EMC TEST REPORT

For

Blinq88

LED TRACK LIGHT

Model No.: FT-TL1-50E

Additional Model No.:Please Refer To Page 12

Prepared for	:	Blinq88
Address	:	No. 8, Laocun Road - Tangtou Industrial Park - Shiyan Town - BaoAn District - Shenzhen - China 518108
Prepared by	:	Shenzhen Southern LCS Compliance Testing Laboratory Ltd.
Address	:	B Area, 1-2/F, Building B, Zhongyu Green High-tech Industrial Park, Wenge Road, Heshuikou, Gongming Street, Guangming New District, Shenzhen, Guangdong, China
Tel	:	(+86)755-29871520
Fax	:	(+86)755-29871521
Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com
Date of receipt of test sample	:	May 22, 2019
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	May 22, 2019 ~ May 30, 2019
Date of Report	:	May 30, 2019

CE

EMC TEST REPORT

EN 55015: 2013+A1: 2015

Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment

EN 61547: 2009

Equipment for general lighting purposes - EMC immunity requirements

Report Reference No.....:	**LCS181015012BE001**
Date Of Issue.....:	May 30, 2019
Testing Laboratory Name.....:	**Shenzhen Southern LCS Compliance Testing Laboratory Ltd.**
Address.....:	B Area, 1-2/F, Building B, Zhongyu Green High-tech Industrial Park, Wenge Road, Heshuikou, Gongming Street, Guangming New District, Shenzhen, Guangdong, China
Testing Location/ Procedure....:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name.....:	**Blinq88**
Address.....:	No. 8, Laocun Road - Tangtou Industrial Park - Shiyan Town - BaoAn District - Shenzhen - China 518108
Test Specification:	
Standard.....:	EN 55015: 2013+A1: 2015 EN 61000-3-2: 2014 EN 61000-3-3: 2013 EN 61547: 2009
Test Report Form No.....:	LCSEMC-1.0
TRF Originator.....:	Shenzhen Southern LCS Compliance Testing Laboratory Ltd.
Master TRF.....:	Dated 2016-08

Test Item Description.....:	**LED TRACK LIGHT**
Trade Mark.....:	Blinq88
Model/ Type Reference.....:	FT-TL1-50E
Ratings.....:	Input: 200-240V~, 50/60Hz, 0.3A Output: DC 30-42V, 1150mA
Result .....:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Amy Liu	Dm Gu	Cherry Chen
Amy Liu/ File administrators	Dm Gu/ Technique principal	Cherry Chen / Manager

EMC -- TEST REPORT

Test Report No. : LCS181015012BE001	May 30, 2019 Date of issue

Type/Model.....	FT-TL1-50E
EUT.....	LED TRACK LIGHT
Applicant.....:	**Blinq88**
Address.....	No. 8, Laocun Road - Tangtou Industrial Park - Shiyan Town - BaoAn District - Shenzhen - China 518108
Telephone.....	/
Fax.....	/
Manufacturer.....:	**Fitlight Technologies Co.,LTD**
Address.....	5th Floor, Building A4, Hi-tech Industrial Park, No.639 FuSheng Road, Dalang Town, Dongguan City, china
Telephone.....	/
Fax.....	/
Factory.....:	**Fitlight Technologies Co.,LTD**
Address.....	5th Floor, Building A4, Hi-tech Industrial Park, No.639 FuSheng Road, Dalang Town, Dongguan City, china
Telephone.....	/
Fax.....	/

Test Result according to the standards on page 8:	**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
00	May 30, 2019	Initial Issue	Cherry Chen

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 (EN 55015: 2013+A1: 2015)			
Description of Test Item	**Standard**	**Limits**	**Results**
Conducted disturbance at mains terminals	EN 55015: 2013+A1: 2015	--------	PASS
Magnetic field emission	EN 55015: 2013+A1: 2015	--------	PASS
Radiated disturbance	EN 55015: 2013+A1: 2015	--------	PASS
Harmonic current emissions	EN 61000-3-2: 2014	Class C	PASS
Voltage fluctuations & flicker	EN 61000-3-3: 2013	--------	PASS

IMMUNITY (EN 61547: 2009)			
Description of Test Item	**Basic Standard**	**Performance Criteria**	**Results**
Electrostatic discharge (ESD)	EN 61000-4-2: 2009	B	PASS
Radio-frequency, Continuous radiated disturbance	EN 61000-4-3: 2006+A2: 2010	A	PASS
Electrical fast transient (EFT)	EN 61000-4-4: 2012	B	PASS
Surge (Input a.c. power ports)	EN 61000-4-5: 2014	C	PASS
Radio-frequency, Continuous conducted disturbance	EN 61000-4-6: 2014+A1:2015	A	PASS
Power frequency magnetic field	EN 61000-4-8: 2010	A	PASS
Voltage dips, 30% reduction	EN 61000-4-11: 2004+A1:2017	C	PASS
Voltage interruptions		B	PASS
N/A is an abbreviation for Not Applicable.			

1.2.Description of Performance Criteria

General Performance Criteria

Examples of functions defined by the manufacturer to be evaluated during testing include, but are not limited to, the following:

— essential operational modes and states;

— tests of all peripheral access (hard disks, floppy disks, printers, keyboard, mouse, etc.);

— quality of software execution;

— quality of data display and transmission;

— quality of speech transmission.

1.2.1.Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacture when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deliver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.2.Performance criterion B

After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacture, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operation state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be deliver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.3.Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacture's instructions.
Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be loss.

2. GENERAL INFORMATION

2.1.Description of Device (EUT)

EUT	:	LED TRACK LIGHT
Trade Mark	:	Blinq88
Model Number	:	FT-TL1-50E
Power Supply	:	Input: 200-240V~, 50/60Hz, 0.3A Output: DC 30-42V, 1150mA

2.2.Description of Test Facility

Site Description EMC Lab.	:	TUV RH Registration Number. is UA 50362241 0001. UL Registration Number. is 100571-492. NVLAP Registration Number. is 600112-0.
Test Facilities		Shenzhen Southern LCS Compliance Testing Laboratory Ltd. B Area, 1-2/F, Building B, Zhongyu Green High-tech Industrial Park, Wenge Road, Heshuikou, Gongming Street, Guangming New District, Shenzhen, Guangdong, China
RF Field Strength Susceptibility		Shenzhen LCS Compliance Testing Laboratory Ltd. 1F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue., Bao'an District, Shenzhen, Guangdong, China

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 (U_{lab})	Expanded uncertainty (U_{cispr})
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 1.40 dB ± 2.80 dB	± 4.0 dB ± 3.6 dB
Electromagnetic Radiated Emission (3-loop)	Level accuracy (9kHz to 30MHz)	± 3.46 dB	N/A
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.12 dB	N/A
Radiated Emission	Level accuracy (30MHz to 200MHz)	± 4.66 dB	± 5.2 dB
Radiated Emission	Level accuracy (200MHz to 1000MHz)	± 4.64 dB	± 5.0 dB
Mains Harmonic	Voltage	± 0.640%	N/A
Voltage Fluctuations & Flicker	Voltage	± 0.530%	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%.

2.5.Model Lists

LED Module		LED Driver	
Model	Rating	Model	Rating
RBGU10	DC27-42V, 250mA, 10W	LF-GIR013YS0250H	Input: 200-240V~, 50/60Hz Output: DC27-42V, 250mA, 10W
RWGU10			
RDW30	DC27-42V, 750mA, 30W	XZ-QA30B-420075-A	Input: 200-240V~, 50/60Hz Output: DC27-42V, 750mA, 30W
RDB30			
REB30			
REW30			
RP-W30			
RP-B30			
RBW30			
RAW35	DC27-42V, 850mA, 35W	XZ-QA40B-420085-A	Input: 200-240V~, 50/60Hz Output: DC27-42V, 850mA, 35W
RAB35			
RDW40	DC27-42V, 950mA, 40W	XZ-QA40B-420095-A	Input: 200-240V~, 50/60Hz Output: DC27-42V, 950mA, 40W
RDB40			
RP-W40			
RP-B40			
RBW40			
RBB40			
RDW50	DC27-42V, 1150mA, 50W	GS3120-A	Input: 200-240V~, 50/60Hz Output: DC30-40V, 1150mA, 50W
RDB50			
FT-TL1-50E			

3. MEASURING DEVICES AND TEST EQUIPMENT

Conducted Disturbance

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	EMI Test Receiver	R&S	ESCI	101010	2020-02-10
2	10dB Attenuator	SCHWARZBECK	VTSD9561-F	9561-F059	2019-06-28
3	Artificial Mains	SCHWARZBECK	NSLK8127	8127716	2019-06-28
4	EMI Test Software	EZ	EZ_EMC	N/A	2019-06-28
5	ISN CAT6	SCHWARZBECK	NTFM 8158	NTFM 8158#120	2019-06-28
6	Vorsteckteiler 6dB	SCHWARZBECK	VT 9420-221	N/A	2019-06-28

Radiated Disturbance(9kHz to 30MHz)

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	EMI Test Receiver	R&S	ESPI	101142	2019-06-28
2	Triple-loop Antenna	EVERFINE	LLA-2	9161	2019-06-28
3	EMI Test Software	EZ	EZ_EMC	N/A	2019-06-28

Radiated Disturbance(30MHz to 300MHz)

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2019-08-05
2	EMI Test Receiver	R&S	ESCI	101940	2019-06-28
3	Log per Antenna	SCHWARZBECK	VULB9163	5094	2020-04-29
4	EMI Test Software	AUDIX	E3	N/A	2019-06-28
5	Positioning Controller	MF	BK8807-4A-2T	2016-0808-008	2019-06-28

Harmonic Current&Voltage Fluctuation and Flicker

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	Power Analyzer Test System	Laplace	AC2000A	/	2019-06-28

Electrostatic Discharge Immunity Test (ESD)

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	ESD Simulator	KIKUSUI	KES4021	KC001311	2019-07-01

Electrical Fast Transient/Burst Immunity Test (EFT)

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	Electrical fast transient(EFT)generator	HTEC	HEFT51	162201	2019-06-28
2	Coupling Clamp	HTEC	H3C	163701	2019-06-28

Surge Immunity Test

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	Surge test system	3CTEST	SG5006G	EC5581070	2019-06-28
2	Coupling/decoupling network	3CTEST	SGN-5010G	EC5591033	2019-06-28

Immunity to Conducted Disturbances, Induced by Radio-Frequency Fields (CS)

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	Conducted Susceptibility Generator	HTEC	CDG6000	126A140012016	2019-06-28
2	CDN	HTEC	CDN-M2+M3	A22/0382/2016	2019-06-28
3	Attenuator	HTEC	ATT6	HA1601	2019-06-28
4	Electromagnetic injection clamp	LUTHI	EM101	35535	2019-06-28

Power Frequency Magnetic Field Immunity Test

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	Power frequency mag-field generator System	HTEC	HPFMF100	100-2400	2019-06-28

Voltage Dips,Short Interruptions and Voltage Variations Immunity Test

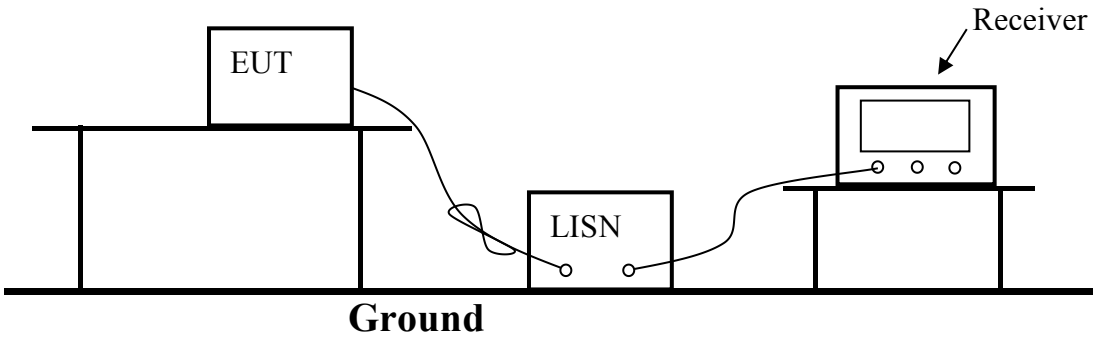
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	Voltage dips and up generator	HTEC	HPFS161P	162202	2019-06-28

Radiated, Radio-Frequency, Electromagnetic Field Immunity Test (RS)

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	RS Test Software	Tonscend	/	/	2019-06-15
2	ESG Vector Signal Generator	Agilent	E4438C	MY42081396	2019-11-14
3	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2019-06-15
4	RF Power Amplifier	OPHIR	5225R	1052	NCR
5	RF Power Amplifier	OPHIR	5273F	1019	NCR
6	Stacked Broadband Log Periodic Antenna	SCHWARZBECK	STLP 9128	9128ES-145	NCR
7	Stacked Mikrowellen Log.-Per Antenna	SCHWARZBECK	STLP 9149	9149-484	NCR
8	Electric field probe	Narda S.TS./PMM	EP601	611WX80208	2020-03-24
9	Sound Level meter	BK Precision	735	735008731001002 0	2019-06-15
10	Audio Analyzer	R&S	UPV	1146.2003K02-101721-UW	2019-06-15
11	Mouse Simulation	Bruel & Kjaer	4227	A0304216	2019-06-15
12	Ear Simulation and supply	Bruel & Kjaer	2669.4182.5935	A0305284	2019-06-15
13	Acoustical Calibrators	Bruel & Kjaer	4231	A0304215	2019-06-15

4. POWER LINE CONDUCTED MEASUREMENT

4.1.Block Diagram of Test Setup



4.2.Conducted Power Line Emission Measurement Standard and Limits

4.2.1.Standard:

EN 55015: 2013+A1: 2015

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 Test

The configuration of the EUT is same as Section 3.1.

