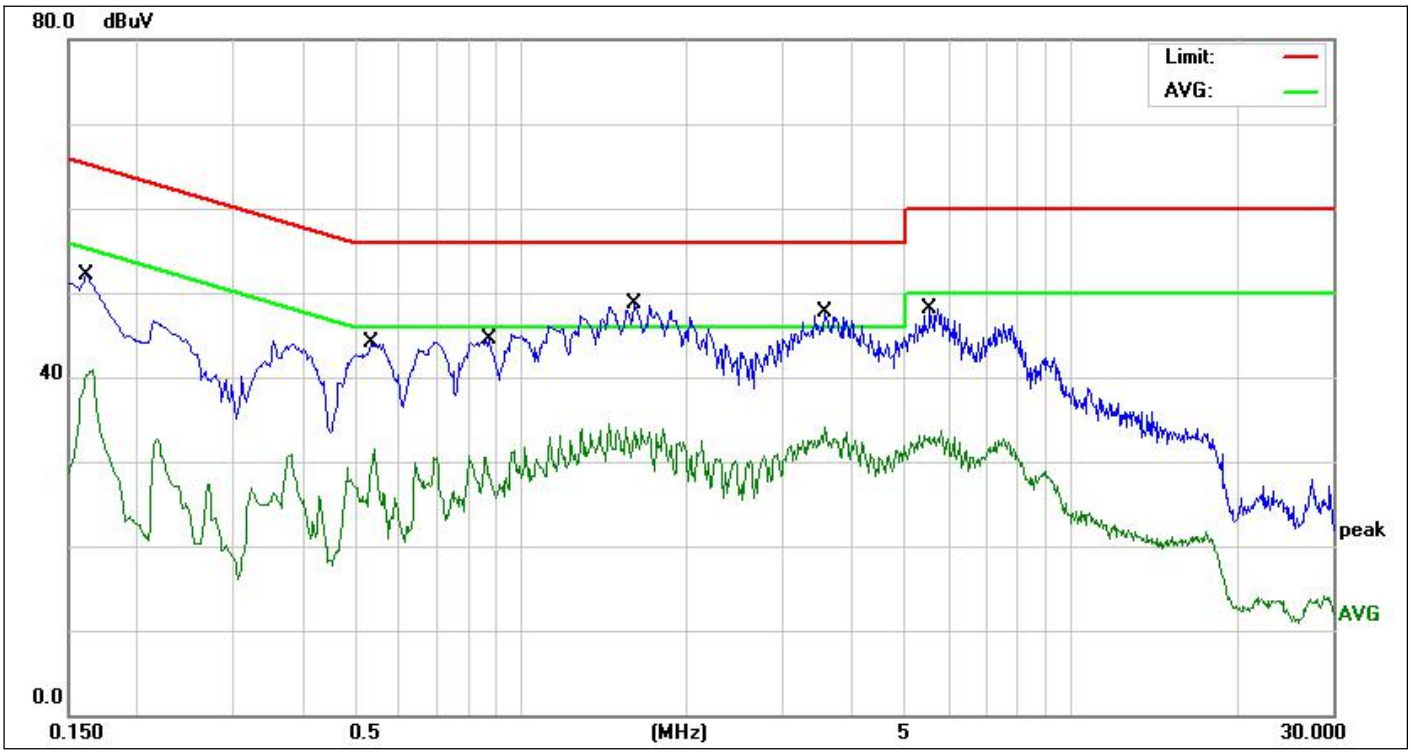
Please refer to following pages.



Site:	**843**	**Phase:L1**	**Temperature(C):26(C)**
Limit:	**FCC PART 15B Conduction(QP)**		**Humidity(%):60%**
EUT:	**LED Wall Light**	**Test Time:**	**2021-10-08**
M/N.:	**WLU01R-15LS-830A**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**ON**	**Test Engineer:**	**Jack**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	0.1500	39.02	10.07	49.09	65.99	-16.90	QP	
2	0.1500	18.48	10.07	28.55	55.99	-27.44	AVG	
3	0.3860	31.85	10.08	41.93	58.15	-16.22	QP	
4	0.3860	18.61	10.08	28.69	48.15	-19.46	AVG	
5	0.6940	32.75	10.10	42.85	56.00	-13.15	QP	
6	0.6940	21.27	10.10	31.37	46.00	-14.63	AVG	
7 *	1.6019	35.57	10.13	45.70	56.00	-10.30	QP	
8	1.6019	21.56	10.13	31.69	46.00	-14.31	AVG	
9	3.5740	34.23	10.23	44.46	56.00	-11.54	QP	
10	3.5740	21.64	10.23	31.87	46.00	-14.13	AVG	
11	5.7220	30.45	10.33	40.78	60.00	-19.22	QP	
12	5.7220	20.07	10.33	30.40	50.00	-19.60	AVG	

