EN IEC 55015:2019/A11:2020
EN IEC 61000-3-2:2019/A2:2024
EN 61000-3-3:2013/A2:2021
EN IEC 61547:2023

TEST REPORT

For

LED Street light

MODEL NUMBER: see model list on page 8

REPORT NUMBER: E04A26010639E01101

ISSUE DATE: May 12, 2026

Prepared for

Dongguan Sense Lighting Technology Co., Ltd
No 6, Shengxing Street, ChangAn Town, DongGuan City, GuangDong Province,China

Prepared by

Guangdong Global Testing Technology Co., Ltd.

Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city, Guangdong, People's Republic of China, 523808

This report is based on a single evaluation of the submitted sample(s) of the above mentioned product, it does not imply an assessment of the production of the products. This report shall not be reproduced, except in full, without the written approval of Guangdong Global Testing Technology Co., Ltd.

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	May 12, 2026	Initial Issue	

Summary of Test Results

Emission			
Standard	**Test Item**	**Limit**	**Result**
EN IEC 55015:2019/A11:2020	Conducted emission (AC or DC electric power supply)	Clause 4.3	Pass
	Radiated Emission (30MHz to 1GHz)	Clause 4.5.3	Pass
	Radiated Emission (9 kHz to 30 MHz 2m loop)	Clause 4.5.2	Pass
EN IEC 61000-3-2:2019/A2:2024	Harmonic Current Emission	Clause 7	Pass
EN 61000-3-3:2013/A2:2021	Voltage fluctuations and flicker	Clause 5	N/A (NOTE 1, 2)

Immunity (EN IEC 61547:2023)				
Basic Standard	**Test Item**	**Test Specification**	**Criteria**	**Result**
IEC 61000-4-2:2008	Electrostatic Discharge	Contact +/- 4 kV; Air +/- 2 kV;+/- 4 kV;+/- 8 kV	B	Pass
IEC 61000-4-3:2006+A1:2007+A2:2010	Continuous RF electromagnetic field disturbances	3 V/m, 1 kHz, 80 % AM, 80 MHz-1000 MHz	A	Pass
IEC 61000-4-4:2012	Electrical fast transients burst (AC mains power ports)	+/- 1.0 kV 5/50 ns, 5 kHz	B	Pass
IEC 61000-4-5:2014+A1:2017	Surges (AC mains power ports)	refer to Clause 5.7 of the standard	C,B(emergency light)	Pass
IEC 61000-4-6:2013	Continuous induced RF disturbances (AC mains power ports)	150 kHz-80 MHz; 1 kHz 80 % AM, 3 V r.m.s.	A	Pass
IEC 61000-4-8:2009	Power frequency magnetic field	50/60 Hz, 3 A/m	A	N/A (NOTE 1, 3)
IEC 61000-4-11:2004+A1:2017	Voltage dips and interruptions (AC mains power ports)	Interruptions 0 %: 0.5 cycle; Dips 70 %: 10 cycles	B,B	Pass

Note:
1. N/A: In this whole report not applicable.
2. Incandescent lamp luminaires with ratings less than or equal to 1000 W and discharge and LED lamp luminaires with ratings less than or equal to 600 W, are deemed to comply with the dc, dmax and Tmax limits in this standard and are not required to be tested.
3. Only applicable to EUT containing devices susceptible to magnetic fields, such as CRT monitors, Hall elements, electrodynamic microphones, magnetic field sensors.

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
*The measurement result for the sample received is <Pass> according to <EN IEC 55015:2019/A11:2020, EN IEC 61000-3-2:2019/A2:2024, EN 61000-3-3:2013/A2:2021, EN IEC 61547:2023> when <Accuracy Method> decision rule is applied.

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Dongguan Sense Lighting Technology Co., Ltd
Address:	No 6, Shengxing Street, ChangAn Town, DongGuan City, GuangDong Province,China

Manufacturer Information

Company Name:	Dongguan Sense Lighting Technology Co., Ltd
Address:	No 6, Shengxing Street, ChangAn Town, DongGuan City, GuangDong Province,China

EUT Information

Product Description:	LED Street light
Model:	SWL-S22-4G-220-HV-65,SWL-S32-4G-220-GE-65, SWL-S14-4G-240-MA-65,SWL-S34-5G-280-VH-65, SWL-S36-4G-220-IZ-65
Series Model:	see model list on page 8
Brand:	N/A
Sample Received Date:	April 17, 2026
Sample Status:	Normal
Sample ID:	A26010639 001, 002, 003, 004, 005
Date of Tested:	April 21, 2026

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
EN IEC 55015:2019/A11:2020	**Pass**
EN IEC 61000-3-2:2019/A2:2024	**Pass**
EN 61000-3-3:2013/A2:2021	**Pass**
EN IEC 61547:2023	**Pass**

Prepared By:

Jansen Lin

Project Engineer

Checked By:

Alan He

Laboratory Manager

Approved By:

Alan He

Laboratory Manager

Guangdong Global Testing Technology Co., Ltd. * CERTIFICATE * GTG

2. TEST METHODOLOGY

All tests were performed in accordance with the standard EN IEC 55015:2019/A11:2020, EN IEC 61000-3-2:2019/A2:2024, EN 61000-3-3:2013/A2:2021, EN IEC 61547:2023

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 6947.01)** Guangdong Global Testing Technology Co., Ltd. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1343)** Guangdong Global Testing Technology Co., Ltd. has been recognized to perform compliance testing on equipment subject to Supplier's Declaration of Conformity (SDoC) and Certification rules **ISED (Company No.: 30714)** Guangdong Global Testing Technology Co., Ltd. has been registered and fully described in a report filed with ISED. The Company Number is 30714 and the test lab Conformity Assessment Body Identifier (CABID) is CN0148.

Note: All tests measurement facilities use to collect the measurement data are located at Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city, Guangdong, People's Republic of China, 523808

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Measurement Frequency Range	K	U(dB)
Conducted emission (AC or DC electric power supply)	0.009 MHz - 30 MHz	2	3.35
Radiated Emission (30MHz to 1GHz)	30 MHz -1 GHz	2	3.83
Radiated Emission (9 kHz to 30 MHz 2m loop)	0.009 MHz - 30 MHz	2	2.78
Note1: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.			
Note 2: According to the standard CISPR 16-4-2, the MU for the Conducted emissions from the AC mains power ports using AMN should not exceed 3.8 in range of 9kHz to 150kHz and 3.4 in range of 150kHz to 30MHz. We have considered the test results containing the value of Ulab (in dB) for the measurement instrumentation actually used for the measurements.			

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	LED Street light
Model	SWL-S22-4G-220-HV-65,SWL-S32-4G-220-GE-65, SWL-S14-4G-240-MA-65,SWL-S34-5G-280-VH-65, SWL-S36-4G-220-IZ-65
Series Model	see model list
Model Difference	see model list
Ratings	Input: 220-240V~ or 120-277V~, 50/60Hz, Class I Power: see model list
Power Supply	230V~/50Hz

Model list

Model	Rated Power (W)	LED driver (120-277 V) yy=IZ	LED driver (120-277 V) yy=VH x=B, BH	LED driver (220-240 V) yy=GE	LED driver (220-240 V) yy=GD	LED driver (220-240 V) yy=MA x=A, S	LED driver (220-240 V) yy=HV x=B, P	Size (L*W*H mm)
SWL-S22-1x-xxx-yy-cc	020-030	IT 0-10 30/100-277/1A05 P67 G, IT 0-10 30/100-277/1A05 P67 G A12	SS-50VH-E54X	SS-30GA-E62B	SS-30GA-E62D	DL-30Z-58X-MAL	HVC-30W-56X	520*240*79
SWL-S22-1x-xxx-yy-cc	031-040	IT 0-10 50/100-277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-40Z-58X-MAL	HVC-50W-56X	
SWL-S22-1x-xxx-yy-cc	041-050	IT 0-10 50/100-277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-50Z-58X-MAL	HVC-50W-56X	
SWL-S22-1x-xxx-yy-cc	051-060	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-277/2A1 P67 G A12	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-60Z-58X-MAL	HVC-75W-56X	
SWL-S22-2x-xxx-yy-cc	060-075	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-277/2A1 P67 G A12	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-75H-58X-MAL	HVC-75W-56X	605*240*79
SWL-S22-2x-xxx-yy-cc	076-100	IT 0-10 100/100-277/2A8 P67 G, IT 0-10 100/100-	SS-100VH-E54X	SS-100GA-E62B	SS-100GA-E62D	DL-100H-58X-MAL	HVC-100W-56X	

		277/2A8 P67 G A12						
SWL-S22-2x-xxx-yy-cc	101-120	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-277/4A2 P67 G A12	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	
SWL-S22-3x-xxx-yy-cc	120-150	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-277/4A2 P67 G A12	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	690*240*79
SWL-S22-3x-xxx-yy-cc	151-180	IT 0-10 200/100-277/5A6 P67 G, IT 0-10 200/100-277/5A6 P67 G A12	SS-200VH-E56X	SS-200GA-E62B	SS-200GA-E62D	DL-200H-58X-MAL	HVC-200W-56X	
SWL-S22-4x-xxx-yy-cc	180-200	IT 0-10 200/100-277/5A6 P67 G, IT 0-10 200/100-277/5A6 P67 G A12	SS-200VH-E56X	SS-200GA-E62B	SS-200GA-E62D	DL-200H-58X-MAL	HVC-200W-56X	775*240*79
SWL-S22-4x-xxx-yy-cc	201-220	/	SS-240VH-E56X	SS-250GA-E62B	SS-250GA-E62D	/	HVC-240W-56X	
SWL-S32-1x-xxx-yy-cc	020-030	IT 0-10 30/100-277/1A05 P67 G, IT 0-10 30/100-277/1A05 P67 G A12	SS-50VH-E54X	SS-30GA-E62B	SS-30GA-E62D	DL-30Z-58X-MAL	HVC-30W-56X	470*177*45
SWL-S32-1x-xxx-yy-cc	031-040	IT 0-10 50/100-277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-40Z-58X-MAL	HVC-50W-56X	
SWL-S32-1x-xxx-yy-cc	041-050	IT 0-10 50/100-277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-50Z-58X-MAL	HVC-50W-56X	
SWL-S32-1x-xxx-yy-cc	051-060	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-277/2A1 P67 G A12	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-60Z-58X-MAL	HVC-75W-56X	
SWL-S32-2x-xxx-yy-cc	060-075	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-75H-58X-MAL	HVC-75W-56X	535*230*47

		277/2A1 P67 G A12						
SWL-S32-2x-xxx-yy-cc	076-100	IT 0-10 100/100-277/2A8 P67 G, IT 0-10 100/100-277/2A8 P67 G A12	SS-100VH-E95X	SS-100GA-E62B	SS-100GA-E62D	DL-100H-58X-MAL	HVC-100W-56X	
SWL-S32-2x-xxx-yy-cc	101-120	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-277/4A2 P67 G A12	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	
SWL-S32-3x-xxx-yy-cc	120-150	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-277/4A2 P67 G A12	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	640*240*50.5
SWL-S32-3x-xxx-yy-cc	151-180	IT 0-10 200/100-277/5A6 P67 G, IT 0-10 200/100-277/5A6 P67 G A12	SS-200VH-E56X	SS-200GA-E62B	SS-200GA-E62D	DL-200H-58X-MAL	HVC-200W-56X	
SWL-S32-4x-xxx-yy-cc	180-200	IT 0-10 200/100-277/5A6 P67 G, IT 0-10 200/100-277/5A6 P67 G A12	SS-200VH-E56X	SS-200GA-E62B	SS-200GA-E62D	DL-200H-58X-MAL	HVC-200W-56X	640*290*50.5
SWL-S32-4x-xxx-yy-cc	201-220	IT 0-10 240/100-277/6A7 P67 G, IT 0-10 240/100-277/6A7 P67 G A12	SS-240VH-E56X	SS-250GA-E62B	SS-250GA-E62D	/	HVC-240W-56X	
SWL-S14-1x-xxx-yy-cc	020-030	IT 0-10 30/100-277/1A05 P67 G, IT 0-10 30/100-277/1A05 P67 G A12	SS-50VH-E54X	SS-30GA-E62B	SS-30GA-E62D	DL-30Z-58X-MAL	HVC-30W-56X	498*180*115
SWL-S14-1x-xxx-yy-cc	031-040	IT 0-10 50/100-277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-40Z-58X-MAL	HVC-50W-56X	
SWL-S14-1x-xxx-yy-cc	041-050	IT 0-10 50/100-277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-50Z-58X-MAL	HVC-50W-56X	

SWL-S14-1x-xxx-yy-cc	051-060	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-277/2A1 P67 G A12	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-60Z-58X-MAL	HVC-75W-56X	
SWL-S14-2x-xxx-yy-cc	060-075	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-277/2A1 P67 G A12	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-75H-58X-MAL	HVC-75W-56X	629*250*125
SWL-S14-2x-xxx-yy-cc	076-100	IT 0-10 100/100-277/2A8 P67 G, IT 0-10 100/100-277/2A8 P67 G A12	SS-100VH-E54X	SS-100GA-E62B	SS-100GA-E62D	DL-100H-58X-MAL	HVC-100W-56X	
SWL-S14-2x-xxx-yy-cc	101-120	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-277/4A2 P67 G A12	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	
SWL-S14-3x-xxx-yy-cc	120-150	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-277/4A2 P67 G A12	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	698*280*128
SWL-S14-3x-xxx-yy-cc	151-180	IT 0-10 200/100-277/5A6 P67 G, IT 0-10 200/100-277/5A6 P67 G A12	SS-200VH-E56X	SS-200GA-E62B	SS-200GA-E62D	DL-200H-58X-MAL	HVC-200W-56X	
SWL-S14-4x-xxx-yy-cc	180-200	IT 0-10 200/100-277/5A6 P67 G, IT 0-10 200/100-277/5A6 P67 G A12	SS-200VH-E56X	SS-200GA-E62B	SS-200GA-E62D	DL-200H-58X-MAL	HVC-200W-56X	798*280*138
SWL-S14-4x-xxx-yy-cc	201-240	IT 0-10 240/100-277/6A7 P67 G, IT 0-10 240/100-277/6A7 P67 G A12	SS-240VH-E56X	SS-250GA-E62B	SS-250GA-E62D	/	HVC-240W-56X	
SWL-S34-1x-xxx-yy-cc	020-030	IT 0-10 30/100-277/1A05 P67 G, IT 0-10 30/100-277/1A05 P67 G A12	SS-50VH-E54X	SS-30GA-E62B	SS-30GA-E62D	DL-30Z-58X-MAL	HVC-30W-56X	588*210*110
SWL-S34-1x-xxx-yy-cc	031-040	IT 0-10 50/100-	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-40Z-58X-MAL	HVC-50W-56X	

		277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12						
SWL-S34-1x-xxx-yy-cc	041-050	IT 0-10 50/100-277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-50Z-58X-MAL	HVC-50W-56X	
SWL-S34-1x-xxx-yy-cc	051-060	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-277/2A1 P67 G A12	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-60Z-58X-MAL	HVC-75W-56X	
SWL-S34-2x-xxx-yy-cc	060-075	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-277/2A1 P67 G A12	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-75H-58X-MAL	HVC-75W-56X	600*258*110
SWL-S34-2x-xxx-yy-cc	076-100	IT 0-10 100/100-277/2A8 P67 G, IT 0-10 100/100-277/2A8 P67 G A12	SS-100VH-E54X	SS-100GA-E62B	SS-100GA-E62D	DL-100H-58X-MAL	HVC-100W-56X	
SWL-S34-2x-xxx-yy-cc	101-120	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-277/4A2 P67 G A12	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	
SWL-S34-3x-xxx-yy-cc	120-150	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-277/4A2 P67 G A12	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	700*258*110
SWL-S34-3x-xxx-yy-cc	151-180	IT 0-10 200/100-277/5A6 P67 G, IT 0-10 200/100-277/5A6 P67 G A12	SS-200VH-E56X	SS-200GA-E62B	SS-200GA-E62D	DL-200H-58X-MAL	HVC-200W-56X	
SWL-S34-4x-xxx-yy-cc	180-200	IT 0-10 200/100-277/5A6 P67 G, IT 0-10 200/100-277/5A6 P67 G A12	SS-200VH-E56X	SS-200GA-E62B	SS-200GA-E62D	DL-200H-58X-MAL	HVC-200W-56X	705*308*110
SWL-S34-5x-xxx-yy-cc	200-240	IT 0-10 240/100-277/6A7 P67 G,	SS-240VH-E56X	SS-250GA-E62B	SS-250GA-E62D	/	HVC-240W-56X	788*335*115

