FCC Part 15, Subpart B, Class B

TEST REPORT

ARTIKA FOR LIVING INC.

Luminaire

Test Model: 10FM-WO

Additional Model No.: 10FM-WO-XXXXXX("X" can be A to Z and/or 0 to 9 and/or blank (commercial code))

Prepared for	:	ARTIKA FOR LIVING INC.
Address	:	1756 50th avenue, Lachine, Qc, CanadaH8T 2V5
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Tel	:	(+86)755-82591330
Fax	:	(+86)755-82591332
Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com
Date of receipt of test sample	:	March 22, 2021
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	March 22, 2021 ~ March 29, 2021
Date of Report	:	March 29, 2021

FCC TEST REPORT
FCC Part 15, Subpart B, Class B

Report Reference No.	**:**	**LCS210318079AE**
Date Of Issue	:	March 29, 2021
Testing Laboratory Name	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure...	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name.....	**:**	**ARTIKA FOR LIVING INC.**
Address	:	1756 50th avenue, Lachine, Qc, CanadaH8T 2V5
Test Specification		
Standard.....	:	FCC Part 15, Subpart B, Class B, ANSI C63.4 -2014
Test Report Form No.....	:	LCSEMC-1.0
TRF Originator.....	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

Test Item Description.	**:**	**Luminaire**
Test Model	:	10FM-WO
Trade Mark	:	Artika
Ratings	:	AC 120V 50/60Hz 16W
Result	**:**	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Lh Li	Jin Wang	Gavin Liang
Lh Li/ Administrators	Jin Wang/ Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS210318079AE	March 29, 2021 Date of issue

Test Model	: 10FM-WO
EUT.....	: Luminaire
Applicant.....	**: ARTIKA FOR LIVING INC.**
Address.....	: 1756 50th avenue, Lachine, Qc, CanadaH8T 2V5
Telephone.....	: /
Fax.....	: /
Manufacturer.....	**: RISING-SUN LIGHTING Co., Ltd**
Address.....	: ″San Shi Liu Lang″ Industrial Area, Shilong Village Group, Langxin Village, Danzao Town, Nanhai District, Foshan, Guangdong, 528216 China
Telephone.....	: /
Fax.....	: /
Factory.....	: **RISING-SUN LIGHTING Co., Ltd**
Address.....	: ″San Shi Liu Lang″ Industrial Area, Shilong Village Group, Langxin Village, Danzao Town, Nanhai District, Foshan, Guangdong, 528216 China
Telephone.....	: /
Fax.....	: /

Test Result according to the standards on page 6: **Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Revision	Issue Date	Revisions	Revised By
000	March 29, 2021	Initial Issue	Gavin Liang

TABLE OF CONTENTS

Test Report Description Page

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	**Standard**	**Limits**	**Results**
Conducted disturbance at mains terminals	FCC Part 15, Subpart B, Class B, ANSI C63.4 -2014	Class B	PASS
Radiated disturbance	FCC Part 15, Subpart B, Class B, ANSI C63.4 -2014	Class B	PASS
N/A is an abbreviation for Not Applicable.			

Test mode:		
Mode 1	Lighting ON	Record
***Note: All test modes were tested, but we only recorded the worst case in this report.		

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : Luminaire

Trade Mark : Artika

Test Model : 10FM-WO

List Model No. : 10FM-WO, 10FM-WO-XXXXXX("X" can be A to Z and/or 0 to 9 and/or blank (commercial code))

Model Declaration : All models are identical to each other except for model name

Power Supply : AC 120V 50/60Hz 16W

Highest internal frequency (Fx)	Highest measured frequency
Fx ≤ 108 MHz 108 MHz < Fx ≤ 500 MHz 500 MHz < Fx ≤ 1 GHz Fx > 1 GHz	1 GHz 2 GHz 5 GHz 5 × Fx up to a maximum of 6 GHz
NOTE 1 For FM and TV broadcast receivers, Fx is determined from the highest frequency generated or used excluding the local oscillator and tuned frequencies. NOTE 2 Fx is defined in EN 55032 Section 3.1.19. Where Fx is unknown, the radiated emission measurements shall be performed up to 6 GHz	

2.2. Description of Test Facility

Site Description

EMC Lab. : NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.

2.3. Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.4. Measurement Uncertainty

Test	Parameters	Expanded Uncertainty (Ulab)	Expanded Uncertainty (Ucispr)
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.63 dB ± 2.35 dB	± 3.8 dB ± 3.4 dB
Power Disturbance	Level accuracy (30MHz to 300MHz)	± 2.90dB	± 4.5 dB
Electromagnetic Radiated Emission (3-loop)	Level accuracy (9kHz to 30MHz)	± 3.60 dB	± 3.3 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.68 dB	N/A
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 5.3 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	± 5.2 dB
Mains Harmonic	Voltage	± 0.510%	N/A
Voltage Fluctuations & Flicker	Voltage	± 0.510%	N/A
EMF		± 21.59%	N/A

（1）Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

（2）The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

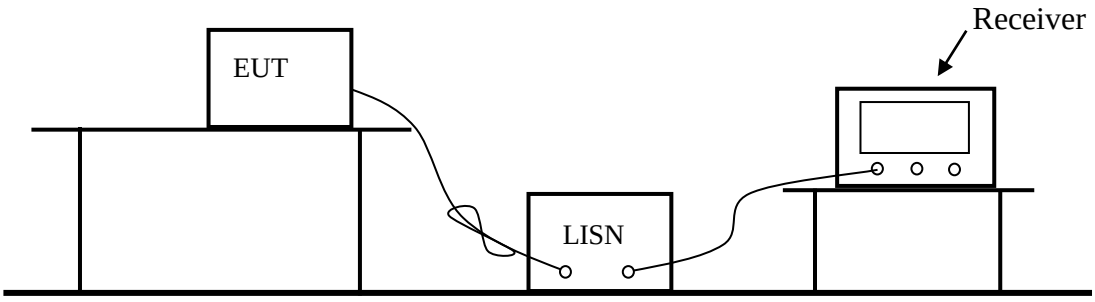
3. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Software	EZ	EZ-EMC	/	N/A
2	EMI Test Receiver	R&S	ESPI	101840	2021-06-21
3	Artificial Mains	R&S	ENV216	101288	2021-06-21
4	10dB Attenuator	SCHWARZBECK	MTS-IMP-136	261115-001-0032	2021-06-21
5	Impedance Stabilization Network	TESEQ	ISN T800	45130	2021-10-20

3.2.Block Diagram of Test Setup



Ground

3.3.Test Standard

Power Line Conducted Emission Limits (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.				