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



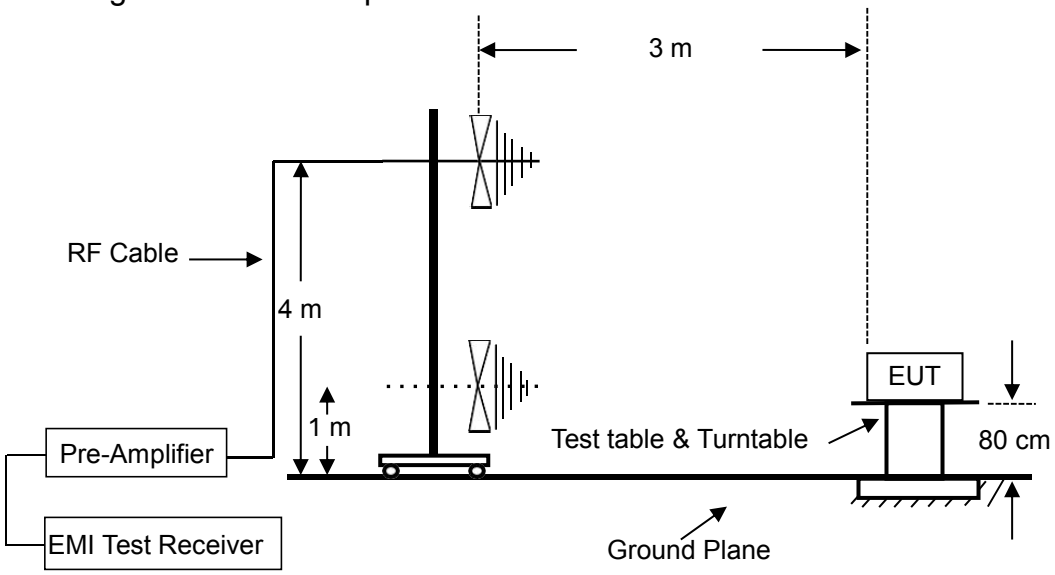
Site:	**843**	**Phase:N**	**Temperature(C):26(C)**
Limit:	**FCC PART 15B Conduction(QP)**		**Humidity(%):60%**
EUT:	**LED Wall Light**	**Test Time:**	**2021-10-08**
M/N.:	**WLU01R-15LS-830A**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**ON**	**Test Engineer:**	**Jack**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	0.1620	40.56	10.07	50.63	65.36	-14.73	QP	
2	0.1620	29.99	10.07	40.06	55.36	-15.30	AVG	
3	0.5340	32.81	10.09	42.90	56.00	-13.10	QP	
4	0.5340	20.76	10.09	30.85	46.00	-15.15	AVG	
5	0.8780	32.19	10.10	42.29	56.00	-13.71	QP	
6	0.8780	17.98	10.10	28.08	46.00	-17.92	AVG	
7 *	1.6100	35.75	10.13	45.88	56.00	-10.12	QP	
8	1.6100	22.41	10.13	32.54	46.00	-13.46	AVG	
9	3.5780	35.60	10.23	45.83	56.00	-10.17	QP	
10	3.5780	23.19	10.23	33.42	46.00	-12.58	AVG	
11	5.5500	33.79	10.33	44.12	60.00	-15.88	QP	
12	5.5500	21.58	10.33	31.91	50.00	-18.09	AVG	

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

5. RADIATED EMISSION MEASUREMENT (UP TO 1GHz)

5.1. Block Diagram of Test Setup



5.2. Radiated Limit

FCC Part 15, Subpart B, Class B

Frequency MHz	Distance Meters	Field Strengths Limit	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0

5.3. Test Procedure

The EUT was placed on a non-conductive table whose total height equaled 80cm. All units of equipment forming the system under test (includes the EUT as well as connected peripherals and associated equipment or devices) shall be arranged such that a nominal 0.1 m separation is achieved between the neighboring units. Where the mains cable supplied by the manufacturer is longer than 1 m, the excess should be folded at the centre into a bundle no longer than 0.4 m, so that its length is shortened to 1 m.

The EUT was set 3 meters away from the receiving antenna that was mounted on a non-conductive mast. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level.

The turntable can rotate 360 degree to determine the position of the maximum emission level.

The initial testing identified the frequency that has the highest disturbance relative to the limit while operating the EUT in typical modes of operation and cable positions in a test setup representative of typical system configuration.

The identification of the frequency of highest emission with respect to the limit was found by investigating emissions at a number of significant frequencies. The probable frequency of maximum emission had been found and that the associated cable and EUT configuration and mode of operation had been identified.

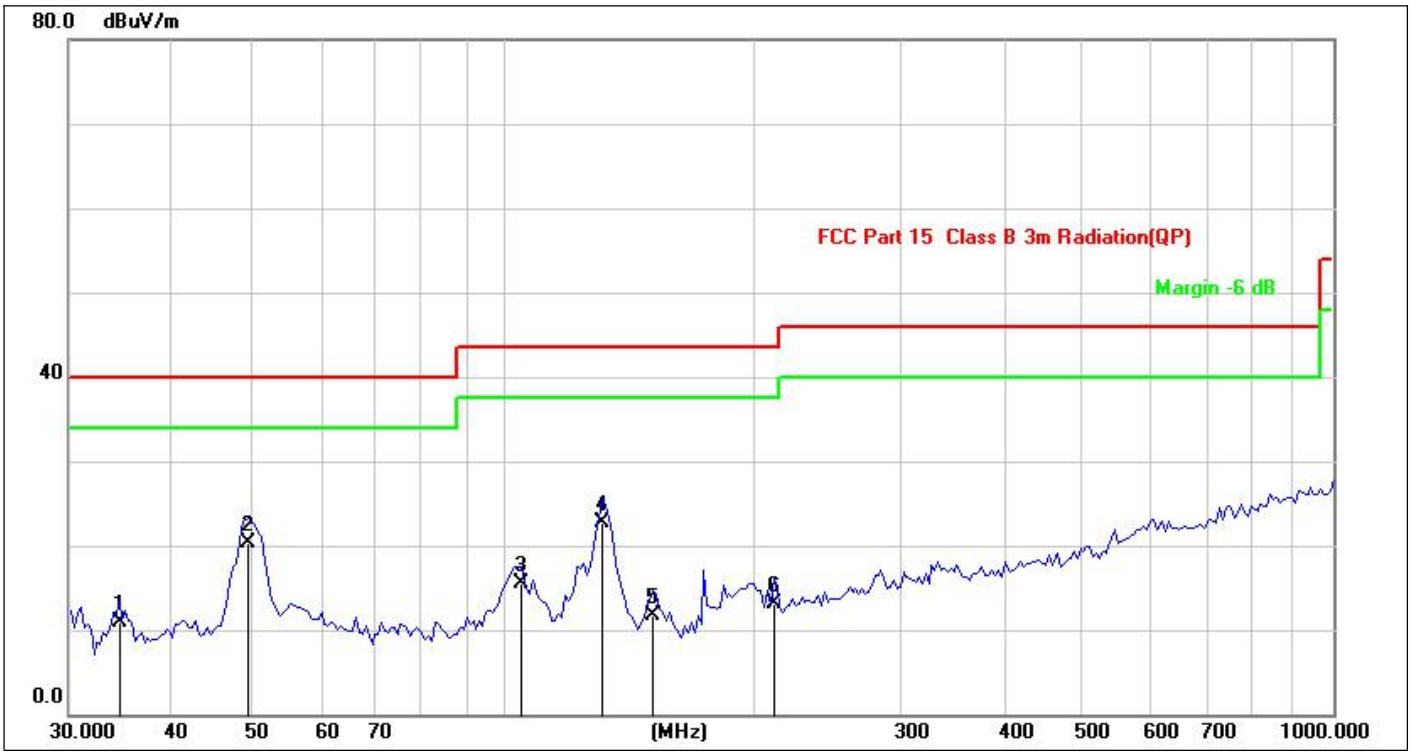
The bandwidth of the Receiver is set at 120 kHz.

