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检测
TESTING
CNAS L6478

TEST REPORT

Reference No.	:	WTF18F10126790E
Applicant	:	Abstracta AB
Address	:	Lammengatan 2, 363 45 Lammhult
Manufacturer	:	Shenzhen Eastfield Lighting Co., Ltd.
Address	:	No.A,B,C,D building, No.10 of Huanping Road, Gaoqiao District, Pingdi Street, Longgang Area, Shenzhen, Guangdong, P.R.China 518116
Product Name	:	LILY ARMATUR - DOWNLIGHT
Model No.	:	2490617
Standards	:	EN 55015:2013+A1:2015 EN 61547:2009 EN 61000-3-2:2014 EN 61000-3-3:2013
Date of Receipt sample	:	2018-10-22
Date of Test	:	2018-10-24
Date of Issue	:	2018-11-02
Test Report Form No.	:	WEL-55015A-01A
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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1 Test Summary

EMISSION			
Test Item	**Test Standard**	**Class / Severity**	**Result**
Mains Terminal Disturbance Voltage, 9kHz to 30MHz	EN 55015:2013+A1:2015	Clause 4.3.1	Pass
Radiated electromagnetic disturbance, 9kHz to 30MHz	EN 55015:2013+A1:2015	Clause 4.4.1	Pass
Radiated Emission, 30MHz to 300MHz	EN 55015:2013+A1:2015	Clause 4.4.2	Pass
Harmonic Current emission	EN 61000-3-2:2014	Class C	Pass**
Voltage Fluctuation and Flicker	EN 61000-3-3:2013	Clause 5	Pass***

IMMUNITY (EN 61547:2009)				
Test Item	**Test Method**	**Class / Severity**	**Performance Criteria**	**Result**
Electrostatic Discharge(ESD)	IEC 61000-4-2:2008	±4 kV Contact ±8 kV Air	B	Pass
Radio-frequency electromagnetic fields (80MHz to 1GHz)	IEC 61000-4-3:2010	3V/m, 80%, 1kHz, Amp. Mod.	A	Pass
Electrical Fast Transients (EFT)	IEC 61000-4-4:2012	AC ±1.0kV DC ±0.5kV	B	Pass
Surge	IEC 61000-4-5:2005	±0.5kV D.M.† ±1kV C.M.‡	C	Pass
Injected Currents, 0.15MHz to 80MHz	IEC 61000-4-6:2013	3Vr.m.s.(emf), 80%, 1kHz Amp. Mod.	A	Pass
Power-frequency magnetic field	IEC 61000-4-8:2009	3A/m	A	N/A
Voltage Dips and Interruptions	IEC 61000-4-11:2004	0 % U_T * for 0.5per	B	Pass
		70 % U_T * for 10per	C	Pass

Remark:

Pass	Test item meets the requirement
Fail	Test item does not meet the requirement
N/A	Test case does not apply to the test object
A.M	Amplitude Modulation
†	Differential Mode
‡	Common Mode
*	U_T is the nominal supply voltage
**	According to EN 61000-3-2, no limit apply to the non-discharge lighting equipment with rated power less than or equal to 25W. Therefore, this equipment is deemed to fulfil this standard without any testing.
***	According to EN 61000-3-3 which states:''Pst and Plt evaluations are required only for lighting equipment which is likely to produce flicker; for example: disco lighting and automatically regulated equipment." Incandescent lamp luminaires with ratings less than or equal to 1 000 W and discharge lamp luminaires with ratings less than or equal to 600 W and LED luminaires with ratings less than or equal to 200 W, are deemed to comply with the dmax limits in this standard and are not required to be tested.

2 Contents

3 General Information

3.1 General Description of E.U.T.

Product Name	:	LILY ARMATUR - DOWNLIGHT
Model No.	:	2490617
Remark	:	---

3.2 Details of E.U.T.

Technical Data.....	:	AC 220-240V, 50/60Hz, 11W±10%

3.3 Description of Support Units

The EUT has been tested as an independent unit. 2490617 is the test sample. The DV&RE tests were performed In the condition of AC 245V/50Hz input. The other tests were performed in the condition of AC 230V/50Hz input.

3.4 Standards Applicable for Testing

The tests were performed according to following standards:

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
EN 61000-3-2:2014	Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase).
EN 61000-3-3:2013	Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.

3.5 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 21895-1**

Waltek Services (Foshan) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration IC number:21895-1, Nov. 14, 2016.

- **FCC – Registration No.: 820106**

Waltek Services (Foshan) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 820106, August 16, 2018

- **NVLAP – Lab Code: 600191-0**

Waltek Services (Foshan) Co., Ltd. EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 600191-0.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

3.6 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test items: ---

Lab information: ---

3.7 Abnormalities from Standard Conditions

None.

4 Equipment Used during Test

Mains Terminal Disturbance Voltage (Conducted Emission)					
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Status**
1.	EMI Test Receiver	R&S	ESCI	101178	Valid
2.	LISN	R&S	ENV216	101215	Valid
3.	LISN	SCHWARZBECK	NSLK 8128	8128-289	Valid
4.	Cable	HUBER+SUHNER	CBL2-NN-3M	2230300	Valid
5.	Switch	ESE	RSU/M2	---	Valid
Radiated electromagnetic disturbance(9kHz to 30MHz)					
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Status**
1.	EMI Test Receiver	R&S	ESCI	101178	Valid
2	Three Loops Antenna	SCHWARZBECK	HXYZ9170	213	Valid
Radiated Emission					
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Status**
1.	EMI Test Receiver	R&S	ESR7	101566	Valid
2.	Active Loop Antenna	SCHWARZBECK	FMZB1519B	00004	Valid
3.	Trilog Broadband Antenna	SCHWARZBECK	VULB 9162	9162-117	Valid
4.	Preamplifier	SCHWARZBECK	BBV 9743	BBV 9743#170	Valid
ESD					
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Status**
1.	ESD Simulator	TESEQ	NSG437	521	Valid
Radio-frequency electromagnetic fields					
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Status**
1.	RF Power Amplifier	OPHIR	5225F	1051/1712	Valid
2.	RF Power Amplifier	OPHIR	5293F	1051/171.	Valid
3.	Stacked double logarithmic periodic antenna	SCHWARZBECK	STLP9128E-SPECIAL	STLP9128E	Valid
4.	Stacked double logarithmic periodic antenna	SCHWARZBECK	STLP 9149	STLP 9149 #476	Valid
5.	RF signal generator	Agilent	N5181A	MY48080720	Valid
EFT & Voltage Dips and Interruptions					
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Status**
1.	EMS test system	TESEQ	NSG3040	0319	Valid
2.	Clamp	TESEQ	CDN8014	31405	Valid
Surge					
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Status**

1.	Surge Simulator	TESEQ	NSG3060	1395	Valid
Injected Currents					
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Status**
1.	Conducted Immunity test system	TESEQ	NSG4070-75	31469	Valid
2.	CDN	TESEQ	M016	31586	Valid
3.	Clamp	TESEQ	KEMZ801	32362	Valid

4.1 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Mains Terminal Disturbance Voltage	150kHz~30MHz	±2.66dB	(1)
Radiated electromagnetic disturbance	9kHz to 30MHz	±3.00dB	(1)
Radiated Emission	30MHz~300MHz	±4.56dB	(1)

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

5 Emission Test Results

5.1 Mains Terminals Disturbance Voltage, 9kHz to 30MHz

Test Requirement..... : EN 55015 Clause 4.3.1

Test Method..... : EN 55015 Clause 8

Test Result..... : Pass

Frequency Range..... : 9kHz to 30MHz

Class/Severity..... : Table 2a of EN55015

5.1.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 24.8°C

Humidity..... : 49.3%RH

Atmospheric Pressure ..... : 101.2kPa

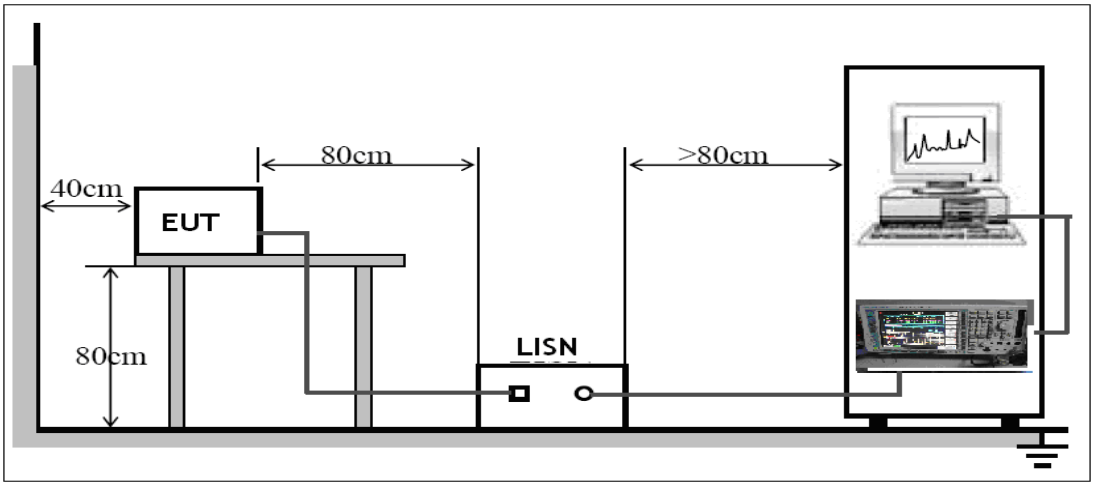
EUT Operation:

Input Voltage ..... : AC 245V/50Hz

Operating Mode..... : Lighting mode

5.1.2 Block Diagram of Test Setup

The Mains Terminals Disturbance Voltage tests were performed in accordance with the EN 55015.