4.4.Operating Condition of EUT

4.4.1.Setup the EUT as shown in Section 4.1.
4.4.2.Turn on the power of all equipments.
4.4.3.Let the EUT work in test mode (On) 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 EN 55015 regulations during conducted emission measurement. And the voltage probe had been used for the load terminals measurement according to the EN 55015 standard.

The bandwidth of the test receiver is set at 200Hz in 9k~150kHz range and 9kHz in 150k~30MHz range.

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

All the test results are listed in Section 4.6.

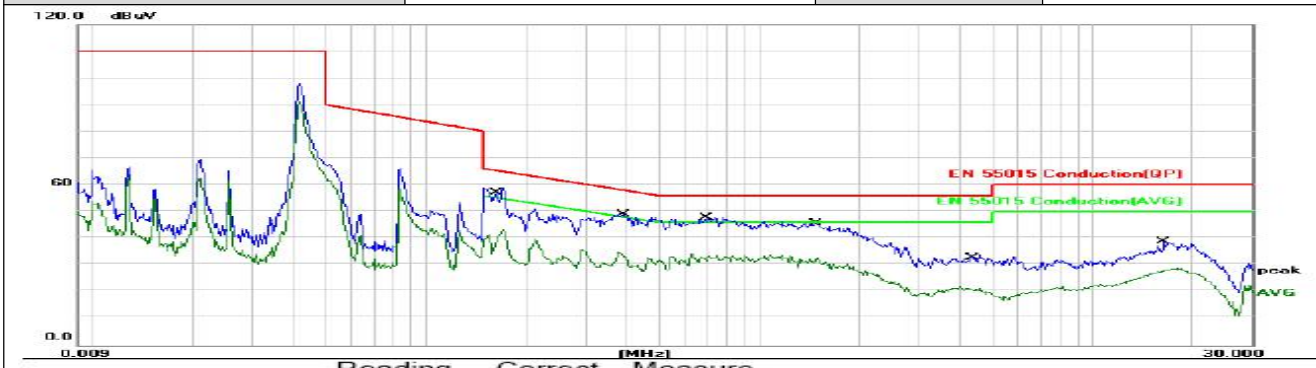
The frequency range from 9kHz to 30MHz is investigated.

4.6.Test Results

PASS.

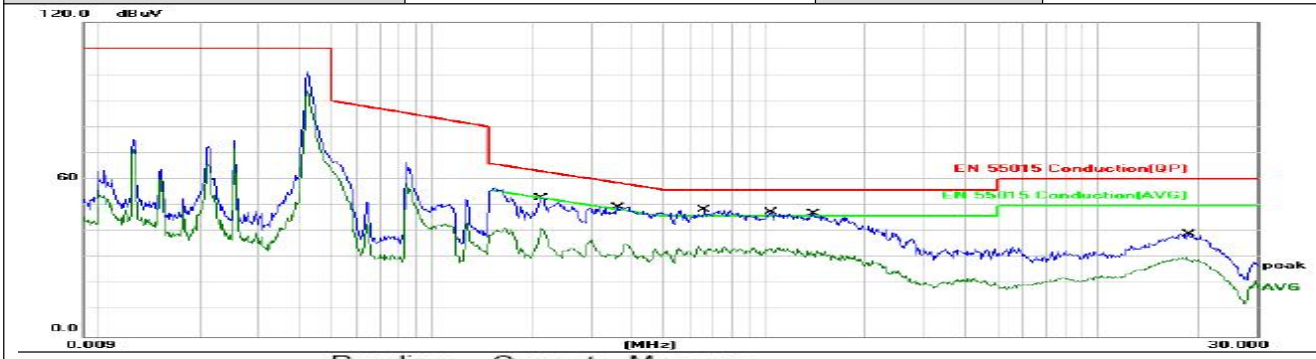
The test result please refer to the next page.

Model No.	FT-TL1-50E	**Test Mode**	ON
Environmental Conditions	24℃, 56% RH	**Test Engineer**	DANA TANG
Pol	Line		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1655	43.15	10.23	53.38	65.18	-11.80	QP	
2		0.1655	31.60	10.23	41.83	55.18	-13.35	AVG	
3		0.3901	36.06	10.20	46.26	58.06	-11.80	QP	
4		0.3901	23.70	10.20	33.90	48.06	-14.16	AVG	
5	*	0.6893	34.08	10.20	44.28	56.00	-11.72	QP	
6		0.6893	22.50	10.20	32.70	46.00	-13.30	AVG	
7		1.4989	32.59	10.20	42.79	56.00	-13.21	QP	
8		1.4989	22.45	10.20	32.65	46.00	-13.35	AVG	
9		4.5035	17.36	10.20	27.56	56.00	-28.44	QP	
10		4.5035	10.66	10.20	20.86	46.00	-25.14	AVG	
11		16.3827	21.65	10.20	31.85	60.00	-28.15	QP	
12		16.3827	17.08	10.20	27.28	50.00	-22.72	AVG	

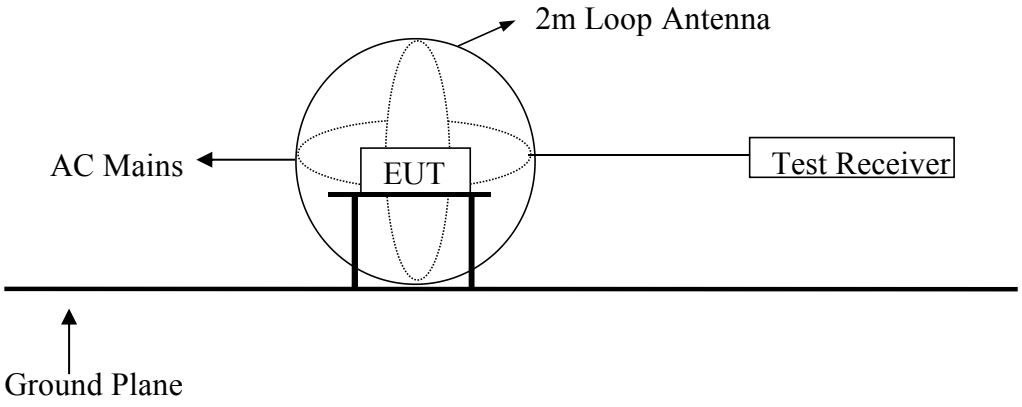
Model No.	FT-TL1-50E	**Test Mode**	ON
Environmental Conditions	24℃, 56% RH	**Test Engineer**	DANA TANG
Pol	Neutral		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2132	39.77	10.22	49.99	63.08	-13.09	QP	
2		0.2132	30.90	10.22	41.12	53.08	-11.96	AVG	
3		0.3625	35.90	10.20	46.10	58.67	-12.57	QP	
4		0.3625	20.34	10.20	30.54	48.67	-18.13	AVG	
5	*	0.6582	34.39	10.20	44.59	56.00	-11.41	QP	
6		0.6582	22.05	10.20	32.25	46.00	-13.75	AVG	
7		1.0514	34.00	10.20	44.20	56.00	-11.80	QP	
8		1.0514	23.07	10.20	33.27	46.00	-12.73	AVG	
9		1.4118	31.65	10.20	41.85	56.00	-14.15	QP	
10		1.4118	20.66	10.20	30.86	46.00	-15.14	AVG	
11		18.7676	23.25	10.20	33.45	60.00	-26.55	QP	
12		18.7676	18.46	10.20	28.66	50.00	-21.34	AVG	

5. MAGNETIC FIELD EMISSION MEASUREMENT

5.1.Block Diagram of Test Setup



5.2.Magnetic Field Emission Measurement Standard and Limits

5.2.1.Test Standard

EN 55015: 2013+A1: 2015

5.2.2.Test Limits

Frequency	Limits for loop diameter (dBμA)
	2m
9kHz ~ 70kHz	88
70kHz ~ 150kHz	88 ~ 58*
150kHz ~ 3.0MHz	58 ~ 22*
3.0MHz ~ 30MHz	22

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

5.3.EUT Configuration on Test

The configuration of the EUT is same as Section 3.3.

5.4.Operating Condition of EUT

Same as conducted measurement which is listed in Section 4.4, except the test set up replaced by Section 5.1.

5.5.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 is set at 200Hz. For frequency band 150kHz to 30MHz, the bandwidth is set at 9kHz.

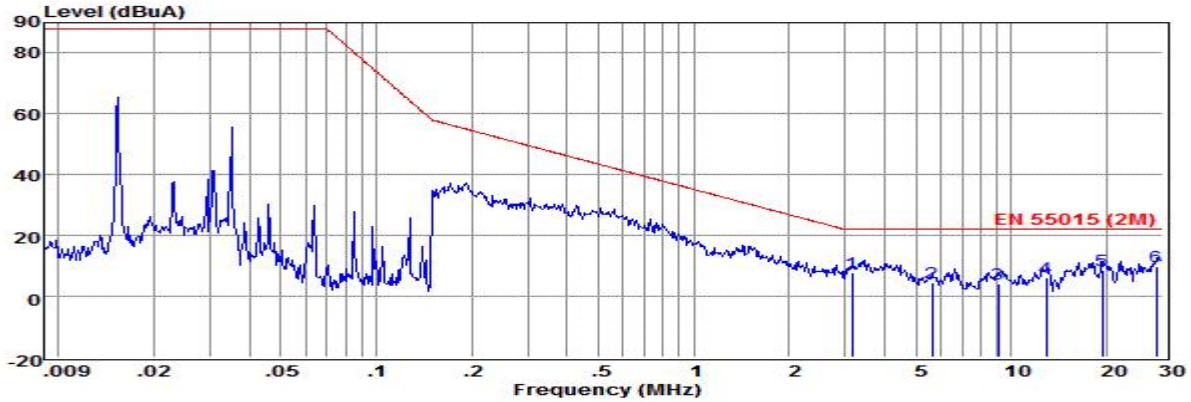
All the test results are listed in Section 5.6.

5.6.Test Results

PASS.