Test results were obtained from the following equation:
Emission level (dBμV/m) = Antenna Factor -Amp Factor +Cable Loss + Reading
Margin (dB) = Emission Level (dBμV/m) - Limit (dBμV/m)

5.4. Measuring Results

PASS.

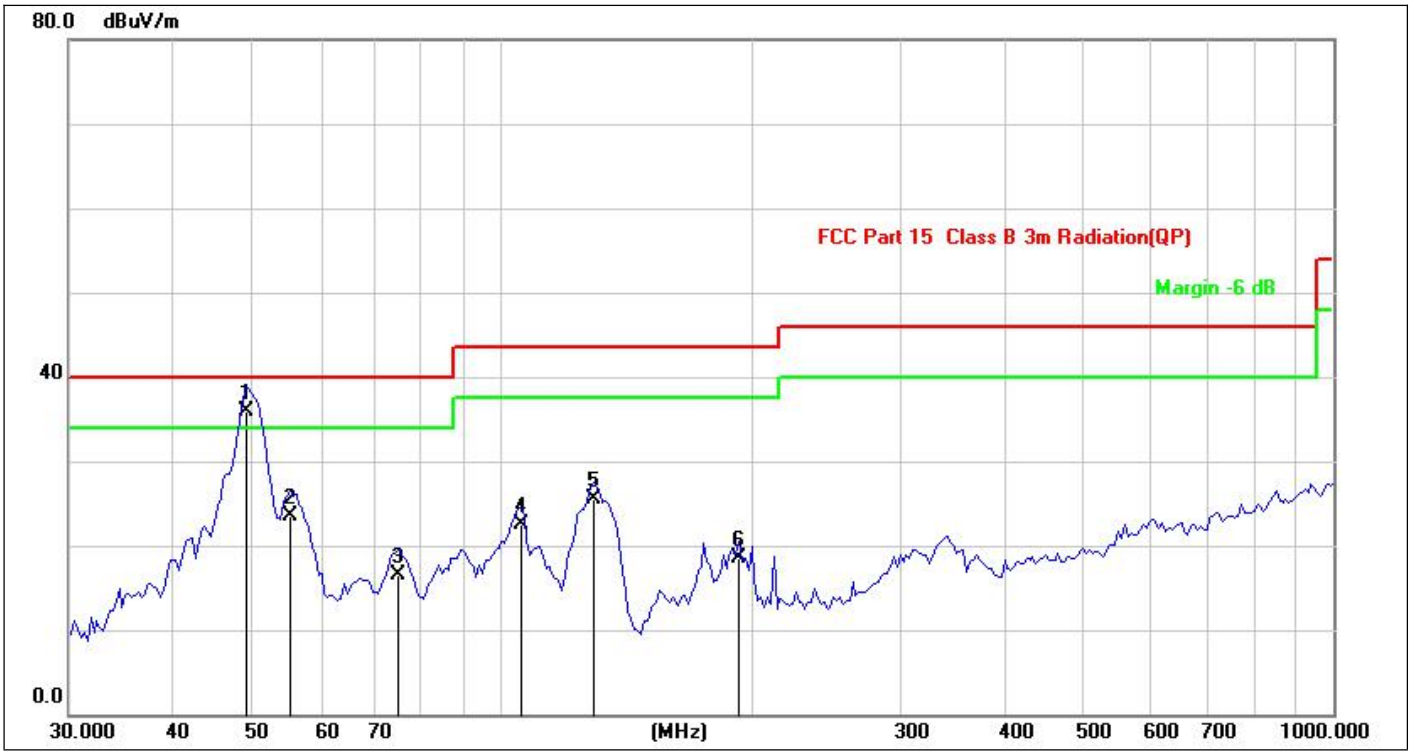
Please refer to following pages.