3.4.EUT Configuration on Test

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.

3.5.Operating Condition of EUT

3.5.1.Setup the EUT as shown on Section 3.2

3.5.2.Turn on the power of all equipments.

3.5.3.Let the EUT work in measuring mode (1) and measure it.

3.6.Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of the test receiver is set at 9kHz.

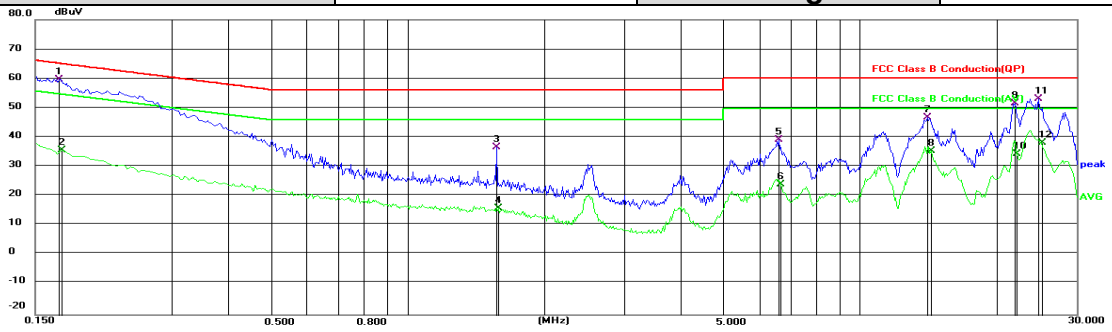
The frequency range from 150kHz to 30MHz is investigated

3.7.Test Results

PASS.

The test result please refer to the next page.

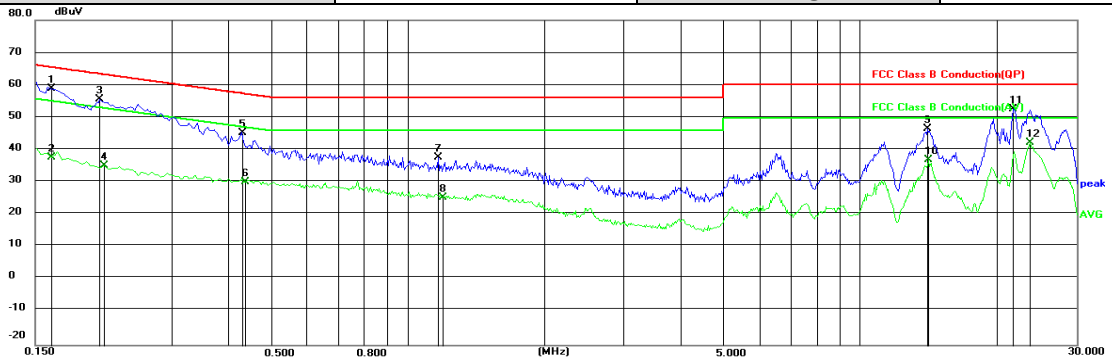
Test Model	10FM-WO	Test Mode	Mode 1
Environmental Conditions	21.6℃, 50.1% RH	Test Engineer	CARL FU
Pol	Line	Test Voltage	AC 120/60Hz



Power Rating:	AC 120V/60Hz	Phase: L1	Temperature(C): 21.6(C)
Limit:	FCC Class B Conduction(QP)		Humidity(%): 50.1%RH

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1693	38.78	21.02	59.80	64.99	-5.19	QP
2	0.1726	14.85	21.00	35.85	54.83	-18.98	AVG
3	1.5720	17.48	19.35	36.83	56.00	-19.17	QP
4	1.5900	-3.29	19.35	16.06	46.00	-29.94	AVG
5	6.5986	19.65	19.56	39.21	60.00	-20.79	QP
6	6.6706	4.70	19.56	24.26	50.00	-25.74	AVG
7	14.0685	26.88	20.02	46.90	60.00	-13.10	QP
8	14.3025	15.57	20.05	35.62	50.00	-14.38	AVG
9	21.9526	31.27	20.28	51.55	60.00	-8.45	QP
10	22.2271	14.15	20.27	34.42	50.00	-15.58	AVG
11	24.6751	32.94	20.24	53.18	60.00	-6.82	QP
12	25.0934	18.00	20.23	38.23	50.00	-11.77	AVG

Test Model	10FM-WO	Test Mode	Mode 1
Environmental Conditions	21.6℃, 50.1% RH	Test Engineer	CARL FU
Pol	Neutral	Test Voltage	AC 120/60Hz



Power Rating:	AC 120V/60Hz	Phase: N	Temperature(C): 21.6(C)
Limit:	FCC Class B Conduction(QP)		Humidity(%): 50.1%RH

