TEST REPORT

Product	:	LED Power Failure Light
Trade mark	:	Sunbeam
Model/Type reference	:	30310478
Serial number	:	N/A
Ratings	:	AC 120V, 60Hz/1.8W
FCC ID	:	X5I30310478
Report number	:	EED32H000558
Date	:	Jun. 15, 2015
Regulations	:	See below

Test Standards	Results
☒ 47 CFR FCC Part 15 Subpart C: 2014	PASS

Prepared for:

L'Image Home Products Inc.
1175 Place du Frere Andre, Montreal, QC, H3B 3X9, Canada

Prepared by:

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Approved by: Sheek Luo Date: Jun. 15, 2015

Sheek Luo
Lab supervisor

Check No.: 1022546083

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N/A means not applicable.

1. GENERAL INFORMATION

Applicant: L'Image Home Products Inc.
1175 Place du Frere Andre, Montreal, QC, H3B 3X9, Canada

Manufacturer: Ningbo Weitao Electrical Appliance Co., Ltd.
Industrial Zone of Xidian, Xidian Town, Ninghai City, Ningbo, China 315613

FCC ID: X5I30310478

Product: LED Power Failure Light

Model/Type reference: 30310478

Trade Name: Sunbeam

Serial Number: N/A

Report Number: EED32H000558

Sample Received Date: May 10, 2015

Sample tested Date: May 10, 2015 to Jun. 15, 2015

The above equipment was tested by Centre Testing International (Shenzhen) Corporation for compliance with the requirements set forth in the FCC Rules and the measurement procedure according to ANSI C63.4-2009 & ANSI C63.10-2009.

2. TEST SUMMARY

No.	Test Item	Rule	Test Result
1	Conducted Emission	FCC 15.207	**PASS**
2	Radiated Emission	FCC 15.209	**PASS**

3. PRODUCT INFORMATION

Items	Description
Rating	AC 120V, 60Hz/1.8W
Antenna Type	Coil antenna
Operated frequency	73kHz

4. MEASUREMENT UNCERTAINTY

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement items	Uncertainty
Conducted Emission Test	3.2 dB
Radiated Emissions / Bandedge Emission	4.5 dB

5. TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Serial No.	Due Date
3M Chamber & Accessory Equipment	ETS-LINDGREN	FACT-3	3510	06/01/2016
Spectrum Analyzer	Agilent	E4443A	MY45300910	01/15/2015
Receiver	R&S	ESCI	100435	07/19/2015
Loop Antenna	ETS-LINDGREN	6502	00071730	07/22/2015
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	617	06/25/2015
Multi device Controller	maturo	NCD/070/10711112	---	N/A
Spectrum Analyzer	R&S	FSP40	100416	07/06/2015
Receiver	R&S	ESCI	100009	07/19/2015
LISN	R&S	ENV216	100098	07/19/2015

6. SUPPORT EQUIPMENT LIST

Device Type	Brand	Model	Series No.	Data Cable	Remark
LED LIGHT	Sunbeam	30310478	---	---	FCC VOC
---	---	---	---	---	---
---	---	---	---	---	---

7. AC CONDUCTED EMISSION TEST

7.1. LIMITS

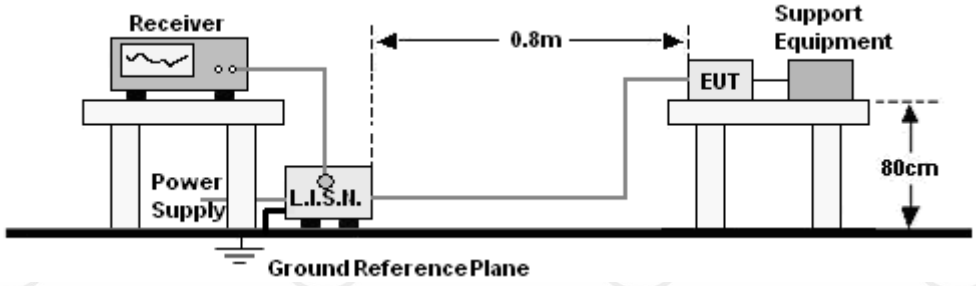
Limits for Class B digital devices

Frequency range (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

7.2. BLOCK DIAGRAM OF TEST SETUP



7.3. PROCEDURE OF CONDUCTED EMISSION TEST

a. The Product was placed on a nonconductive table 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).