Site:	**843.3**	**Antenna::Horizontal**	**Temperature(C):26(C)**
Limit:	**FCC Part 15 B Radiation(QP)**		**Humidity(%):60%**
EUT:	**LED Wall Light**	**Test Time:**	**2021-10-08**
M/N.:	**WLU01R-15LS-830A**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**ON**	**Test Engineer:**	**Bast**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	34.5172	28.94	-17.96	10.98	40.00	-29.02	QP	
2 *	49.4459	36.32	-16.08	20.24	40.00	-19.76	QP	
3	105.0872	32.37	-16.83	15.54	43.50	-27.96	QP	
4	131.9889	41.12	-18.45	22.67	43.50	-20.83	QP	
5	151.8632	30.38	-18.72	11.66	43.50	-31.84	QP	
6	211.8976	28.90	-15.74	13.16	43.50	-30.34	QP	

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



Site:	**843.3**	**Antenna::Vertical**	**Temperature(C):26(C)**
Limit:	**FCC Part 15 B Radiation(QP)**		**Humidity(%):60%**
EUT:	**LED Wall Light**	**Test Time:**	**2021-10-08**
M/N.:	**WLU01R-15LS-830A**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**ON**	**Test Engineer:**	**Bast**
Note:			

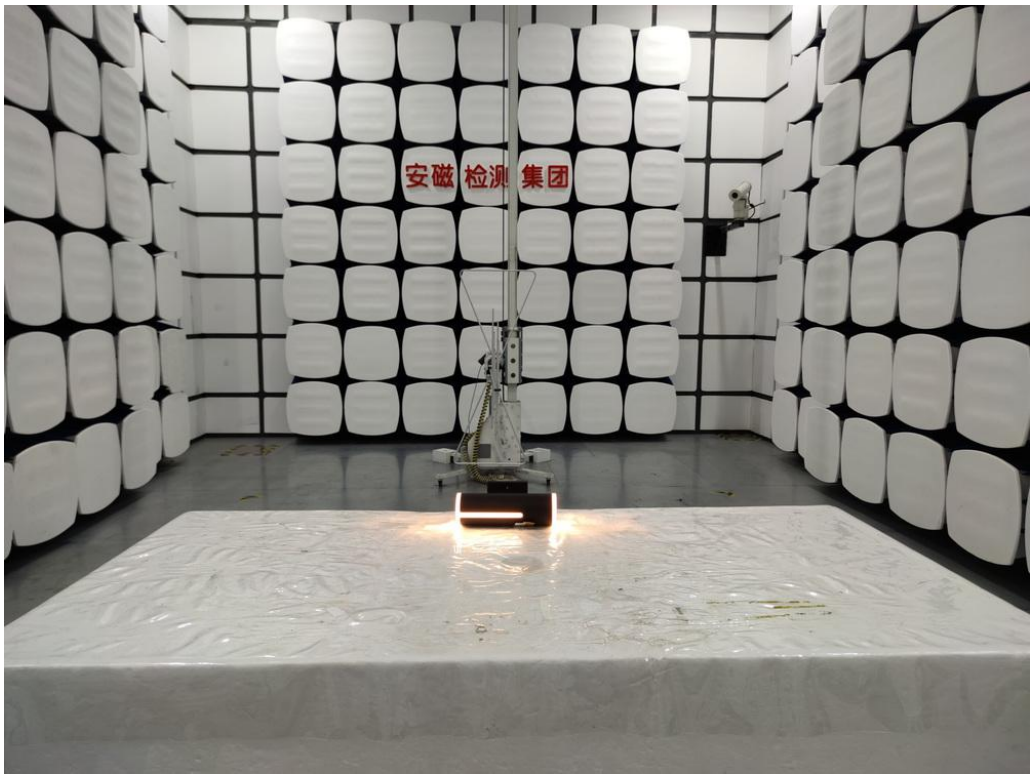
No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1 *	49.0145	52.02	-16.20	35.82	40.00	-4.18	QP	
2	55.4147	39.36	-15.92	23.44	40.00	-16.56	QP	
3	74.6569	34.77	-18.20	16.57	40.00	-23.43	QP	
4	105.0873	39.38	-16.83	22.55	43.50	-20.95	QP	
5	128.5630	43.68	-18.13	25.55	43.50	-17.95	QP	
6	192.4186	35.28	-16.76	18.52	43.50	-24.98	QP	