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1635	37.88	21.06	58.94	65.28	-6.34	QP
2	0.1635	16.74	21.06	37.80	55.28	-17.48	AVG
3	0.2086	34.93	20.75	55.68	63.26	-7.58	QP
4	0.2131	14.52	20.72	35.24	53.08	-17.84	AVG
5	0.4290	24.42	21.07	45.49	57.27	-11.78	QP
6	0.4350	9.13	21.09	30.22	47.16	-16.94	AVG
7	1.1670	18.57	19.28	37.85	56.00	-18.15	QP
8	1.1939	6.21	19.29	25.50	46.00	-20.50	AVG
9	14.0776	26.49	20.02	46.51	60.00	-13.49	QP
10	14.1811	16.90	20.04	36.94	50.00	-13.06	AVG
11	21.7996	32.30	20.29	52.59	60.00	-7.41	QP
12	23.7210	22.15	20.24	42.39	50.00	-7.61	AVG

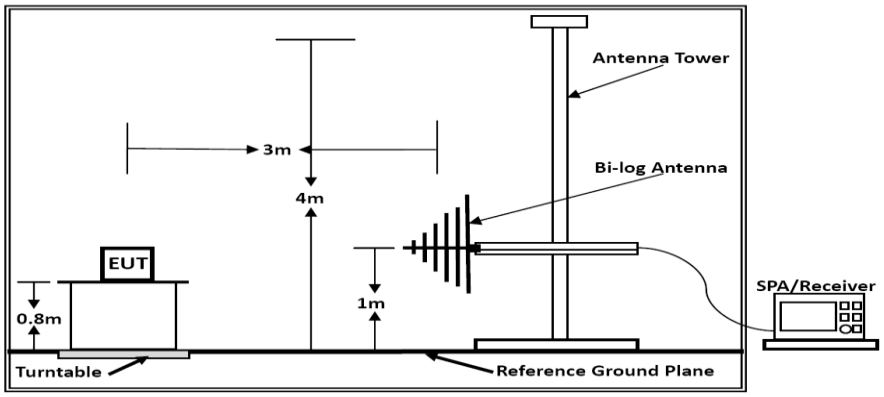
4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

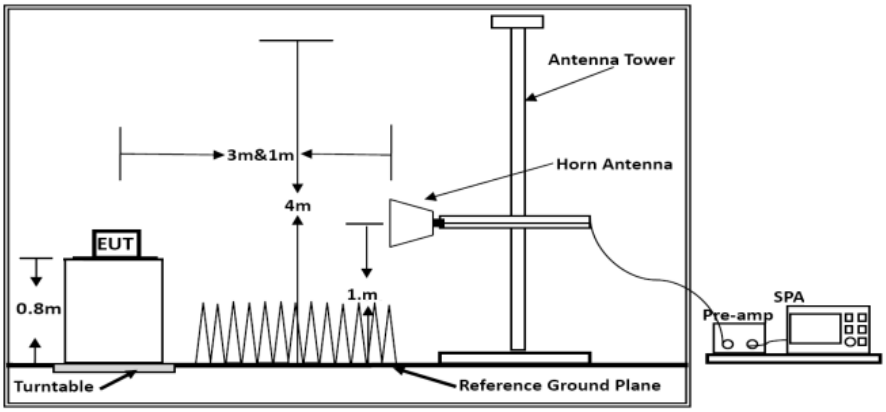
The following test equipments are used during the radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Software	EZ	EZ-EMC	/	N/A
2	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2021-06-12
3	Positioning Controller	MF	MF-7082	/	2021-06-12
4	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2021-07-25
5	Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2021-07-01
6	EMI Test Receiver	R&S	ESR 7	101181	2021-06-12
7	RS SPECTRUM ANALYZER	R&S	FSP40	100503	2021-11-14
8	Broadband Preamplifier	/	BP-01M18G	P190501	2021-07-01
9	RF Cable-R03m	Jye Bao	RG142	CB021	2021-06-12
10	RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	2021-06-12

4.2. Block Diagram of Test Setup



Below 1GHz



Above 1GHz

4.3. Radiated Emission Limit (Class B)

Limits for Radiated Disturbance Below 1GHz

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46
960 ~ 1000	3	500	54
Remark：(1) Emission level (dB)μV = 20 log Emission level μV/m (2) The smaller limit shall apply at the cross point between two frequency bands. (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.			

Limits for Radiated Emission Above 1GHz			
Frequency (MHz)	Distance (Meters)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)
1000 ~ 3000	3	70	50
3000 ~ 6000	3	74	54
***Note: The lower limit applies at the transition frequency.			

4.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.5. Operating Condition of EUT

4.5.1.Setup the EUT as shown in Section 4.2.
4.5.2.Let the EUT work in test mode (1) and measure it.

4.6. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver is set at 120kHz, 1000kHz.

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

The bandwidth of the Spectrum analyzer is set at RBW/VBW=1MHz/3MHz.

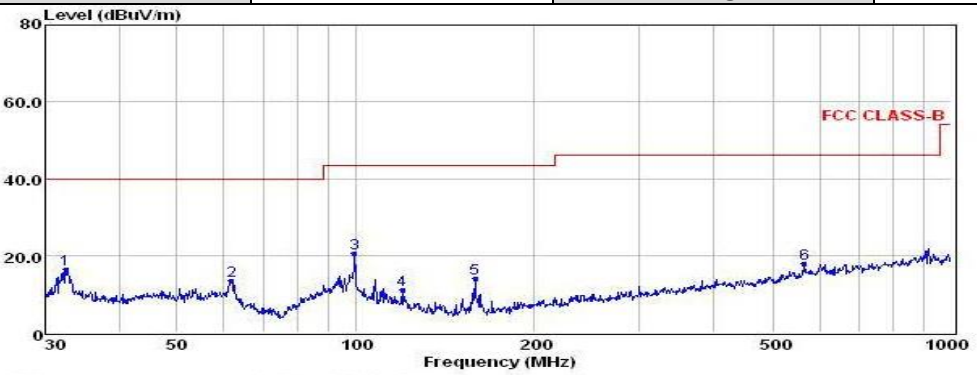
The frequency range from 1GHz to the frequency which about 5th carrier harmonic or 6GHz is checked.