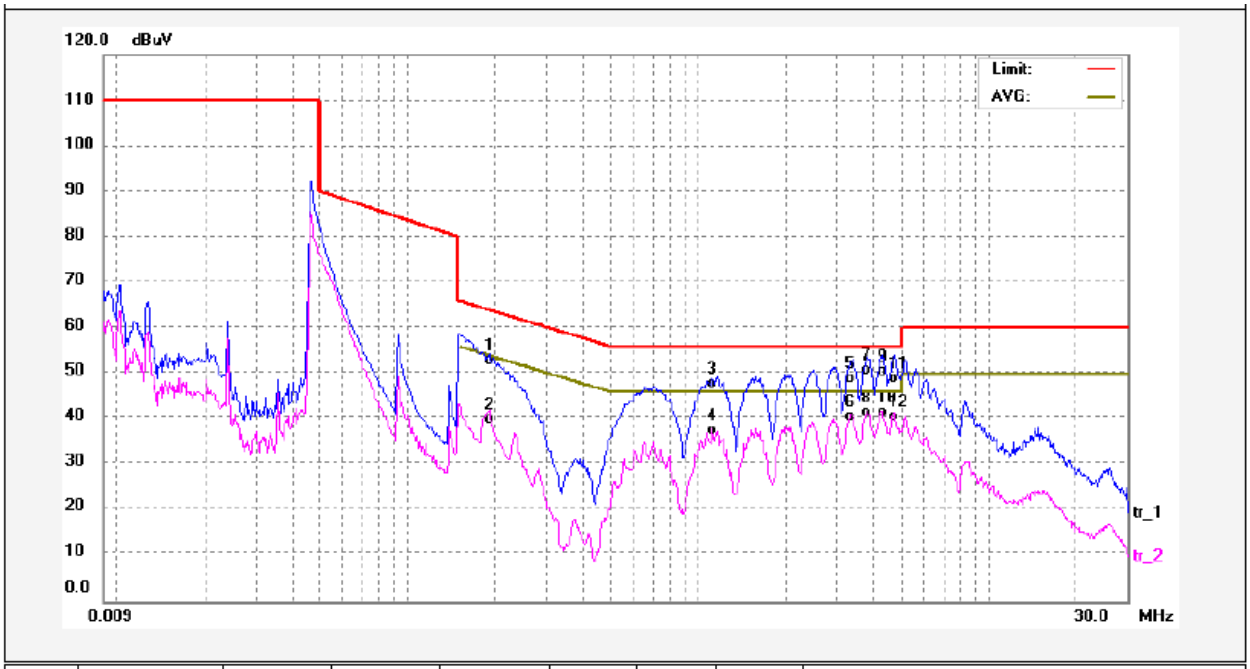


5.1.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

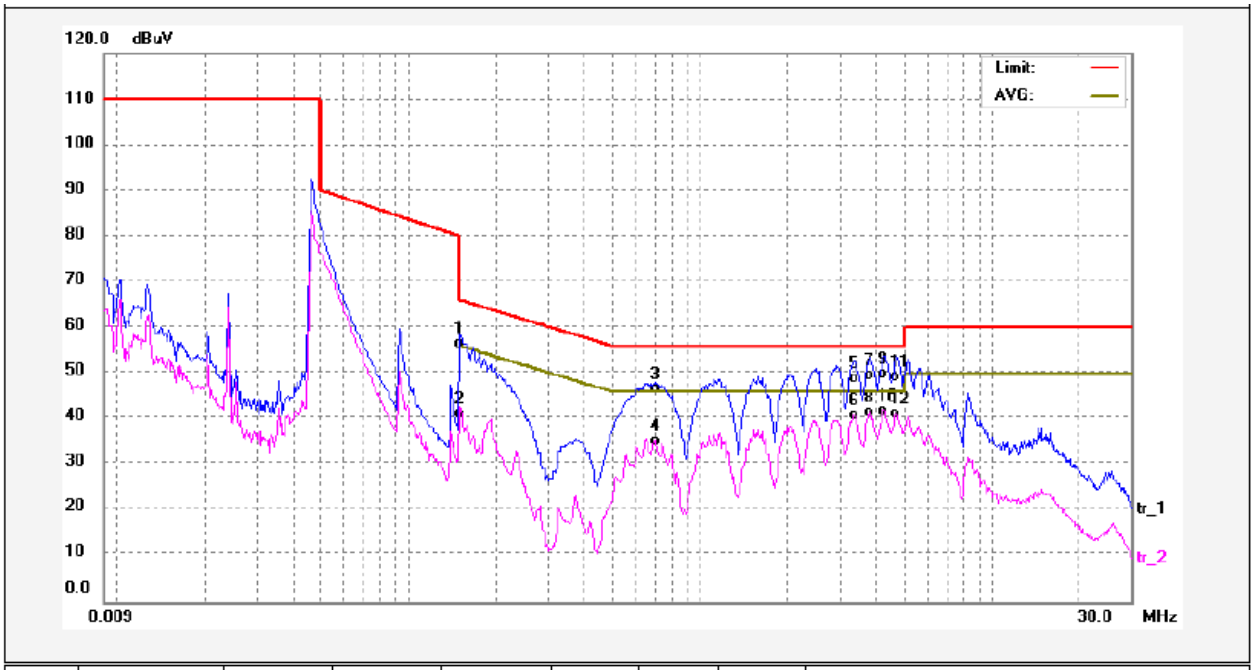
5.1.4 Mains Terminals Disturbance Voltage Test Data

Live Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Remark
1	0.1940	42.00	9.76	51.76	63.86	-12.10	QP	
2	0.1940	29.01	9.76	38.77	53.86	-15.09	AVG	
3	1.1180	36.81	9.90	46.71	56.00	-9.29	QP	
4	1.1180	26.53	9.90	36.43	46.00	-9.57	AVG	
5	3.3940	37.80	10.02	47.82	56.00	-8.18	QP	
6	3.3940	29.55	10.02	39.57	46.00	-6.43	AVG	
7	3.8340	39.64	10.04	49.68	56.00	-6.32	QP	
8	3.8340	30.43	10.04	40.47	46.00	-5.53	AVG	
9	4.3140	39.45	10.05	49.50	56.00	-6.50	QP	
10	4.3140	30.30	10.05	40.35	46.00	-5.65	AVG	
11	4.7619	37.86	10.07	47.93	56.00	-8.07	QP	
12	4.7619	29.38	10.07	39.45	46.00	-6.55	AVG	

Neutral Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Remark
1	0.1500	45.54	9.73	55.27	65.99	-10.72	QP	
2	0.1500	30.19	9.73	39.92	55.99	-16.07	AVG	
3	0.7019	35.71	9.87	45.58	56.00	-10.42	QP	
4	0.7019	24.27	9.87	34.14	46.00	-11.86	AVG	
5	3.3700	37.93	10.02	47.95	56.00	-8.05	QP	
6	3.3700	29.61	10.02	39.63	46.00	-6.37	AVG	
7	3.8300	38.50	10.04	48.54	56.00	-7.46	QP	
8	3.8300	30.21	10.04	40.25	46.00	-5.75	AVG	
9	4.2660	38.76	10.05	48.81	56.00	-7.19	QP	
10	4.2660	30.57	10.05	40.62	46.00	-5.38	AVG	
11	4.6820	38.07	10.07	48.14	56.00	-7.86	QP	
12	4.6820	30.07	10.07	40.14	46.00	-5.86	AVG	