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

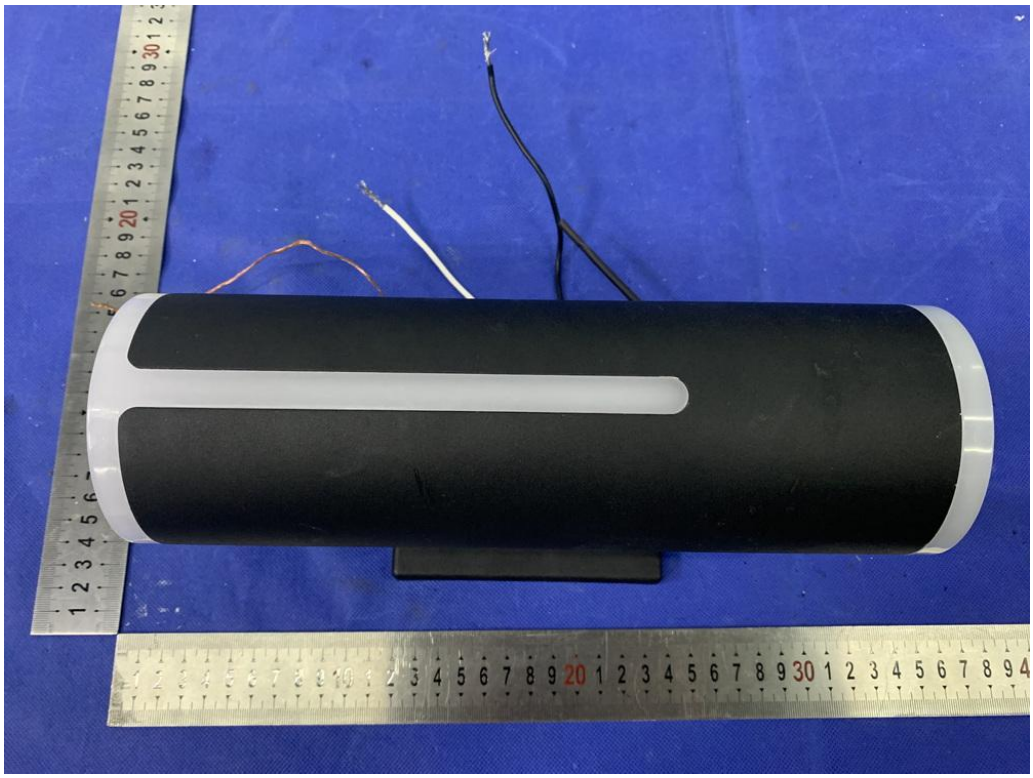
6. PHOTOGRAPHS

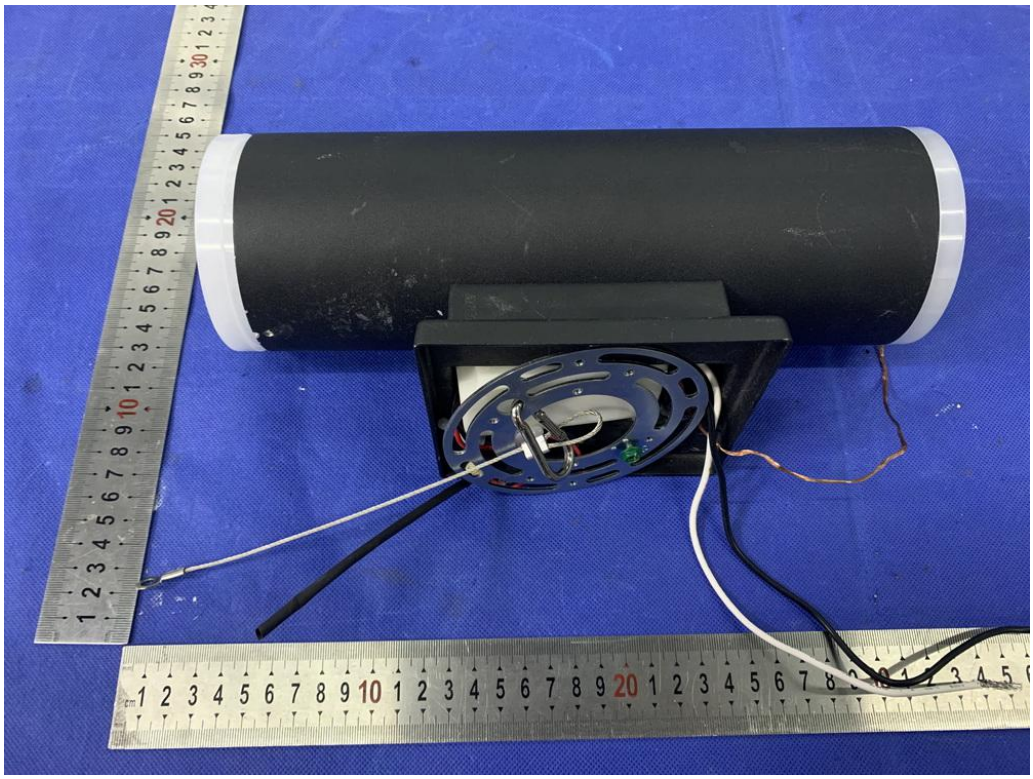
6.1. Photos of Conducted Emission Measurement

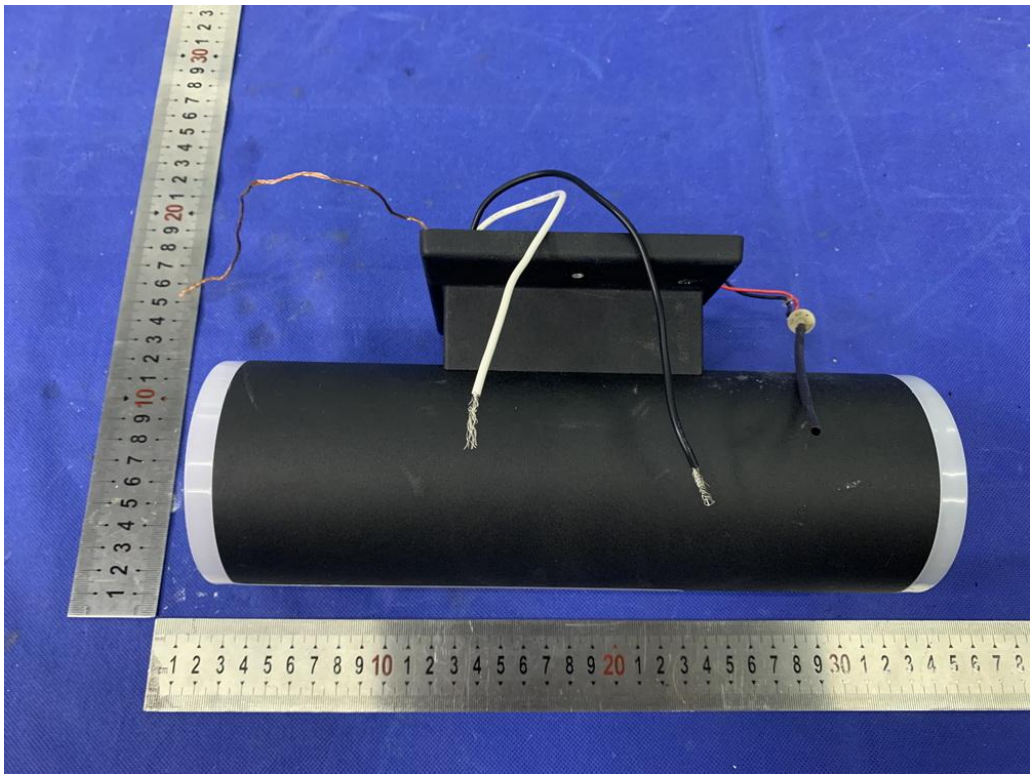
6.2. Photos of Radiation Emission Measurement