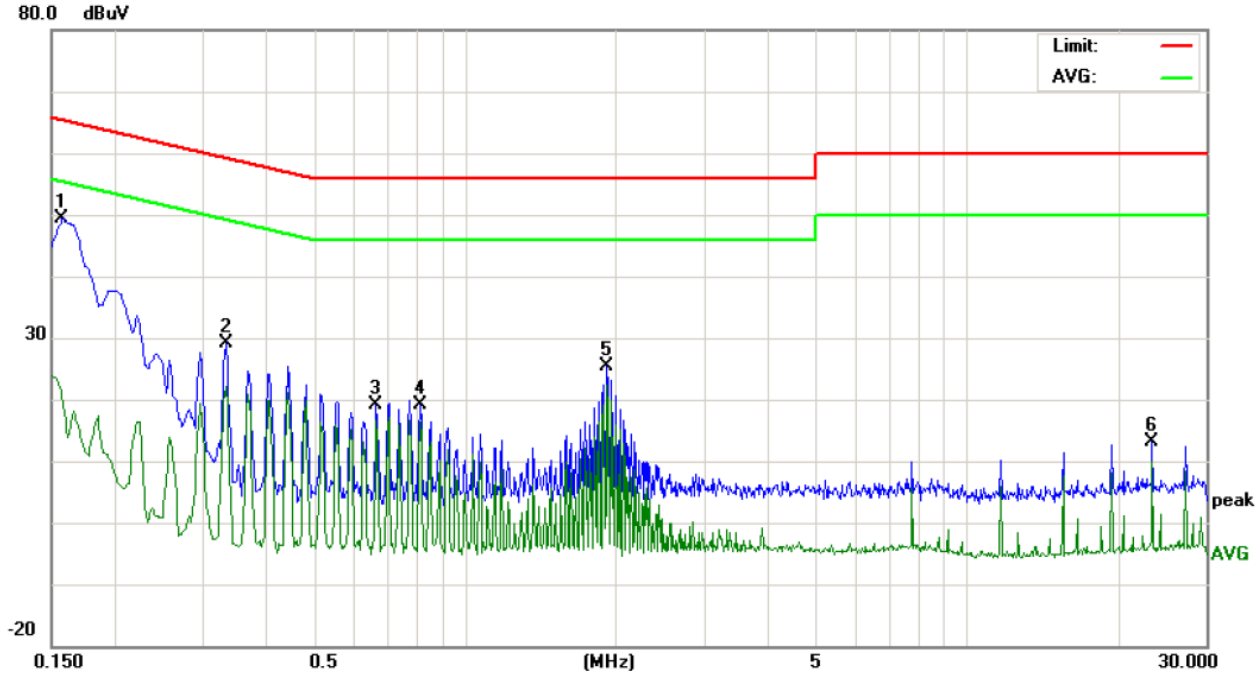
b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.

c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

7.4. GRAPHS AND DATA

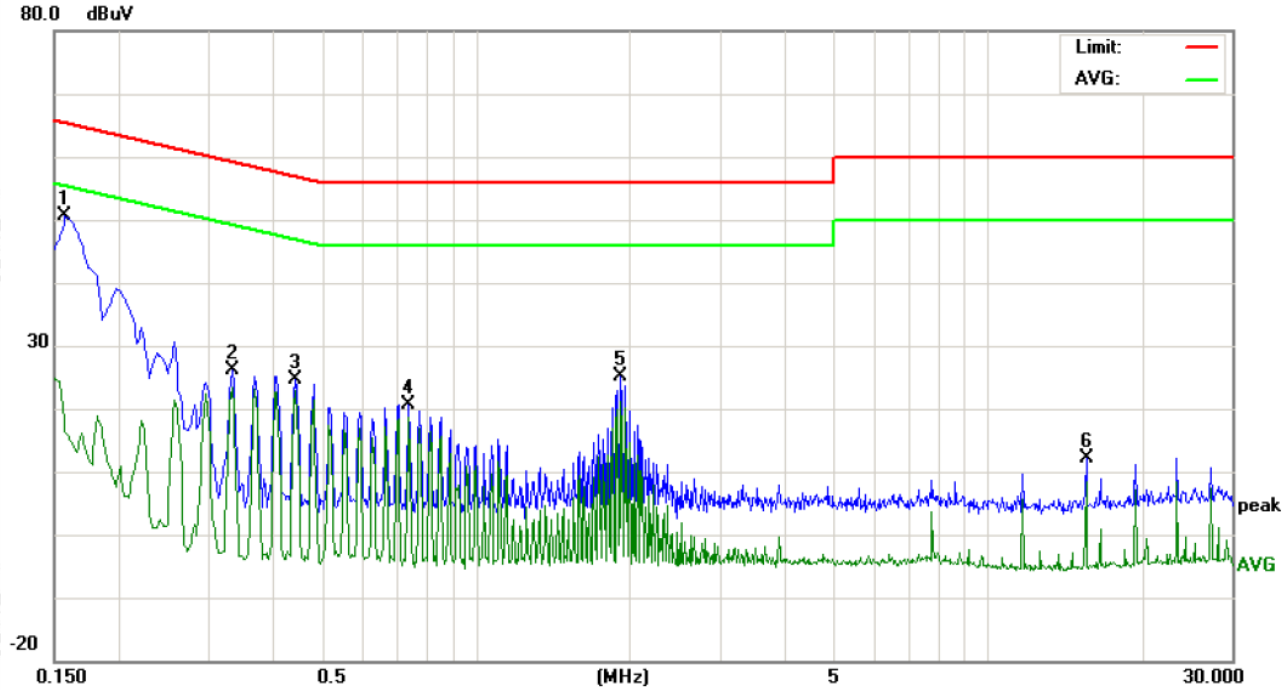
Product	:	LED Power Failure Light	**Model/Type reference**	:	30310478
Power	:	AC 120V/60Hz	**Temperature**	:	22℃
Mode	:	Charging	**Humidity**	:	52%

L:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.1580	39.58		10.84	9.90	49.48		20.74	65.56	55.56	-16.08	-34.82	P	
2	0.3339	19.25		12.19	9.90	29.15		22.09	59.35	49.35	-30.20	-27.26	P	
3	0.6660	9.34		6.67	9.90	19.24		16.57	56.00	46.00	-36.76	-29.43	P	
4	0.8139	9.13		6.52	9.90	19.03		16.42	56.00	46.00	-36.97	-29.58	P	
5	1.9260	15.42		12.53	9.90	25.32		22.43	56.00	46.00	-30.68	-23.57	P	
6	23.4180	2.72		-0.55	10.33	13.05		9.78	60.00	50.00	-46.95	-40.22	P	

N:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.1580	40.63		6.62	9.90	50.53		16.52	65.56	55.56	-15.03	-39.04	P	
2	0.3339	16.21		13.49	9.90	26.11		23.39	59.35	49.35	-33.24	-25.96	P	
3	0.4460	14.84		12.95	9.90	24.74		22.85	56.95	46.95	-32.21	-24.10	P	
4	0.7420	10.77		8.66	9.90	20.67		18.56	56.00	46.00	-35.33	-27.44	P	
5	1.9260	15.19		11.12	9.90	25.09		21.02	56.00	46.00	-30.91	-24.98	P	
6	15.6060	2.26		-1.46	9.96	12.22		8.50	60.00	50.00	-47.78	-41.50	P	

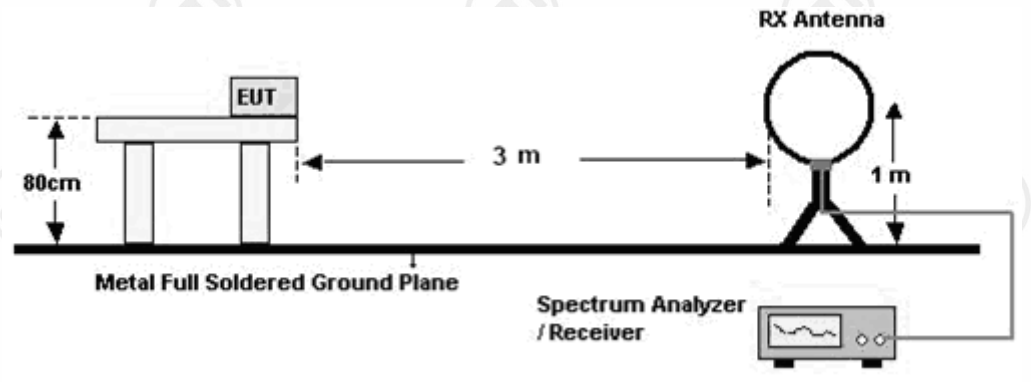
8. RADIATED EMISSION MEASUREMENT

8.1. LIMITS

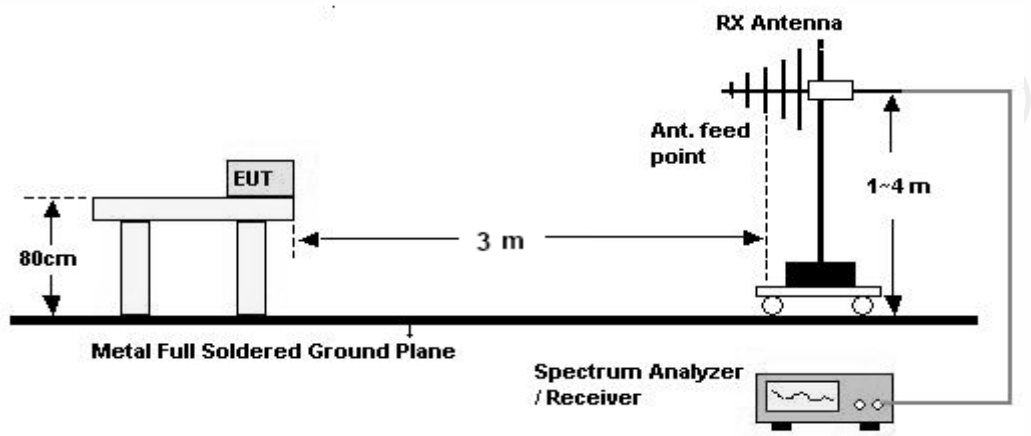
Frequency (MHz)	Field strength (μV/m)	Distance (m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

8.2. BLOCK DIAGRAM OF TEST SETUP

For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz - 1000MHz



8.3. TEST PROCEDURE

Below 30MHz

a. The Product is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The maximum values of the field strength are recorded by adjusting the polarizations of the test antenna and rotating the turntable.

b. For each suspected emission, the Product was arranged to its worst case and then turn table was turned from 0 degrees to 360 degrees to find the maximum reading.

c. The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

30MHz ~ 1GHz:

a. The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.

b. 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.

c. For each frequency whose maximum record was higher or close to limit, measure its QP value (120 kHz RBW): 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.