		IT 0-10 240/100-277/6A7 P67 G A12						
SWL-S34-5x-xxx-yy-cc	241-280	IT 0-10 320/100-277/7A6 P67 G, IT 0-10 320/100-277/7A6 P67 G A12	SS-320VH-E56X	/	/	/	HVC-320W-56X	
SWL-S36-1x-xxx-yy-cc	020-030	IT 0-10 30/100-277/1A05 P67 G, IT 0-10 30/100-277/1A05 P67 G A12	SS-50VH-E54X	SS-30GA-E62B	SS-30GA-E62D	DL-30Z-58X-MAL	HVC-30W-56X	532*195*96
SWL-S36-1x-xxx-yy-cc	031-040	IT 0-10 50/100-277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-40Z-58X-MAL	HVC-50W-56X	
SWL-S36-1x-xxx-yy-cc	041-050	IT 0-10 50/100-277/1A5 P67 G, IT 0-10 50/100-277/1A5 P67 G A12	SS-50VH-E54X	SS-50GA-E62B	SS-50GA-E62D	DL-50Z-58X-MAL	HVC-50W-56X	
SWL-S36-1x-xxx-yy-cc	051-060	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-277/2A1 P67 G A12	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-60Z-58X-MAL	HVC-75W-56X	
SWL-S36-2x-xxx-yy-cc	060-075	IT 0-10 75/100-277/2A1 P67 G, IT 0-10 75/100-277/2A1 P67 G A12	SS-75VH-E54X	SS-75GA-E62B	SS-75GA-E62D	DL-75H-58X-MAL	HVC-75W-56X	545*220*97
SWL-S36-2x-xxx-yy-cc	076-100	IT 0-10 100/100-277/2A8 P67 G, IT 0-10 100/100-277/2A8 P67 G A12	SS-100VH-E54X	SS-100GA-E62B	SS-100GA-E62D	DL-100H-58X-MAL	HVC-100W-56X	
SWL-S36-2x-xxx-yy-cc	101-120	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-277/4A2 P67 G A12	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	
SWL-S36-3x-xxx-yy-cc	120-150	IT 0-10 150/100-277/4A2 P67 G, IT 0-10 150/100-	SS-150VH-E56X	SS-150GA-E62B	SS-150GA-E62D	DL-150H-58X-MAL	HVC-150W-56X	645*250*97

		277/4A2 P67 G A12						
SWL-S36-4x-xxx-yy-cc	150-200	IT 0-10 200/100-277/5A6 P67 G, IT 0-10 200/100-277/5A6 P67 G A12	SS-200VH-E56X	SS-200GA-E62B	SS-200GA-E62D	DL-200H-58X-MAL	HVC-200W-56X	730*310*98
SWL-S36-4x-xxx-yy-cc	201-220	IT 0-10 240/100-277/6A7 P67 G, IT 0-10 240/100-277/6A7 P67 G A12	SS-240VH-E56X	SS-250GA-E62B	SS-250GA-E62D	/	HVC-240W-56X	
Remark: 'x' can be L or G which stands for LED cover type, L= plastic cover, G= glass cover. 'xxx' can be 010 to 280 which stands for Rated Power 10W to 280W, in steps of 1W. 'yy' can be IZ, VH, GE,GD,MA or HV which stands for LED driver brand. 'cc' can be 27-65 which stands for color temperature 2700K to 6500K, in steps of 100K.								

5.2. TEST MODE

Test Mode	Description
M01	Lighting for model SWL-S22-4G-220-HV-65
M02	Lighting for model SWL-S32-4G-220-GE-65
M03	Lighting for model SWL-S14-4G-240-MA-65
M04	Lighting for model SWL-S34-5G-280-VH-65
M05	Lighting for model SWL-S36-4G-220-IZ-65
M06	Handling Mode for all models

5.3. SUPPORT UNITS FOR SYSTEM TEST

The EUT has been tested as an independent unit

6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Conducted emission (AC or DC electric power supply)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Shielding Room 1	CHENG YU	8*5*4	N/A	8/23/2025	8/22/2028
LISN	R&S	ENV216	102843	8/23/2025	8/22/2026
EMI Test Receiver	R&S	ESR3	102647	8/23/2025	8/22/2026
LISN	Schwarzbeck	NNLK 8129 RC	5046	8/23/2025	8/22/2026
Test Software for CE	Farad	EZ-EMC	V1.1.4.2	N/A	N/A

Test Equipment of Radiated Emission (30MHz to 1GHz)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Chamber	ETS	9*6*6	Q2146	8/22/2025	8/21/2026
Receiver	R&S	ESCI3	101409	8/22/2025	8/21/2026
Loop Antenna	ETS	6502	243668	2/22/2025	2/21/2028
Pre-Amplifier	HzEMC	HPA-9K0130	HYPA21001	8/23/2025	8/22/2026
Biconilog Antenna	Schwarzbeck	VULB 9168	1315	9/20/2025	9/19/2028
Biconilog Antenna	ETS	3142E	243651	2/22/2025	2/21/2028
Test Software for RE	Farad	EZ-EMC	V1.1.4.2	N/A	N/A

Test Equipment of Radiated Emission (9 kHz to 30 MHz 2m loop)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
EMI Test Receiver	R&S	ESR3	102647	8/23/2025	8/22/2026
3 Loop Antenna	Da Ze	ZN30401	2944A09491	8/23/2025	8/22/2026
Test Software for MR	Farad	EZ-EMC	V1.1.4.2	N/A	N/A

Test Equipment of Harmonic Current Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Harmonic and Fliker Analyzer	EMC PARTNER	Harmonics 1000-1P 230V	241	8/22/2025	8/21/2026
Test Software for H&F	EMC PARTNER AG	HARCS	V6.2	N/A	N/A

Test Equipment of Electrostatic Discharge					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
ESD Simulator	TESEQ	NSG437	336	8/25/2025	8/24/2026

Test Equipment of Continuous RF electromagnetic field disturbances					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Stacked Log-Per-Broadband Antenna	Schwarzbeck	STLP 9129	170	N/A	N/A
Power amplifier	MiCOTOP	MPA-80-1000-500	MPA2209336	8/23/2025	8/22/2026
Power amplifier	MiCOTOP	MPA-1000-6000-100	MPA2209337	8/23/2025	8/22/2026
EPM Series Power Meter	Keysight	N1914A	MY53240003	8/23/2025	8/22/2026
Average Power Sensor	Keysight	E9304A	MY41498925	8/23/2025	8/22/2026
Average Power Sensor	Keysight	E9304A	MY41497454	8/23/2025	8/22/2026
EXG Analog Signal Generator	Keysight	N5171B	MY61252624	8/23/2025	8/22/2026
Field Probe	Narda	EP 601	811ZX11137	8/26/2025	8/25/2026
Test Software for RS	HzEMC	FASLAB-RS	V2.7.2.3	N/A	N/A

Test Equipment of Electrical fast transients burst (AC mains power ports)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
EFT Generator	Everfine	EMS61000-4B	G114921CA1341115	8/22/2025	8/21/2026

Test Equipment of Surges (AC mains power ports)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Immunity Teat System	EMC PARTNER	IMU3000 S-T	105684-2060	8/22/2025	8/21/2026
Signal line coupled decoupling network	EMC PARTNER	CDN-UTP8 ED3	1558	8/22/2025	8/21/2026

Test Equipment of Continuous induced RF disturbances (AC mains power ports)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
EXG Analog Signal Generator	KEYSIGHT	N5171B	MY61252670	8/22/2025	8/21/2026
EPM Series Power Meter	KEYSIGHT	N1914A	MY50000188	8/22/2025	8/21/2026
Power Sensor	KEYSIGHT	E9304A	MY51180004	8/22/2025	8/21/2026
Power Sensor	KEYSIGHT	E9304A	MY51120019	8/22/2025	8/21/2026
Power Amplifier	AR	AR/100A 400M	305558	8/22/2025	8/21/2026
Double directional coupler	XIANGHUA	DDT0-1-40	221008732	8/22/2025	8/21/2026
COUPLING AND DECOUPLING NETWORK	Schwarzbeck	CDN M2/M3PE 16A	148	8/23/2025	8/22/2026
COUPLING AND DECOUPLING NETWORK	Schwarzbeck	CDN T8	53	8/22/2025	8/21/2026
Electromagnetic injection pliers	3ctest	EM CL100	EM C22060625	8/22/2025	8/21/2026
6 db attenuator	Huaxiang	WDTS	220831156	8/22/2025	8/21/2026
Test Software for CS	HzEMC	FASLAB-CS	V2.7.2.1	N/A	N/A

Test Equipment of Voltage dips and interruptions (AC mains power ports)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
DIP Generator	Everfine	EMS61000-11K	G113317CA 8341117	8/22/2025	8/21/2026

7. EMISSION TEST

7.1. CONDUCTED EMISSION (AC OR DC ELECTRIC POWER SUPPLY)

LIMITS

FREQUENCY (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0.009-0.05	110	--
0.05-0.15	90-80	--
0.15 -0.5	66 - 56 *	56- 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.09 MHz
Stop Frequency	30 MHz
IF Bandwidth	200Hz (from 9kHz to 150kHz) and 9kHz (from 150kHz to 30MHz)

TEST PROCEDURE

a. The EUT was placed on the top of a rotating table 0.8 meters above the horizontal ground plane and being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

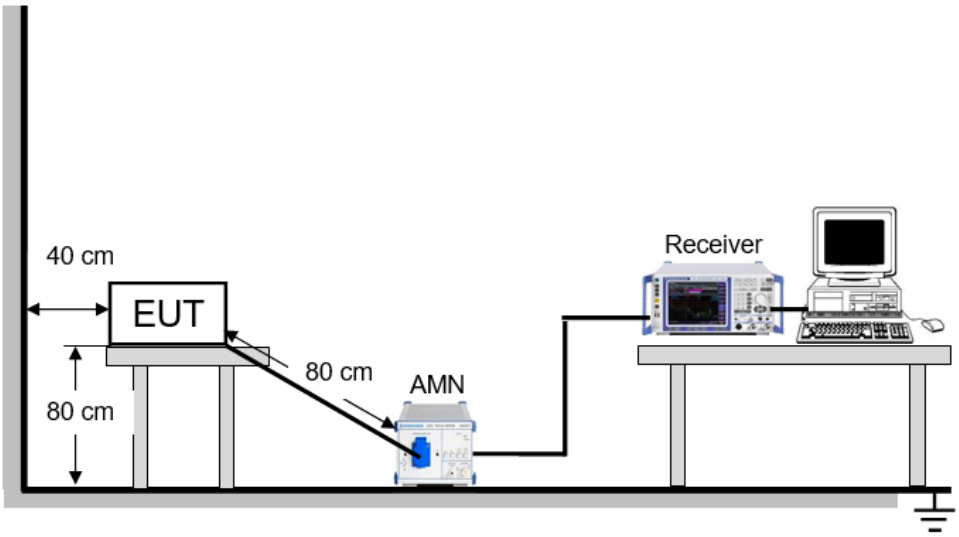
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

d. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.

e. LISN at least 80 cm from nearest part of EUT chassis.

f. Conducted emissions from the EUT measured in the frequency range between 0.09 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

TEST SETUP



TEST ENVIRONMENT

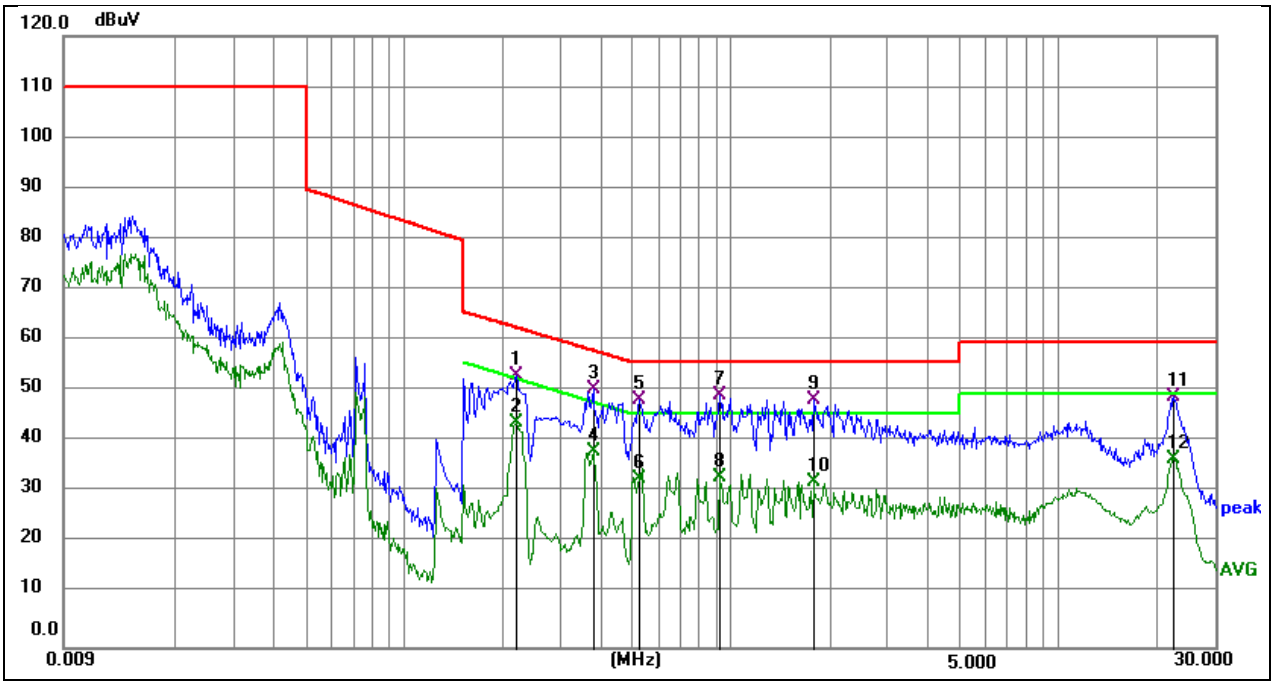
Temperature	23.2℃	Relative Humidity	52%
Atmosphere Pressure	101kPa		

TEST MODE

Pre-test Mode:	M01 ~ M05
Final Test Mode:	M01, M02, M03, M04, M05

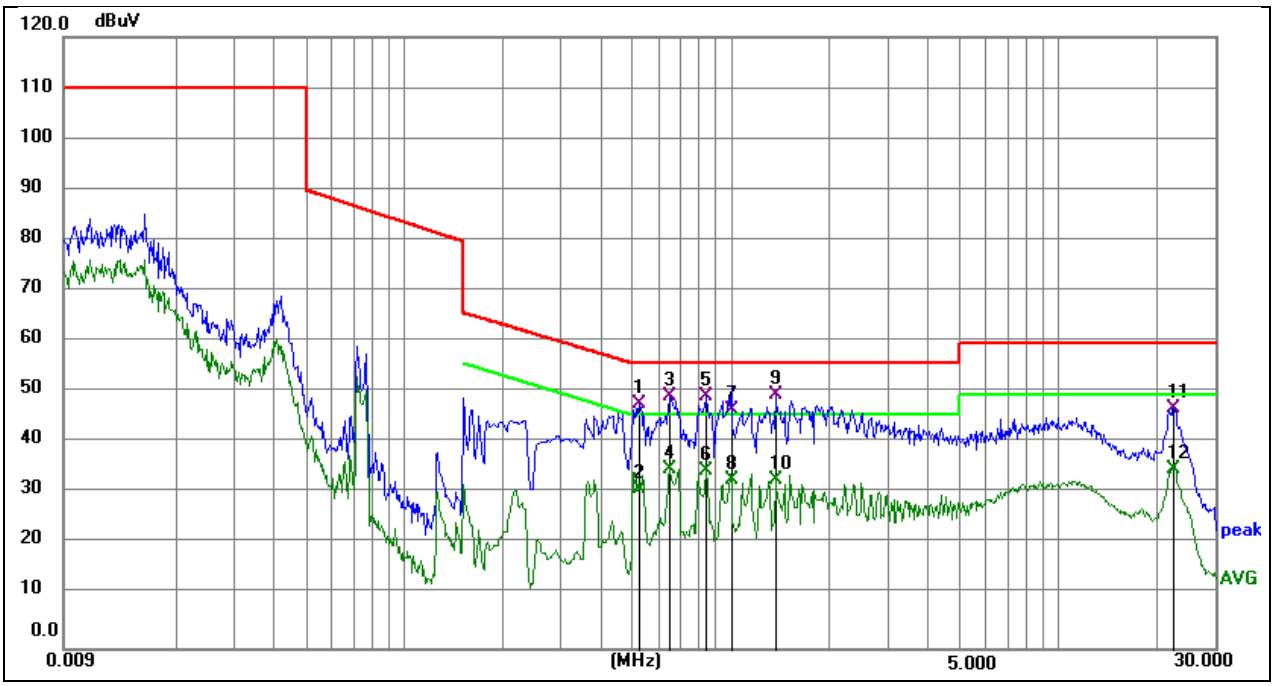
Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS



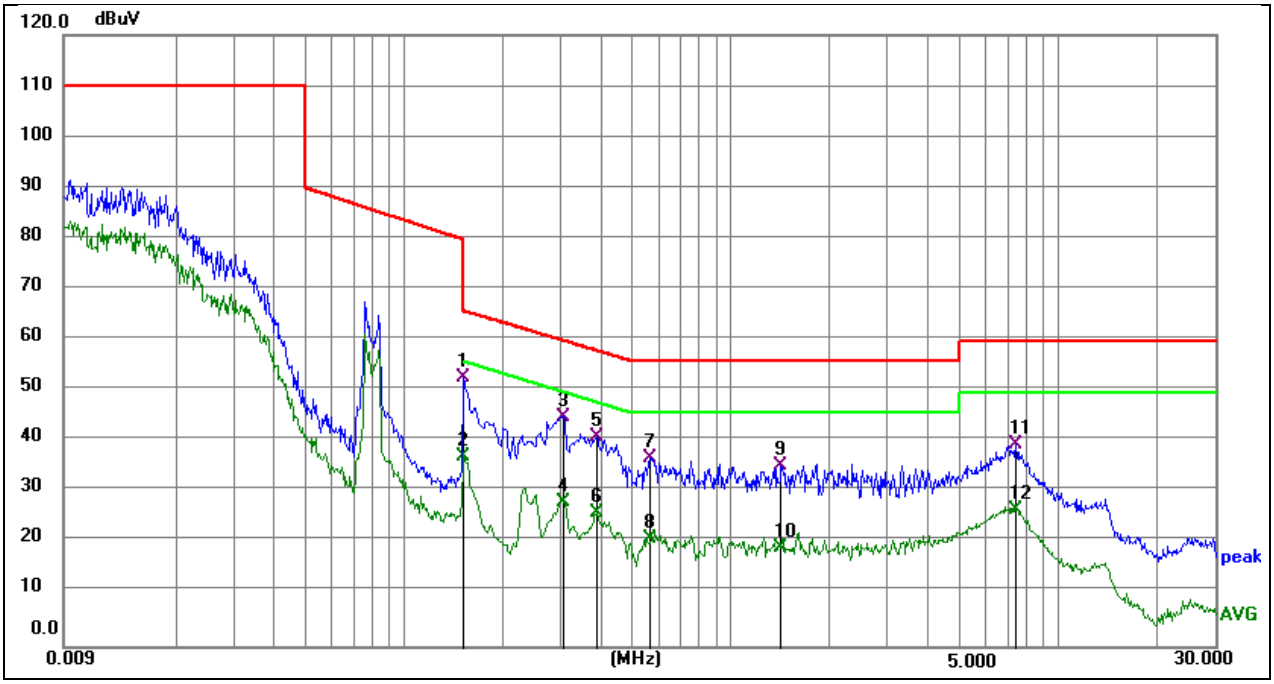
Phase: L1	Mode: M01

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2175	43.72	9.61	53.33	62.91	-9.58	QP
2	0.2175	34.49	9.61	44.10	52.91	-8.81	AVG
3	0.3750	41.25	9.65	50.90	58.39	-7.49	QP
4	0.3750	28.81	9.65	38.46	48.39	-9.93	AVG
5	0.5235	38.96	9.60	48.56	56.00	-7.44	QP
6	0.5235	23.58	9.60	33.18	46.00	-12.82	AVG
7	0.9240	39.96	9.64	49.60	56.00	-6.40	QP
8	0.9240	23.95	9.64	33.59	46.00	-12.41	AVG
9	1.7745	39.02	9.72	48.74	56.00	-7.26	QP
10	1.7745	22.89	9.72	32.61	46.00	-13.39	AVG
11	22.4250	38.86	10.45	49.31	60.00	-10.69	QP
12	22.4250	26.64	10.45	37.09	50.00	-12.91	AVG



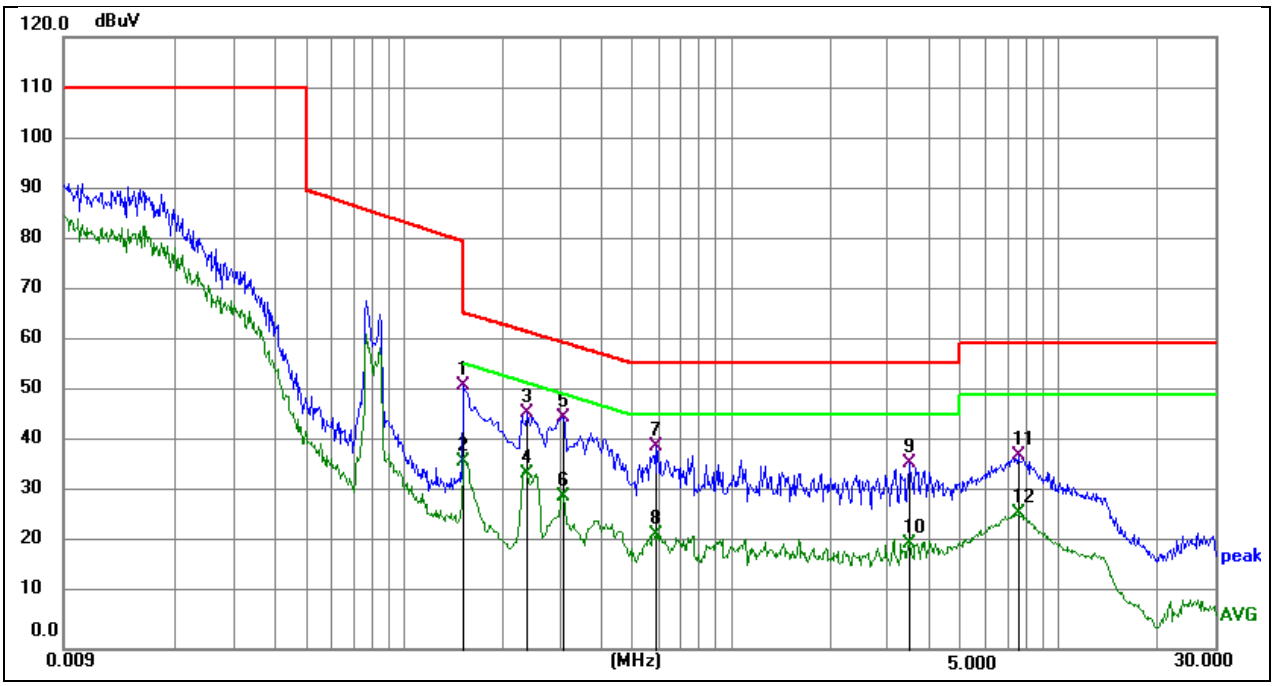
Phase: N	Mode: M01

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.5235	38.34	9.62	47.96	56.00	-8.04	QP
2	0.5235	21.91	9.62	31.53	46.00	-14.47	AVG
3	0.6495	40.01	9.67	49.68	56.00	-6.32	QP
4	0.6495	25.48	9.67	35.15	46.00	-10.85	AVG
5	0.8385	39.97	9.66	49.63	56.00	-6.37	QP
6	0.8385	25.28	9.66	34.94	46.00	-11.06	AVG
7	0.9960	37.11	9.69	46.80	56.00	-9.20	QP
8	0.9960	23.57	9.69	33.26	46.00	-12.74	AVG
9	1.3605	40.09	9.69	49.78	56.00	-6.22	QP
10	1.3605	23.40	9.69	33.09	46.00	-12.91	AVG
11	22.4340	36.74	10.48	47.22	60.00	-12.78	QP
12	22.4340	24.89	10.48	35.37	50.00	-14.63	AVG



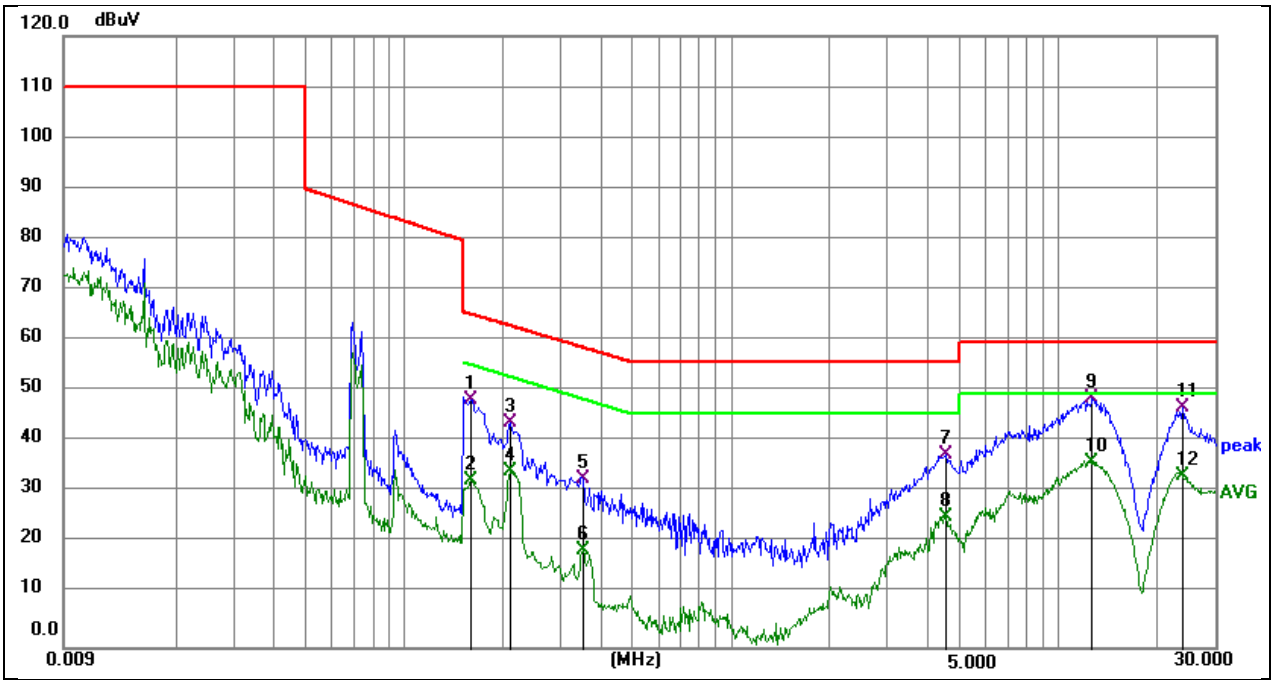
Phase: N	Mode: M02

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1500	43.21	9.64	52.85	66.00	-13.15	QP
2	0.1500	27.69	9.64	37.33	56.00	-18.67	AVG
3	0.3030	35.64	9.62	45.26	60.16	-14.90	QP
4	0.3030	18.96	9.62	28.58	50.16	-21.58	AVG
5	0.3840	31.57	9.63	41.20	58.19	-16.99	QP
6	0.3840	16.61	9.63	26.24	48.19	-21.95	AVG
7	0.5639	27.51	9.64	37.15	56.00	-18.85	QP
8	0.5639	11.69	9.64	21.33	46.00	-24.67	AVG
9	1.4190	26.03	9.68	35.71	56.00	-20.29	QP
10	1.4190	9.94	9.68	19.62	46.00	-26.38	AVG
11	7.4175	29.76	9.92	39.68	60.00	-20.32	QP
12	7.4175	17.17	9.92	27.09	50.00	-22.91	AVG



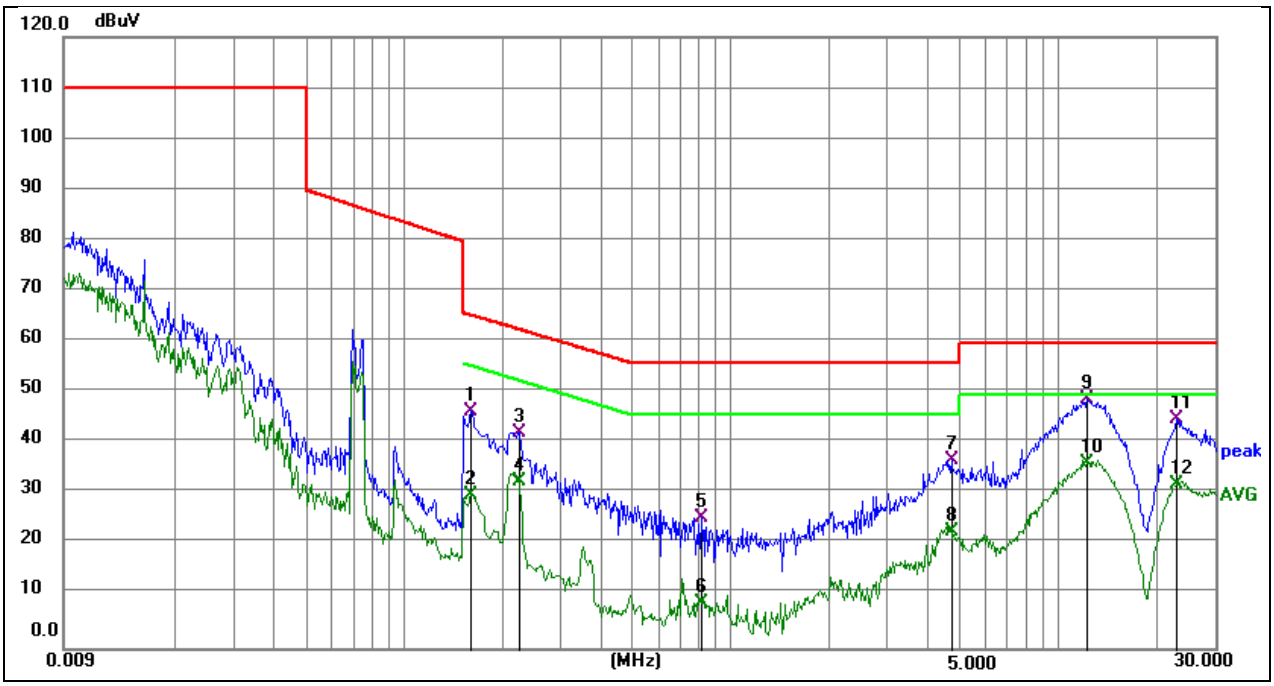
Phase: L1	Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1500	41.83	9.71	51.54	66.00	-14.46	QP
2	0.1500	27.18	9.71	36.89	56.00	-19.11	AVG
3	0.2355	36.59	9.61	46.20	62.25	-16.05	QP
4	0.2355	24.83	9.61	34.44	52.25	-17.81	AVG
5	0.3030	35.93	9.58	45.51	60.16	-14.65	QP
6	0.3030	20.45	9.58	30.03	50.16	-20.13	AVG
7	0.5910	30.16	9.67	39.83	56.00	-16.17	QP
8	0.5910	12.95	9.67	22.62	46.00	-23.38	AVG
9	3.5025	26.72	9.79	36.51	56.00	-19.49	QP
10	3.5025	10.91	9.79	20.70	46.00	-25.30	AVG
11	7.5390	27.97	10.01	37.98	60.00	-22.02	QP
12	7.5390	16.61	10.01	26.62	50.00	-23.38	AVG