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

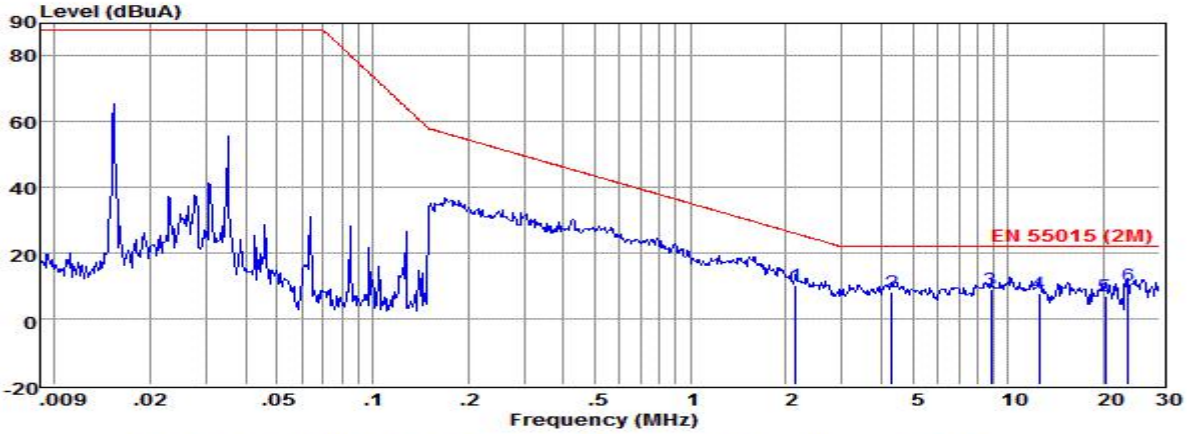
Model No.	FT-TL1-50E	**Test Mode**	ON
Environmental Conditions	24℃, 56% RH	**Test Engineer**	DANA TANG
Pol	X		



	Freq	Reading	LISNFac	CabLos	Measured	Limit	Over	Remark
	MHz	dBuA	dB	dB	dBuA	dBuA	dB	
1	3.15	-48.69	55.89	0.70	7.90	22.00	-14.10	QP
2	5.64	-47.51	51.49	0.74	4.72	22.00	-17.28	QP
3	9.10	-45.49	48.64	0.80	3.95	22.00	-18.05	QP
4	12.90	-42.29	47.80	0.83	6.34	22.00	-15.66	QP
5	19.36	-38.90	46.70	0.86	8.66	22.00	-13.34	QP
6	28.57	-35.92	44.75	0.90	9.73	22.00	-12.27	QP

Remarks: 1. Measured = Reading +Cable Loss.
2. The emission levels that are 20dB below the official limit are not reported.

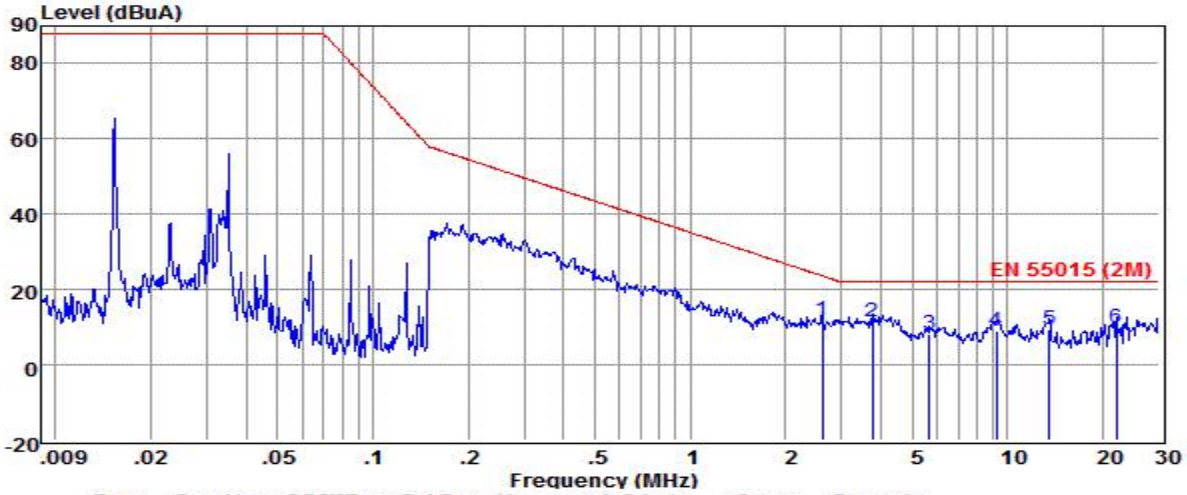
Model No.	FT-TL1-50E	**Test Mode**	ON
Environmental Conditions	24℃, 56% RH	**Test Engineer**	DANA TANG
Pol	Y		



	Freq	Reading	LISNFac	CabLos	Measured	Limit	Over	Remark
	MHz	dBuA	dB	dB	dBuA	dBuA	dB	
1	2.15	-48.38	58.09	0.69	10.40	26.01	-15.61	QP
2	4.32	-46.32	53.83	0.71	8.22	22.00	-13.78	QP
3	8.81	-40.59	48.76	0.79	8.96	22.00	-13.04	QP
4	12.49	-40.99	47.86	0.83	7.70	22.00	-14.30	QP
5	20.16	-40.45	46.56	0.87	6.98	22.00	-15.02	QP
6	23.90	-36.45	45.68	0.88	10.11	22.00	-11.89	QP

Remarks: 1. Measured = Reading +Cable Loss.
2. The emission levels that are 20dB below the official limit are not reported.

Model No.	FT-TL1-50E	**Test Mode**	ON
Environmental Conditions	24℃, 56% RH	**Test Engineer**	DANA TANG
Pol	Z		

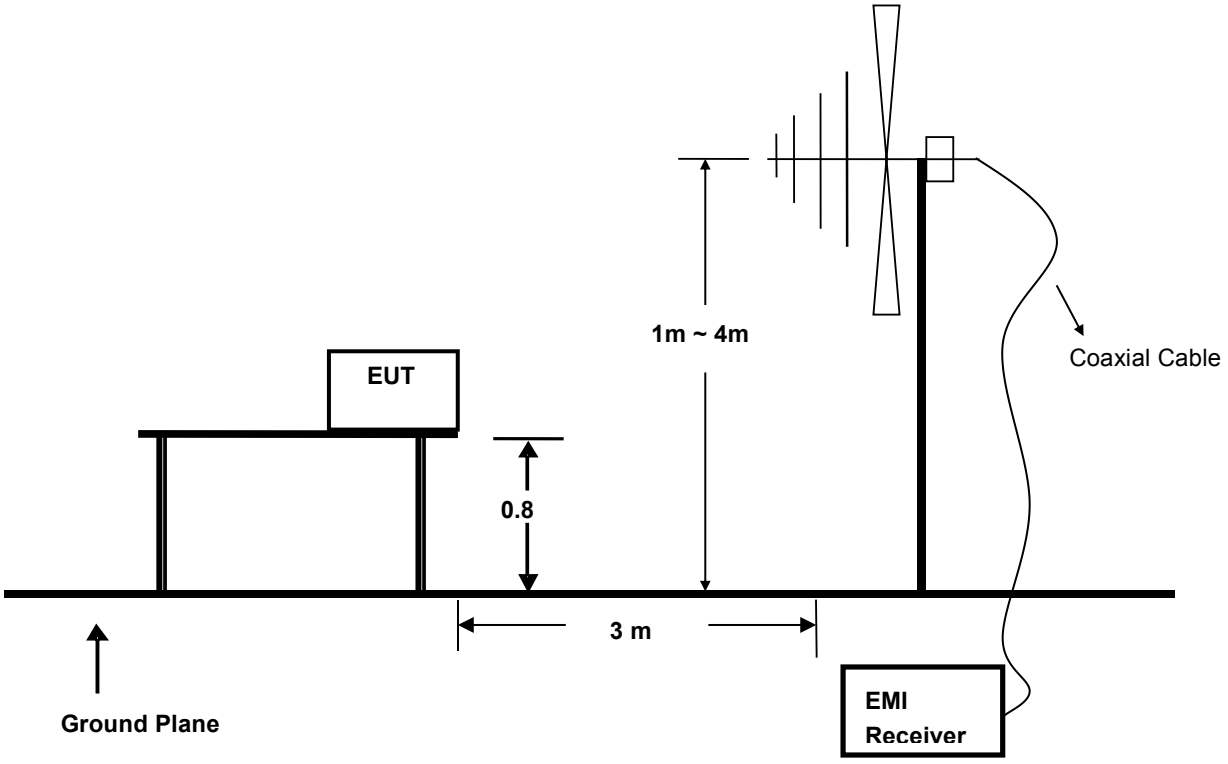


	Freq	Reading	LISNFac	CabLos	Measured	Limit	Over	Remark
	MHz	dBuA	dB	dB	dBuA	dBuA	dB	
1	2.61	-45.90	56.96	0.69	11.75	23.67	-11.92	QP
2	3.76	-44.23	54.86	0.71	11.34	22.00	-10.66	QP
3	5.69	-43.92	51.42	0.74	8.24	22.00	-13.76	QP
4	9.25	-40.28	48.58	0.80	9.10	22.00	-12.90	QP
5	13.55	-39.10	47.70	0.83	9.43	22.00	-12.57	QP
6	22.04	-37.22	46.10	0.87	9.75	22.00	-12.25	QP

Remarks: 1. Measured = Reading +Cable Loss.
2. The emission levels that are 20dB below the official limit are not reported.

6. RADIATED EMISSION MEASUREMENT

6.1.Block Diagram of Test Setup



6.2.Test Standard

EN 55015: 2013+A1: 2015

6.3.Radiated Emission Limits

All emanations from a class B device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dBμV/m)
30 ~ 230	3	40
230 ~ 300	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.

6.4.EUT Configuration on Test

The EN 55015 regulations test method must be used to find the maximum emission during radiated emission measurement.

6.5.Operating Condition of EUT

6.5.1 Turn on the power.

6.5.2 After that, let the EUT work in test mode (ON) and measure it.

6.6.Test Procedure

The EUT is placed on a turntable, which is 0.8 meter high above the ground. The turntable 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 an antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. By-log antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The bandwidth of the Receiver is set at 120kHz.

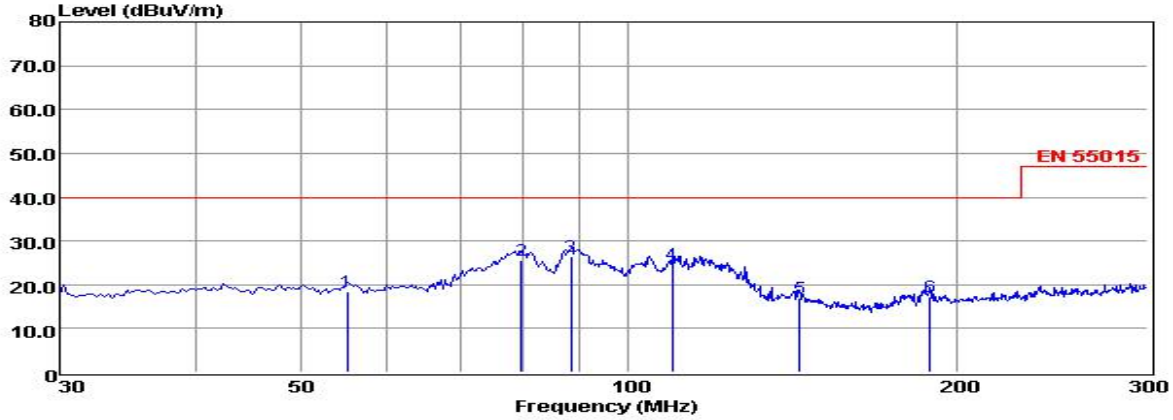
The frequency range from 30MHz to 300MHz is investigated.

6.7.Test Results

PASS.

The test result please refer to the next page.