5.2 Radiated Electromagnetic Disturbance, 9kHz to 30MHz

Test Requirement..... : EN 55015 Clause 4.4.1

Test Method..... : EN 55015 Clause 9.1

Test Result..... : Pass

Frequency Range..... : 9kHz to 30MHz

Class/Severity..... : Table 3a of EN55015

5.2.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 24.8°C

Humidity..... : 49.3%RH

Barometric Pressure..... : 101.2kPa

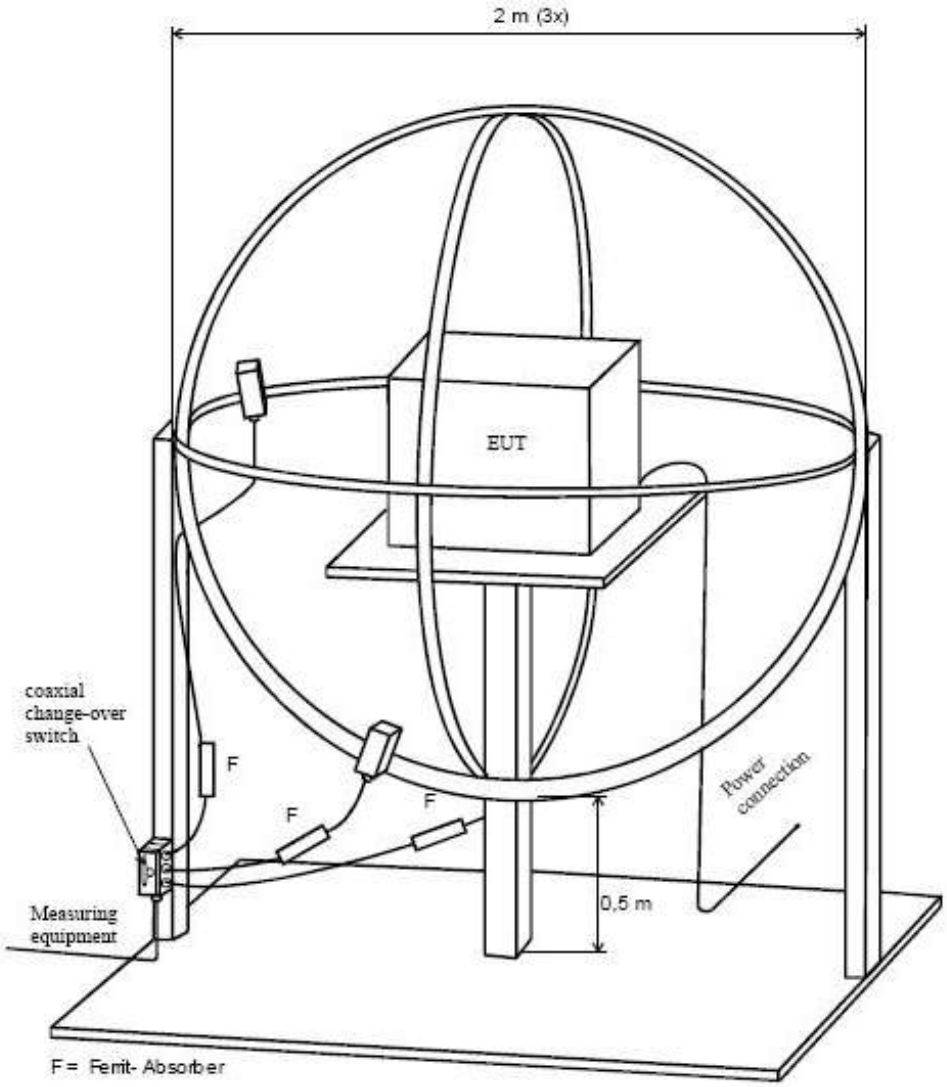
EUT Operation:

Input Voltage ..... : AC 245V/50Hz

Operating Mode..... : Lighting mode

5.2.2 Block Diagram of Test Setup

The Radiated Electromagnetic Disturbance (9kHz to 30MHz) test was performed in accordance with the EN 55015.

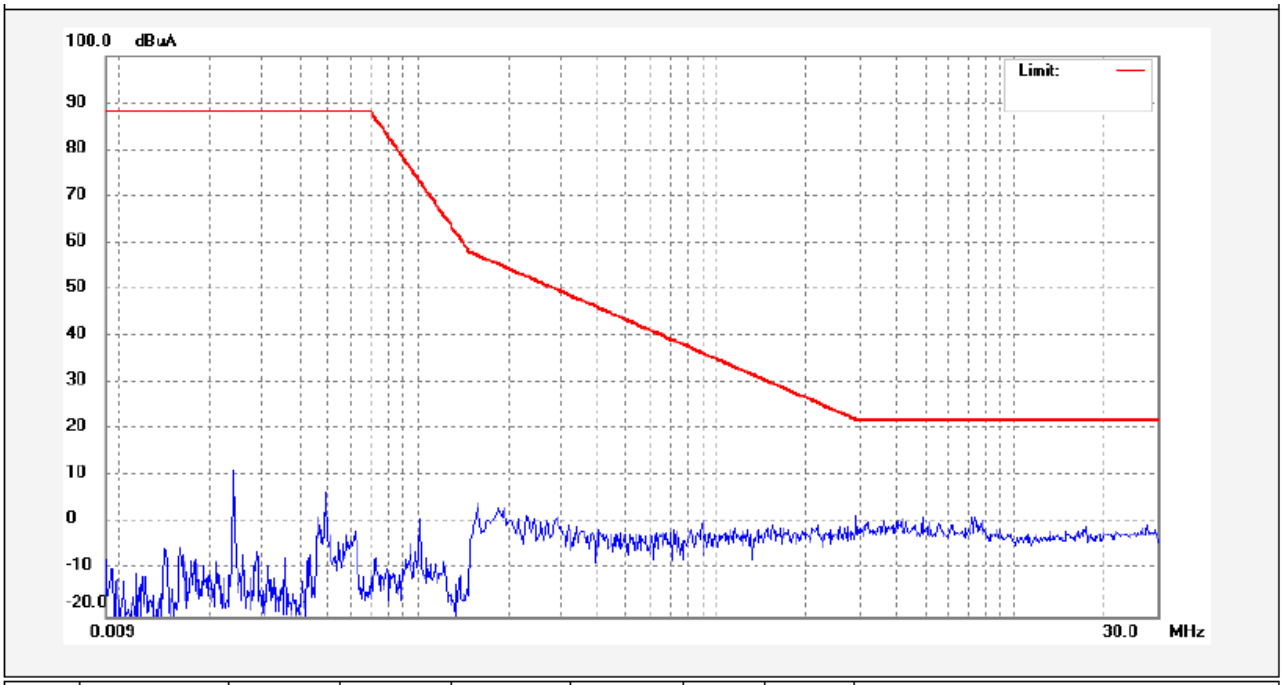


5.2.3 Measurement Data

According to the data in section 5.2.4, the EUT complied with the EN55015 standards.
The maximised peak emissions from the EUT was scanned and measured for three loops. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

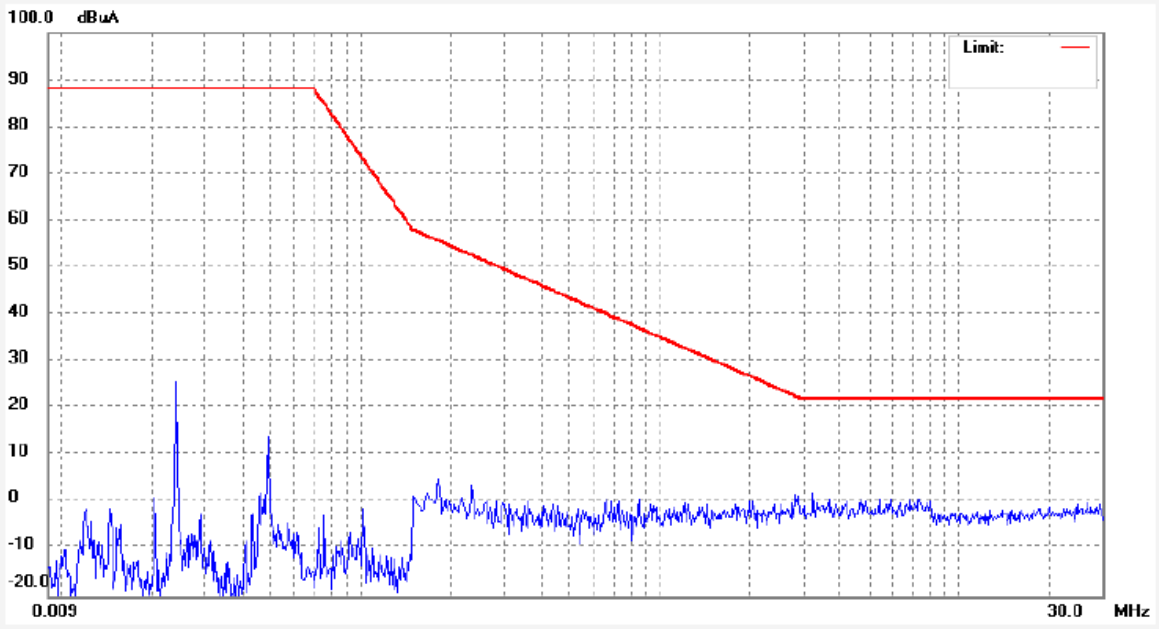
5.2.4 Radiated Electromagnetic Disturbance test data, 9kHz to 30MHz

Loop X:



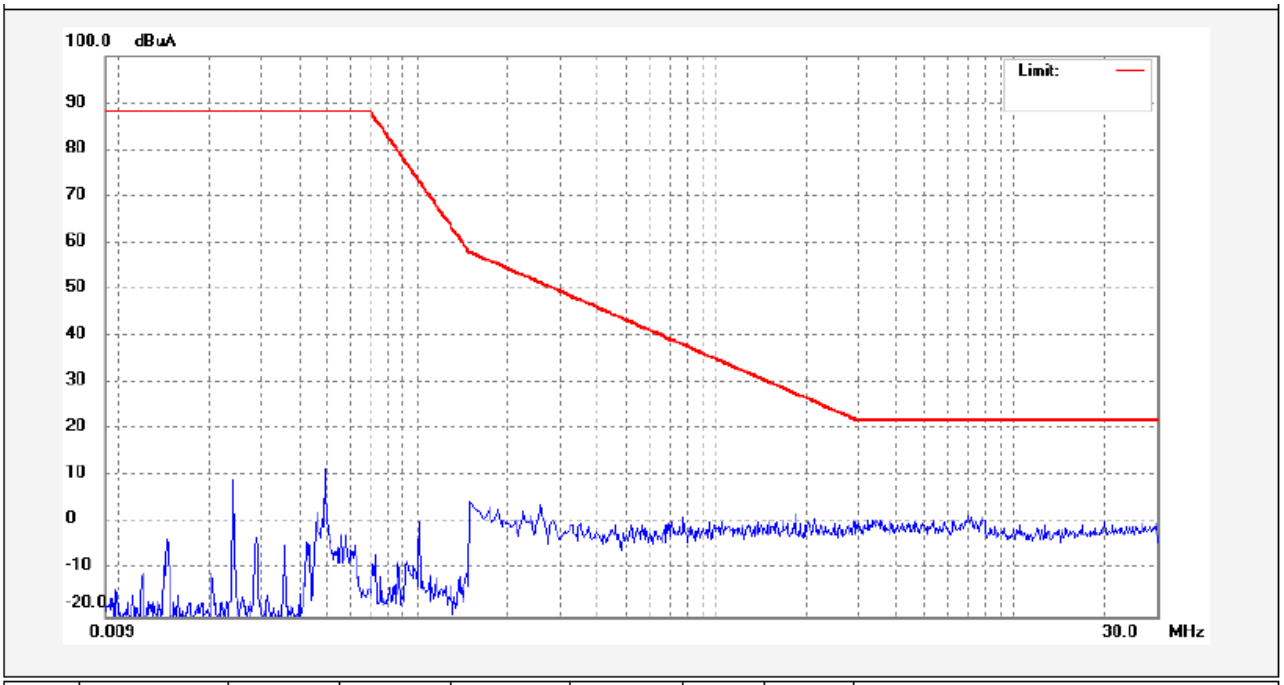
No.	Freq. (MHz)	Reading (dBuA)	Factor (())	Result (dBuA)	Limit (dBuA)	Margin (dB)	Detector	Remark

Loop Y:



No.	Freq. (MHz)	Reading (dBuA)	Factor (())	Result (dBuA)	Limit (dBuA)	Margin (dB)	Detector	Remark

Loop Z:



No.	Freq. (MHz)	Reading (dBuA)	Factor (())	Result (dBuA)	Limit (dBuA)	Margin (dB)	Detector	Remark

5.3 Radiated Emission, 30MHz to 300MHz

Test Requirement..... : EN 55015

Test Method..... : EN 55015

Test Result..... : Pass

Frequency Range..... : 30MHz to 300MHz

Class/Severity..... : Table 3b of EN55015

5.3.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 22.1°C

Humidity..... : 47.3%RH

Atmospheric Pressure..... : 101.1kPa

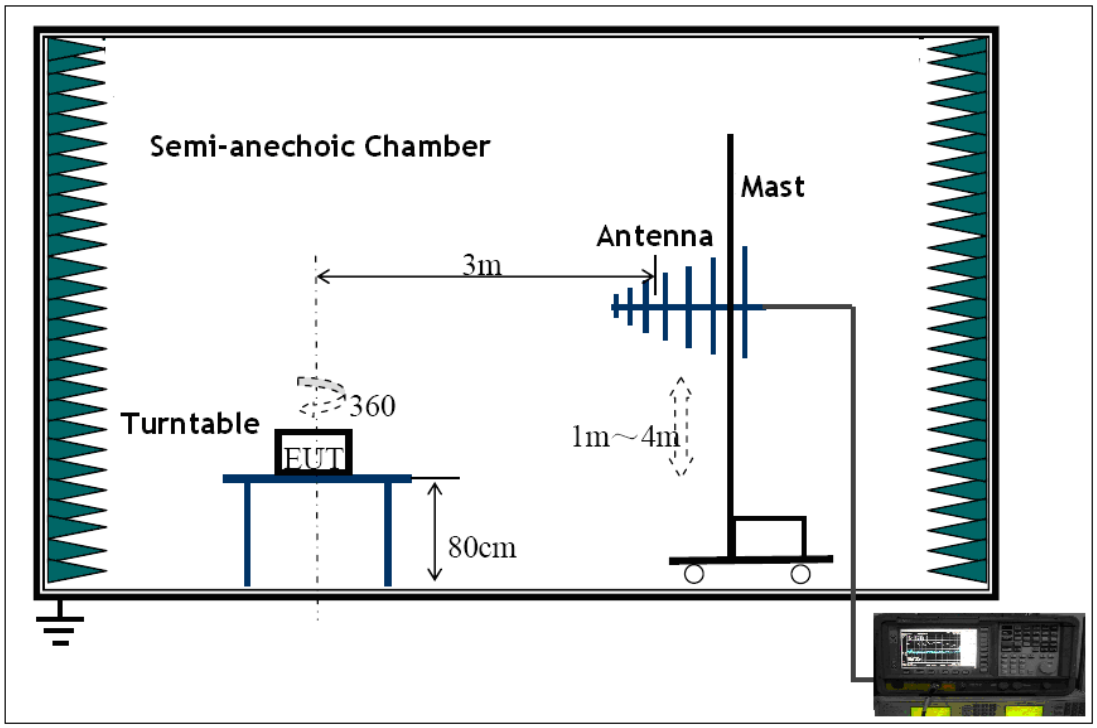
EUT Operation:

Input Voltage ..... : AC 245V/50Hz

Operating Mode..... : Lighting mode

5.3.2 Block Diagram of Test Setup

The Radiated Emission test was performed in the 3m Semi- Anechoic Chamber test site and accordance with CISPR16-2-3.



5.3.3 Measurement Data

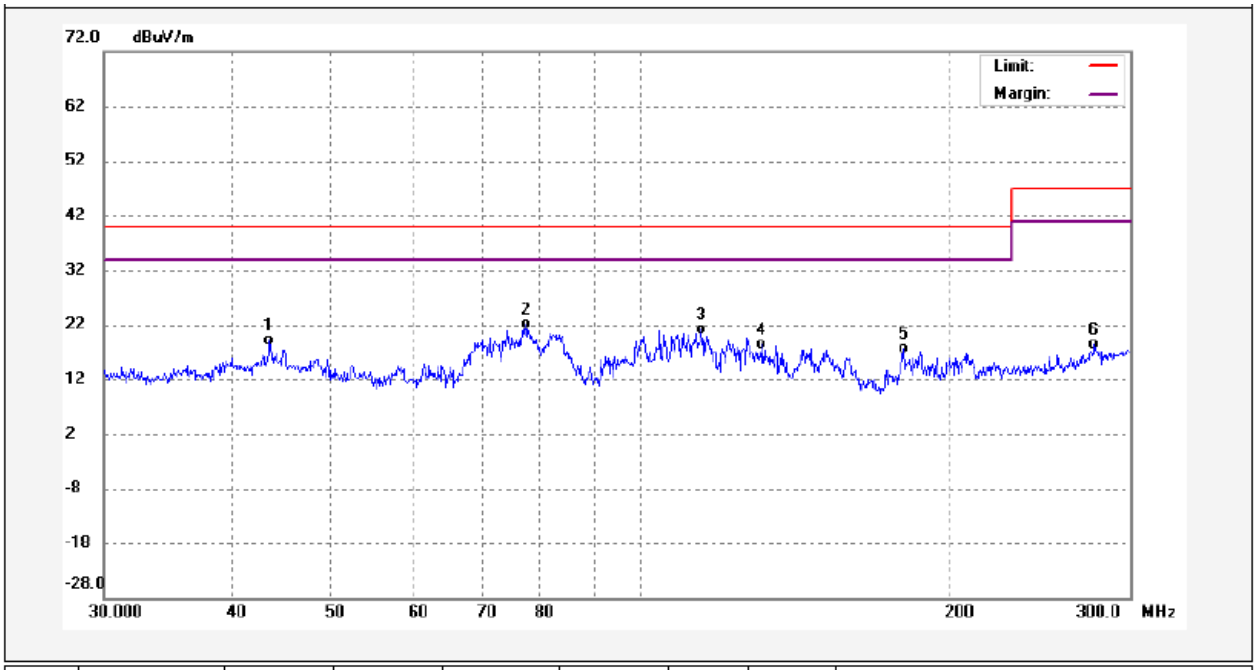
The maximised peak emissions from the EUT was scanned and measured for Horizontal & Vertical polarisation. Quasi-peak measurements were performed if peak emissions were within 6dB of the limit line.