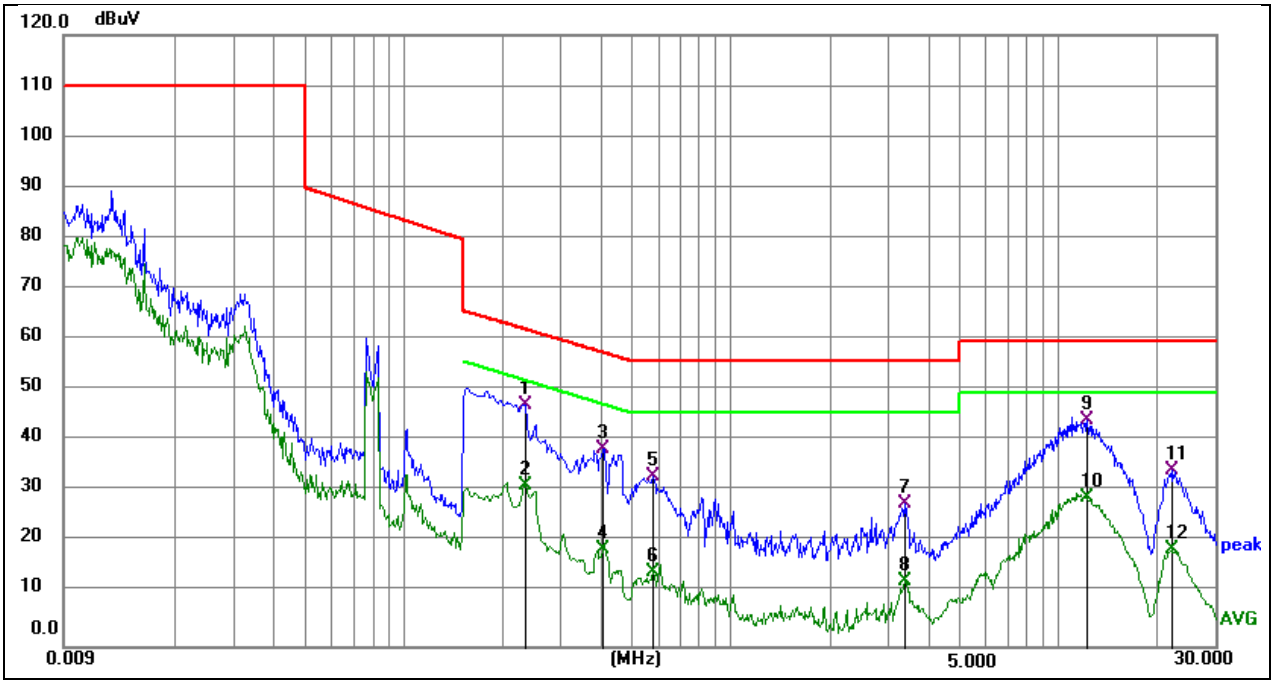
Phase: N	Mode: M03

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1590	39.01	9.63	48.64	65.52	-16.88	QP
2	0.1590	23.36	9.63	32.99	55.52	-22.53	AVG
3	0.2085	34.61	9.66	44.27	63.26	-18.99	QP
4	0.2085	25.02	9.66	34.68	53.26	-18.58	AVG
5	0.3480	23.73	9.61	33.34	59.01	-25.67	QP
6	0.3480	9.60	9.61	19.21	49.01	-29.80	AVG
7	4.4970	28.09	9.76	37.85	56.00	-18.15	QP
8	4.4970	16.09	9.76	25.85	46.00	-20.15	AVG
9	12.6284	38.80	10.18	48.98	60.00	-11.02	QP
10	12.6284	26.44	10.18	36.62	50.00	-13.38	AVG
11	23.9910	36.65	10.52	47.17	60.00	-12.83	QP
12	23.9910	23.31	10.52	33.83	50.00	-16.17	AVG



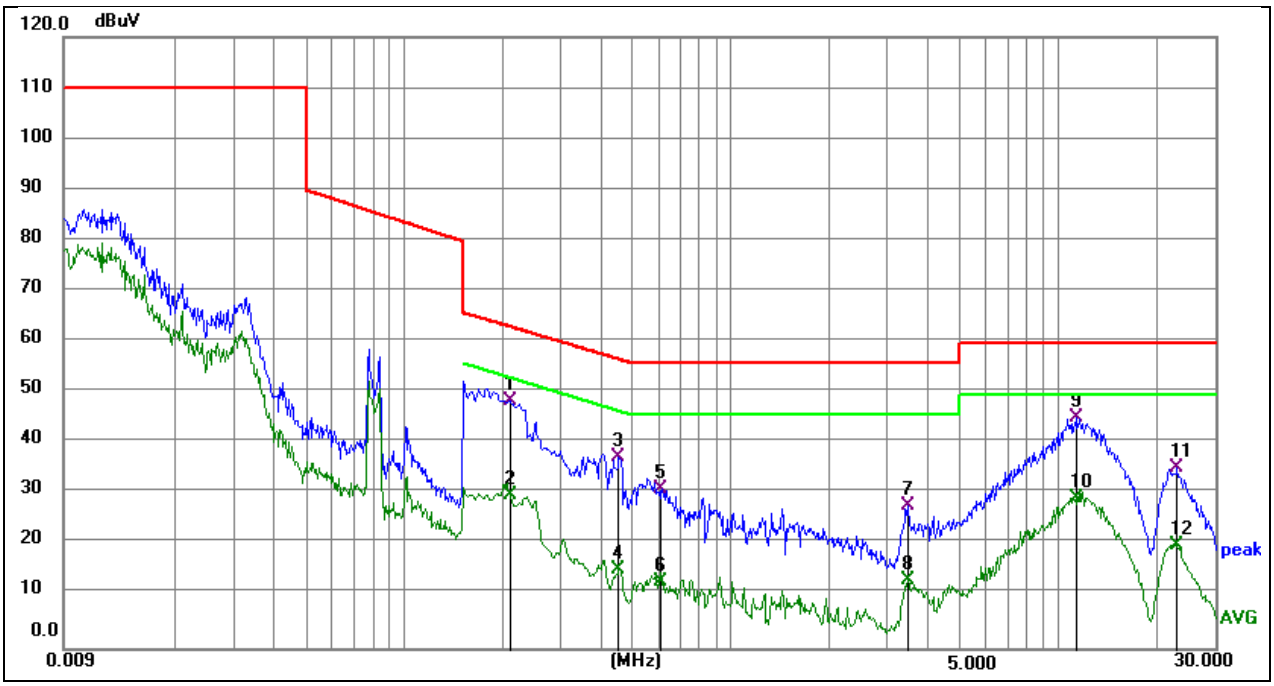
Phase: L1	Mode: M03

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1590	36.85	9.71	46.56	65.52	-18.96	QP
2	0.1590	20.62	9.71	30.33	55.52	-25.19	AVG
3	0.2220	32.94	9.61	42.55	62.74	-20.19	QP
4	0.2220	23.20	9.61	32.81	52.74	-19.93	AVG
5	0.8115	16.11	9.62	25.73	56.00	-30.27	QP
6	0.8115	-0.44	9.62	9.18	46.00	-36.82	AVG
7	4.6815	27.17	9.83	37.00	56.00	-19.00	QP
8	4.6815	13.12	9.83	22.95	46.00	-23.05	AVG
9	12.2460	38.90	10.20	49.10	60.00	-10.90	QP
10	12.2460	26.38	10.20	36.58	50.00	-13.42	AVG
11	22.8615	34.73	10.47	45.20	60.00	-14.80	QP
12	22.8615	21.83	10.47	32.30	50.00	-17.70	AVG



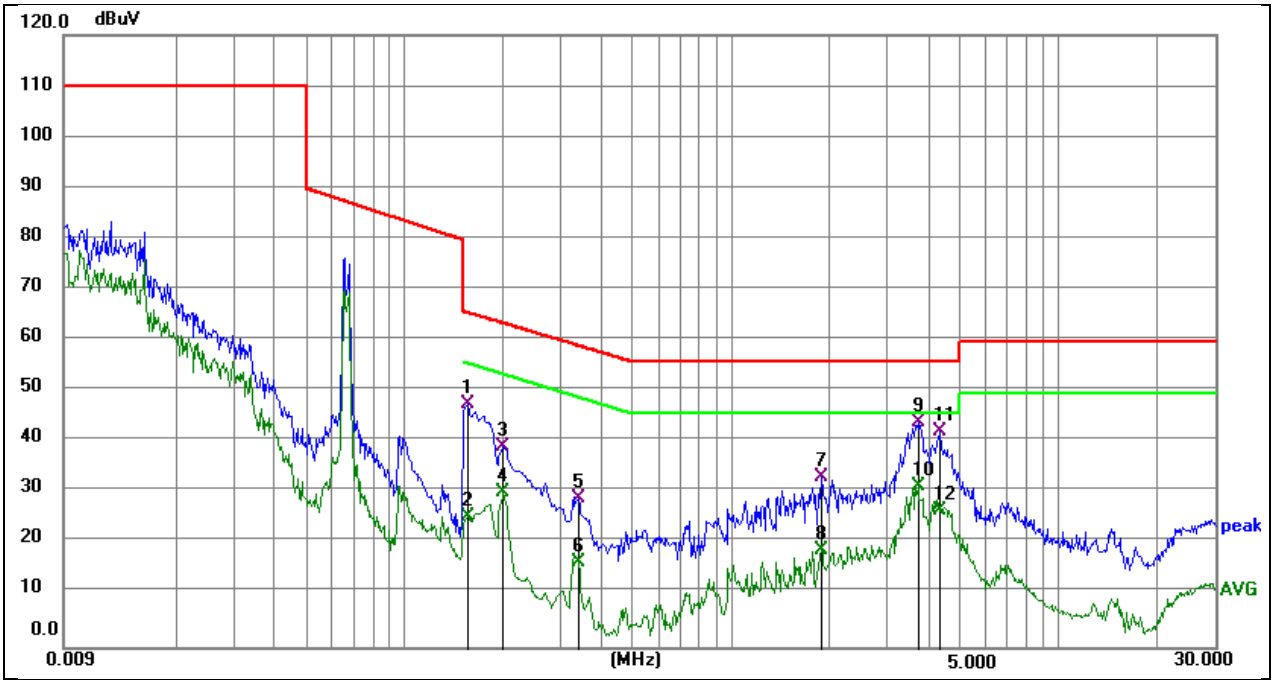
Phase: L1	Mode: M04

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2310	37.77	9.61	47.38	62.41	-15.03	QP
2	0.2310	22.06	9.61	31.67	52.41	-20.74	AVG
3	0.4020	29.34	9.60	38.94	57.81	-18.87	QP
4	0.4020	9.58	9.60	19.18	47.81	-28.63	AVG
5	0.5730	23.80	9.65	33.45	56.00	-22.55	QP
6	0.5730	5.04	9.65	14.69	46.00	-31.31	AVG
7	3.3630	18.46	9.78	28.24	56.00	-27.76	QP
8	3.3630	3.06	9.78	12.84	46.00	-33.16	AVG
9	12.2010	34.36	10.20	44.56	60.00	-15.44	QP
10	12.2010	19.23	10.20	29.43	50.00	-20.57	AVG
11	22.1685	24.29	10.44	34.73	60.00	-25.27	QP
12	22.1685	8.82	10.44	19.26	50.00	-30.74	AVG



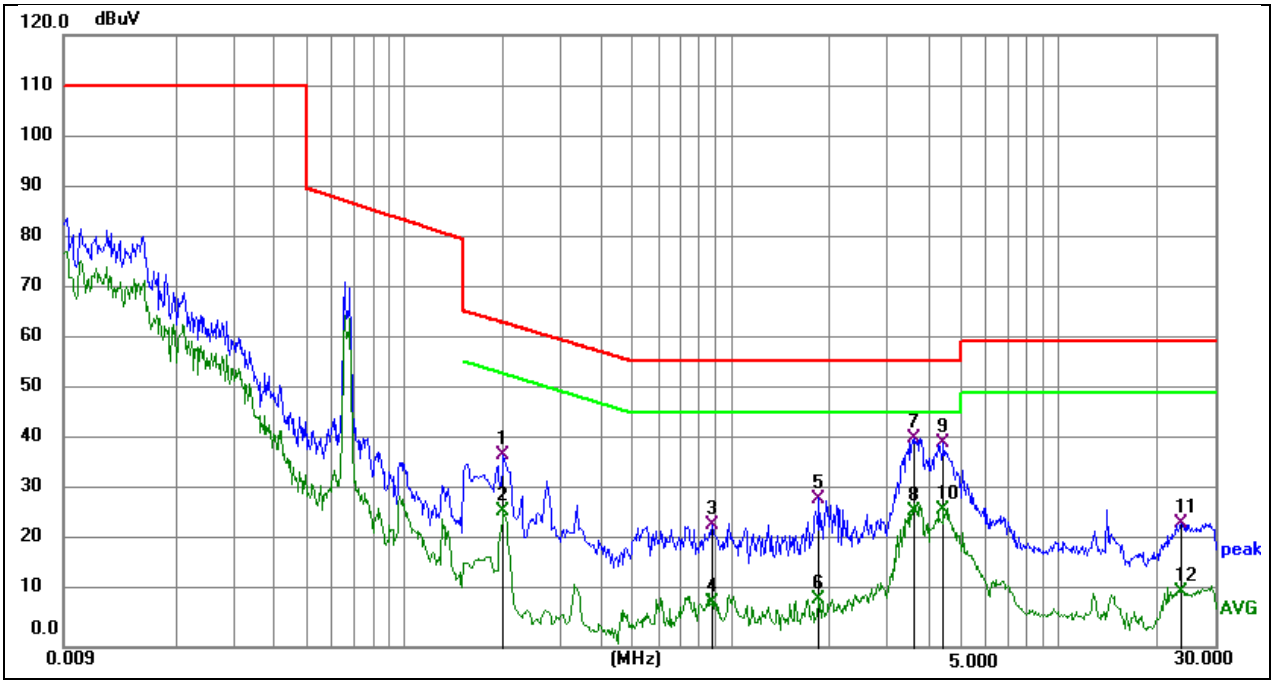
Phase: N	Mode: M04

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2084	38.93	9.66	48.59	63.27	-14.68	QP
2	0.2084	20.71	9.66	30.37	53.27	-22.90	AVG
3	0.4515	28.16	9.62	37.78	56.85	-19.07	QP
4	0.4515	5.99	9.62	15.61	46.85	-31.24	AVG
5	0.6134	21.79	9.65	31.44	56.00	-24.56	QP
6	0.6134	3.73	9.65	13.38	46.00	-32.62	AVG
7	3.4530	18.32	9.73	28.05	56.00	-27.95	QP
8	3.4530	3.93	9.73	13.66	46.00	-32.34	AVG
9	11.3820	35.14	10.14	45.28	60.00	-14.72	QP
10	11.3820	19.52	10.14	29.66	50.00	-20.34	AVG
11	23.0459	25.04	10.50	35.54	60.00	-24.46	QP
12	23.0459	9.93	10.50	20.43	50.00	-29.57	AVG



Phase: L1	Mode: M05

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1545	37.97	9.71	47.68	65.75	-18.07	QP
2	0.1545	15.99	9.71	25.70	55.75	-30.05	AVG
3	0.1995	29.82	9.62	39.44	63.63	-24.19	QP
4	0.1995	20.91	9.62	30.53	53.63	-23.10	AVG
5	0.3390	19.71	9.66	29.37	59.23	-29.86	QP
6	0.3390	7.16	9.66	16.82	49.23	-32.41	AVG
7	1.8870	23.64	9.73	33.37	56.00	-22.63	QP
8	1.8870	9.53	9.73	19.26	46.00	-26.74	AVG
9	3.7005	34.50	9.79	44.29	56.00	-11.71	QP
10	3.7005	21.88	9.79	31.67	46.00	-14.33	AVG
11	4.3485	32.49	9.81	42.30	56.00	-13.70	QP
12	4.3485	17.26	9.81	27.07	46.00	-18.93	AVG



Phase: N	Mode: M05

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1995	28.01	9.67	37.68	63.63	-25.95	QP
2	0.1995	17.02	9.67	26.69	53.63	-26.94	AVG
3	0.8700	14.25	9.66	23.91	56.00	-32.09	QP
4	0.8700	-0.77	9.66	8.89	46.00	-37.11	AVG
5	1.8420	19.51	9.67	29.18	56.00	-26.82	QP
6	1.8420	-0.38	9.67	9.29	46.00	-36.71	AVG
7	3.6150	31.28	9.73	41.01	56.00	-14.99	QP
8	3.6150	16.81	9.73	26.54	46.00	-19.46	AVG
9	4.4340	30.25	9.76	40.01	56.00	-15.99	QP
10	4.4340	17.05	9.76	26.81	46.00	-19.19	AVG
11	23.6580	13.88	10.50	24.38	60.00	-35.62	QP
12	23.6580	0.27	10.50	10.77	50.00	-39.23	AVG

Remark:
Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
Margin = Result - Limit

7.2. RADIATED EMISSION (30MHZ TO 1GHZ)

LIMITS

FREQUENCY (MHz)	At 10 m	At 3 m
	dB(μV/m)	dB(μV/m)
30 – 230	30	40
230 – 1000	37	47

Note:
(1) The limit for radiated test was performed according to EN IEC 55015
(2) The tighter limit applies at the band edges.
(3) Emission level (dBμV/m)=20log Emission level (μV/m).