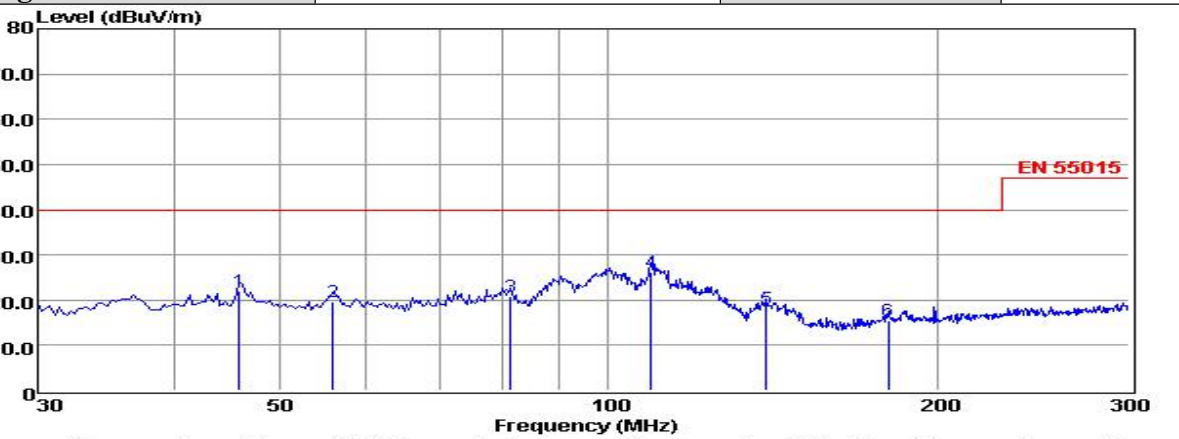
Model No.	FT-TL1-50E	**Test Mode**	ON
Environmental Conditions	24℃, 56% RH	**Detector Function**	Quasi-peak
Pol	Vertical	**Distance**	3m
Test Engineer	DANA TANG		



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	55.11	4.96	0.46	13.01	18.43	40.00	-21.57	QP
2	79.68	16.41	0.65	8.49	25.55	40.00	-14.45	QP
3	88.59	14.36	0.68	11.45	26.49	40.00	-13.51	QP
4	109.65	11.89	0.61	12.28	24.78	40.00	-15.22	QP
5	143.67	7.90	0.71	8.22	16.83	40.00	-23.17	QP
6	189.30	5.92	0.86	10.50	17.28	40.00	-22.72	QP

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

Model No.	FT-TL1-50E	**Test Mode**	ON
Environmental Conditions	24℃, 56% RH	**Detector Function**	Quasi-peak
Pol	Horizontal	**Distance**	3m
Test Engineer	DANA TANG		

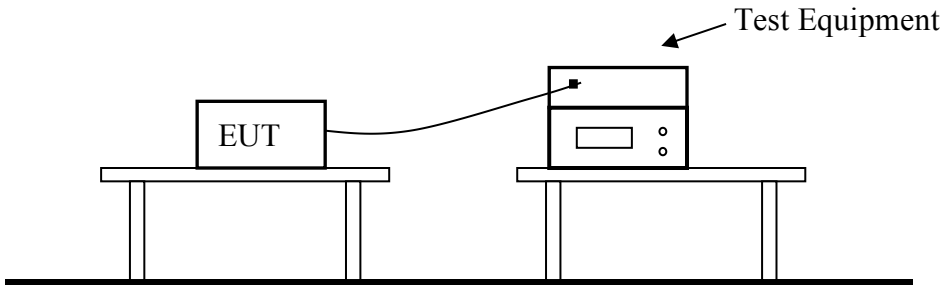


	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	45.93	8.00	0.41	13.49	21.90	40.00	-18.10	QP
2	55.92	6.32	0.47	12.96	19.75	40.00	-20.25	QP
3	81.30	11.04	0.65	9.00	20.69	40.00	-19.31	QP
4	109.38	13.19	0.61	12.31	26.11	40.00	-13.89	QP
5	139.62	9.28	0.75	8.22	18.25	40.00	-21.75	QP
6	180.66	4.92	0.89	9.74	15.55	40.00	-24.45	QP

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

7. HARMONIC CURRENT MEASUREMENT

7.1.Block Diagram of Test Setup



7.2.Test Standard

EN 61000-3-2: 2014

7.3.Operating Condition of EUT

Same as Section 4.4, except the test setup replaced by Section 7.1.

7.4.Test Results

PASS.

Model No.	FT-TL1-50E	**Test Engineer**	DANA TANG

Nominal Supply Voltage : 230
Nominal Supply Frequency : 50
Nominal Crest Phase : 90.0
Nominal Crest Factor : 1.414

	Measured Low	Measured High	Deviation	Allowed Deviation	Result
Supply Voltage	: 229.49	229.56	-0.51	4.60	PASS
Supply Frequency	: 49.99	50.00	-0.01	0.25	PASS
Crest Phase	: 89.1	89.4	-0.9	3.0	PASS
Crest Factor	: 1.414	1.415	0.001	-0.014/+0.006	PASS
Fundamental Voltage	: 229.51	-	-	-	-

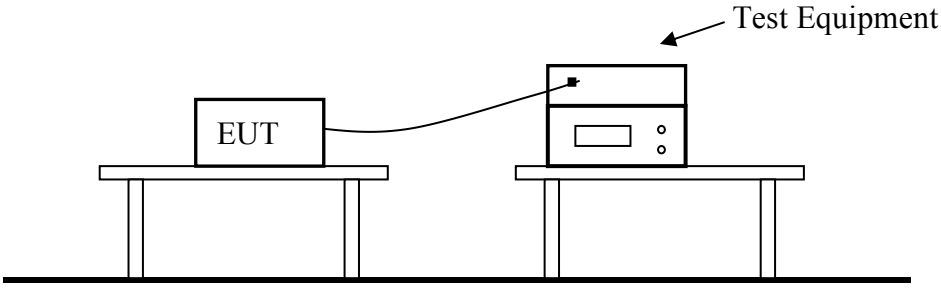
Load Power : 0.05 to 47.32 W 48.51 VA Power Factor 0.974
Load Current : 0.2 to 212.1 mArms 0.4 to 361.9 mApk Crest Factor 1.702

Measurement Standard : EN61000-4-7:2002+A1:2009
Limits Applied : EN61000-3-2:2014 Class C Limits >25W for 0.211A at 0.974 PF.

Harmonic Number	Limit Current mA	Average (filtered) mA	% Limit	max. Value (Filtered) mA	% Limit	Assessment
Fundamental :		209.0				
2 :	4.2	0.4	9.5	0.67	16.0	Pass
3 :	61.7	24.1	39.1	24.25	39.3	Pass
4 :	-	0.4	-	0.58	-	-
5 :	21.1	0.4	1.9	0.53	2.5	Pass
6 :	-	0.3	-	0.44	-	-
7 :	14.8	2.5	16.9	2.56	17.3	Pass
8 :	-	0.3	-	0.42	-	-
9 :	10.6	8.5	80.2	8.67	81.8	Pass
10 :	-	0.3	-	0.42	-	-
11 :	6.3	2.9	46.0	3.03	48.1	Pass
12 :	-	0.2	-	0.35	-	-
13 :	6.3	2.4	38.1	2.49	39.5	Pass
14 :	-	0.2	-	0.31	-	-
15 :	6.3	3.6	57.1	3.66	58.1	Pass
16 :	-	0.1	-	0.26	-	-
17 :	6.3	2.3	36.5	2.29	36.3	Pass
18 :	-	0.1	-	0.20	-	-
19 :	6.3	2.5	39.7	2.60	41.3	Pass
20 :	-	0.1	-	0.17	-	-
21 :	6.3	1.9	30.2	1.91	30.3	Pass
22 :	-	0.1	-	0.13	-	-
23 :	6.3	1.9	30.2	1.95	31.0	Pass
24 :	-	0.1	-	0.11	-	-
25 :	6.3	0.6	9.5	0.65	10.3	Pass
26 :	-	0.0	-	0.08	-	-
27 :	6.3	1.4	22.2	1.41	22.4	Pass
28 :	-	0.1	-	0.08	-	-
29 :	6.3	0.1	1.6	0.13	2.1	Pass
30 :	-	0.1	-	0.11	-	-
31 :	6.3	1.0	15.9	1.07	17.0	Pass
32 :	-	0.1	-	0.11	-	-
33 :	6.3	0.4	6.3	0.47	7.5	Pass
34 :	-	0.1	-	0.11	-	-
35 :	6.3	0.4	6.3	0.38	6.0	Pass
36 :	-	0.1	-	0.08	-	-
37 :	6.3	0.6	9.5	0.62	9.8	Pass
38 :	-	0.1	-	0.08	-	-
39 :	6.3	0.3	4.8	0.29	4.6	Pass
40 :	-	0.1	-	0.08	-	-
21 - 39 :	20.0	3.4	17.0	3.43	17.1	-

8. VOLTAGE FLUCTUATIONS & FLICKER MEASUREMENT

8.1.Block Diagram of Test Setup



8.2.Test Standard

EN 61000-3-3: 2013

8.3.Operating Condition of EUT

Same as Section 4.4, except the test setup replaced by Section 8.1.

8.4.Test Results

PASS.

Model No.	FT-TL1-50E	**Test Engineer**	DANA TANG

Load Power : 0.047 kW 0.049 kVA Power Factor 0.959
Load Current : 0.2 Arms 0.4 Apk Crest Factor 1.700

EN 61000-3-3:2013 - Voltage reduction is positive

Voltage Variations

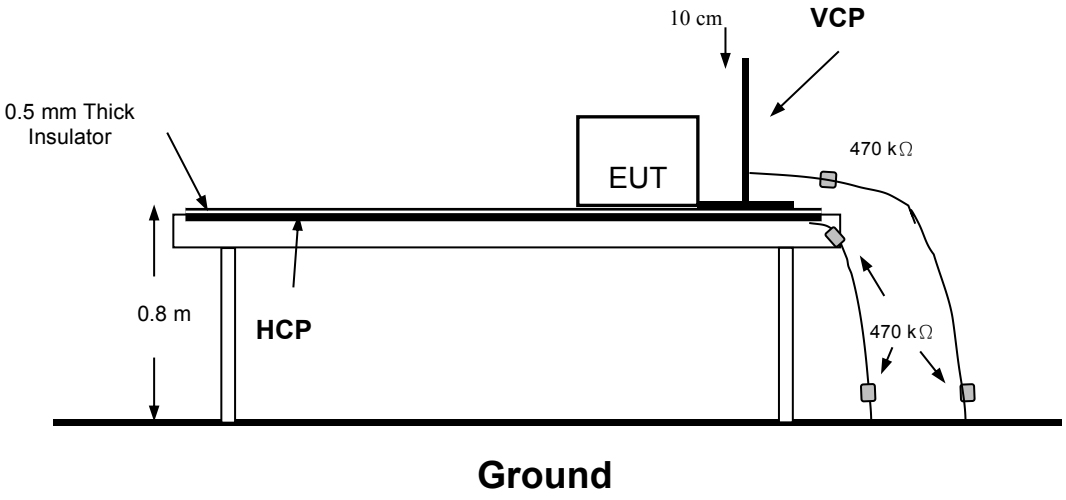
Nominal Voltage:	230 Vrms		
Highest Half-cycle level:	+0.18%		
Lowest Half-cycle level:	+0.42%		
d(max):	0.00%	Limit: 4%	PASS
t(max):	0.00seconds	Limit: 500ms	PASS
Steady State definition:	>1000ms within +/- 0.2%		
Largest d(c) change down:	0.00%		
Largest d(c) change up:	+0.00%		
Largest d(c) change:	0.00%	Limit: 3.3%	PASS

Flicker

Pst Classifier		Plt Calculation	
Duration	Flicker	Interval	Pst
0.1%	0.01		
0.7%	0.00		
1.0%	0.00		
1.5%	0.00		
2.2%	0.00		
3%	0.00		
4%	0.00		
6%	0.00		
8%	0.00		
10%	0.00		
13%	0.00		
17%	0.00		
30%	0.00		
50%	0.00		
80%	0.00		

9. ELECTROSTATIC DISCHARGE TEST

9.1.Block Diagram of Test Setup



9.2.Test Standard

EN 61547: 2009 (EN 61000-4-2: 2009, 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

9.3.2.Performance criterion: **B**

9.4.EUT Configuration on Test

The configuration of EUT is listed in Section 3.6

9.5.Operating Condition of EUT

9.5.1.Setup the EUT as shown in Section 9.1.

9.5.2.Turn on the power of all equipments.