4.7. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.

Test Model	10FM-WO	Test Mode	Mode 1
Environmental Conditions	22.3℃, 53.1% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	CARL FU	Test Voltage	AC 120V/60Hz

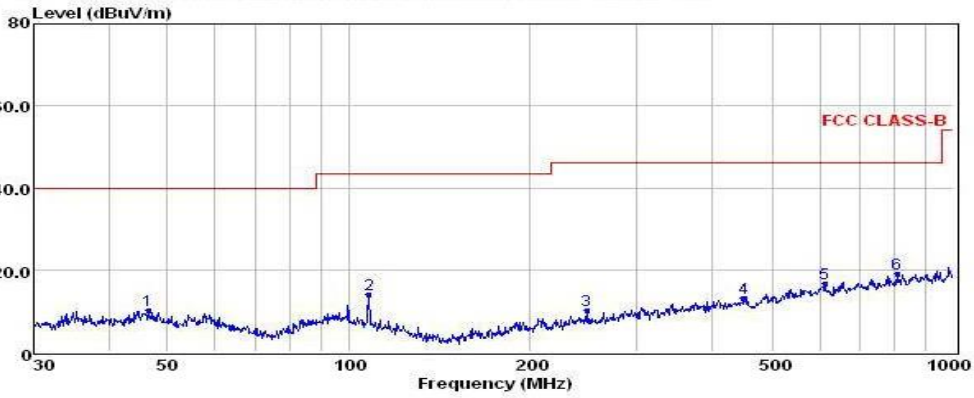


Env./Ins: 22.3℃/53.1%
Power Rating: AC 120V/60Hz
pol: VERTICAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	32.52	33.60	0.37	12.31	16.33	40.00	-23.67	QP
2	61.78	31.04	0.48	11.99	13.46	40.00	-26.54	QP
3	99.53	36.76	0.61	13.13	20.40	43.50	-23.10	QP
4	119.86	30.13	0.64	10.51	11.11	43.50	-32.39	QP
5	158.67	34.93	0.83	8.62	14.11	43.50	-29.39	QP
6	566.62	29.69	1.48	17.83	17.90	46.00	-28.10	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

Test Model	10FM-WO	Test Mode	Mode 1
Environmental Conditions	22.3℃, 53.1% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	CARL FU	Test Voltage	AC 120V/60Hz



Env./Ins: 22.3℃/53.1%
Power Rating: AC 120V/60Hz
pol: HORIZONTAL

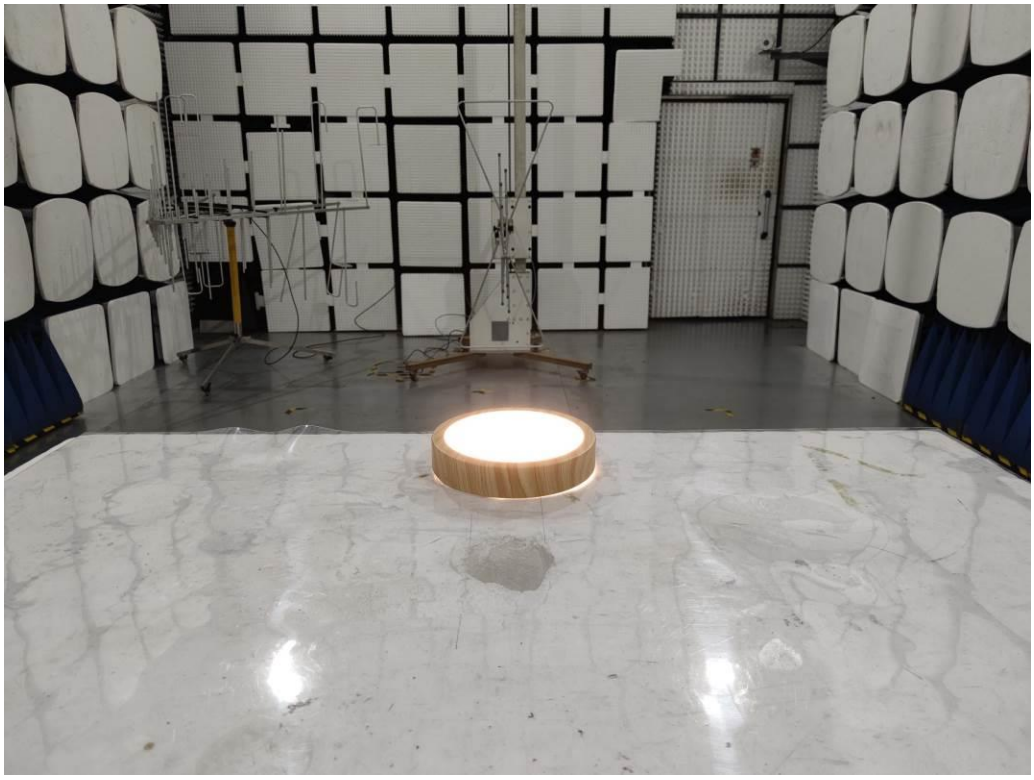
	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	46.50	26.26	0.35	13.46	10.08	40.00	-29.92	QP
2	107.89	31.07	0.68	12.44	14.06	43.50	-29.44	QP
3	247.68	27.36	0.97	12.07	9.97	46.00	-36.03	QP
4	451.14	27.17	1.35	15.58	13.12	46.00	-32.88	QP
5	612.06	27.57	1.59	18.49	16.55	46.00	-29.45	QP
6	807.43	28.29	1.76	20.14	19.07	46.00	-26.93	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