TEST PROCEDURE

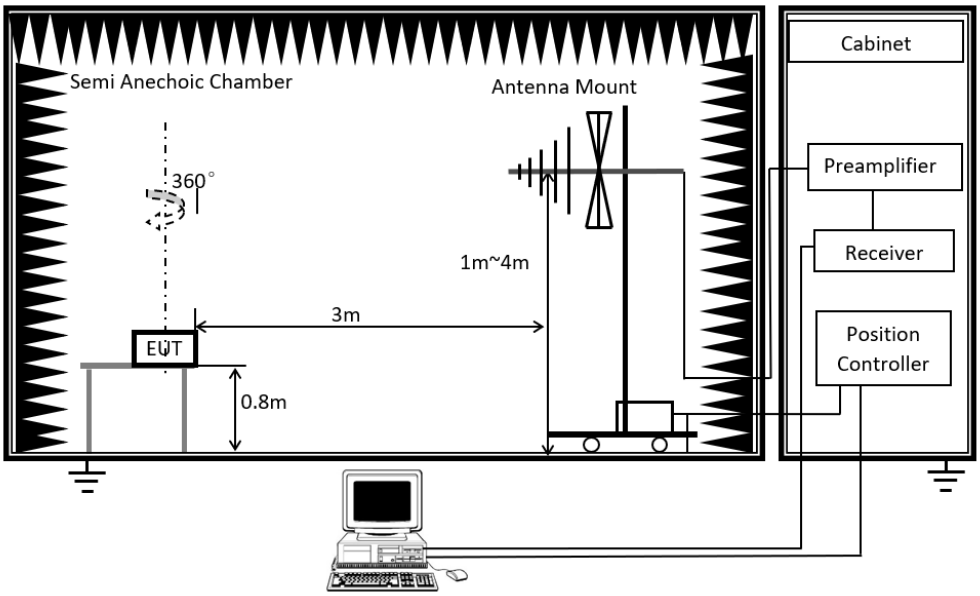
Below 1 GHz and above 30 MHz

The setting of the spectrum analyzer

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak and QP
Trace	Max hold

a. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp was used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
b. The EUT was placed on a turntable with 80 cm above ground.
c. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
d. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
e. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.
f. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
g. For measurement below 1 GHz, the initial step in collecting Radiated emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

TEST SETUP



TEST ENVIRONMENT

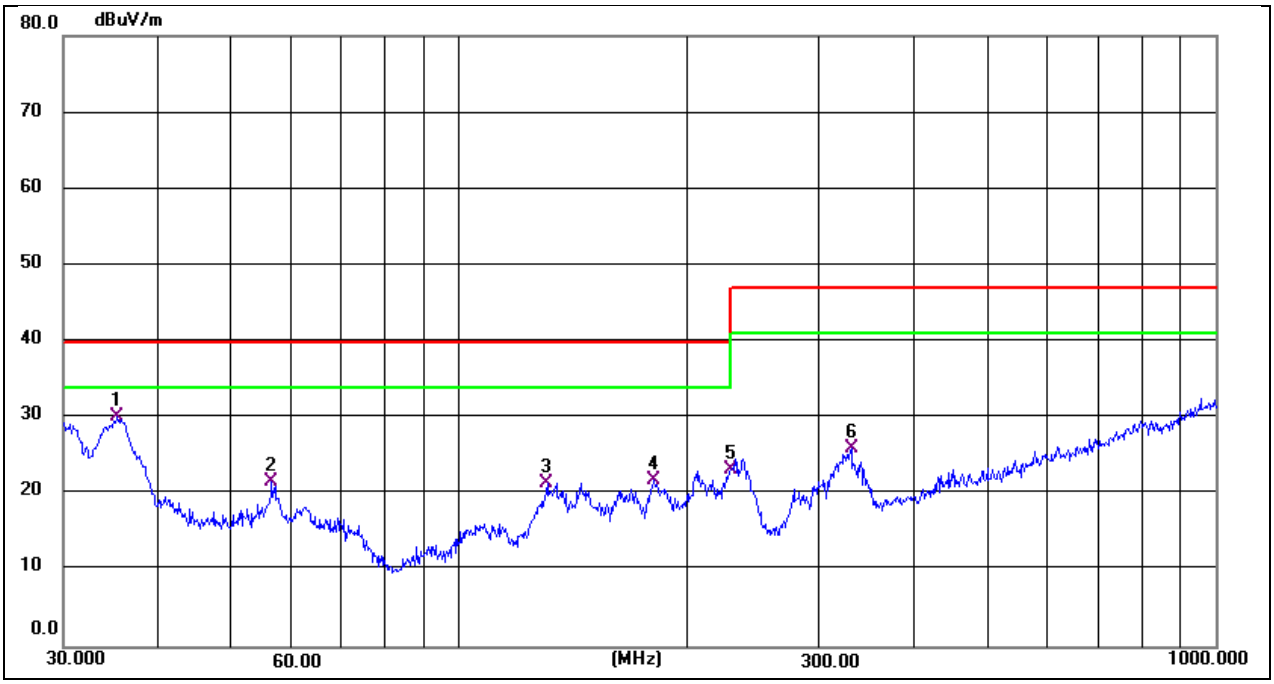
Temperature	22.9℃	Relative Humidity	50%
Atmosphere Pressure	101kPa		

TEST MODE

Pre-test Mode:	M01 ~ M05
Final Test Mode:	M01, M02, M03, M04, M05

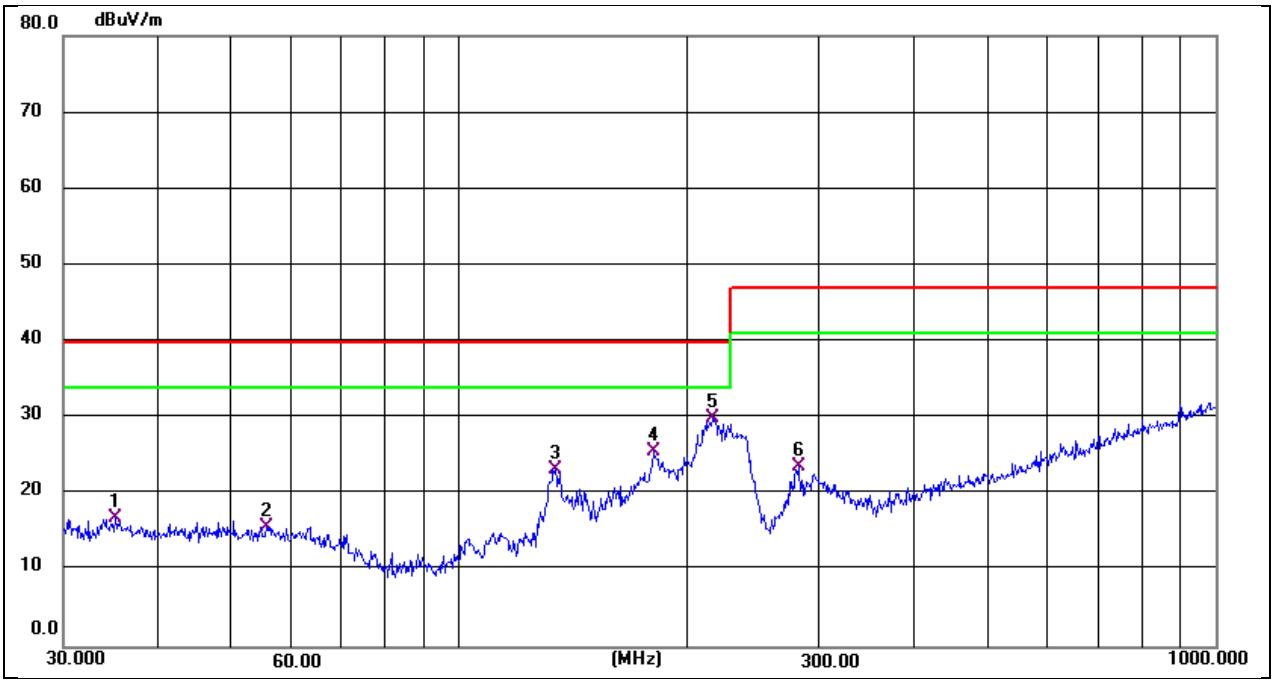
Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS



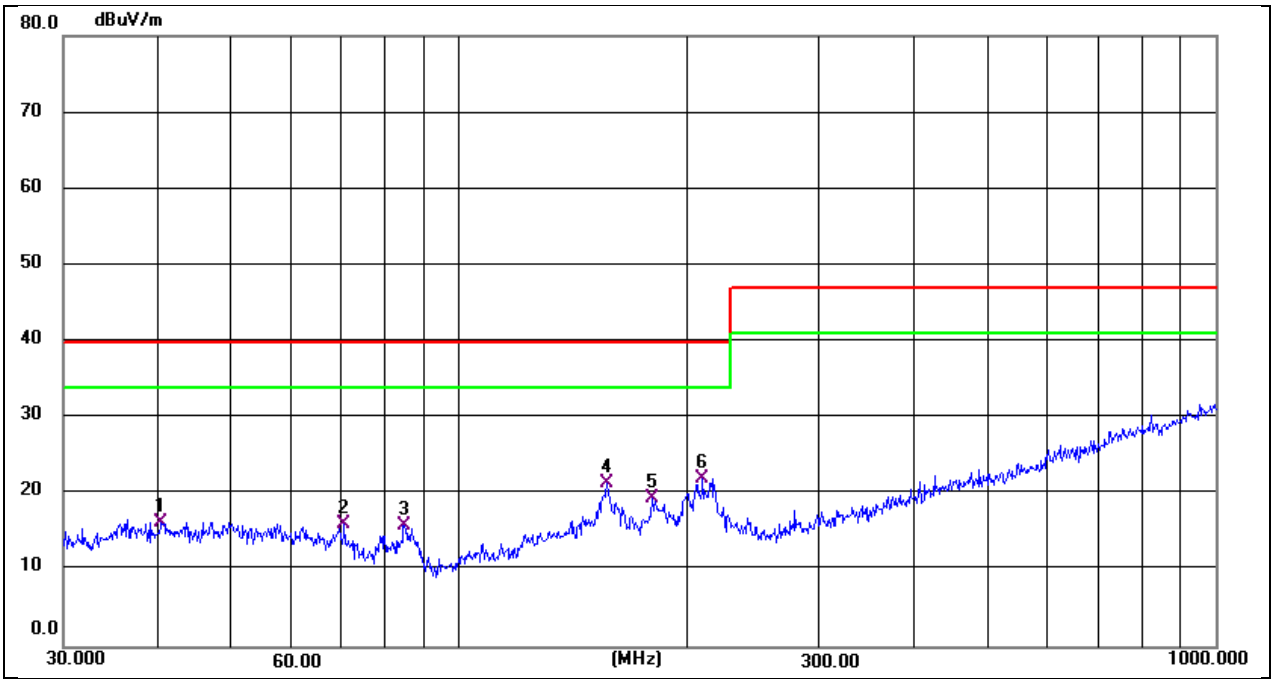
Antenna::Vertical	Mode: M01

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	35.3750	42.92	-12.72	30.20	40.00	-9.80	QP	
2	56.5930	34.25	-12.57	21.68	40.00	-18.32	QP	
3	130.8369	35.34	-13.77	21.57	40.00	-18.43	QP	
4	181.2834	35.84	-13.99	21.85	40.00	-18.15	QP	
5	228.4904	38.74	-15.43	23.31	40.00	-16.69	QP	
6	330.1948	37.04	-11.04	26.00	47.00	-21.00	QP	



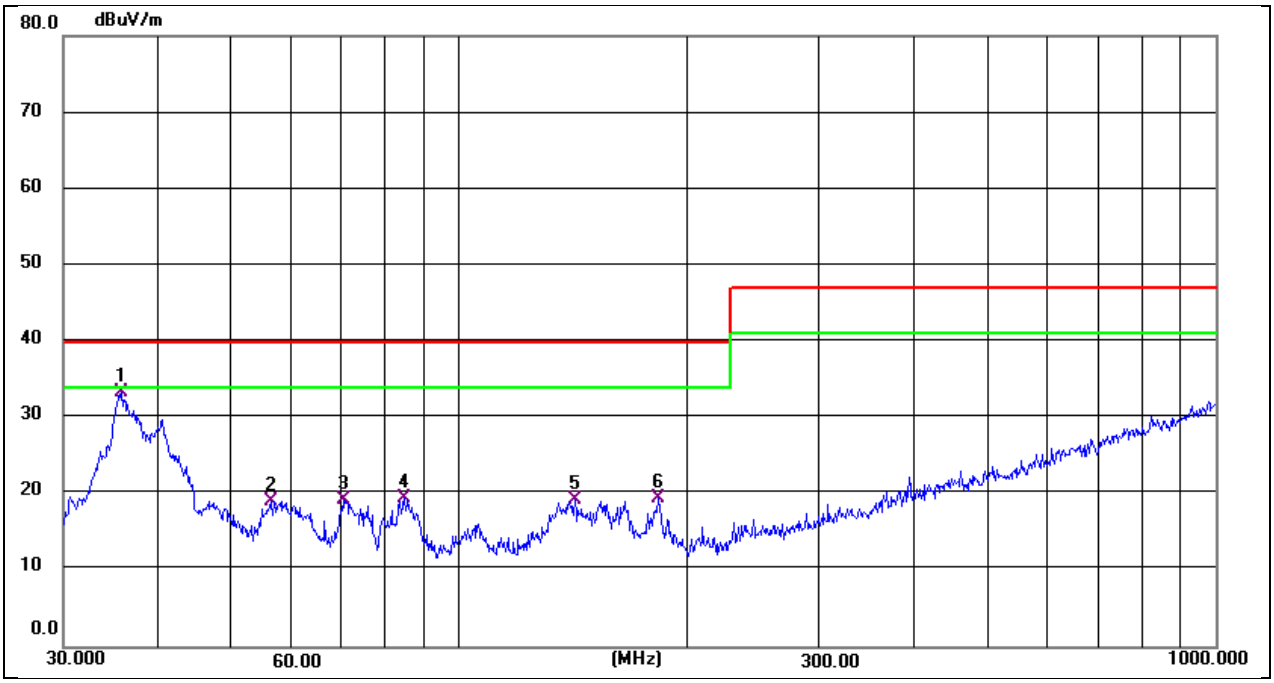
Antenna::Horizontal	Mode: M01

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	35.1277	29.56	-12.72	16.84	40.00	-23.16	QP	
2	55.8047	28.20	-12.39	15.81	40.00	-24.19	QP	
3	134.0881	36.62	-13.43	23.19	40.00	-16.81	QP	
4	180.6488	39.50	-13.91	25.59	40.00	-14.41	QP	
5	216.0240	46.06	-16.07	29.99	40.00	-10.01	QP	
6	281.0074	36.22	-12.49	23.73	47.00	-23.27	QP	