9.5.3.Let the EUT work in test mode (ON) and measure it.

9.6.Test Procedure

9.6.1.Air Discharge

This test is done on a non-conductive surfaces. 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.

Because the case of the EUT is metal surface, so it does not need to be tested.

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

Standard	☐ IEC 61000-4-2 ☑ EN 61000-4-2		
Applicant	Blinq88		
EUT	LED TRACK LIGHT	**Temperature**	23.3℃
M/N	FT-TL1-50E	**Humidity**	56%
Criterion	B	**Pressure**	1021mbar
Test Mode	ON	**Test Engineer**	DANA TANG

Air Discharge

Test Points	Test Levels			Results		
	± 2KV	± 4KV	± 8KV	Pass	Fail	Performance Criterion
Front	☒	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☒	☐	☐ A ☒ B
Top	☒	☒	☒	☒	☐	☐ A ☒ B
Bottom	☒	☒	☒	☒	☐	☐ A ☒ B

Contact Discharge

Test Points	Test Levels		Results		
	± 2 KV	±4 KV	Pass	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☐	☐ A ☒ B
Top	☒	☒	☒	☐	☐ A ☒ B
Bottom	☒	☒	☒	☐	☐ A ☒ B

Discharge To Horizontal Coupling Plane

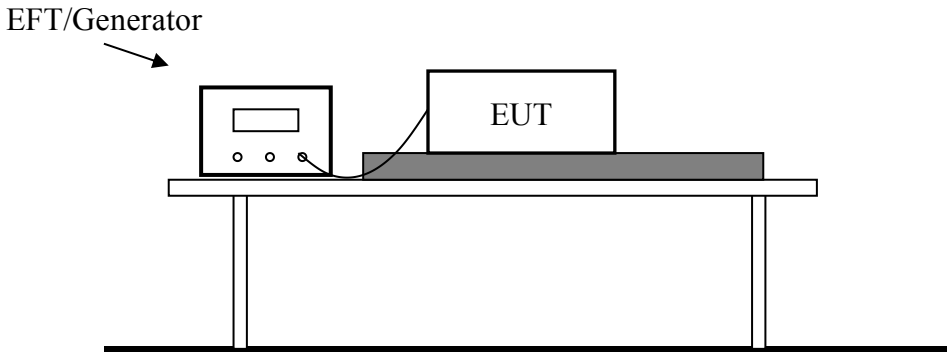
Side of EUT	Test Levels		Results		
	± 2 KV	± 4 KV	Pass	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☐	☐ A ☒ B

Discharge To Vertical Coupling Plane

Side of EUT	Test Levels		Results		
	± 2 KV	± 4 KV	Pass	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☐	☐ A ☒ B

10. ELECTRICAL FAST TRANSIENT/BURST TEST

10.1.Block Diagram of Test Setup



10.2.Test Standard

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

10.3.Severity Levels and Performance Criterion

10.3.1.Severity level

Open Circuit Output Test Voltage ±10%		
Level	On Power Supply Lines	On I/O (Input/Output) Signal data and control lines
1.	0.5 KV	0.25 KV
2.	1 KV	0.5 KV
3.	2 KV	1 KV
4.	4 KV	2 KV
X	Special	Special

10.3.2.Performance criterion: **B**

10.4.EUT Configuration on Test

The configuration of EUT are listed in Section 3.7.

10.5.Operating Condition of EUT

10.5.1.Setup the EUT as shown in Section 10.1.

10.5.2.Turn on the power of all equipments.

10.5.3.Let the EUT work in test mode (ON) and measure it.

10.6.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.

10.6.1.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.

10.6.2.For signal lines and control lines ports:

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

10.6.3.For DC output line ports:

It's unnecessary to test.

10.7.Test Results

PASS.

Please refer to the following page.

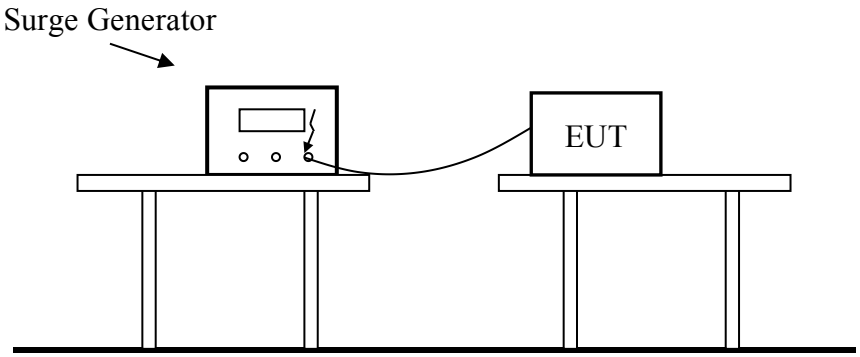
Electrical Fast Transient/Burst Test Results

Standard	☐ IEC 61000-4-4 ☑ EN 61000-4-4		
Applicant	Blinq88		
EUT	LED TRACK LIGHT	**Temperature**	23.8℃
M/N	FT-TL1-50E	**Humidity**	56%
Test Mode	ON	**Criterion**	B
Test Engineer	DANA TANG		

Line	Test Voltage	Result (+)	Result (-)
L	1KV	PASS	PASS
N	1KV	PASS	PASS
PE	1KV	PASS	PASS
L-N	1KV	PASS	PASS
L-PE	1KV	PASS	PASS
N-PE	1KV	PASS	PASS
L-N-PE	1KV	PASS	PASS
Signal Line			
I/O Cable			
Note:			

11. SURGE IMMUNITY TEST

11.1.Block Diagram of Test Setup



11.2.Test Standard

EN 61547: 2009 (EN 61000-4-5: 2014, Severity Level: Line to Line: Level 2, 1.0KV, Line to earth: Level 3, 2.0KV)

11.3.Severity Levels and Performance Criterion

11.3.1.Severity level

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

11.3.2.Performance criterion: **C**

11.4.EUT Configuration on Test

The configuration of EUT are listed in Section 3.8

11.5.Operating Condition of EUT

11.5.1.Setup the EUT as shown in Section 11.1.

11.5.2.Turn on the power of all equipments.

11.5.3.Let the EUT work in test mode (ON) and measure it.

11.6.Test Procedure

11.6.1.Set up the EUT and test generator as shown on Section 11.1.

11.6.2.For line to line coupling mode, provide a 1.0KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.

11.6.3. For line to earth coupling mode, provide a 2.0KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.

11.6.4.At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.

11.6.5. Different phase angles are done individually.

11.6.6.Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

11.7.Test Results

PASS.

Please refer to the following page.

Surge Immunity Test Result

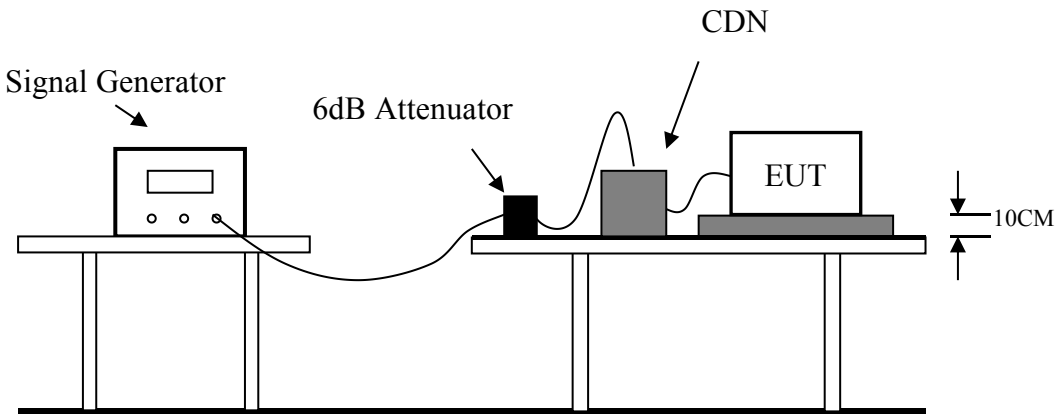
Standard	☐ IEC 61000-4-5 ☑ EN 61000-4-5		
Applicant	Blinq88		
EUT	LED TRACK LIGHT	**Temperature**	23.8℃
M/N	FT-TL1-50E	**Humidity**	56%
Test Mode	ON	**Criterion**	B
Test Engineer	DANA TANG		

Location	Polarity	Phase Angle	Number of Pulse	Pulse Voltage (KV)	Result
L-N	+	0°	5	--	--
	+	90°	5	1.0	PASS
	+	180°	5	--	--
	+	270°	5	1.0	PASS
	-	0°	5	--	--
	-	90°	5	1.0	PASS
	-	180°	5	--	--
	-	270°	5	1.0	PASS
L-PE	+	0°	5	--	--
	+	90°	5	2.0	PASS
	+	180°	5	--	--
	+	270°	5	2.0	PASS
	-	0°	5	--	--
	-	90°	5	2.0	PASS
	-	180°	5	--	--
	-	270°	5	2.0	PASS
N-PE	+	0°	5	--	--
	+	90°	5	2.0	PASS
	+	180°	5	--	--
	+	270°	5	2.0	PASS
	-	0°	5	--	--
	-	90°	5	2.0	PASS
	-	180°	5	--	--
	-	270°	5	2.0	PASS
L-N-PE	+	0°	5	--	--
	+	90°	5	2.0	PASS
	+	180°	5	--	--
	+	270°	5	2.0	PASS
	-	0°	5	--	--
	-	90°	5	2.0	PASS
	-	180°	5	--	--
	-	270°	5	2.0	PASS
Signal Line					

Note					

12. INJECTED CURRENTS SUSCEPTIBILITY TEST

12.1.Block Diagram of Test Setup



12.2.Test Standard

EN 61547: 2009 (EN 61000-4-6: 2014+A1:2015, Severity Level: 3V (rms), 0.15MHz ~ 80MHz)

12.3.Severity Levels and Performance Criterion

12.3.1.Severity level

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

12.3.2.Performance criterion: **A**

12.4.EUT Configuration on Test

The configuration of EUT are listed in Section 3.9.

12.5.Operating Condition of EUT

12.5.1.Setup the EUT as shown in Section 12.1.

12.5.2.Turn on the power of all equipments.

12.5.3.Let the EUT work in test mode (ON) and measure it.

12.6.Test Procedure

12.6.1.Set up the EUT, CDN and test generators as shown on Section 12.1.

12.6.2.Let the EUT work in test mode and measure it.

12.6.3.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).

12.6.4.The disturbance signal described below is injected to EUT through CDN.

12.6.5.The EUT operates within its operational mode(s) under intended climatic conditions after power on.

12.6.6.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.

12.6.7.The rate of sweep shall not exceed 1.5*10-3decades/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.

12.6.8.Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

12.7.Test Results

PASS.

Please refer to the following page.