8.4. TEST RESULT

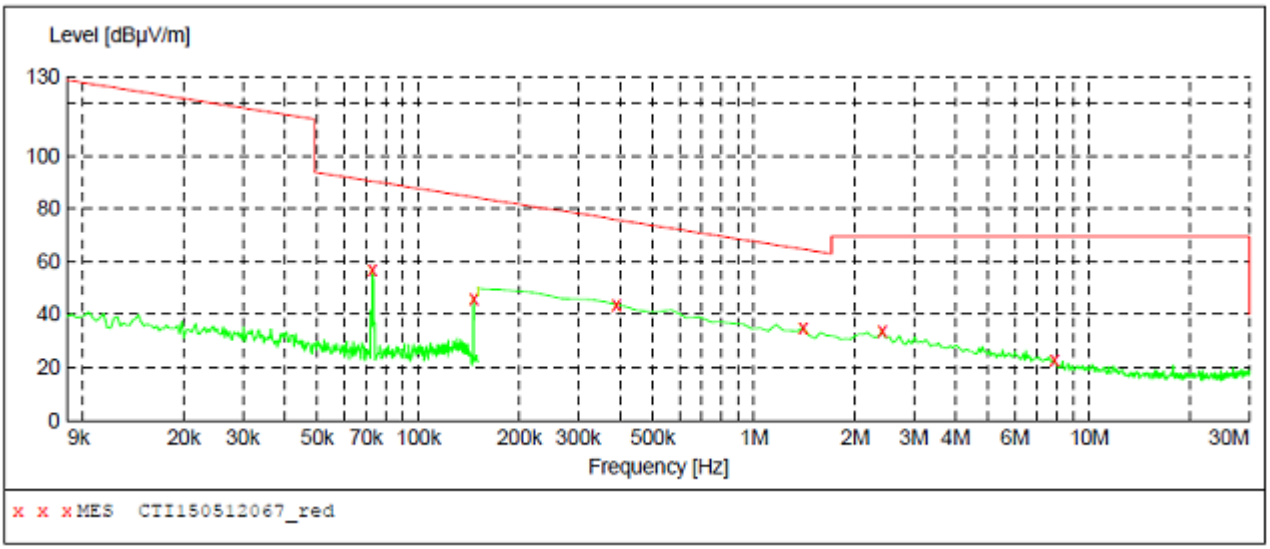
The TX operated frequency is 73 kHz.

A. Below 30MHz:

The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.

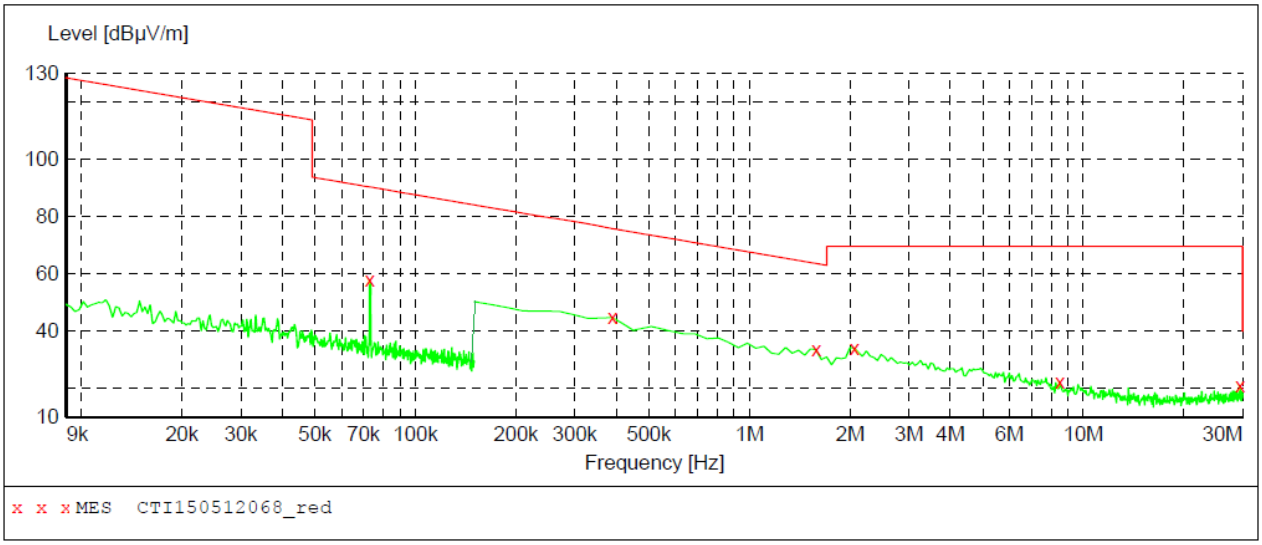
Product	:	LED Power Failure Light	**Model/Type reference**	:	30310478
Power	:	AC 120V, 60Hz	**Temperature**	:	22℃
Mode	:	Charging	**Humidity**	:	52%

X:



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
0.073014	57.00	-18.6	90.4	33.4	AV	100.0	70.00	HORIZONTAL
0.146334	46.20	-19.7	84.3	38.1	AV	100.0	370.00	HORIZONTAL
0.388800	44.00	-19.9	75.8	31.8	AV	100.0	273.00	HORIZONTAL
1.403700	35.10	-19.8	64.7	29.6	QP	200.0	310.00	HORIZONTAL
2.418600	33.70	-19.6	69.5	35.8	QP	200.0	204.00	HORIZONTAL
7.851300	22.70	-19.8	69.5	46.8	QP	200.0	106.00	HORIZONTAL

Y:

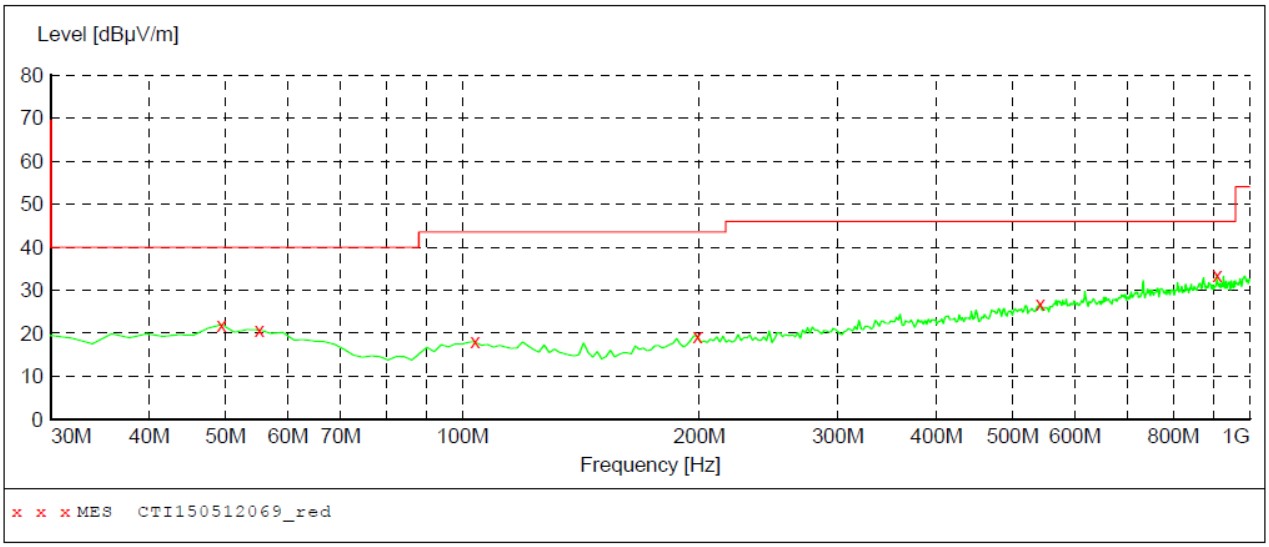


Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
0.073014	58.00	-18.6	90.4	32.4	AV	100.0	175.00	VERTICAL
0.388800	44.70	-19.9	75.8	31.1	AV	100.0	273.00	VERTICAL
1.582800	33.50	-19.7	63.6	30.1	QP	100.0	175.00	VERTICAL
2.060400	34.20	-19.6	69.5	35.3	QP	100.0	71.00	VERTICAL
8.508000	22.10	-19.8	69.5	47.4	QP	100.0	273.00	VERTICAL
29.462700	21.00	-20.3	69.5	48.5	QP	100.0	175.00	VERTICAL

B. 30MHz ～ 1GHz:

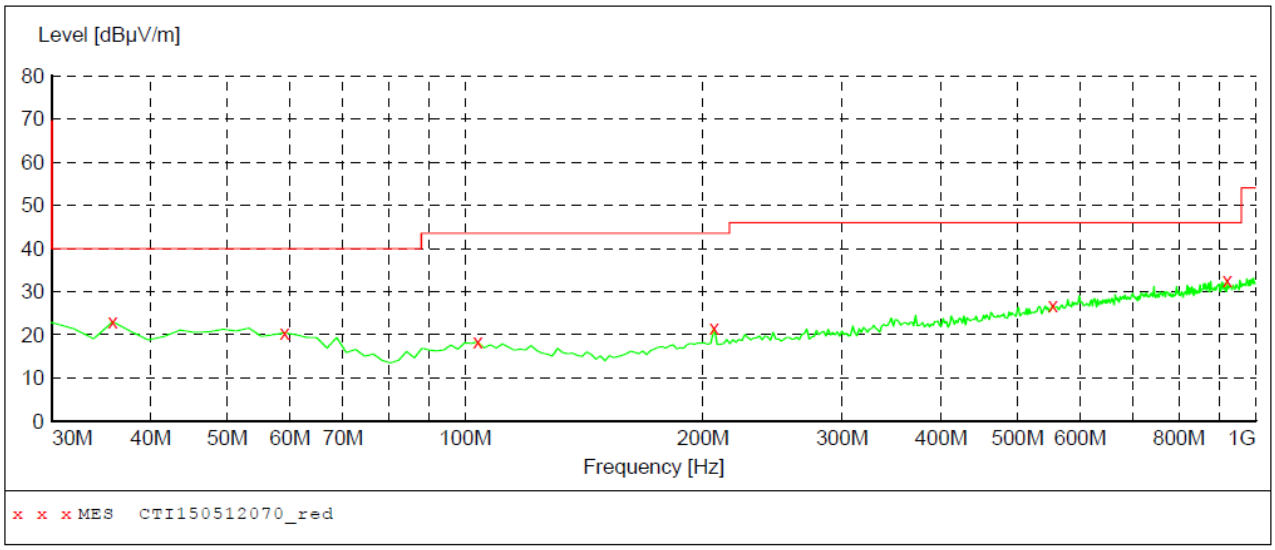
Product	:	LED Power Failure Light	**Model/Type reference**	:	30310478
Power	:	AC 120V, 60Hz	**Temperature**	:	22℃
Mode	:	Charging	**Humidity**	:	52%

H:



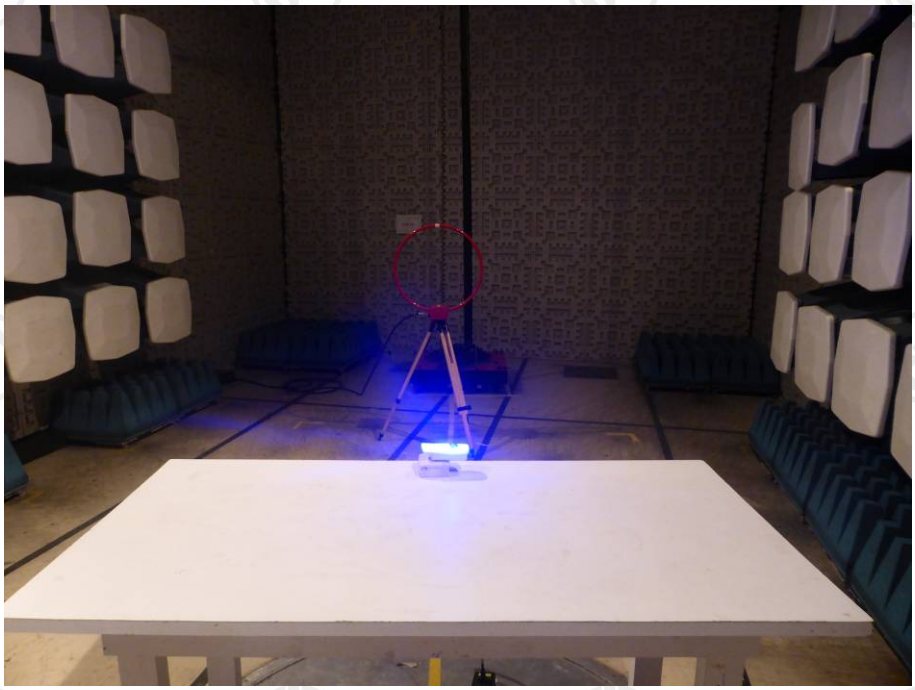
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
49.400000	22.00	16.0	40.0	18.0	QP	100.0	92.00	HORIZONTAL
55.220000	20.80	15.4	40.0	19.2	QP	100.0	55.00	HORIZONTAL
103.720000	18.00	13.2	43.5	25.5	QP	100.0	166.00	HORIZONTAL
198.780000	19.40	14.2	43.5	24.1	QP	100.0	66.00	HORIZONTAL
542.160000	26.90	21.6	46.0	19.1	QP	100.0	235.00	HORIZONTAL
908.820000	33.60	27.1	46.0	12.4	QP	100.0	189.00	HORIZONTAL

V:

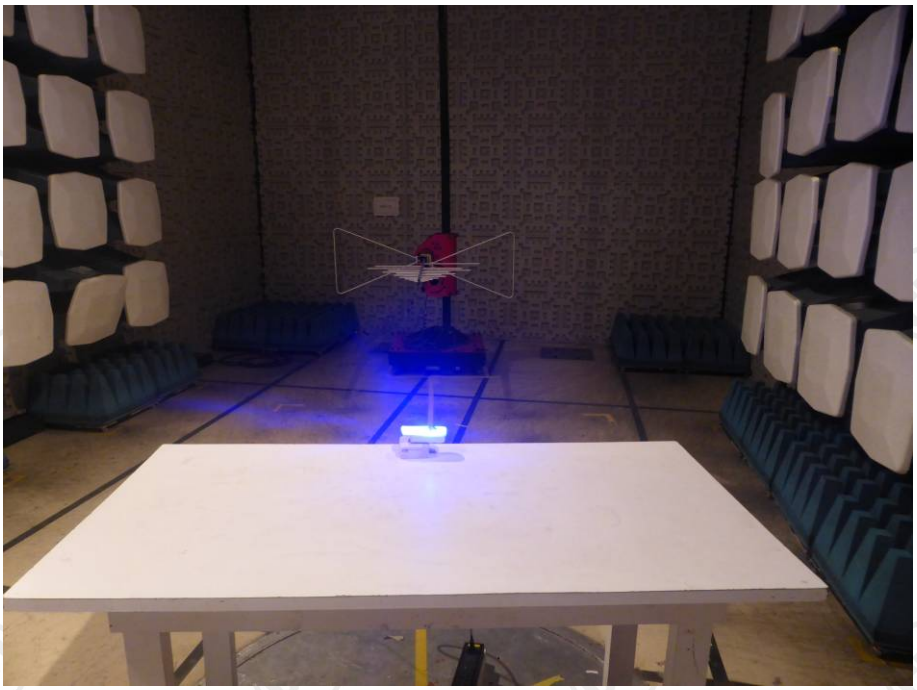


Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
35.820000	23.00	13.9	40.0	17.0	QP	100.0	166.00	VERTICAL
59.100000	20.50	14.9	40.0	19.5	QP	100.0	150.00	VERTICAL
103.720000	18.40	13.2	43.5	25.1	QP	100.0	235.00	VERTICAL
206.540000	21.60	14.4	43.5	21.9	QP	100.0	14.00	VERTICAL
553.800000	26.80	21.8	46.0	19.2	QP	100.0	359.00	VERTICAL
920.460000	32.60	27.1	46.0	13.4	QP	100.0	211.00	VERTICAL