5.3.4 Radiated Emission Test Data

Vertical Polarization:

No.	Freq. (MHz)	Reading (dBuV)	Factor ((dB/m))	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	35.0042	8.86	13.78	22.64	40.00	-17.36	QP	
2	44.7838	9.83	15.85	25.68	40.00	-14.32	QP	
3	70.9775	16.70	9.44	26.14	40.00	-13.86	QP	
4	82.6269	18.58	8.75	27.33	40.00	-12.67	QP	
5	151.7474	10.58	8.10	18.68	40.00	-21.32	QP	
6	199.1229	9.76	11.65	21.41	40.00	-18.59	QP	

Horizontal Polarization :



No.	Freq. (MHz)	Reading (dBuV)	Factor ((dB/m))	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	43.4632	3.00	16.02	19.02	40.00	-20.98	QP	
2	77.2896	13.69	8.36	22.05	40.00	-17.95	QP	
3	114.5833	9.29	11.89	21.18	40.00	-18.82	QP	
4	131.2566	8.06	10.32	18.38	40.00	-21.62	QP	
5	180.3521	7.79	9.92	17.71	40.00	-22.29	QP	
6	276.7714	3.40	14.87	18.27	47.00	-28.73	QP	

6 Immunity Test Results

6.1 Performance Criteria

Performance criterion A: During the test, no change of the luminous intensity shall be observed and the regulating control, if any, shall operate during the test as intended.

Performance criterion B: During the test, the luminous intensity may change to any value. After the test, the luminous intensity shall be restored to its initial value within 1 min. Regulating controls need not function during the test, but after the test, the mode of the control shall be the same as before the test provided that during the test no mode changing commands were given.

Performance criterion C: During and after the test, any change of the luminous intensity is allowed and the lamp(s) may be extinguished. After the test, within 30 min, all functions shall return to normal, if necessary by temporary interruption of the mains supply and/or operating the regulating control.

6.2 Electrostatic Discharge (ESD)

Test Requirement.....	:	EN 61547
Test Method.....	:	IEC 61000-4-2
Test Result.....	:	Pass
Discharge Impedance.....	:	330Ω / 150pF
Discharge Voltage.....	:	Air Discharge: ±8kV Contact Discharge: ±4kV HCP & VCP: ±4kV
Polarity.....	:	Positive & Negative
Number of Discharge.....	:	Minimum 10 times at each test point
Discharge Mode	:	Single Discharge
Discharge Period	:	1 second minimum

6.2.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 23.4°C

Humidity ..... : 52.6%RH

Barometric Pressure ..... : 101.3kPa

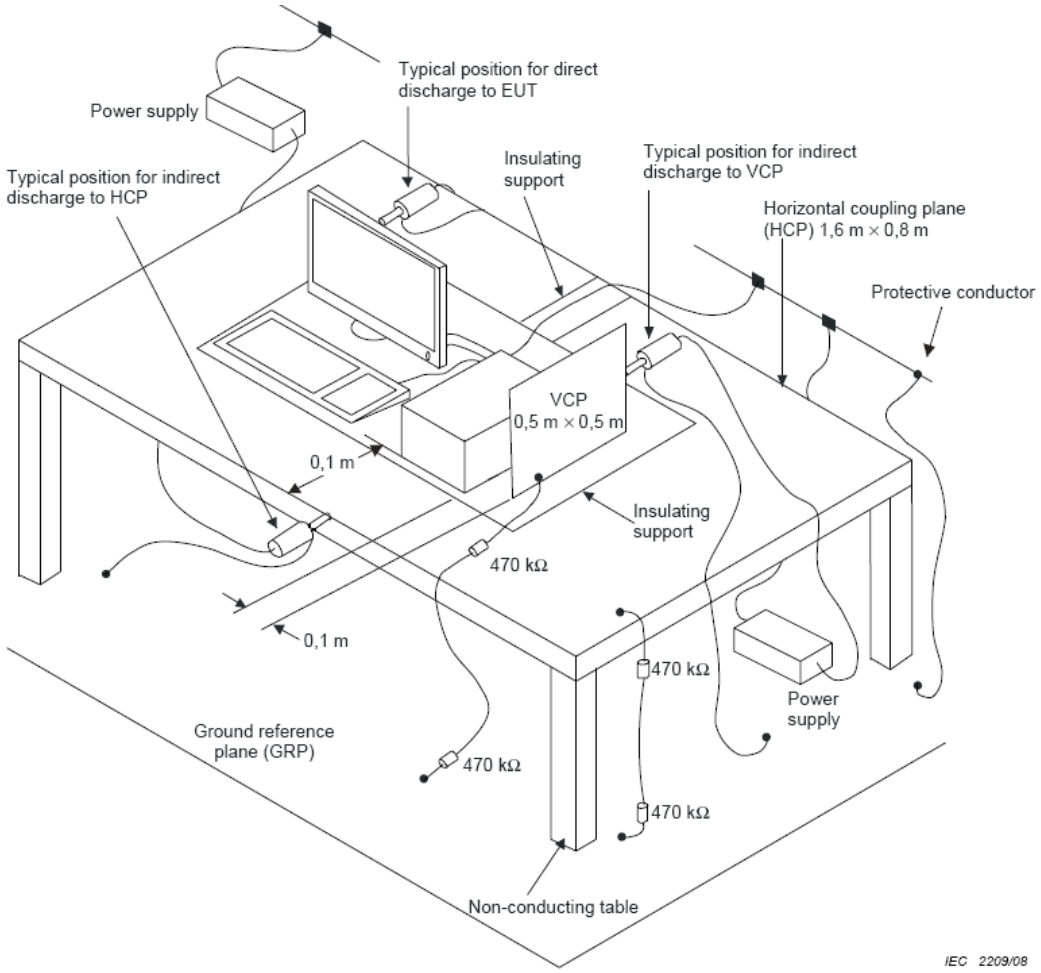
EUT Operation:

Input Voltage..... : AC 230V/50Hz

Operating Mode ..... : On mode

6.2.2 Block Diagram of Setup

The ESD test was performed in accordance with the IEC 61000-4-2.



6.2.3 Direct Discharge Test Results

Observations: **Test points:** **1. All Exposed Surface & Seams;**
2. All metallic part

Direct Discharge			Test Results	
Applied Voltage (kV)	**Performance Criterion**	**Test Point**	**Contact Discharge**	**Air Discharge**
±8	B	1	N/A	Pass*
±4	B	2	Pass*	N/A

Remark:

* During the test no deviation was detected to the selected operation mode(s)

6.2.4 Indirect Discharge Test Results

Observations: **Test points:** **1. All sides.**

Indirect Discharge			Test Results	
Applied Voltage (kV)	**Performance Criterion**	**Test Point**	**Horizontal Coupling**	**Vertical Coupling**
±4	B	1	Pass*	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)

6.3 Radio-frequency electromagnetic fields, 80MHz to 1GHz

Test Requirement..... : EN 61547

Test Method..... : IEC 61000-4-3

Test Result..... : Pass

Frequency Range..... : 80MHz to 1GHz

Test level..... : 3V/m

Modulation..... : 80%, 1kHz Amplitude Modulation.

Face of EUT..... : Front, Back, Left, Right

Antenna polarisation.... : Horizontal& Vertical

6.3.1E.U.T. Operation

Operating Environment:

Temperature ..... : 23.5°C

Humidity..... : 46.9%RH

Barometric Pressure..... : 100.2kPa

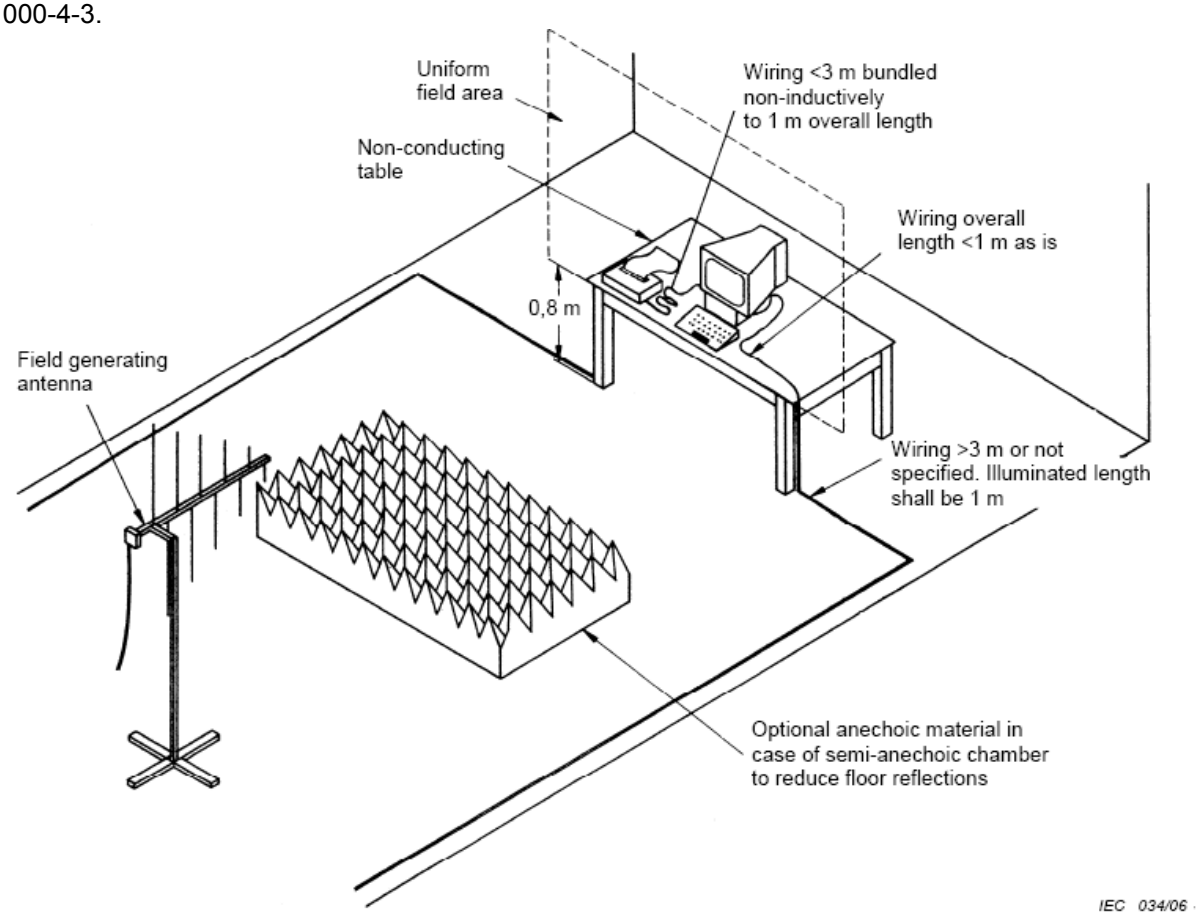
EUT Operation:

Input Voltage ..... : AC 230V/50Hz

Operating Mode..... : On mode

6.3.2 Block Diagram of Setup

The Radio-frequency electromagnetic fields Immunity test was performed in accordance with the IEC 61000-4-3.



6.3.3Test Results

Frequency	Face of EUT	Antenna polarisation	Test Level	Step Size	Dwell Time	Performanc e Criterion	Result
80 to 1000MHz	Front, Back, Left, Right	Horizontal	3V/m	1%	1s	A	Pass*
80 to 1000MHz	Front, Back, Left, Right	Vertical	3V/m	1%	1s	A	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)

6.4 Electrical Fast Transients (EFT)

Test Requirement..... : EN 61547

Test Method..... : IEC 61000-4-4

Test Result..... : Pass

Test Level..... : 1.0kV on AC Mains

Polarity..... : Positive & Negative

Repetition Frequency.... : 5kHz

Burst Duration..... : 300ms

Test Duration..... : 2 minutes per level & polarity

6.4.1E.U.T. Operation

Operating Environment:

Temperature..... : 23.4°C

Humidity..... : 52.7%RH

Barometric Pressure.... : 101.3kPa

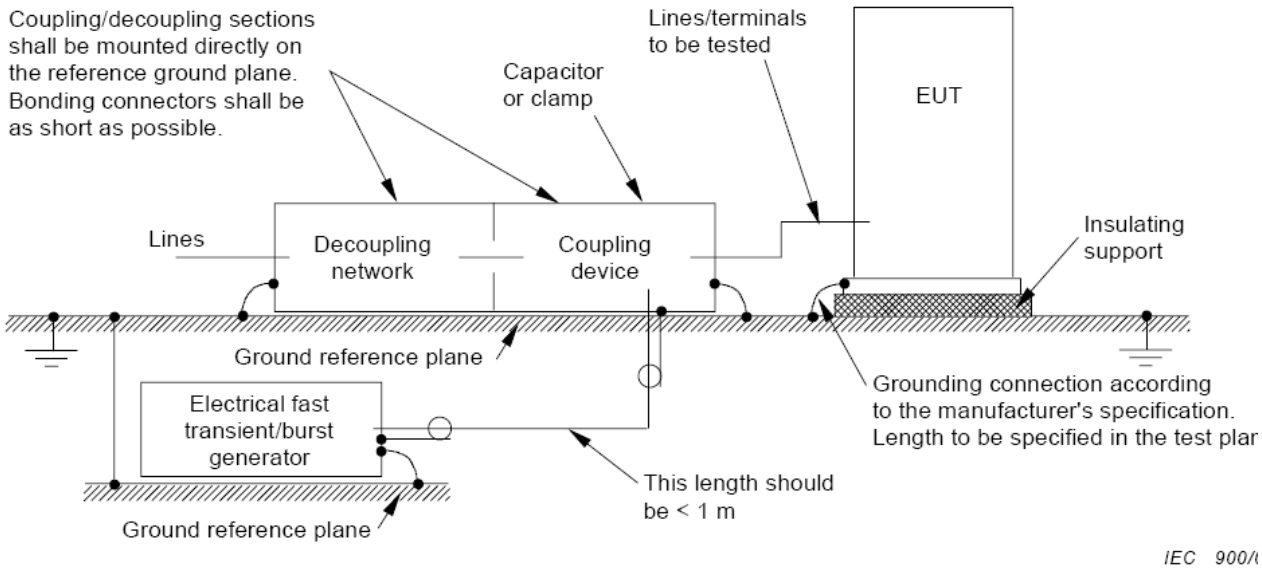
EUT Operation:

Input Voltage..... : AC 230V/50Hz

Operating Mode..... : On mode

6.4.2 Block Diagram of Setup

The Electrical Fast Transients Immunity test was performed in accordance with the IEC 61000-4-4.



6.4.3Test Results

Test Port	Test Level(kV)	Performance Criterion	Result
Line-Neutral-PE	±1.0	B	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)

6.5 Surge

Test Requirement..... : EN 61547

Test Method..... : IEC 61000-4-5

Test Result..... : Pass

Test level..... : Table 10 of EN61547

Interval ..... : 60s between each surge

No. of surges ..... : 5 positive at 90°, 5 negative at 270°.

6.5.1E.U.T. Operation

Operating Environment:

Temperature ..... : 23.7°C

Humidity..... : 52.6%RH

Barometric Pressure..... : 101.3kPa

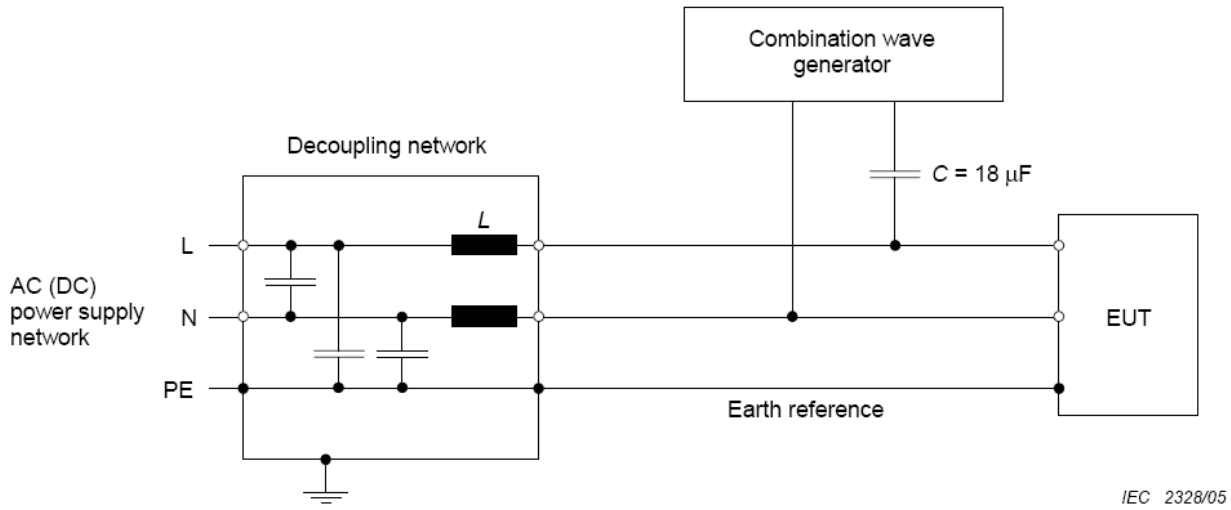
EUT Operation:

Input Voltage ..... : AC 230V/50Hz

Operating Mode..... : On mode

6.5.2Block Diagram of Setup

The Surge Immunity test was performed in accordance with the IEC 61000-4-5.