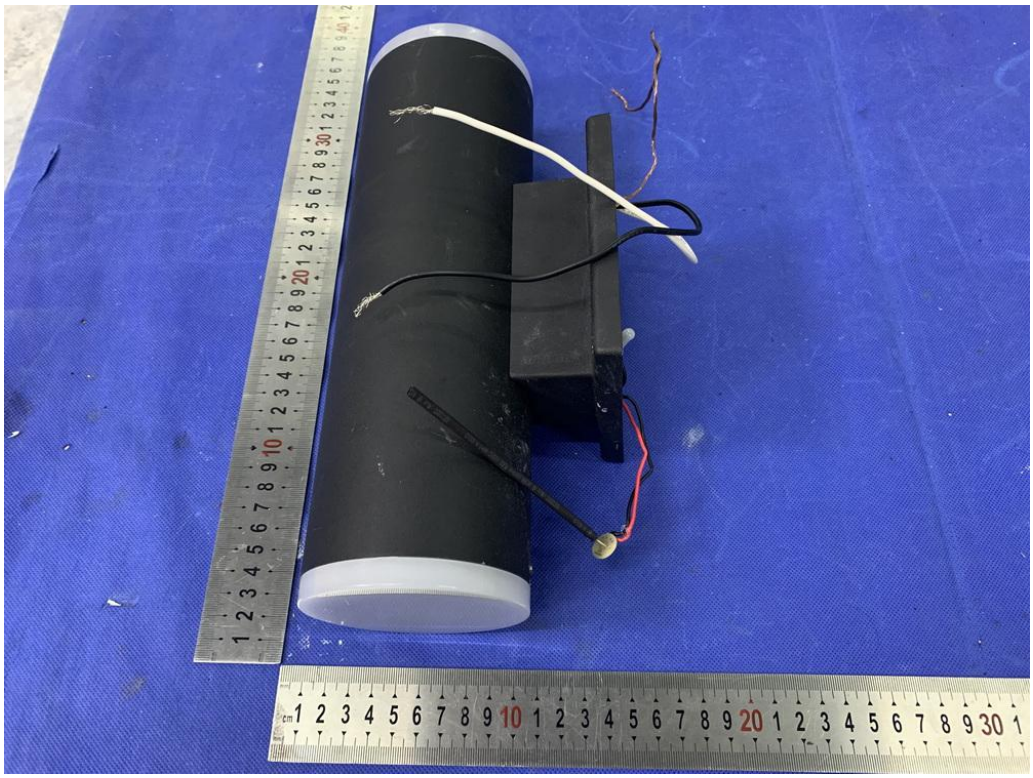


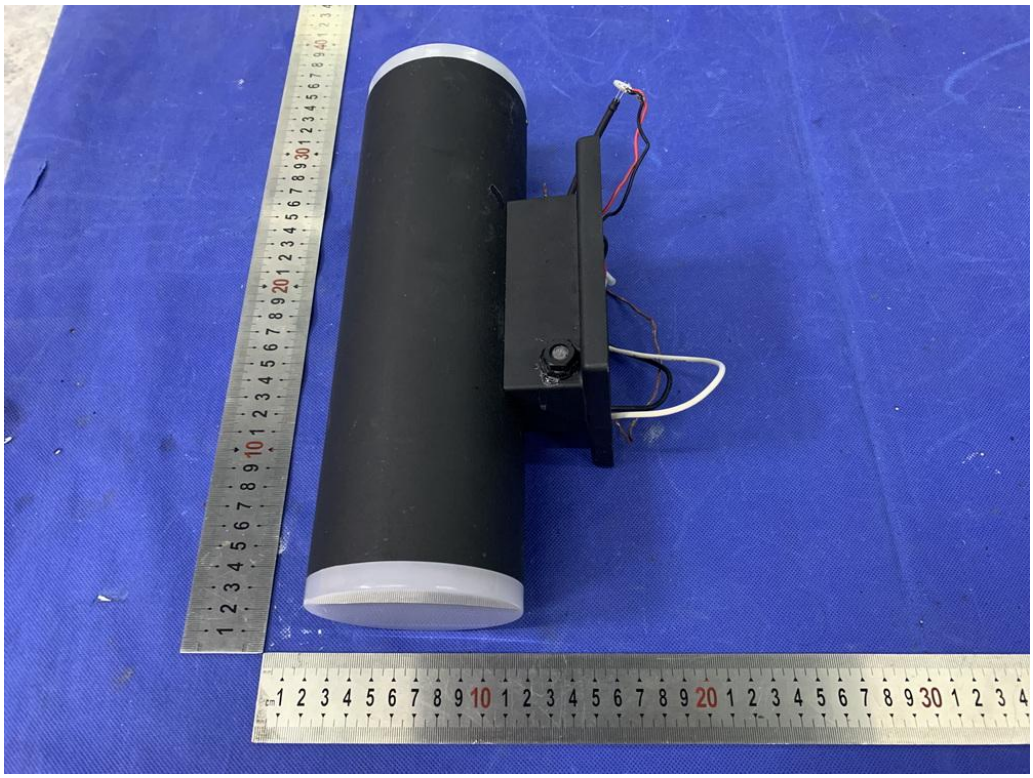
APPENDIX A: Photos of EUT