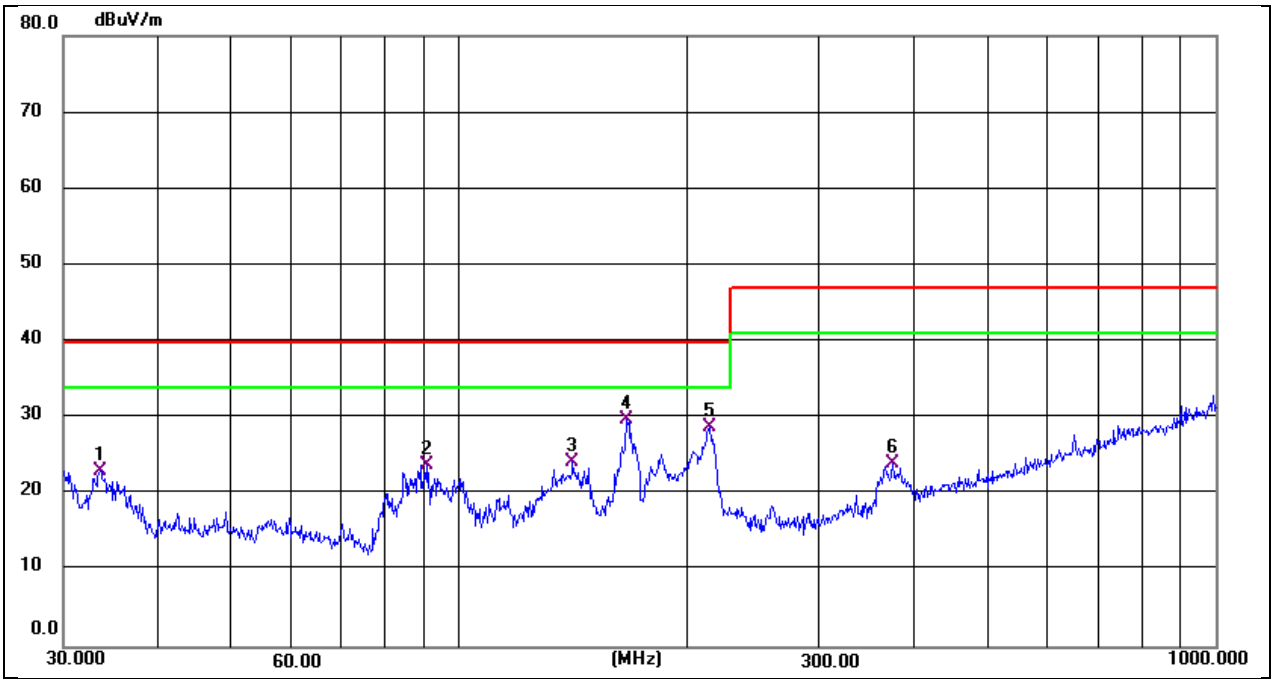
Antenna::Horizontal	Mode: M02

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	40.4170	28.85	-12.46	16.39	40.00	-23.61	QP	
2	70.5835	30.49	-14.41	16.08	40.00	-23.92	QP	
3	84.7020	33.79	-17.79	16.00	40.00	-24.00	QP	
4	157.0073	33.73	-12.28	21.45	40.00	-18.55	QP	
5	180.0164	33.41	-13.86	19.55	40.00	-20.45	QP	
6	210.0481	38.26	-16.19	22.07	40.00	-17.93	QP	



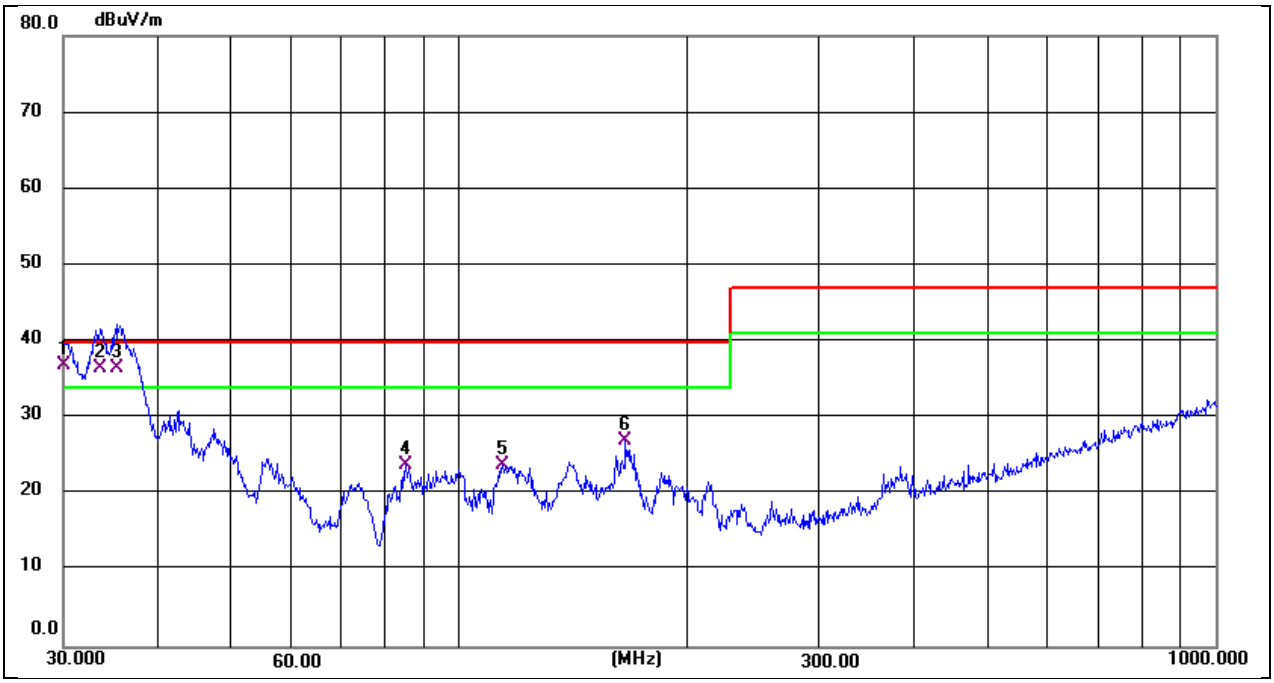
Antenna::Vertical	Mode: M02

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	35.8746	46.13	-12.71	33.42	40.00	-6.58	QP	
2	56.3948	31.63	-12.51	19.12	40.00	-20.88	QP	
3	70.3365	33.76	-14.36	19.40	40.00	-20.60	QP	
4	84.7020	37.20	-17.79	19.41	40.00	-20.59	QP	
5	142.3243	31.82	-12.57	19.25	40.00	-20.75	QP	
6	183.2005	33.61	-14.20	19.41	40.00	-20.59	QP	



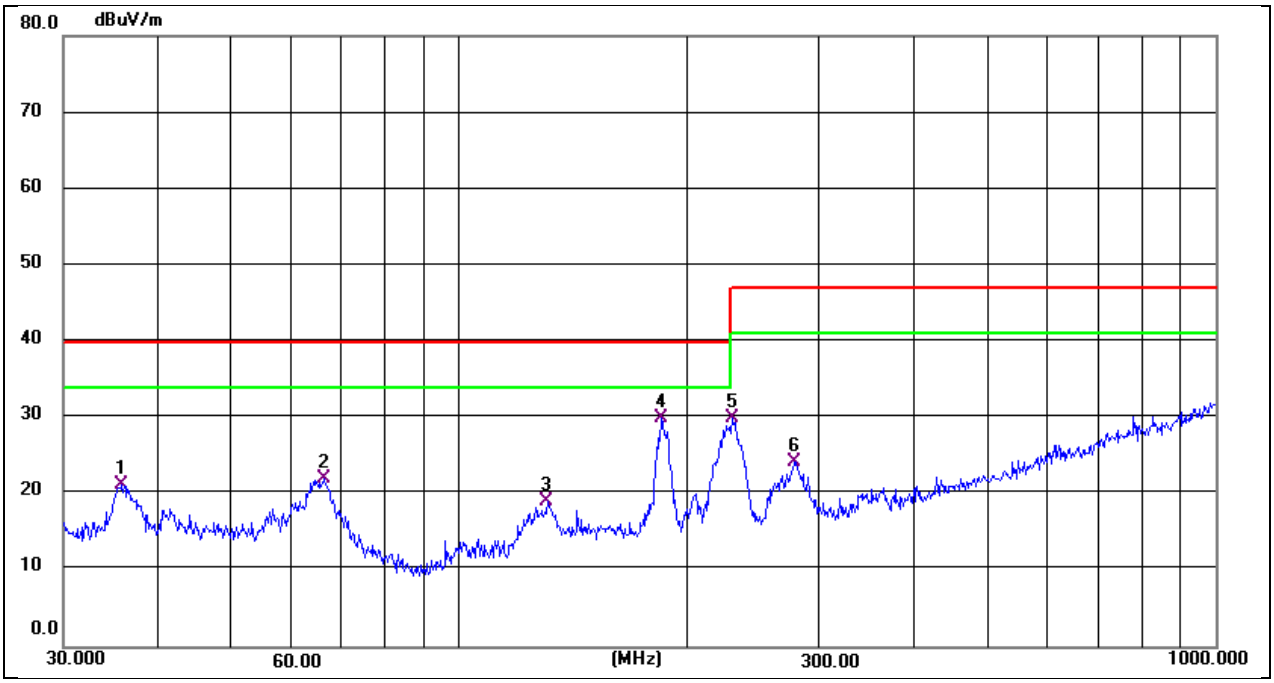
Antenna::Horizontal	Mode: M03

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	33.6802	35.68	-12.67	23.01	40.00	-16.99	QP	
2	90.5374	41.75	-17.80	23.95	40.00	-16.05	QP	
3	141.3298	36.92	-12.64	24.28	40.00	-15.72	QP	
4	166.6514	42.47	-12.73	29.74	40.00	-10.26	QP	
5	214.5143	44.88	-16.07	28.81	40.00	-11.19	QP	
6	374.6225	33.65	-9.65	24.00	47.00	-23.00	QP	



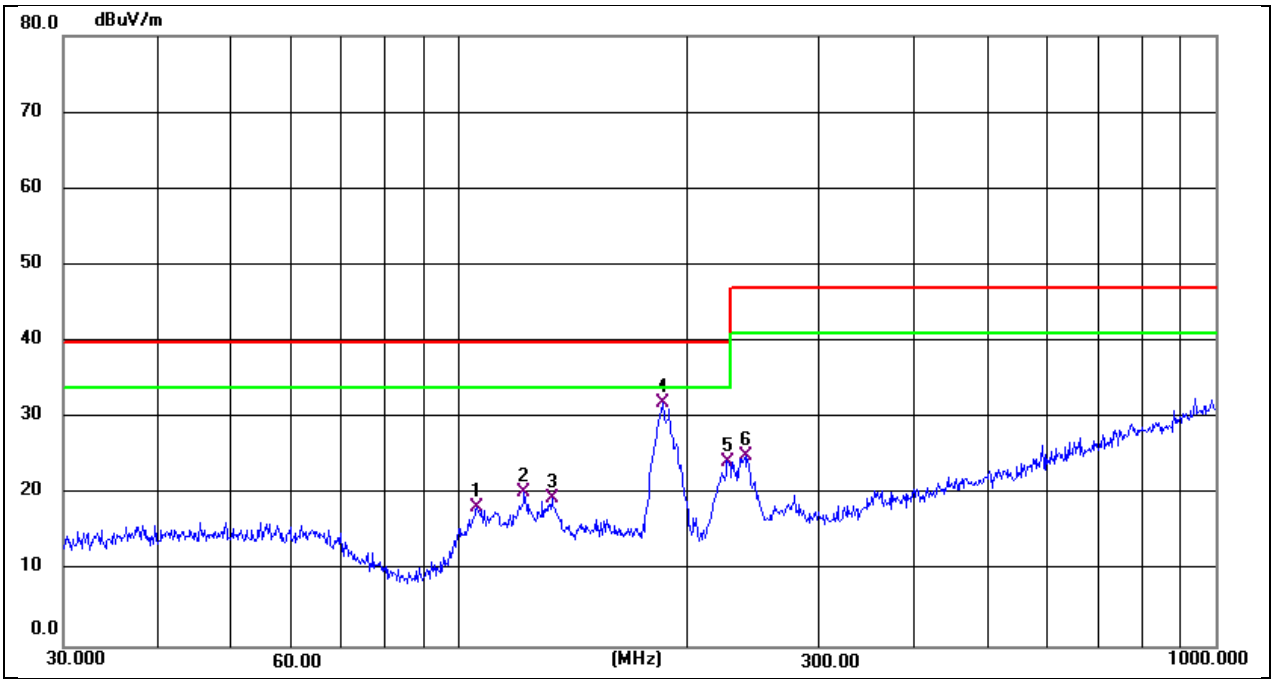
Antenna::Vertical	Mode: M03

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	30.1054	50.17	-13.27	36.90	40.00	-3.10	QP	
2	33.5624	49.18	-12.68	36.50	40.00	-3.50	QP	
3	35.3750	49.32	-12.72	36.60	40.00	-3.40	QP	
4	84.9995	41.64	-17.85	23.79	40.00	-16.21	QP	
5	114.1138	38.99	-15.12	23.87	40.00	-16.13	QP	
6	166.0680	39.63	-12.68	26.95	40.00	-13.05	QP	



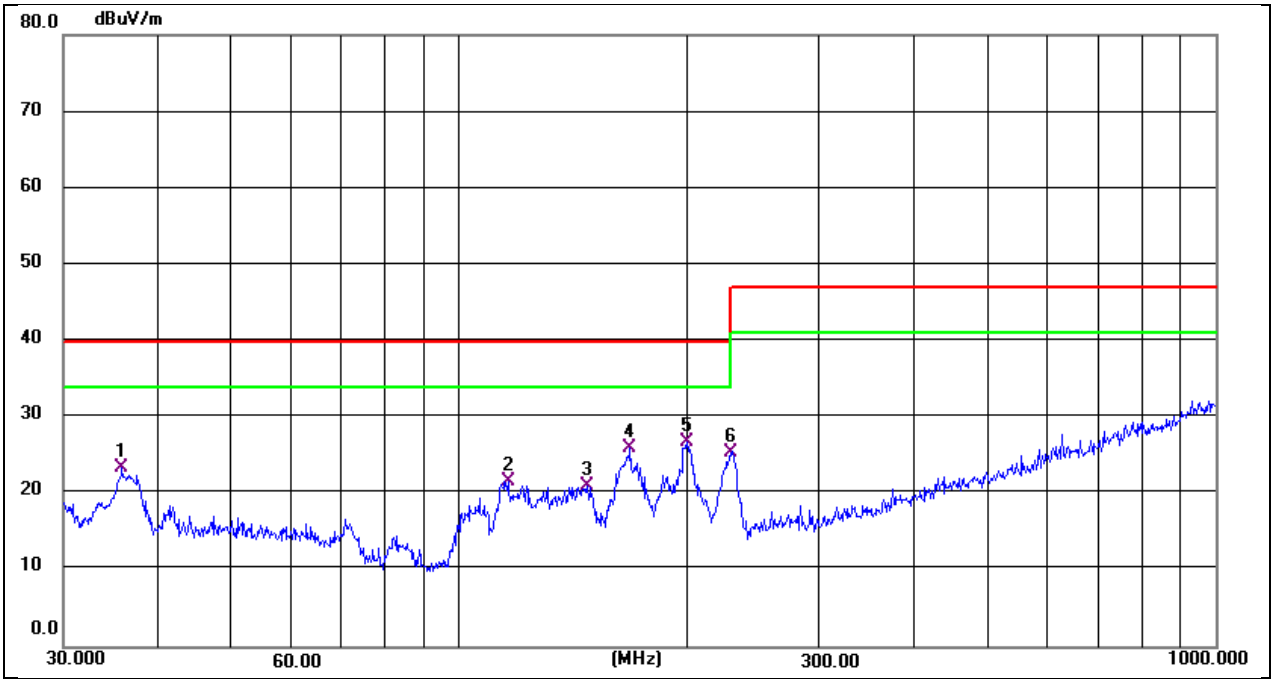
Antenna::Vertical	Mode: M04

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	35.8746	33.92	-12.71	21.21	40.00	-18.79	QP	
2	66.2662	35.62	-13.61	22.01	40.00	-17.99	QP	
3	130.8369	32.84	-13.77	19.07	40.00	-20.93	QP	
4	185.1379	44.42	-14.39	30.03	40.00	-9.97	QP	
5	230.0985	45.18	-15.16	30.02	47.00	-16.98	QP	
6	278.0668	36.84	-12.58	24.26	47.00	-22.74	QP	