Injected Currents Susceptibility Test Results

Standard	☐ IEC 61000-4-6 ☑ EN 61000-4-6		
Applicant	Blinq88		
EUT	LED TRACK LIGHT	**Temperature**	23.9℃
M/N	FT-TL1-50E	**Humidity**	56%
Test Mode	ON	**Criterion**	A
Test Engineer	DANA TANG		

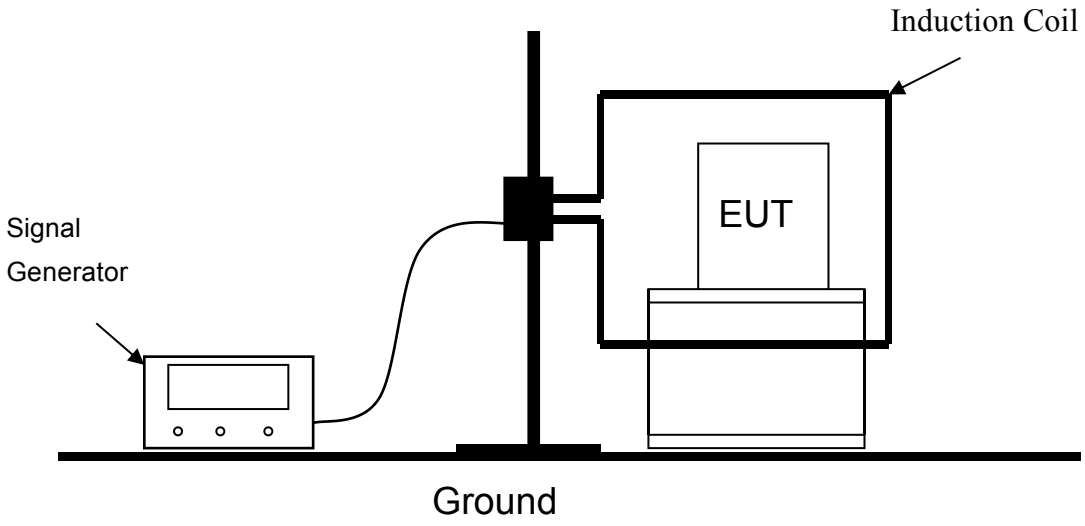
Frequency Range (MHz)	Injected Position	Strength (Unmodulated)	Criterion	Result
0.15 ~ 80	AC Mains	3V	A	PASS

Remark:
1. Modulation Signal:1kHz 80% AM
2. Measurement Equipment:
Simulator: CIT-10 (FRANKONIA)
CDN : ☐CDN-M2 (FRANKONIA)
☑CDN-M3 (FRANKONIA)

Note:

13. MAGNETIC FIELD IMMUNITY TEST

13.1.Block Diagram of Test Setup



13.2.Test Standard

EN 61547: 2009 (EN 61000-4-8: 2010, Severity Level 2: 3A/m)

13.3.Severity Levels and Performance Criterion

13.3.1.Severity level

Level	Magnetic Field Strength (A/m)
1.	1
2.	3
3.	10
4.	30
5.	100
X	Special

13.3.2.Performance criterion: **A**

13.4.EUT Configuration on Test

The configuration of EUT are listed in Section 3.10.

13.5.Operating Condition of EUT

13.5.1.Setup the EUT as shown in Section 13.1.

13.5.2.Turn on the power of all equipments.

13.5.3.Let the EUT work in test mode (On) and measure it.

13.6.Test Procedure

13.6.1.Set up the EUT system as shown on Section 13.1.

13.6.2.The Induction coil is set up in horizontal or vertical.

13.6.3.Let the EUT work in test mode and measure it.

13.7.Test Results

PASS.

Please refer to the following page.

Magnetic Field Immunity Test Result

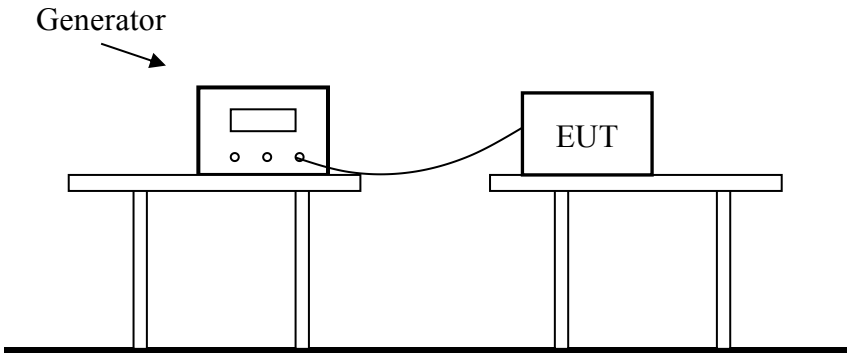
Standard	☐ IEC 61000-4-8 ☑ EN 61000-4-8		
Applicant	Blinq88		
EUT	LED TRACK LIGHT	**Temperature**	23.2℃
M/N	FT-TL1-50E	**Humidity**	56%
Test Mode	ON	**Criterion**	A
Test Engineer	DANA TANG		

Test Level (A/M)	Testing Duration	Coil Orientation	Criterion	Result
3	5 mins	X	A	PASS
3	5 mins	Y	A	PASS
3	5 mins	Z	A	PASS

Note:

14. VOLTAGE DIPS AND INTERRUPTIONS TEST

14.1.Block Diagram of Test Setup



14.2.Test Standard

EN 61547: 2009 (EN 61000-4-11: 2004+A1:2017)

14.3.Severity Levels and Performance Criterion

14.3.1.Severity level

Test Level (%U_T)	Voltage dip and short interruptions (%U_T)	Duration (in period)
0	100	0.5
70	30	10

14.3.2.Performance criterion: **B&C**

14.4.EUT Configuration on Test

The configuration of EUT are listed in Section 3.11&3.12.

14.5.Operating Condition of EUT

14.5.1.Setup the EUT as shown in Section 14.1.
14.5.2.Turn on the power of all equipments.
14.5.3.Let the EUT work in test mode (ON) and measure it.

14.6.Test Procedure

14.6.1.Set up the EUT and test generator as shown on Section 14.1.

14.6.2.The interruptions is introduced at selected phase angles with specified duration.

14.6.3.Record any degradation of performance.

14.7.Test Results

PASS.

Please refer to the following page.

Voltage Dips And Interruptions Test Results

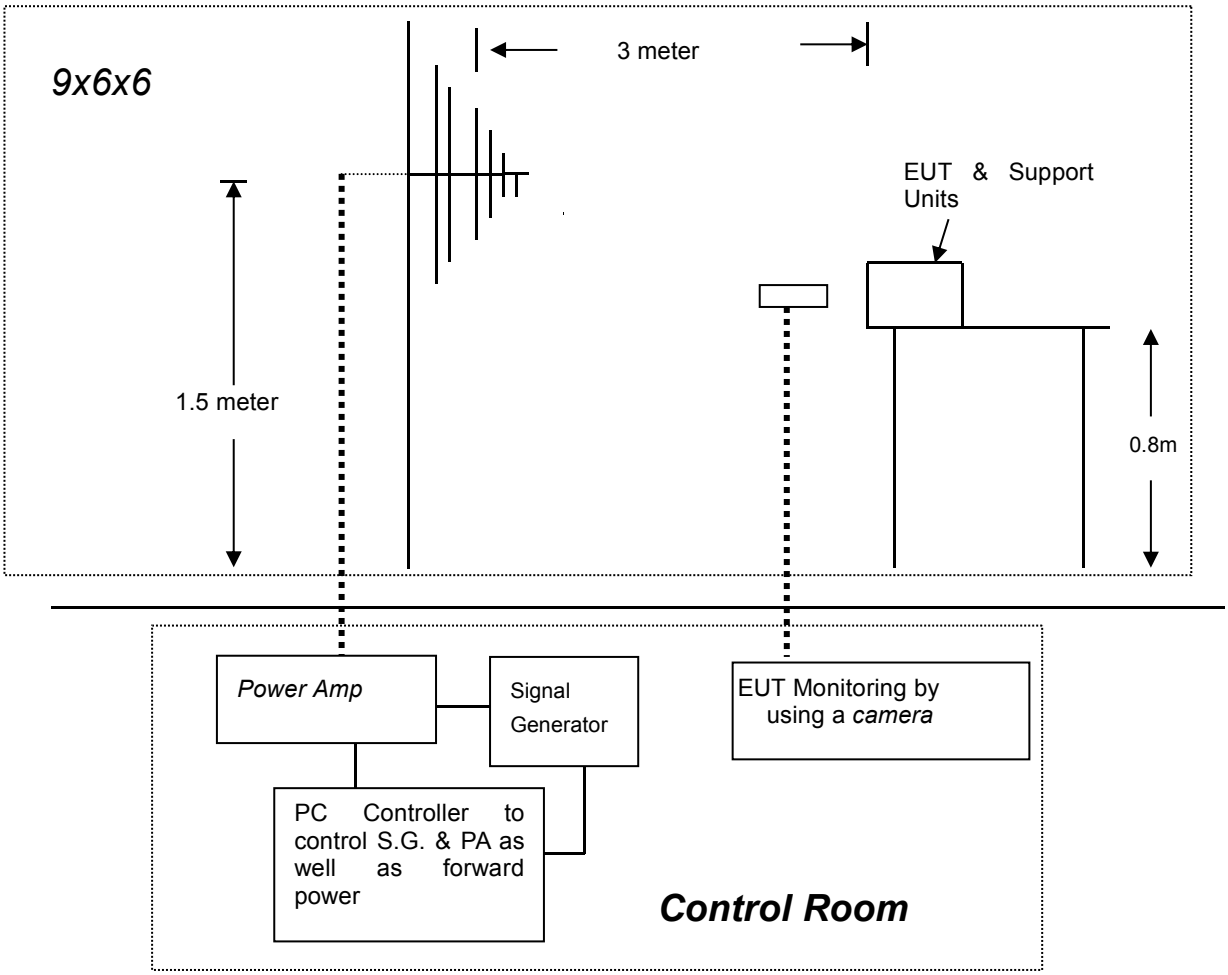
Standard	☐ IEC 61000-4-11 ☑ EN 61000-4-11		
Applicant	Blinq88		
EUT	LED TRACK LIGHT	**Temperature**	23.7℃
M/N	FT-TL1-50E	**Humidity**	56%
Test Mode	ON	**Criterion**	B&C
Test Engineer	DANA TANG		

Test Level % U_T	**Voltage Dips & Short Interruptions % U_T**	**Duration (in periods)**	**Criterion**	**Result**
0	100	0.5P	B	PASS
70	30	10P	C	PASS

Note:

15. RF FIELD STRENGTH SUSCEPTIBILITY TEST

15.1.Block Diagram of Test Setup



15.2.Test Standard

EN 61547: 2009 (EN 61000-4-3: 2006+A2: 2010, Severity Level: 2, 3V / m)

15.3.Severity Levels and Performance Criterion

15.3.1.Severity level

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

15.3.2.Performance criterion: **A**

15.4.EUT Configuration on Test

The configuration of EUT are listed in Section 3.13.

15.5.Operating Condition of EUT

15.5.1.Setup the EUT as shown in Section 15.1.
15.5.2.Turn on the power of all equipments.
15.5.3.Let the EUT work in test mode (On) and measure it.

15.6.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 polarization 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	Unmodulated
3. Scanning Frequency	80 - 1000 MHz
4. Dwell time of radiated	0.0015 decade/s
5. Waiting Time	3 Sec.

15.7.Test Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

Standard	☐ IEC 61000-4-3 ☑ EN 61000-4-3		
Applicant	Blinq88		
EUT	LED TRACK LIGHT	**Temperature**	23.8℃
M/N	FT-TL1-50E	**Humidity**	56%
Field Strength	3 V/m	**Criterion**	A
Test Mode	ON	**Test Engineer**	DANA TANG
Frequency Range	80 MHz to 1000 MHz		
Modulation	☐None ☐ Pulse ☑AM 1KHz 80%		
Steps	1%		