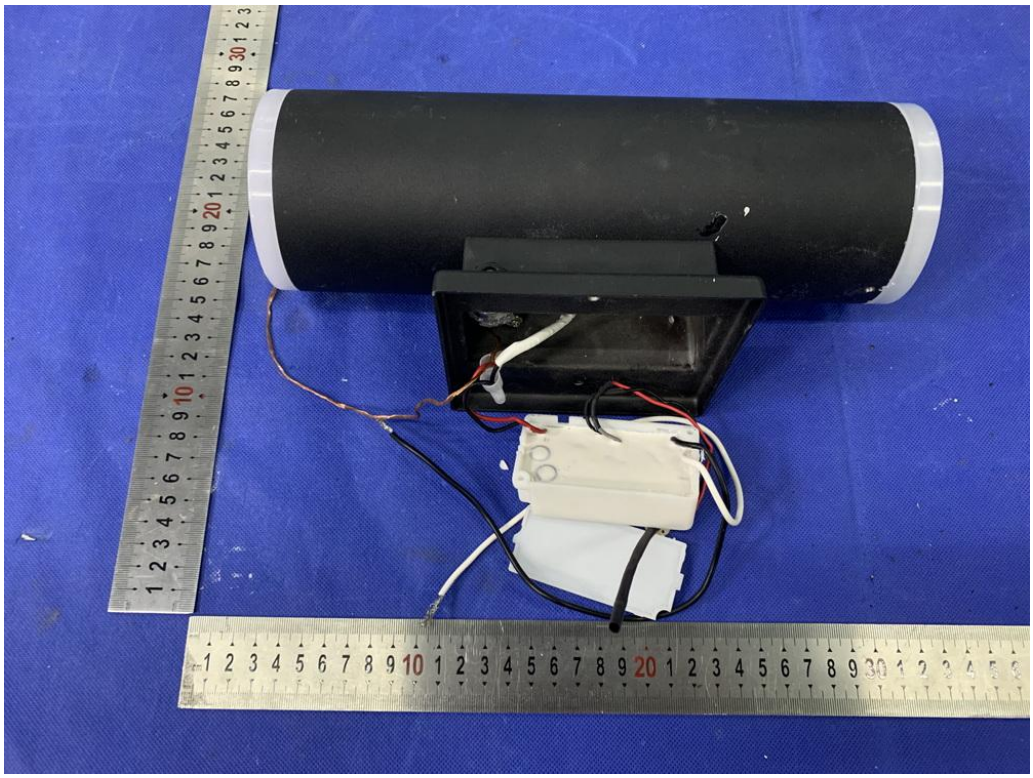


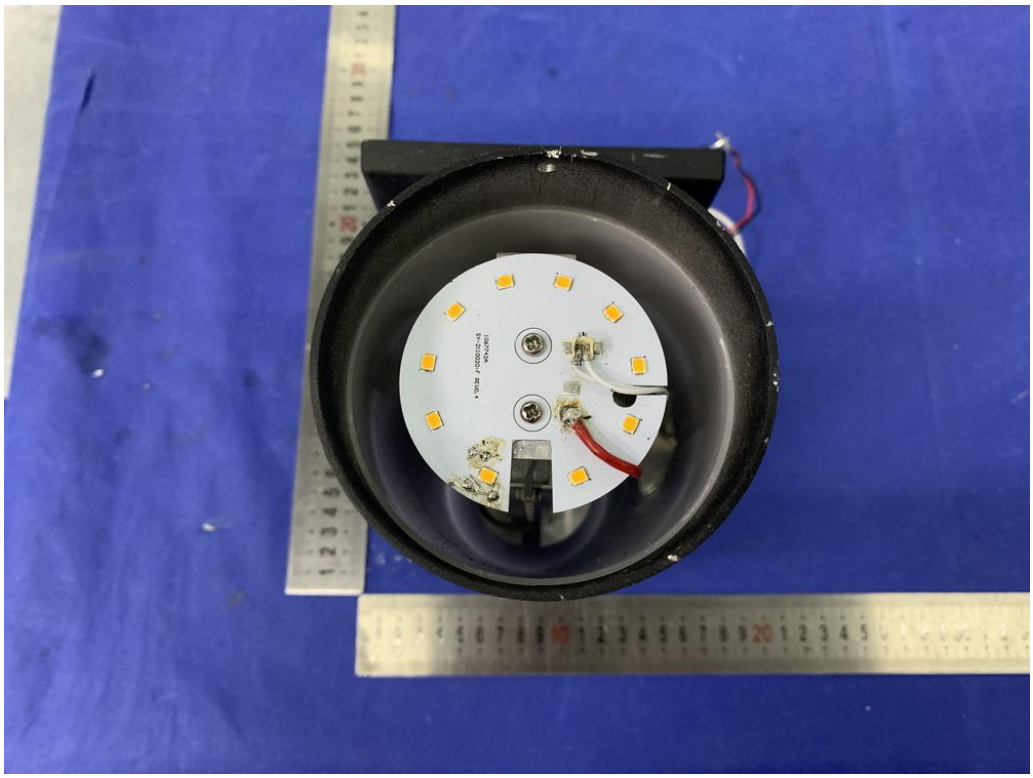


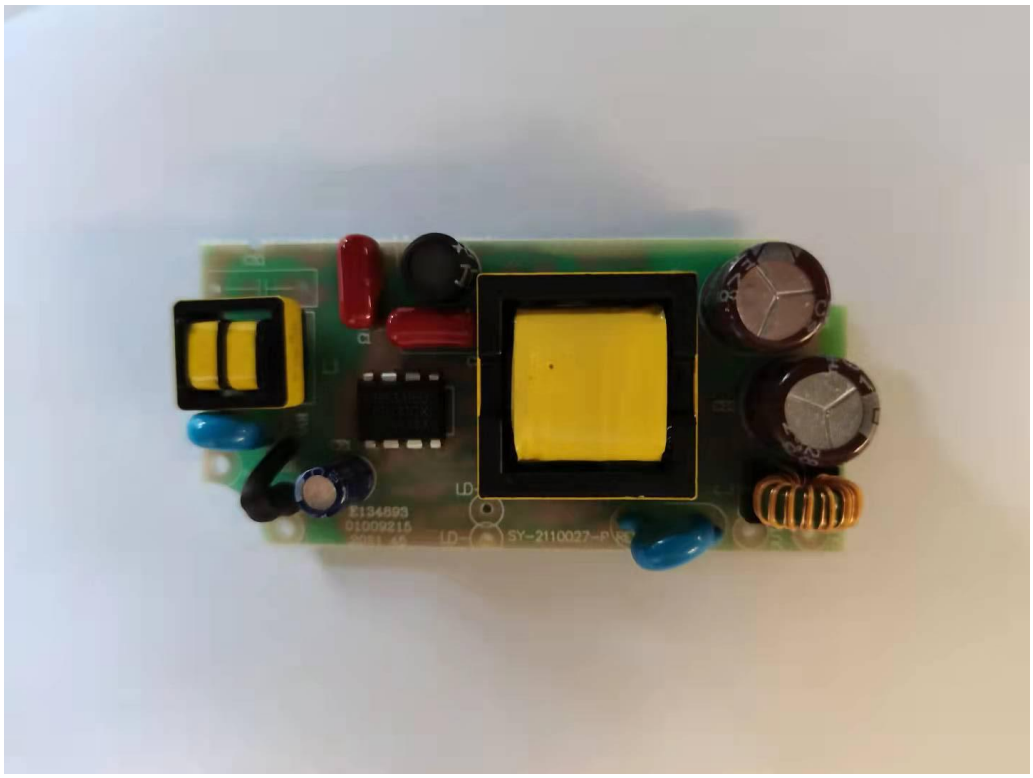