5. PHOTOGRAPH

5.1.Photo of Power Line Conducted Measurement

5.2. Photo of Radiated Measurement



6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

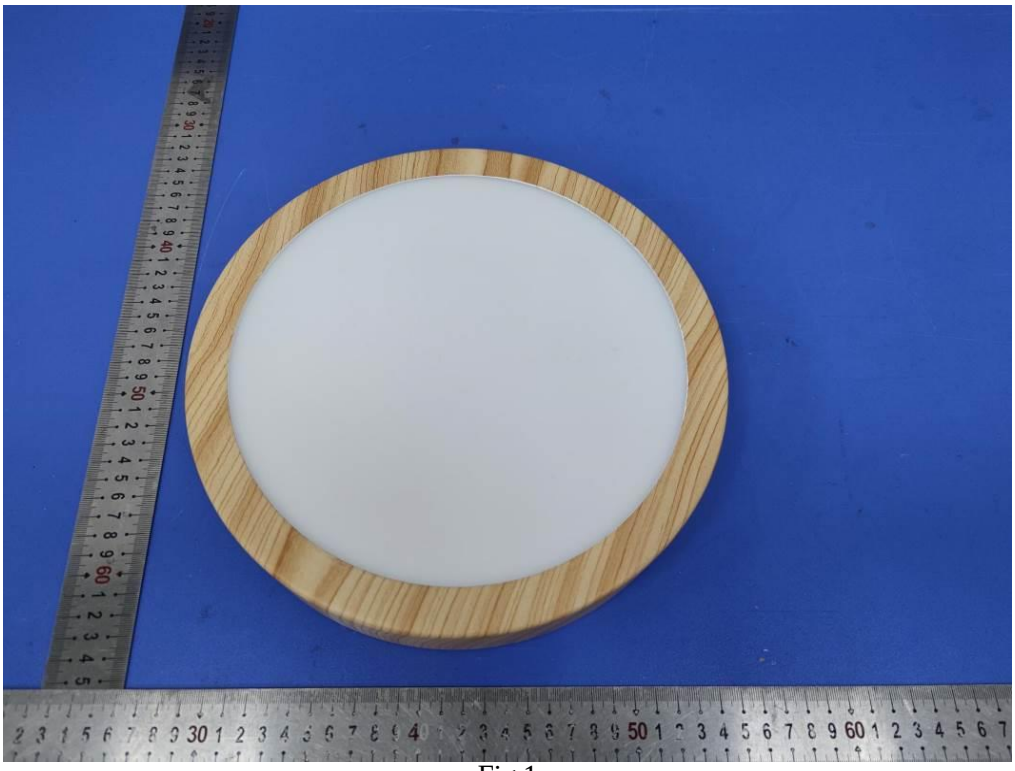


Fig.1

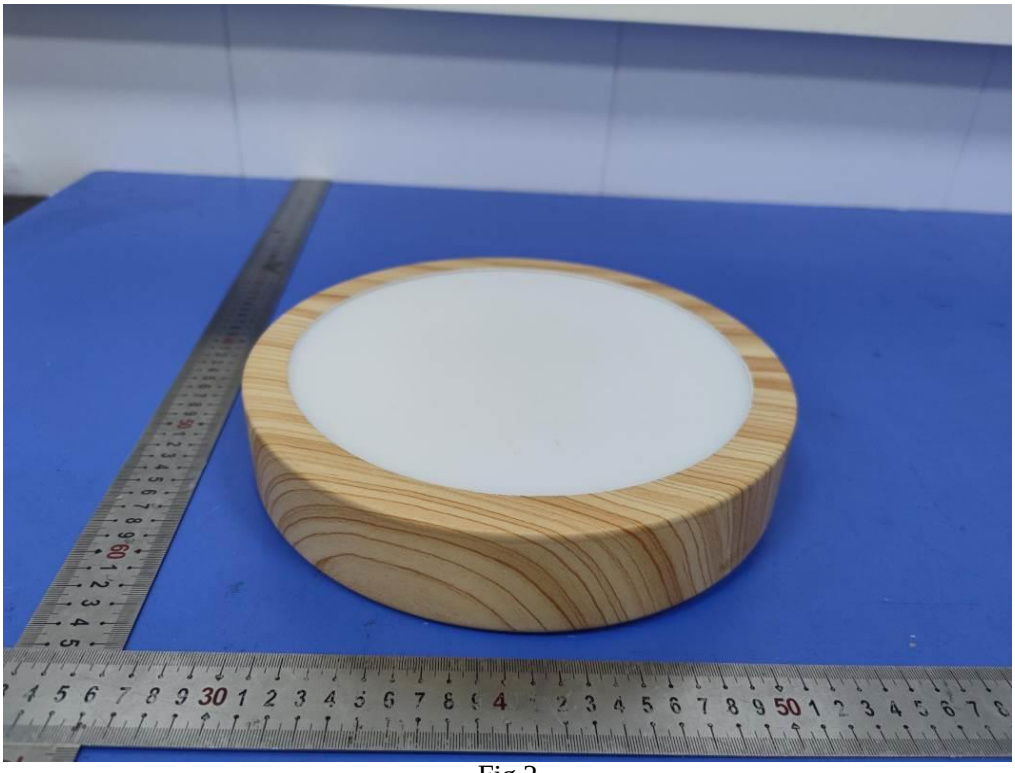


Fig.2

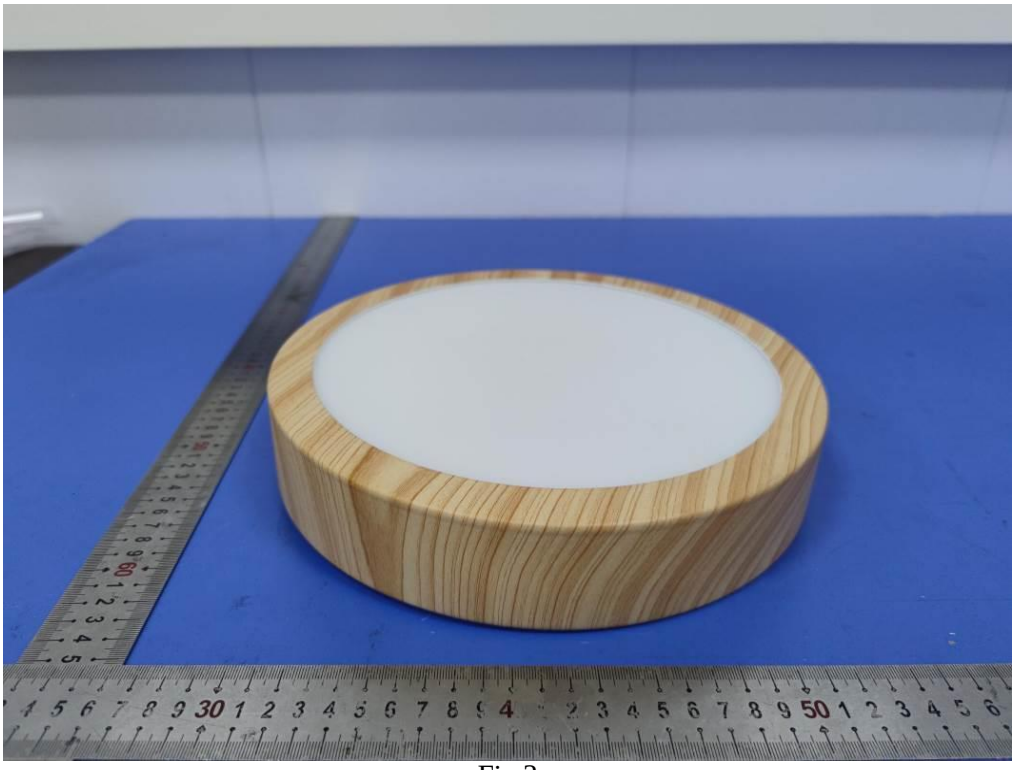


Fig.3