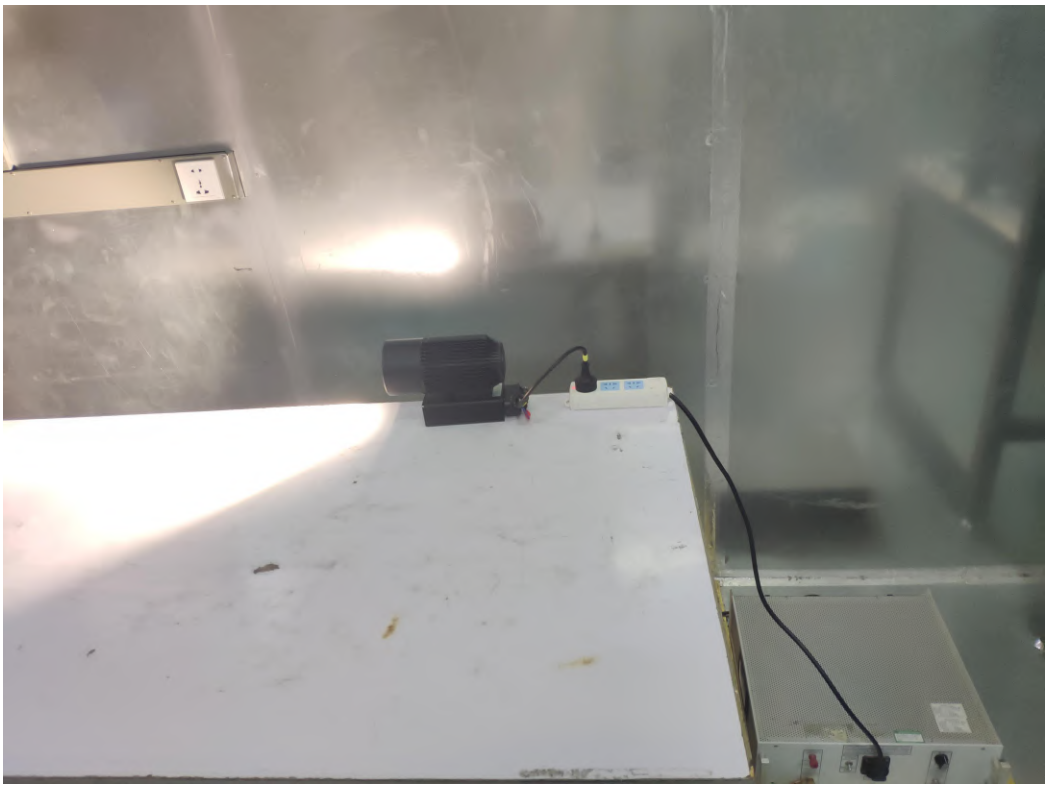
	Horizontal	**Vertical**
Front	PASS	PASS
Right	PASS	PASS
Rear	PASS	PASS
Left	PASS	PASS

Test Equipment:
1. Signal Generator: 2031 (MARCONI)
2. Power Amplifier: 500A100 & 100W/1000M1 (A&R)
3. Power Antenna: 3108 (EMCO) & AT1080 (A&R)
4. Field Monitor: FM2000 (A&R)

Note:

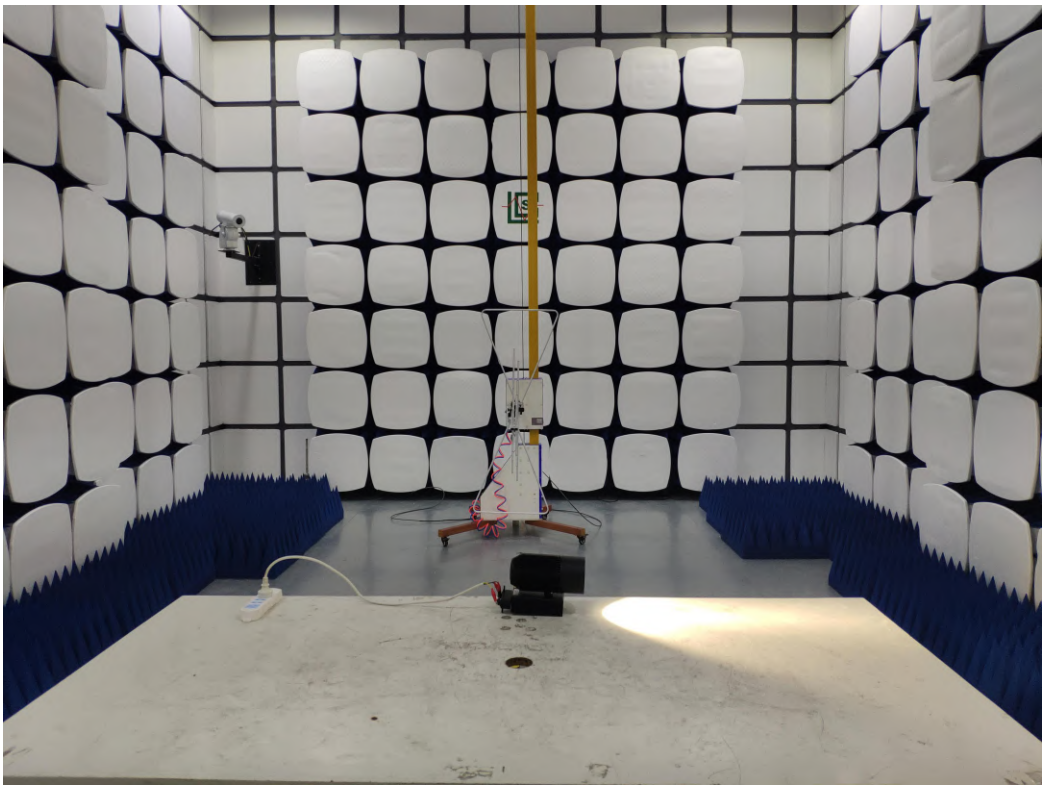
16. PHOTOGRAPH

16.1. Photo of Power Line Conducted Measurement



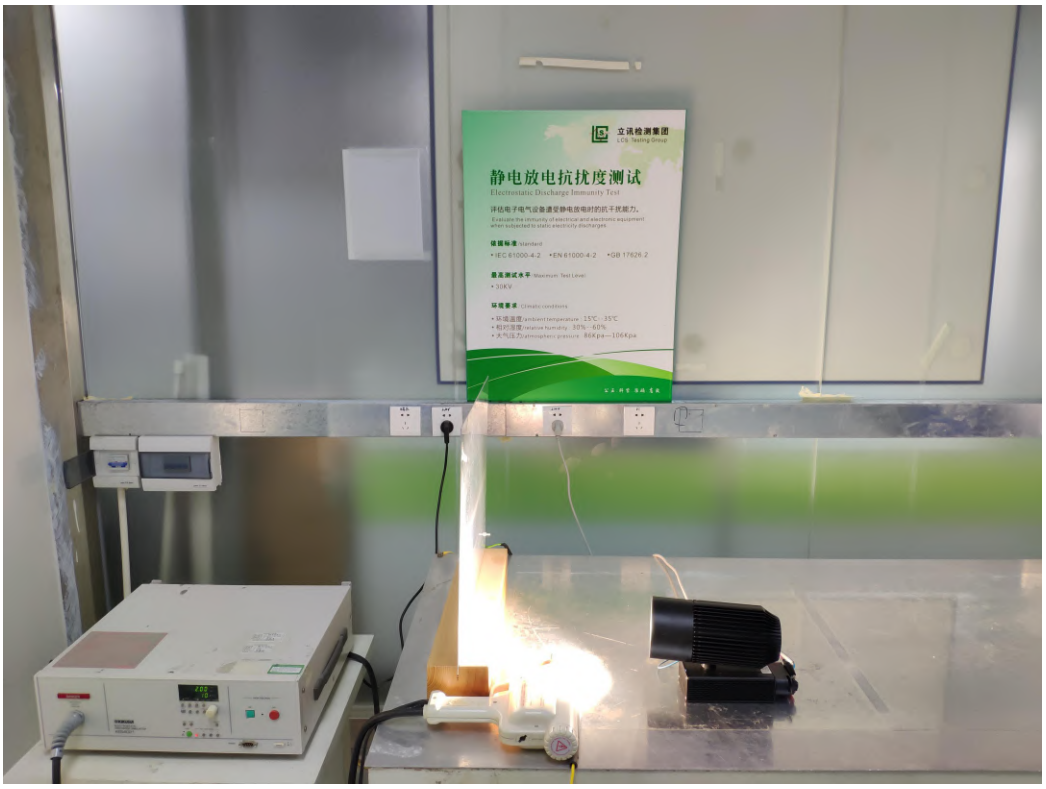
16.2. Photo of Radiated Electromagnetic Disturbance Measurement