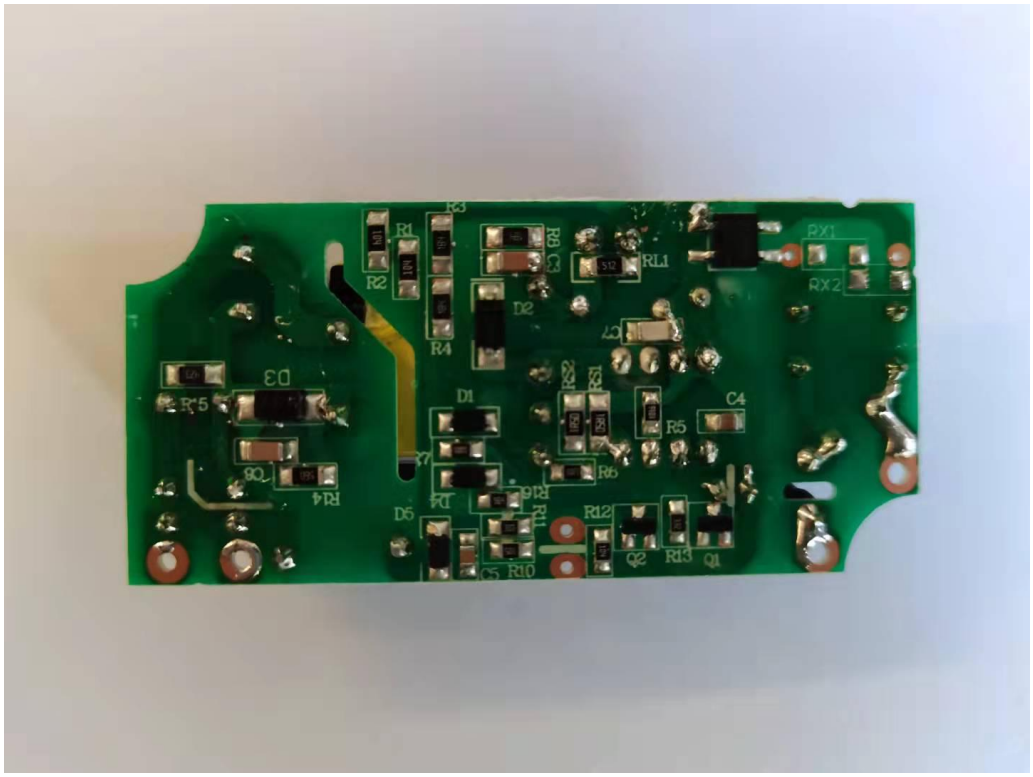












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