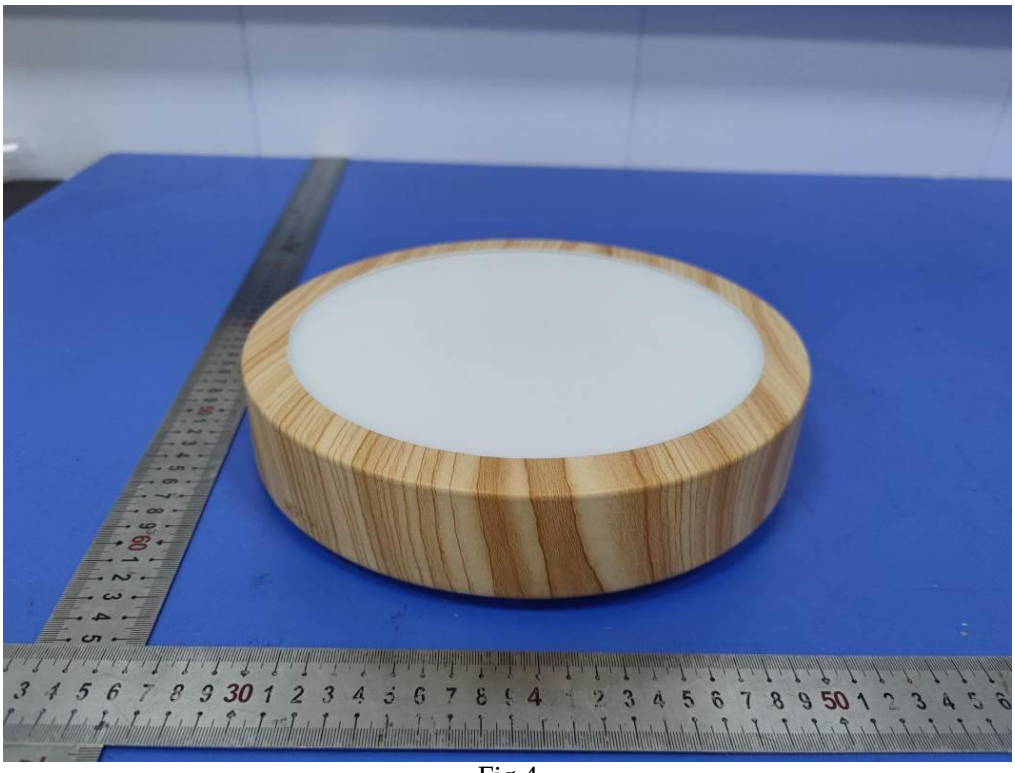


Fig.4

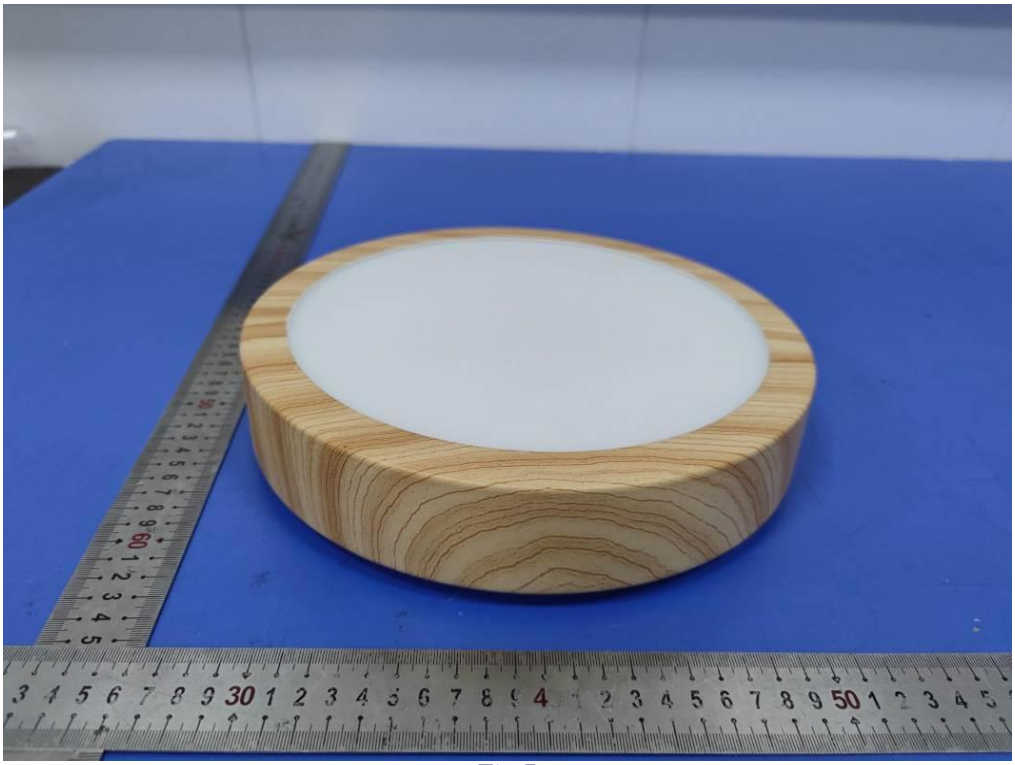


Fig.5

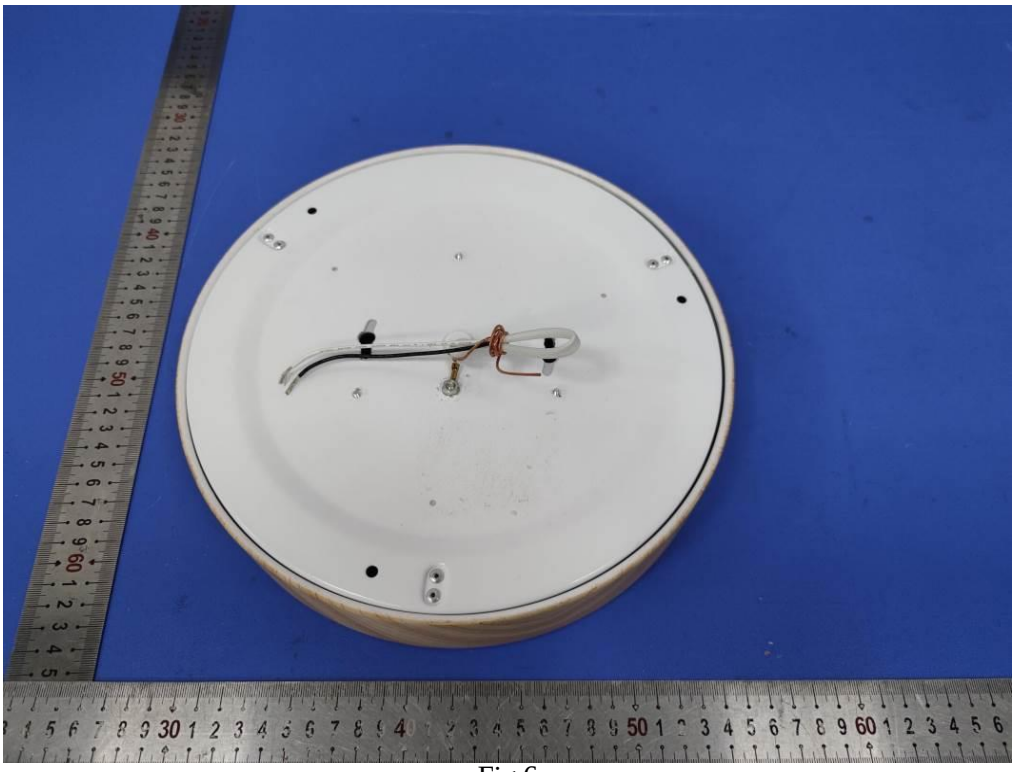


Fig.6

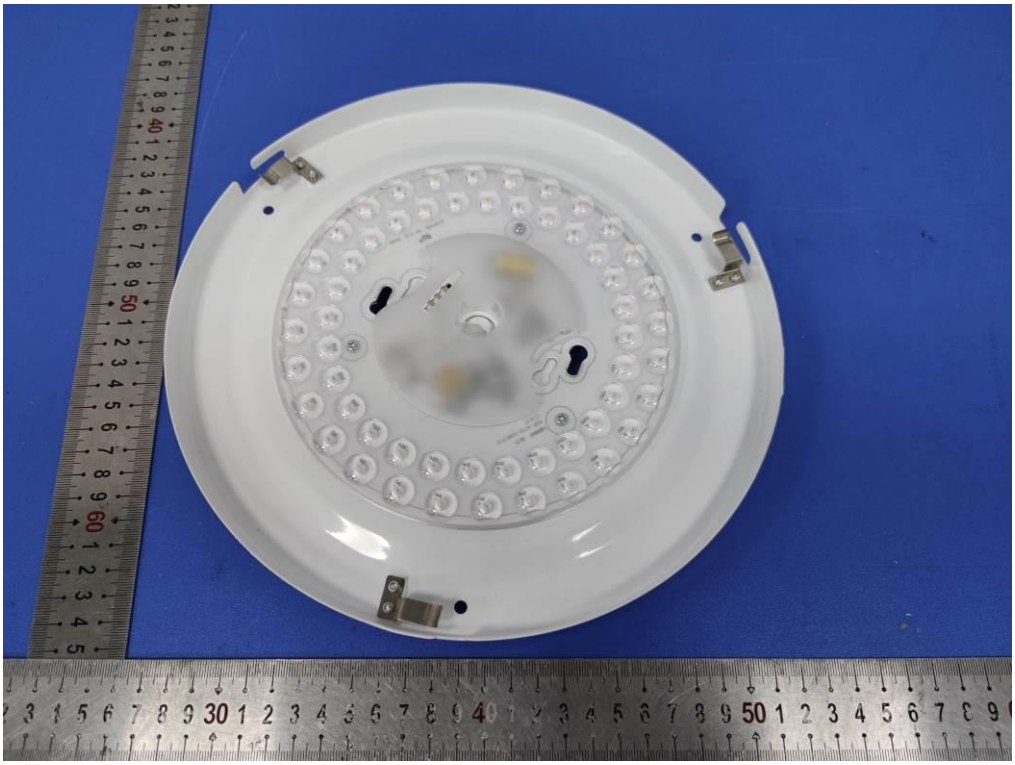