16.3. Photo of Radiated Measurement

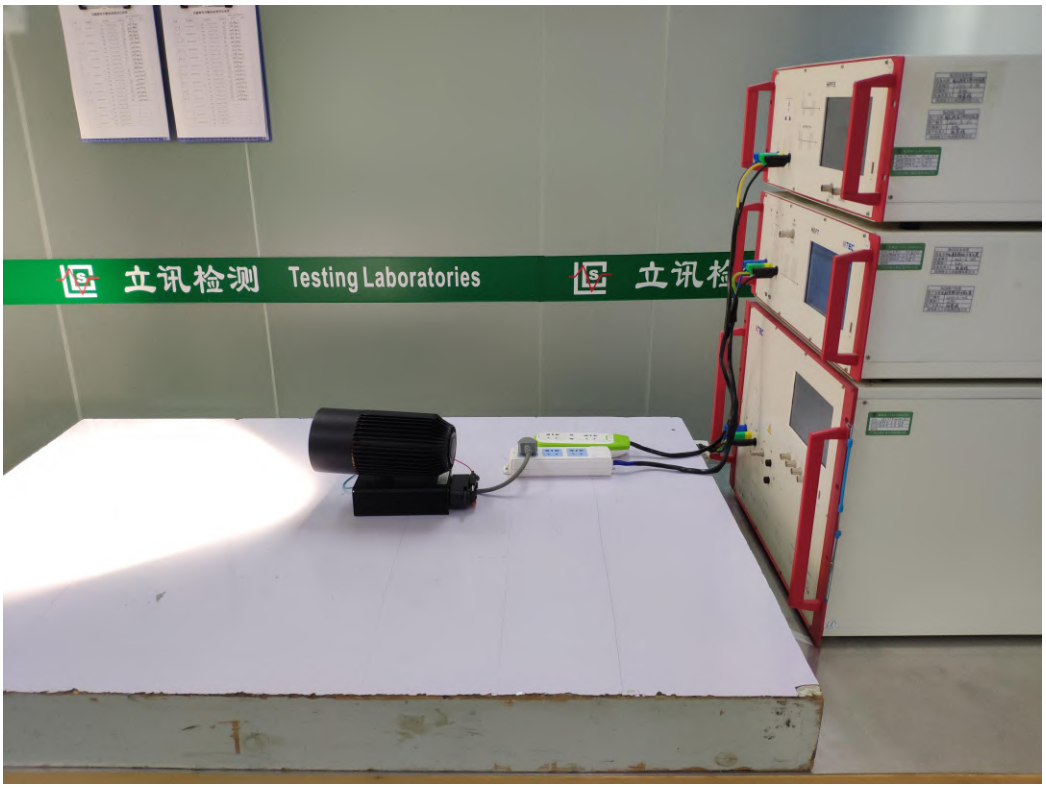


16.4. Photo of Harmonic & Flicker Measurement

16.5. Photo of Electrostatic Discharge Test

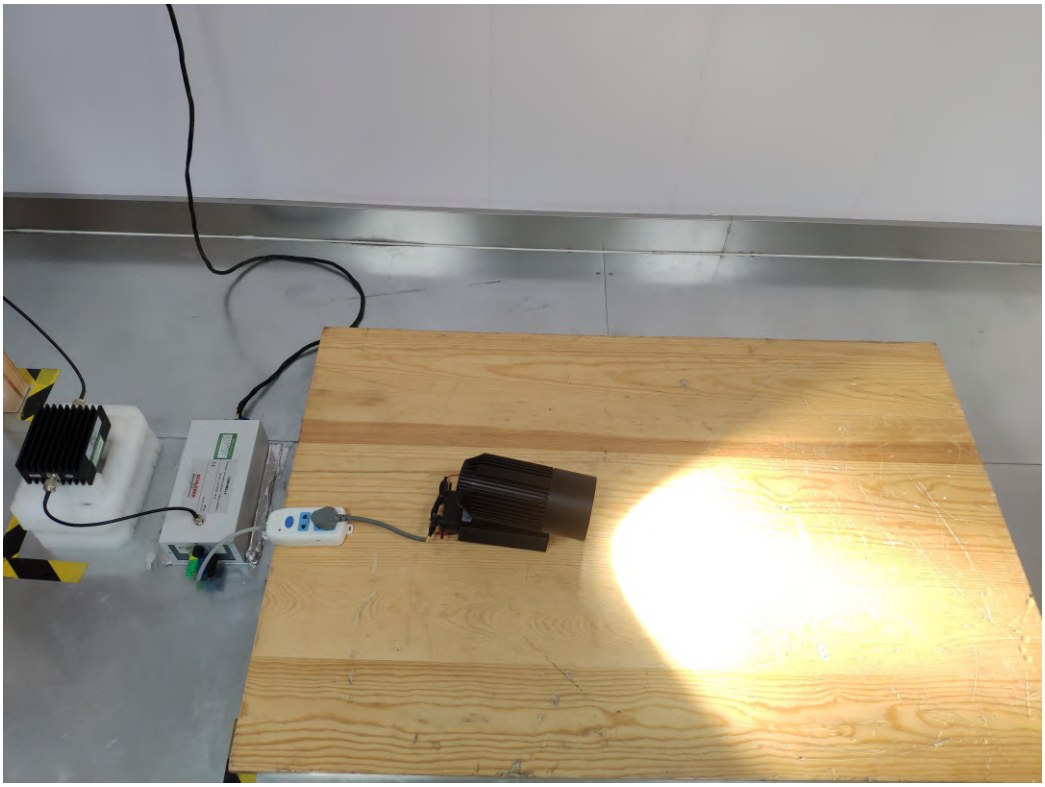


16.6. Photo of Electrical Fast Transient/Burst Test



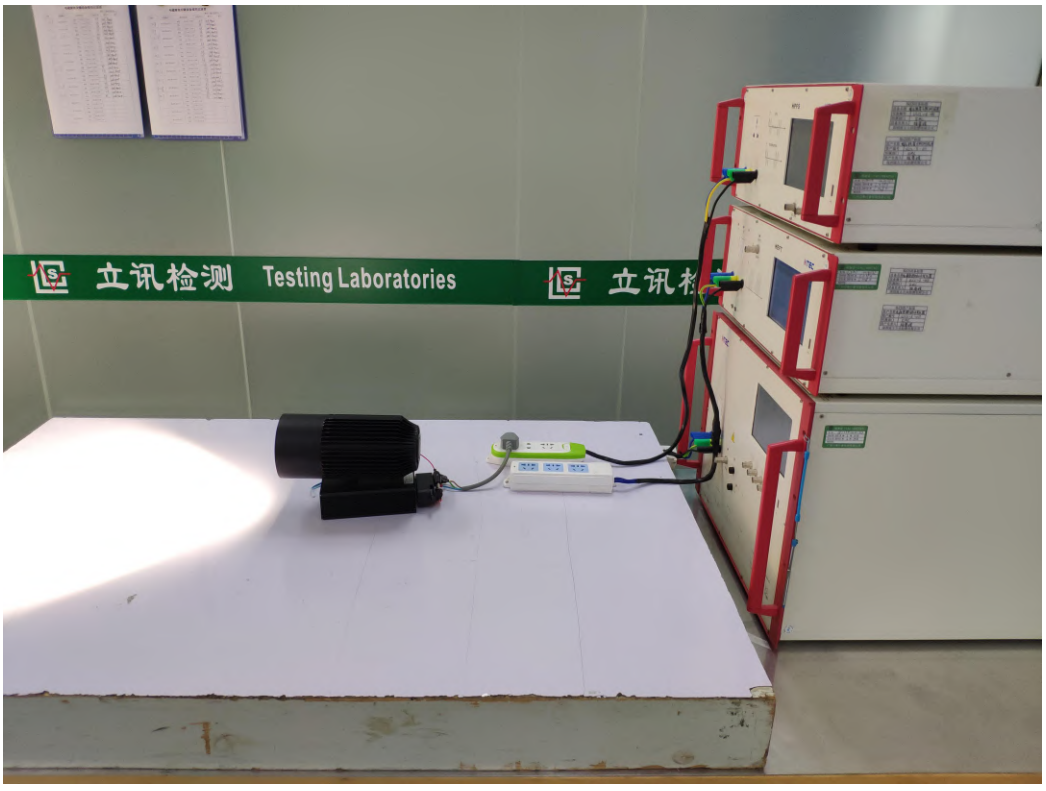
16.7. Photo of Surge Immunity Test

16.8. Photo of Injected Currents Susceptibility Test



16.9. Photo of Magnetic Field Immunity Test

16.10. Photo of Voltage Dips and Short Interruptions Immunity Test



17. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Fig. 1

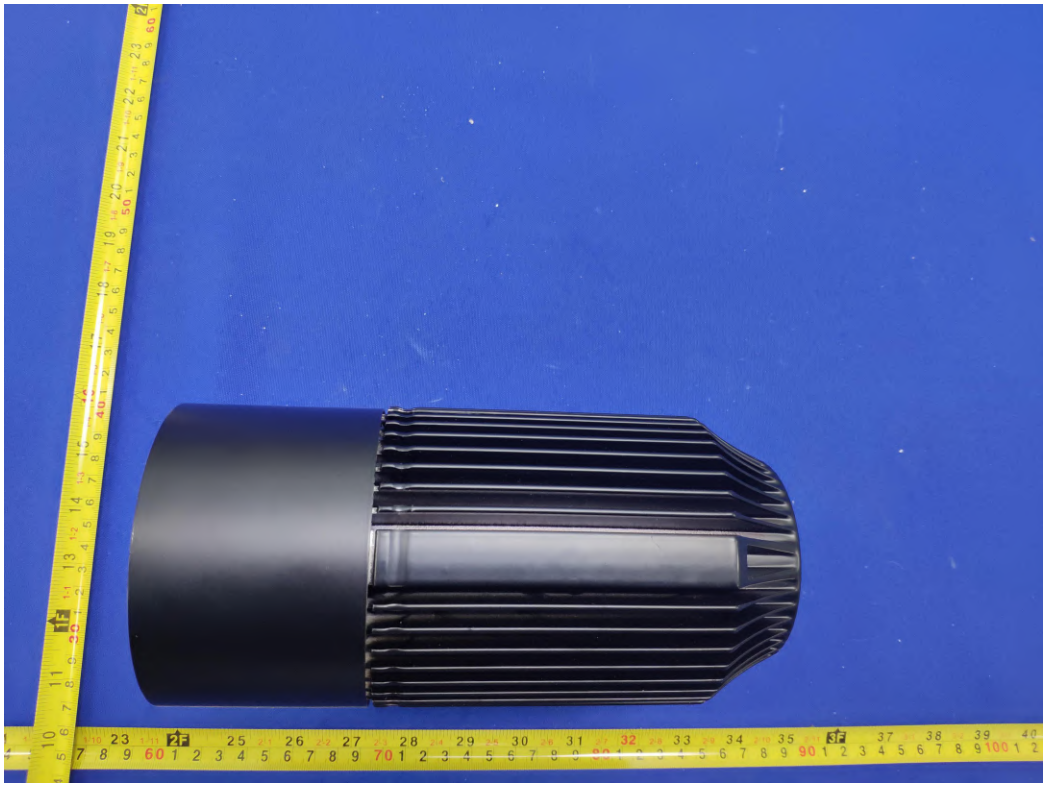


Fig. 2

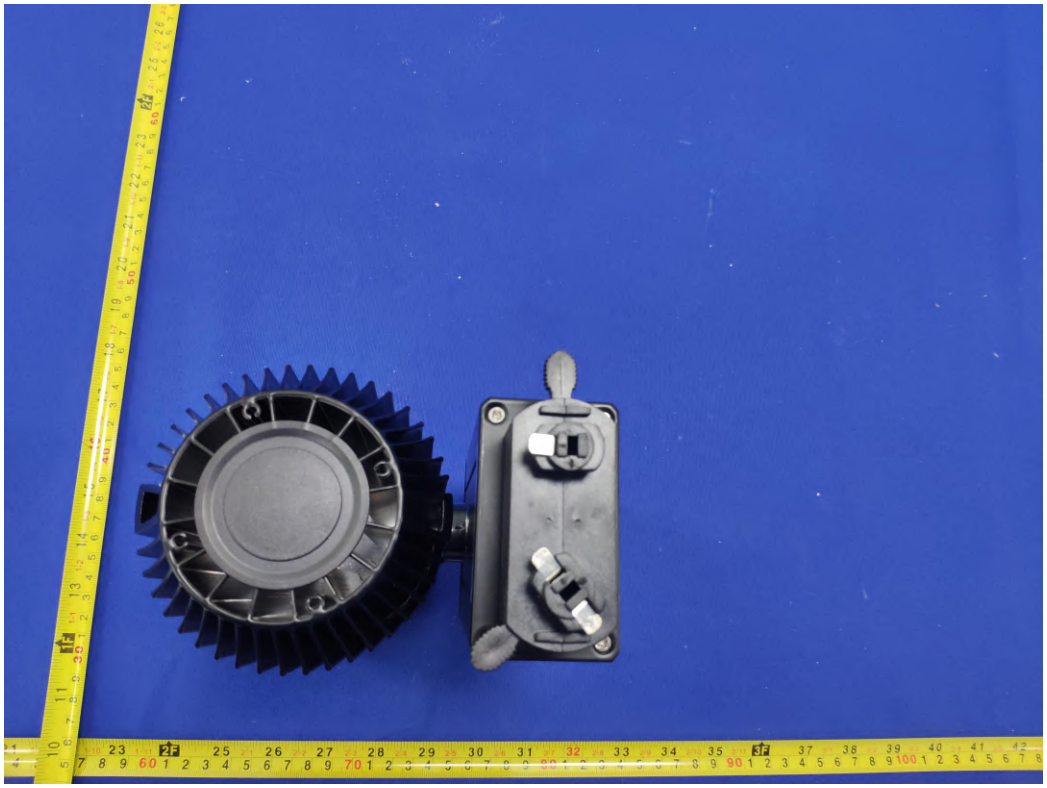


Fig. 3

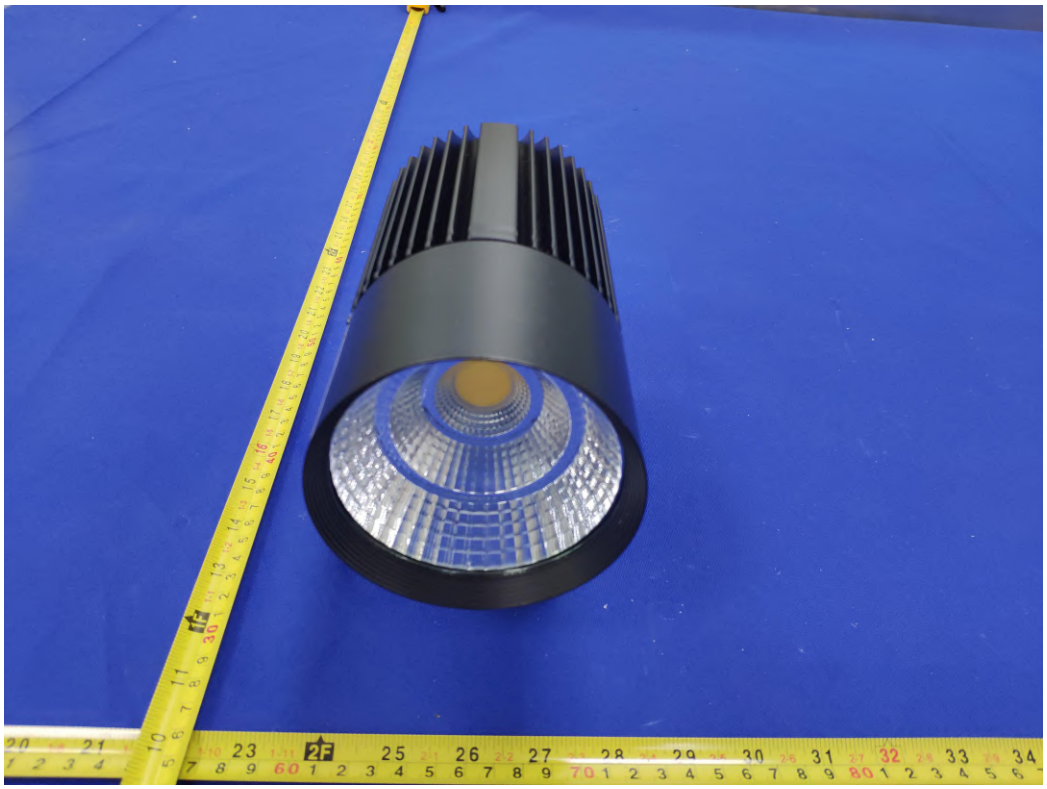


Fig. 4

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