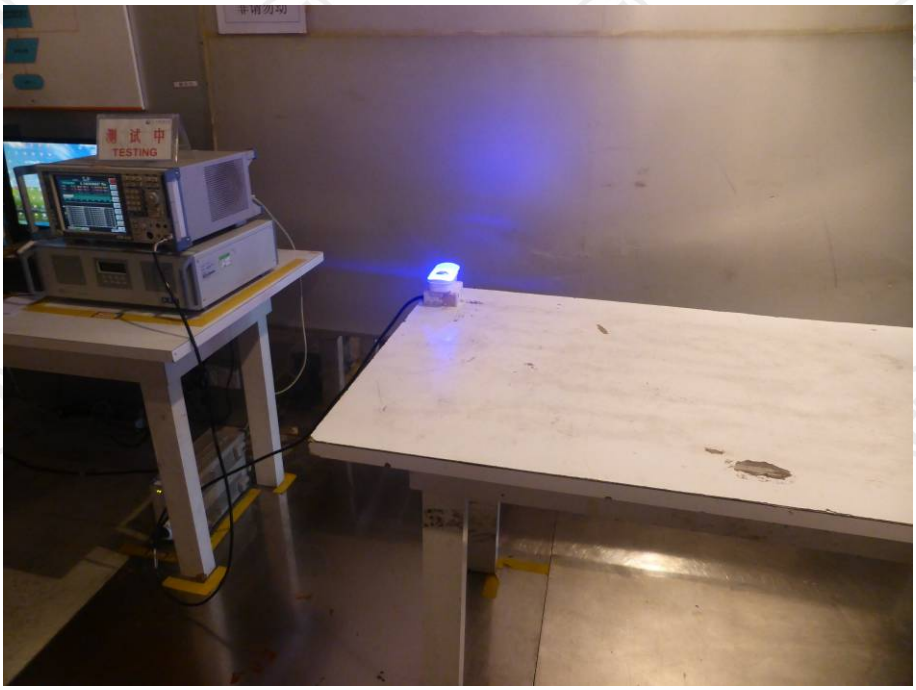
APPENDIX 1 PHOTOGRAPHS OF TEST SETUP



TEST SETUP OF RADIATED EMISSION (9kHz-30MHz)



TEST SETUP OF RADIATED EMISSION (30MHz-1GHz)