Fig.7

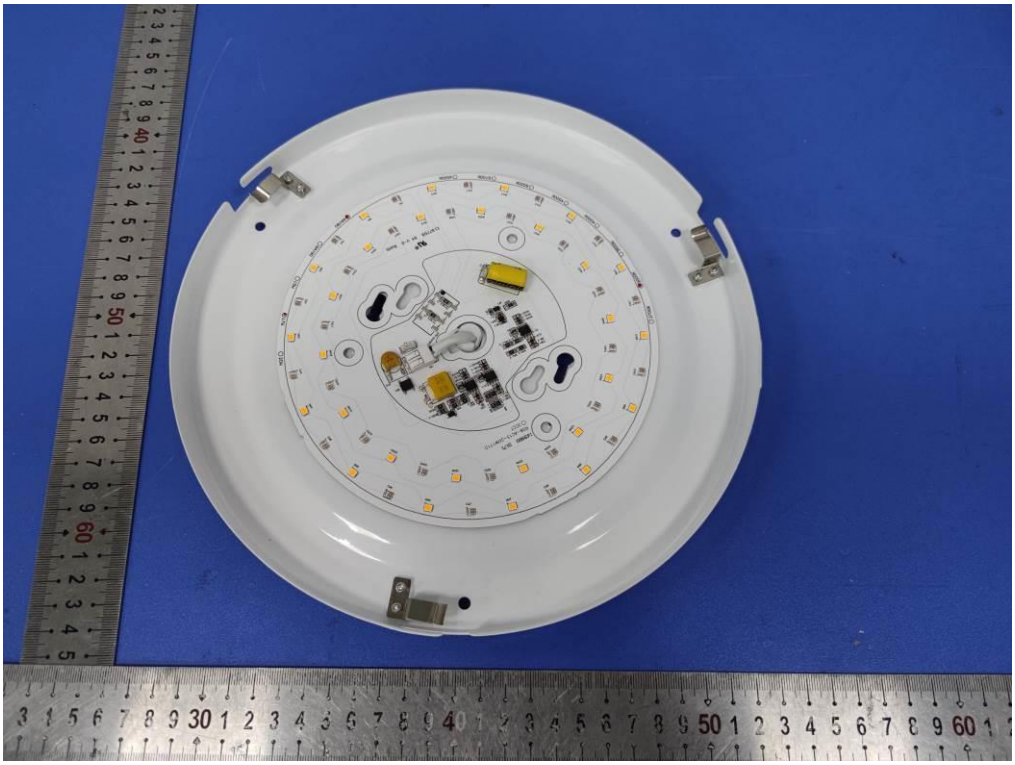


Fig.8

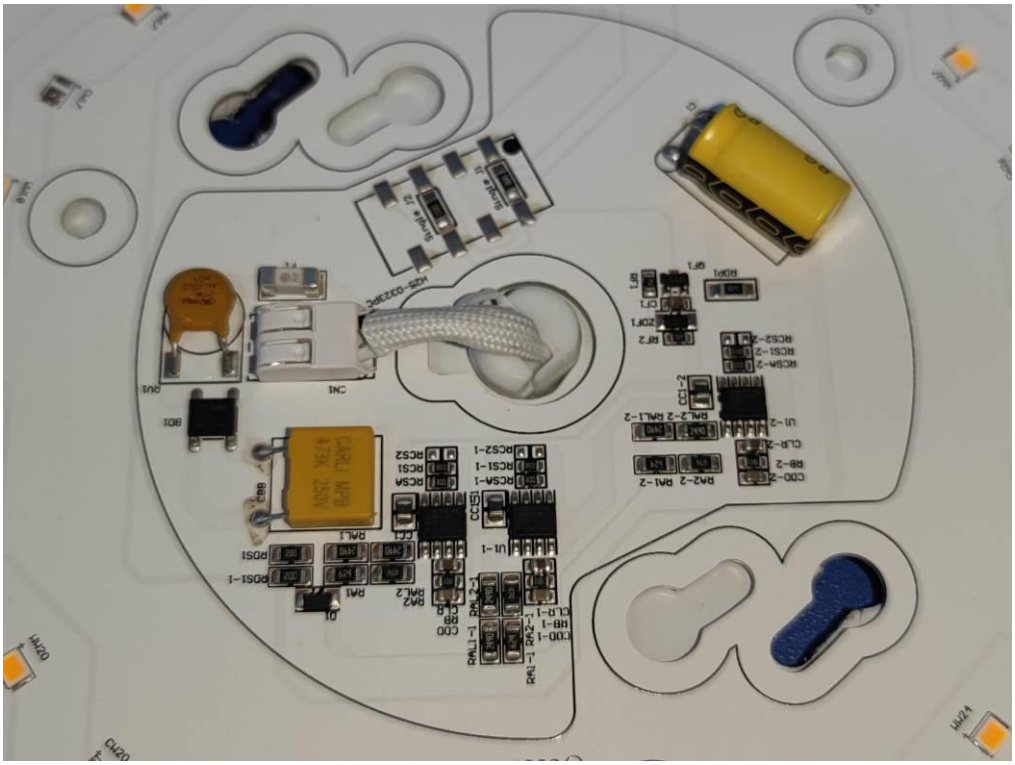


Fig.9

----------THE END OF TEST REPORT----------