6.5.3Test Results

Test Port	Applied Voltage (kV)	Performance criterion	Result
Between Phase And Phase	±1	C	N/A
Between Live And Neutral	±0.5	C	Pass*
Between Live And Earth	±1	C	Pass*
Between Neutral And Earth	±1	C	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)

6.6 Injected Currents Immunity 0.15MHz to 80MHz

Test Requirement..... : EN 61547

Test Method ..... : IEC 61000-4-6

Test Result..... : Pass

Frequency Range ..... : 0.15MHz to 80MHz

Test level ..... : 3V r.m.s. (unmodulated emf into 150 Ω)

Modulation ..... : 80%, 1kHz Amplitude Modulation.

6.6.1E.U.T. Operation

Operating Environment:

Temperature ..... : 23.3°C

Humidity..... : 52.7%RH

Barometric Pressure..... : 101.3kPa

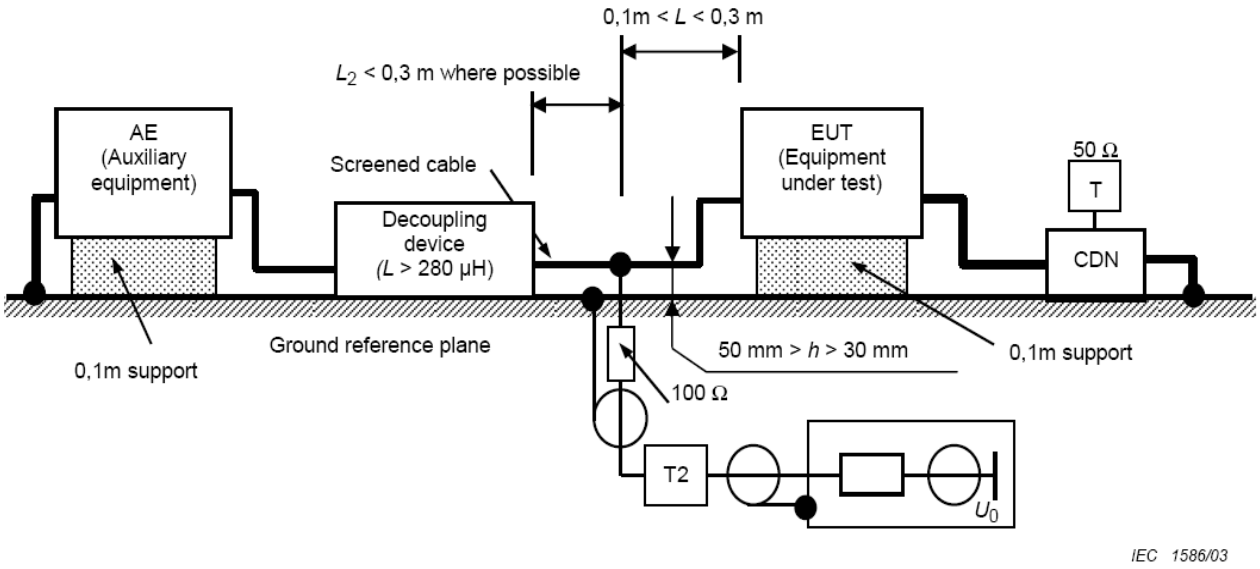
EUT Operation:

Input Voltage ..... : AC 230V/50Hz

Operating Mode..... : On mode

6.6.2 Block Diagram of Setup

The Injected Currents Immunity test was performed in accordance with the IEC 61000-4-6.



6.6.3 Test Results

Frequency	Line	Test Level	Modulation	Step Size	Dwell Time	Performance Criterion	Result
0.15MHz to 80MHz	3 Wire AC Supply Cables	3Vr.m.s.	80%, 1kHz Amp. Mod.	1%	1s	A	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)

6.7 Voltage Dips and Interruptions

Test Requirement..... EN 61547

Test Method..... IEC 61000-4-11

Test Result..... Pass

Test Level(Voltage reduction) 0%&70 % of U_T (Supply Voltage)

No. of Dips / Interruptions..... 1 per Level at 20ms intervals

6.7.1E.U.T. Operation

Operating Environment:

Temperature ..... 23.4°C

Humidity..... 52.6%RH

Barometric Pressure..... 101.3kPa

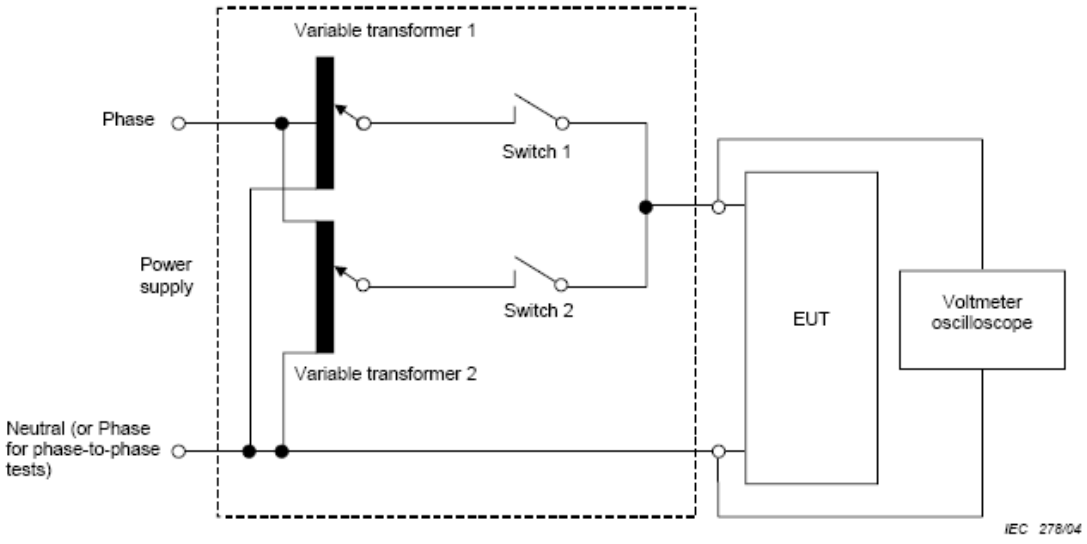
EUT Operation:

Input Voltage ..... AC 230V/50Hz

Operating Mode..... On mode

6.7.2 Block Diagram of Setup

The Voltage Dips and Interruptions Immunity test was performed in accordance with the IEC 61000-4-11.



6.7.3Test Results

Test Level in %U_T	Phase	Performance criterion	Duration	Result
0	0°	B	0.5	Pass*
	180°			Pass*
70	0°	C	10	Pass*
	180°			Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)

7 Photographs – Test Setup

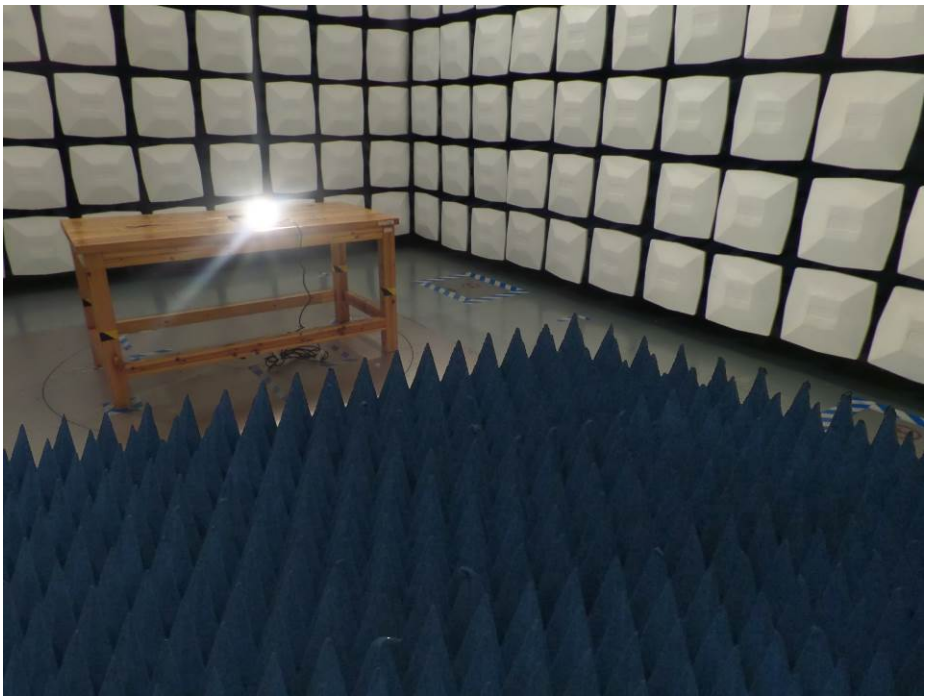
7.1 Photograph – Mains Terminal Disturbance Voltage Test Setup