TEST SETUP OF CONDUCTED EMISSION

APPENDIX 2 EXTERNAL PHOTOGRAPHS OF PRODUCT

External View of product-1

External View of product-2

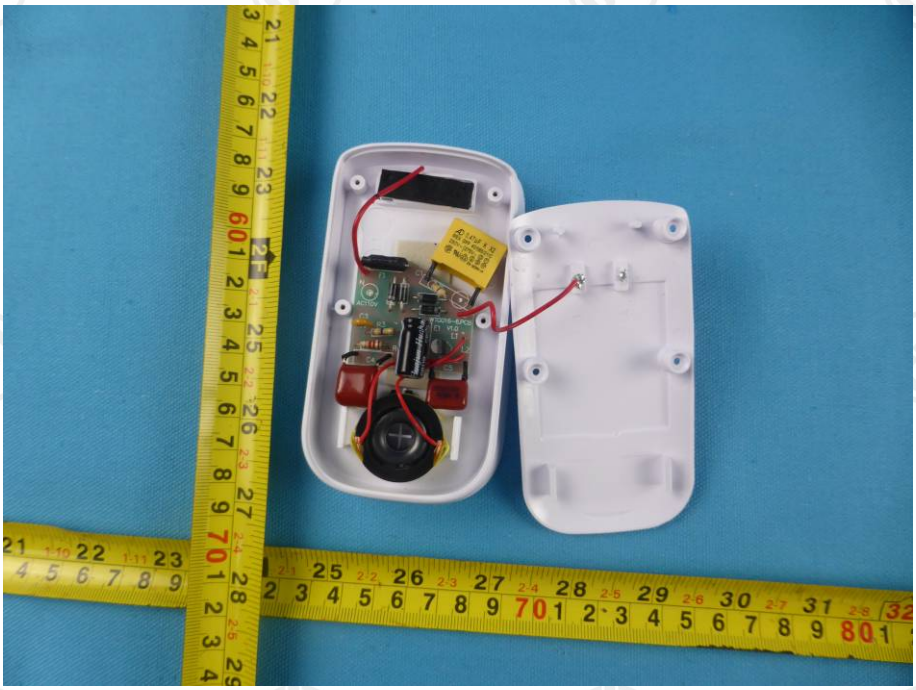
External View of product-3

External View of product-4

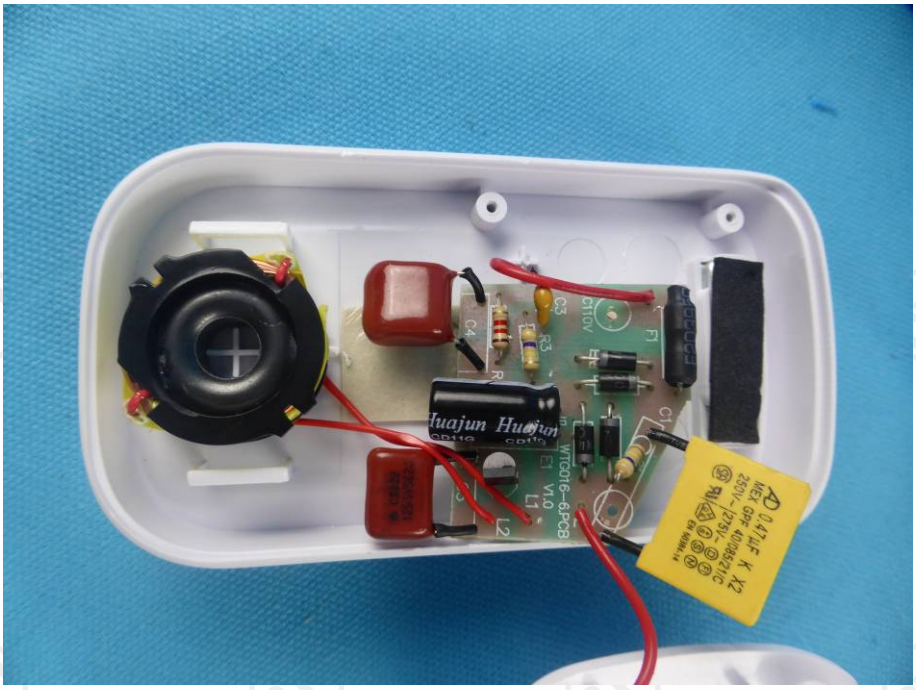
External View of product-5

External View of product-6

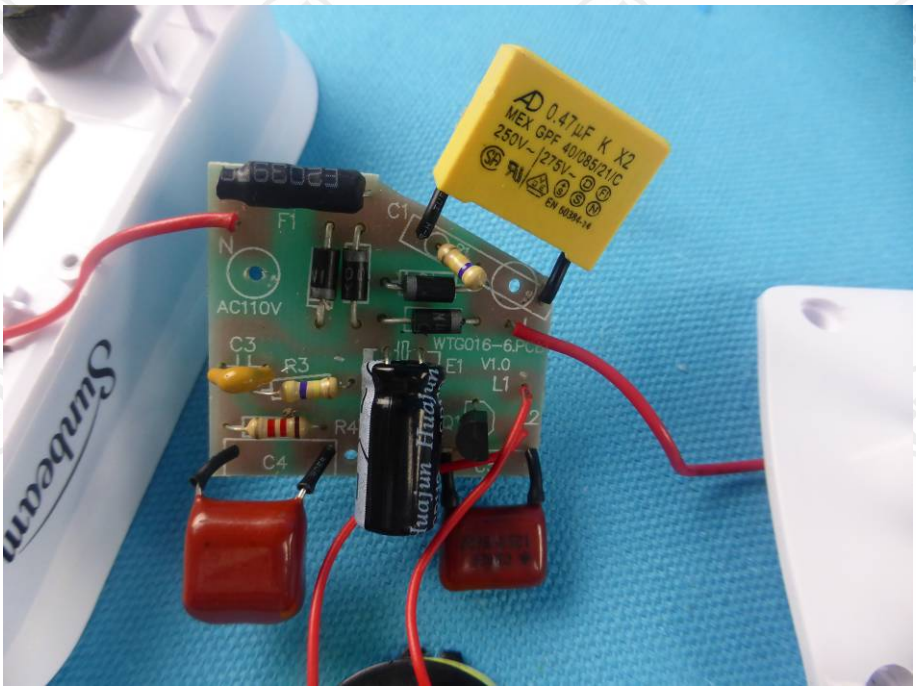
APPENDIX 3 INTERNAL PHOTOGRAPHS OF PRODUCT



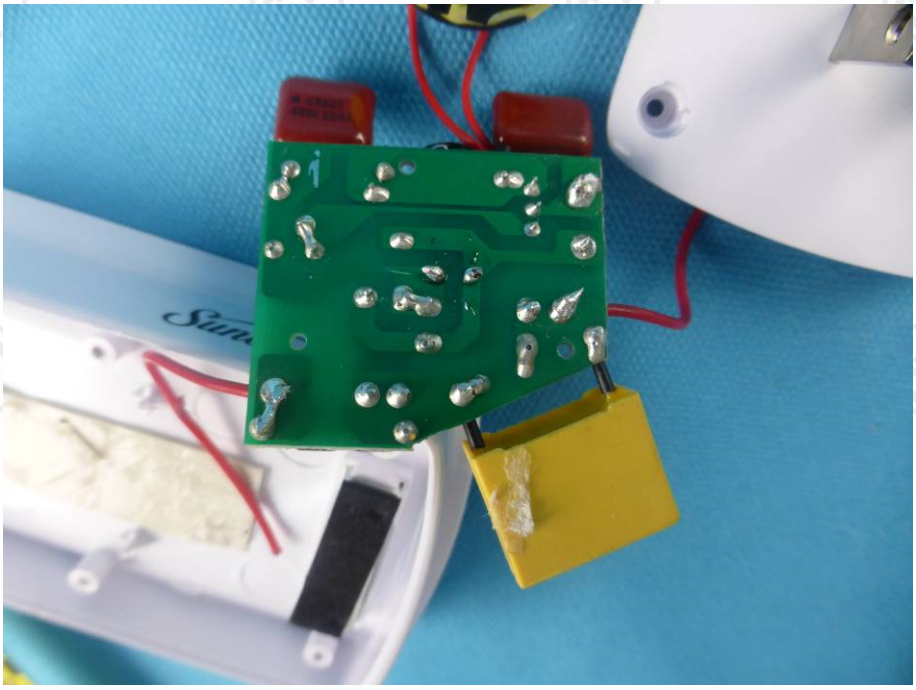
Internal View of product-1



Internal View of product-2



Internal View of product-3



Internal View of product-4

*** End of Report ***

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