7.2 Photograph – Radiated electromagnetic disturbance Test Setup, 9kHz to 30MHz

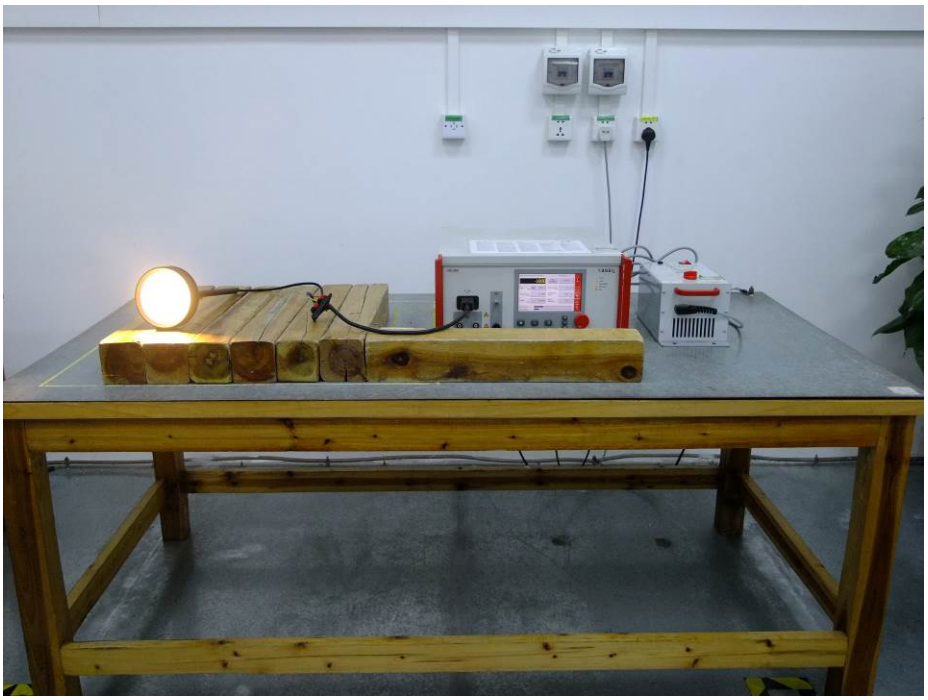
7.3 Photograph – Radiated Emission Test Setup, 30MHz to 300MHz

7.4 Photograph – ESD Immunity Test Setup

7.5 Photograph – Radio-frequency electromagnetic fields Immunity Test Setup

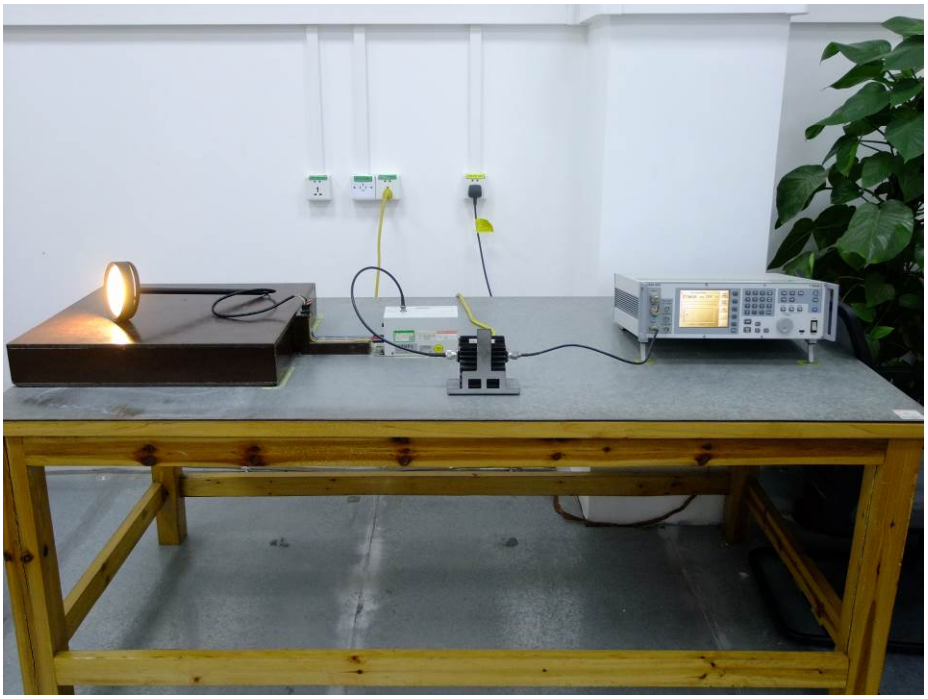


7.6 Photograph – EFT Immunity Test Setup

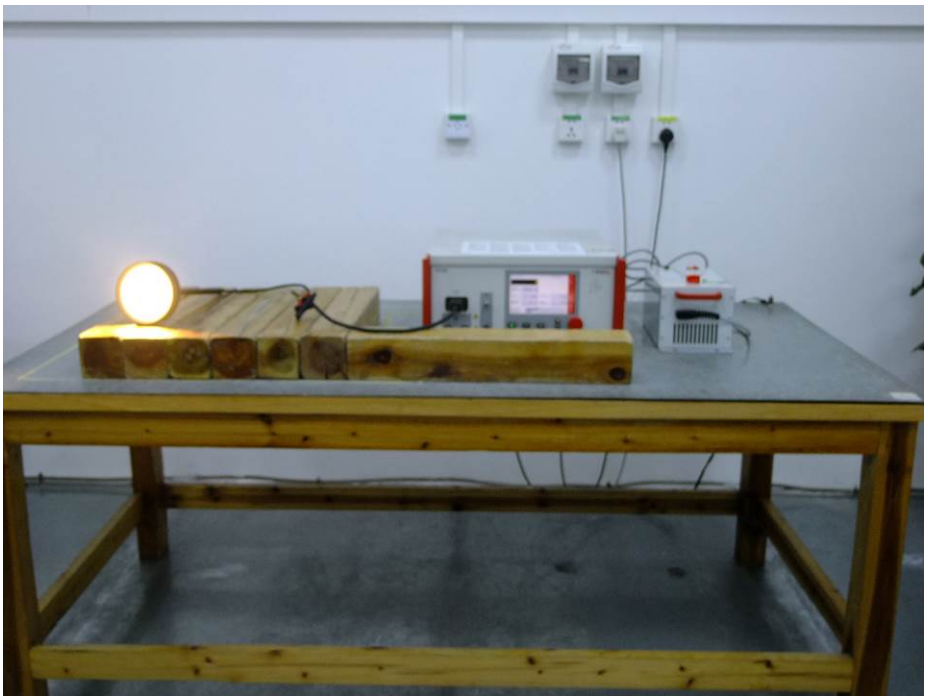


7.7 Photograph – Surge Immunity Test Setup

7.8 Photograph – Injected Currents Immunity Test Setup

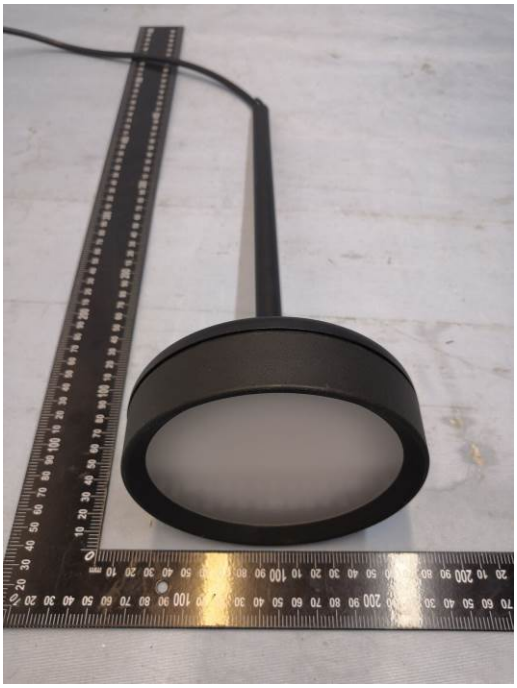


7.9 Photograph – Voltage Dips and Interruptions Immunity Test Setup

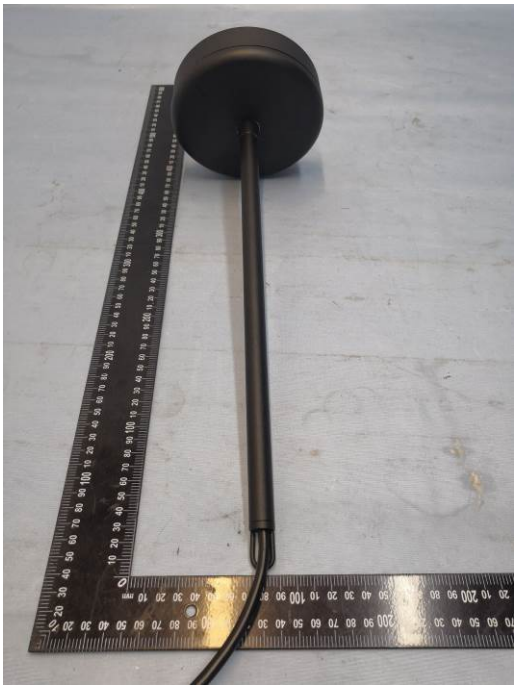


8 Photographs – Constructional Details

8.1 EUT – Front View



8.2 EUT – Back View



====== End of Report ======