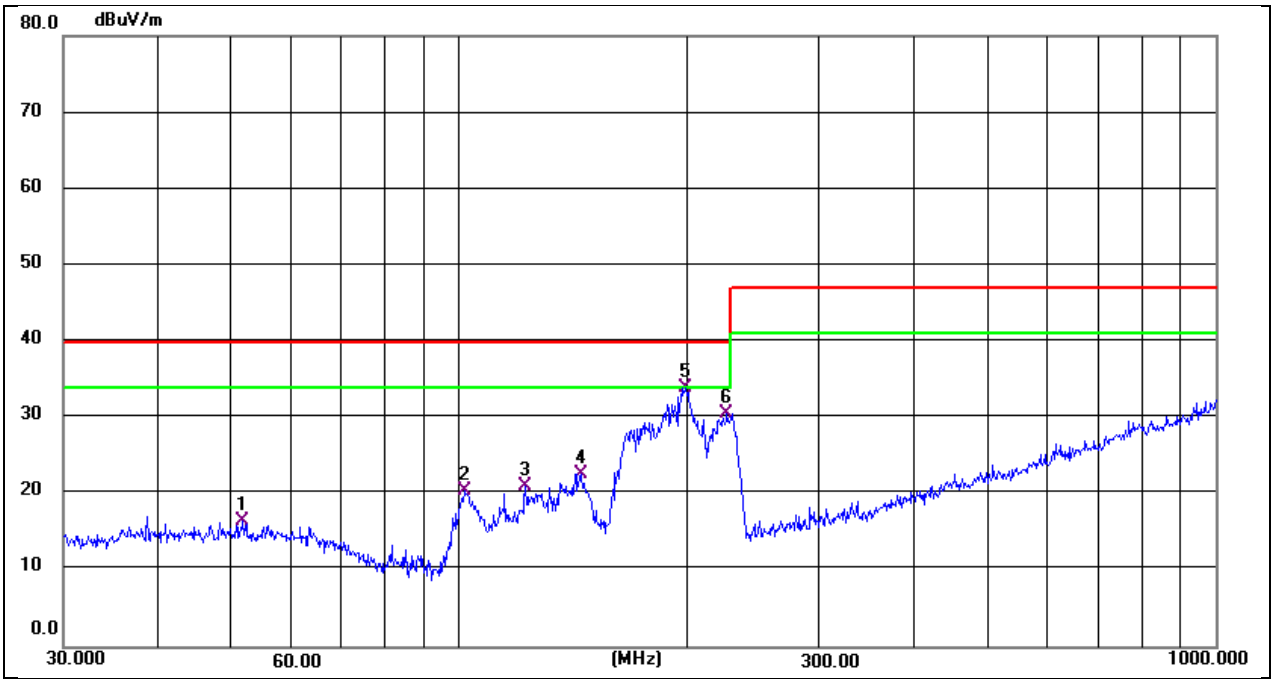
Antenna::Horizontal	Mode: M04

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	105.6415	34.25	-15.85	18.40	40.00	-21.60	QP	
2	121.9755	34.94	-14.55	20.39	40.00	-19.61	QP	
3	132.6850	32.99	-13.58	19.41	40.00	-20.59	QP	
4	185.7882	46.53	-14.51	32.02	40.00	-7.98	QP	
5	226.8936	39.98	-15.69	24.29	40.00	-15.71	QP	
6	239.1473	39.08	-14.06	25.02	47.00	-21.98	QP	



Antenna::Vertical	Mode: M05

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	35.8746	36.08	-12.71	23.37	40.00	-16.63	QP	
2	116.1321	36.78	-15.04	21.74	40.00	-18.26	QP	
3	147.9214	33.55	-12.37	21.18	40.00	-18.82	QP	
4	168.4138	38.83	-12.74	26.09	40.00	-13.91	QP	
5	199.9856	43.00	-16.14	26.86	40.00	-13.14	QP	
6	228.4904	40.87	-15.43	25.44	40.00	-14.56	QP	



Antenna::Horizontal	Mode: M05

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	51.8430	28.84	-12.24	16.60	40.00	-23.40	QP	
2	101.6443	36.95	-16.40	20.55	40.00	-19.45	QP	
3	122.4040	35.68	-14.57	21.11	40.00	-18.89	QP	
4	144.8418	35.11	-12.39	22.72	40.00	-17.28	QP	
5	199.2855	50.05	-16.00	34.05	40.00	-5.95	QP	
6	226.0994	46.43	-15.82	30.61	40.00	-9.39	QP	

Note: 1. Measure-Ment = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Measure-Ment - Limit

7.3. RADIATED EMISSION (9 KHZ TO 30 MHZ 2M LOOP)

LIMITS

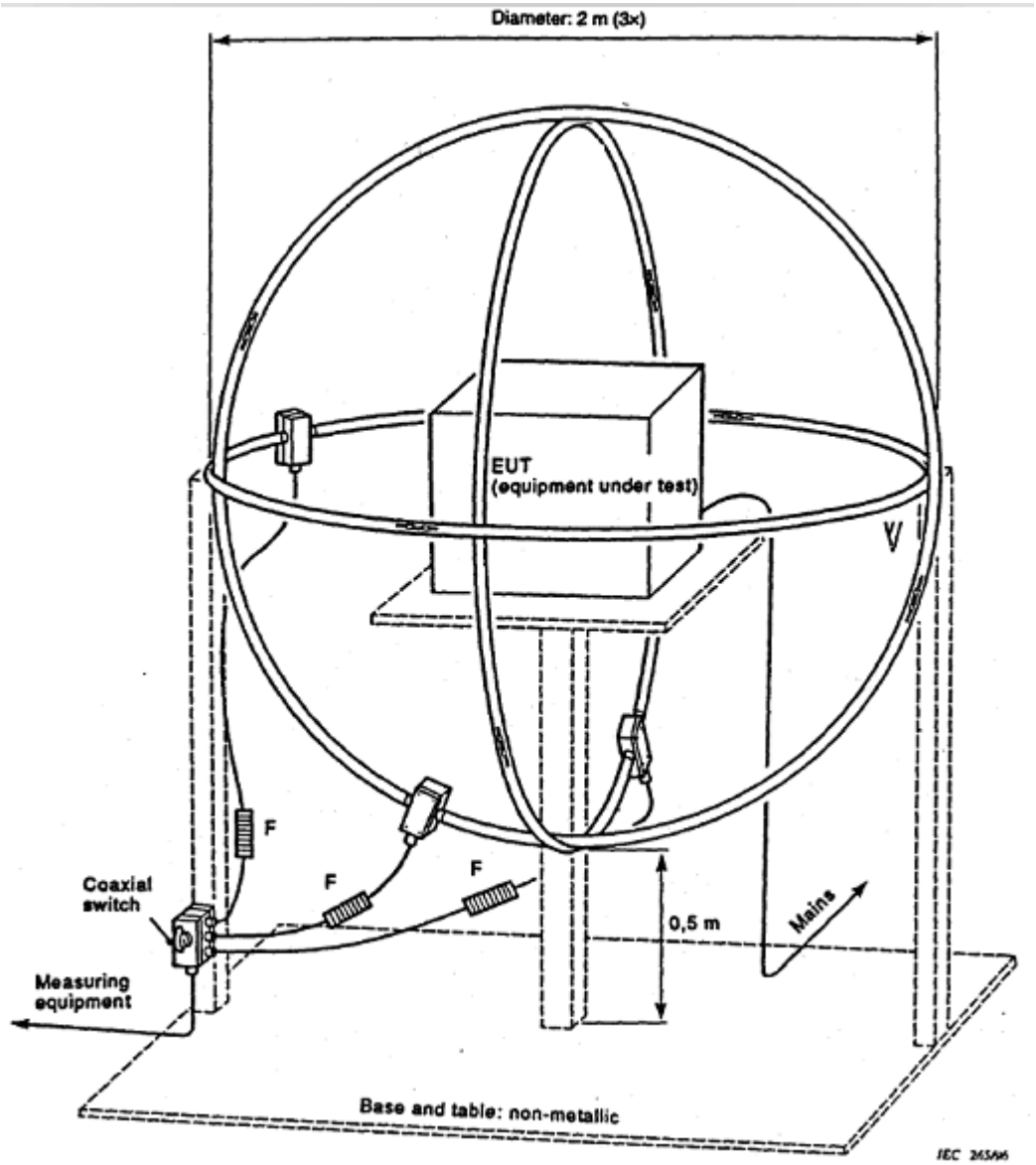
Frequency Range	Quasi-peak limits for three loop diameters dB(μA)
	2m
9 kHz - 70 kHz	88
70 kHz - 150 kHz	88-58*
150 kHz - 3.0 MHz	58-22*
3.0 MHz - 30 MHz	22

Note:
(1) The tighter limit applies at the band edges.
(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

TEST PROCEDURE

a. The quasi-peak limits of the magnetic component of the radiated electromagnetic disturbance field strength in the frequency range 9 kHz to 30 MHz measured as a current in 2 m, loop antennas around the lighting equipment.
b. The measurement range of radiated emission, which is from 9 kHz to 30 MHz, was investigated. All readings are quasi-peak values with a proper resolution Bandwidth. The initial step in collecting radiated emission data is a spectrum analyzer peak scans of the measurement range for all the test modes and then use test receiver for final measurement.

TEST SETUP



TEST ENVIRONMENT

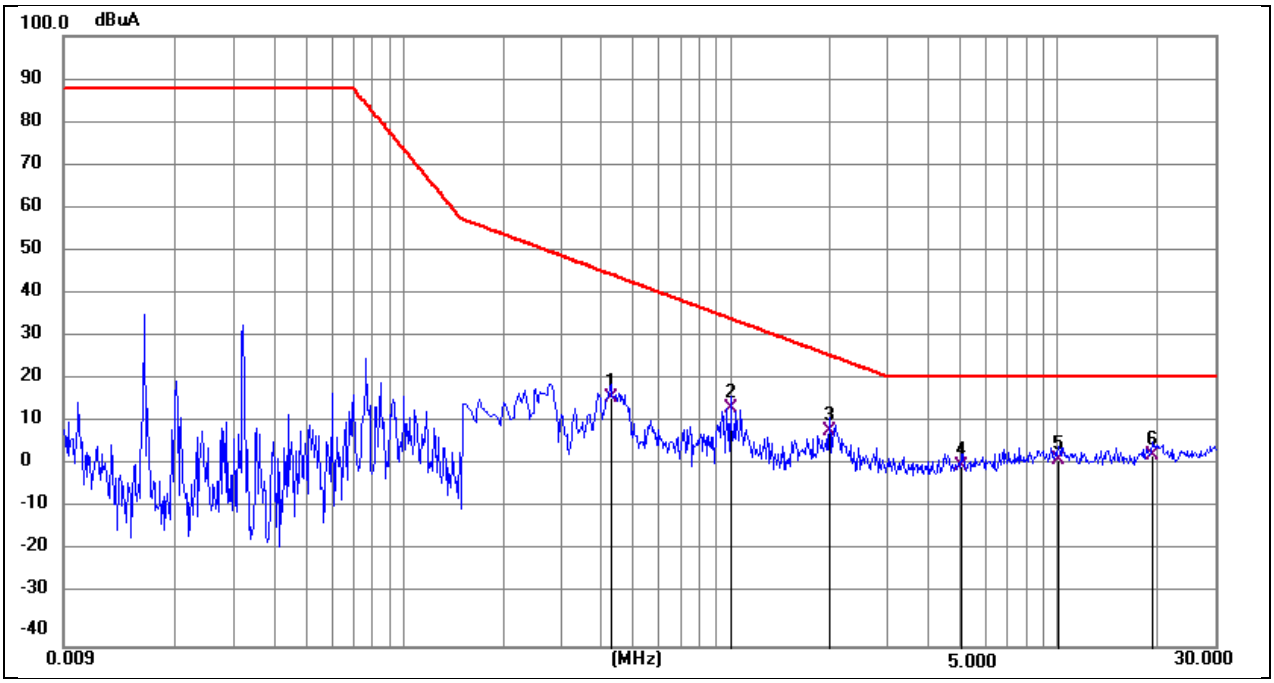
Temperature	23.2℃	Relative Humidity	52%
Atmosphere Pressure	101kPa		

TEST MODE

Pre-test Mode:	M01 ~ M05
Final Test Mode:	M01, M02, M03, M04, M05

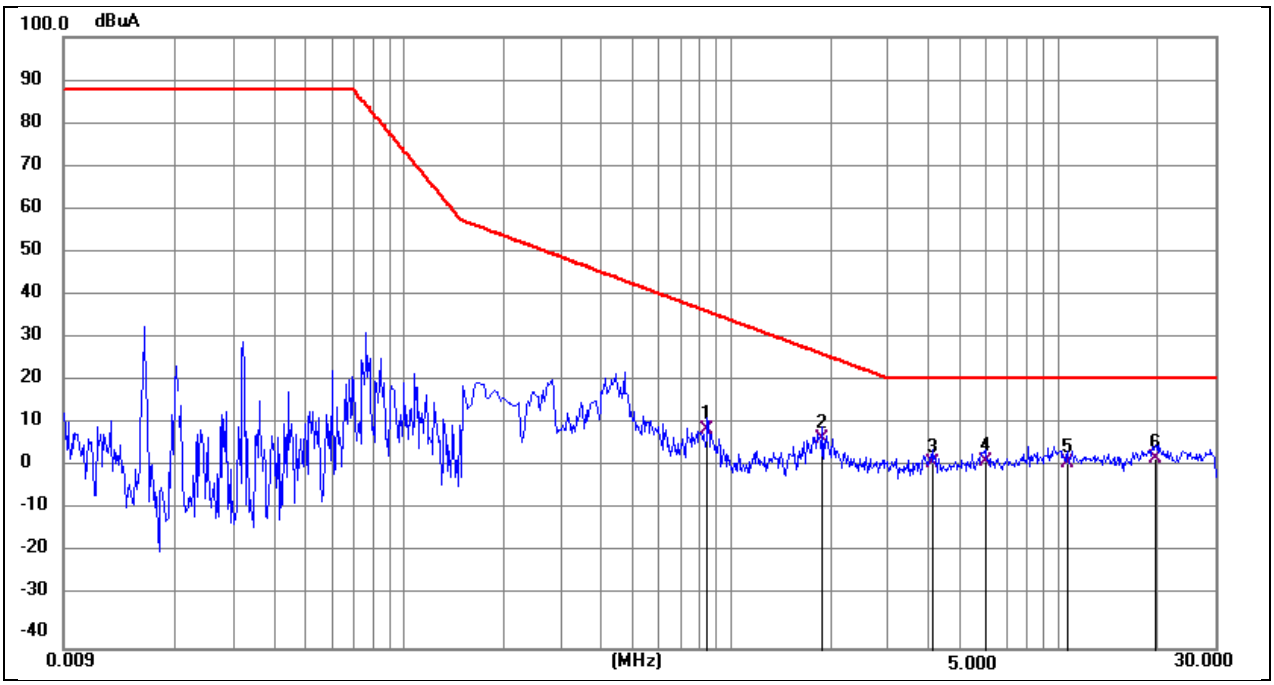
Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS



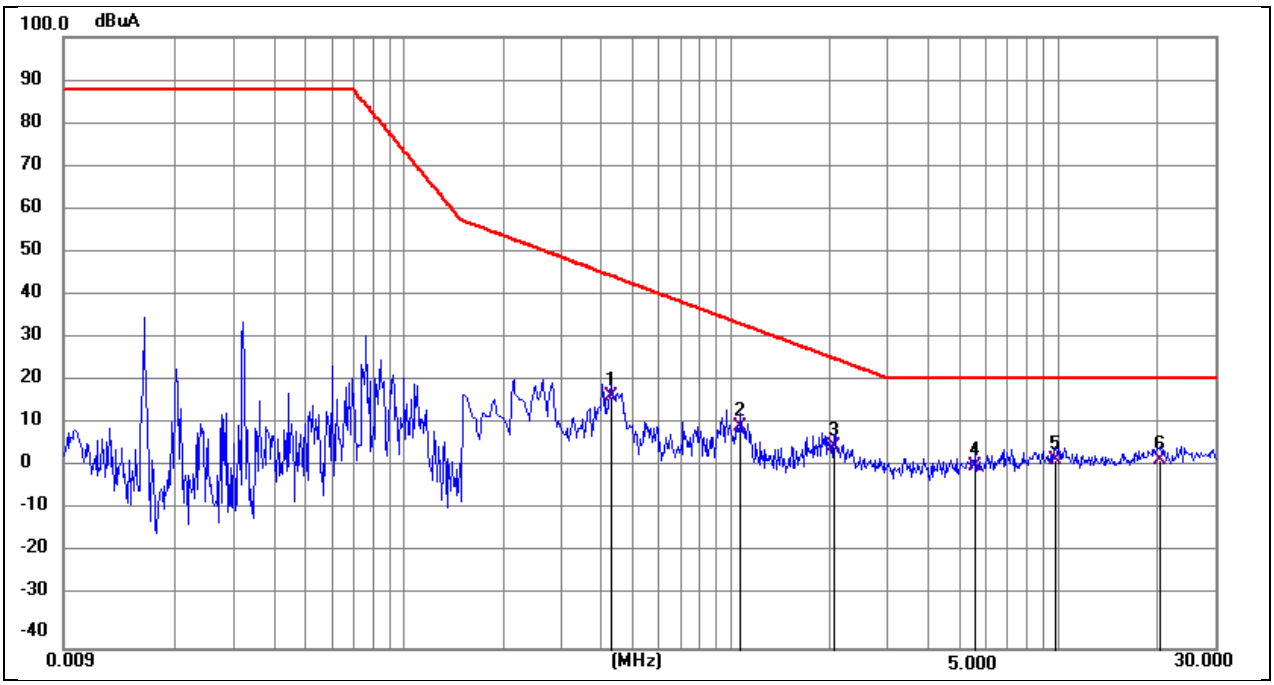
Phase: X	Mode: M01

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4243	14.59	2.73	17.32	45.50	-28.18	QP
2	0.9915	12.19	2.41	14.60	35.30	-20.70	QP
3	1.9815	8.28	1.32	9.60	26.98	-17.38	QP
4	5.0100	0.09	1.36	1.45	22.00	-20.55	QP
5	10.0182	2.38	0.47	2.85	22.00	-19.15	QP
6	19.5000	1.54	2.46	4.00	22.00	-18.00	QP



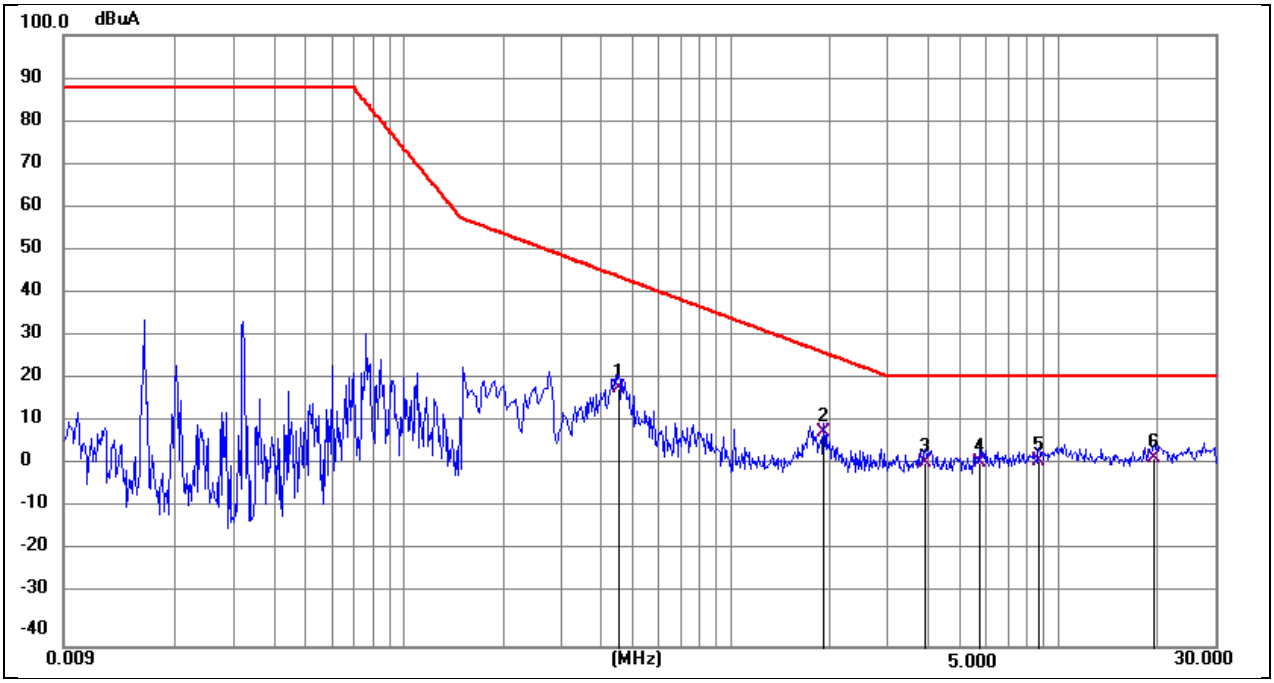
Phase: Y	Mode: M01

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.8430	7.84	2.21	10.05	37.25	-27.20	QP
2	1.8960	7.20	0.75	7.95	27.51	-19.56	QP
3	4.1280	1.32	1.28	2.60	22.00	-19.40	QP
4	5.9325	2.32	0.53	2.85	22.00	-19.15	QP
5	10.6800	0.70	1.75	2.45	22.00	-19.55	QP
6	19.7970	0.53	3.09	3.62	22.00	-18.38	QP



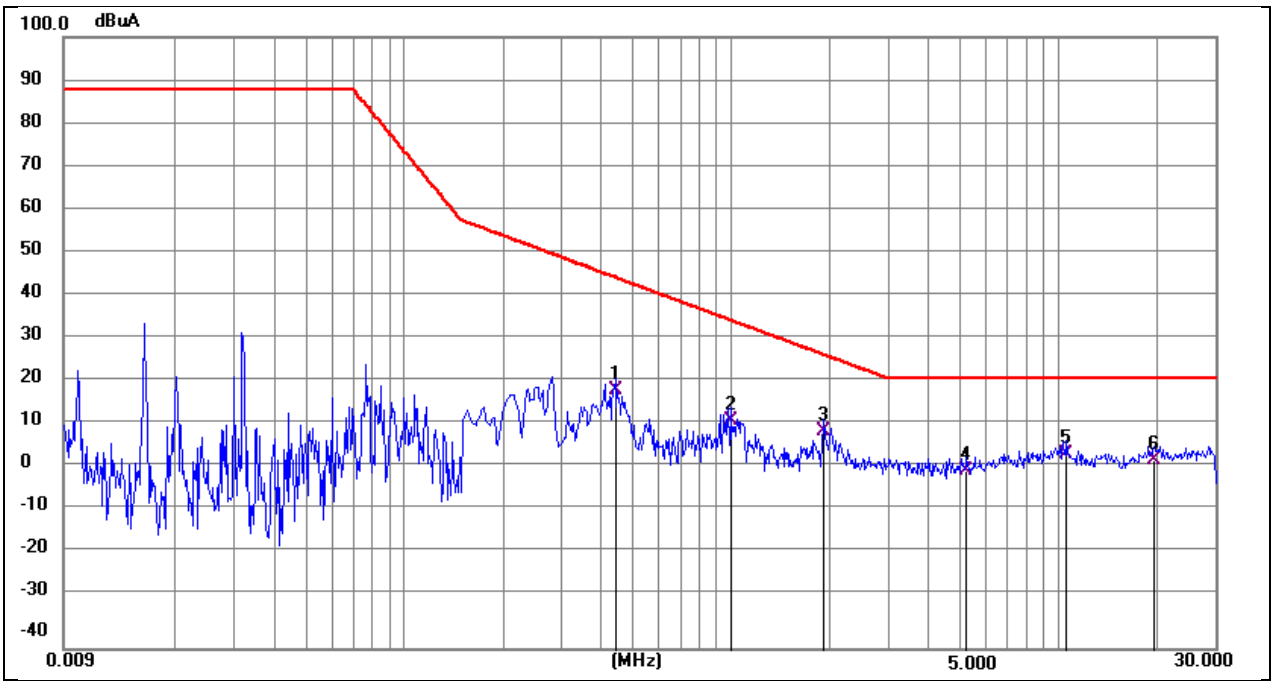
Phase: Z	Mode: M01

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4243	15.02	2.73	17.75	45.50	-27.75	QP
2	1.0630	8.64	2.31	10.95	34.47	-23.52	QP
3	2.0535	5.03	1.29	6.32	26.56	-20.24	QP
4	5.5410	0.16	1.54	1.70	22.00	-20.30	QP
5	9.7260	2.97	0.38	3.35	22.00	-18.65	QP
6	20.3775	1.71	1.49	3.20	22.00	-18.80	QP



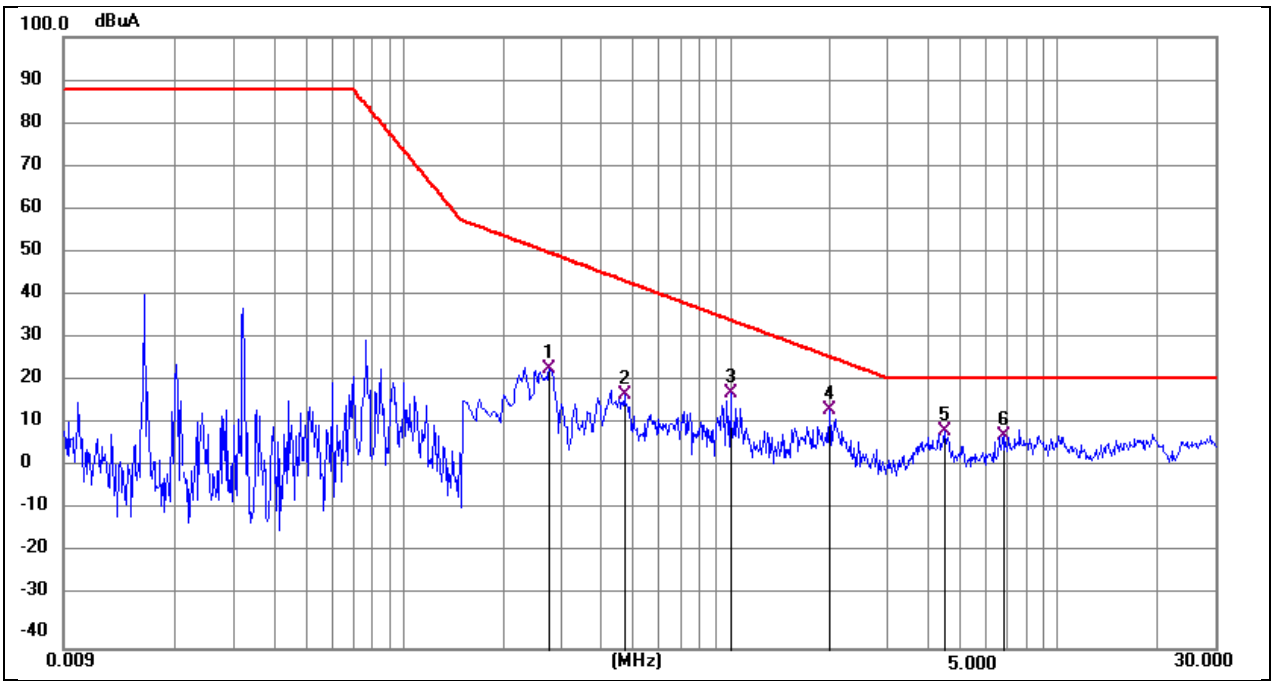
Phase: Z	Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4515	16.59	2.71	19.30	44.76	-25.46	QP
2	1.9092	8.52	0.73	9.25	27.43	-18.18	QP
3	3.9120	0.99	1.31	2.30	22.00	-19.70	QP
4	5.6940	1.73	0.63	2.36	22.00	-19.64	QP
5	8.7180	1.39	1.16	2.55	22.00	-19.45	QP
6	19.5630	0.21	3.04	3.25	22.00	-18.75	QP



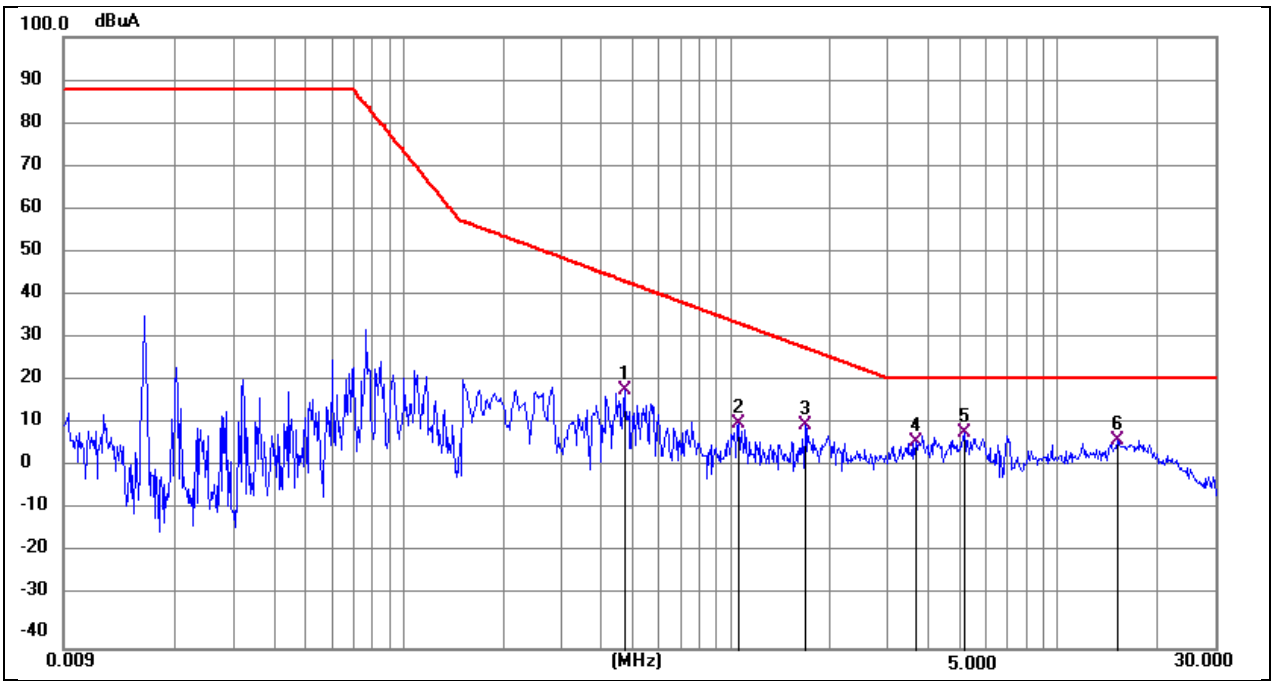
Phase: Y	Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4380	16.43	2.72	19.15	45.12	-25.97	QP
2	0.9870	9.93	2.43	12.36	35.36	-23.00	QP
3	1.9050	8.35	1.40	9.75	27.46	-17.71	QP
4	5.2080	-0.49	1.43	0.94	22.00	-21.06	QP
5	10.5945	4.03	0.57	4.60	22.00	-17.40	QP
6	19.5580	0.98	2.44	3.42	22.00	-18.58	QP



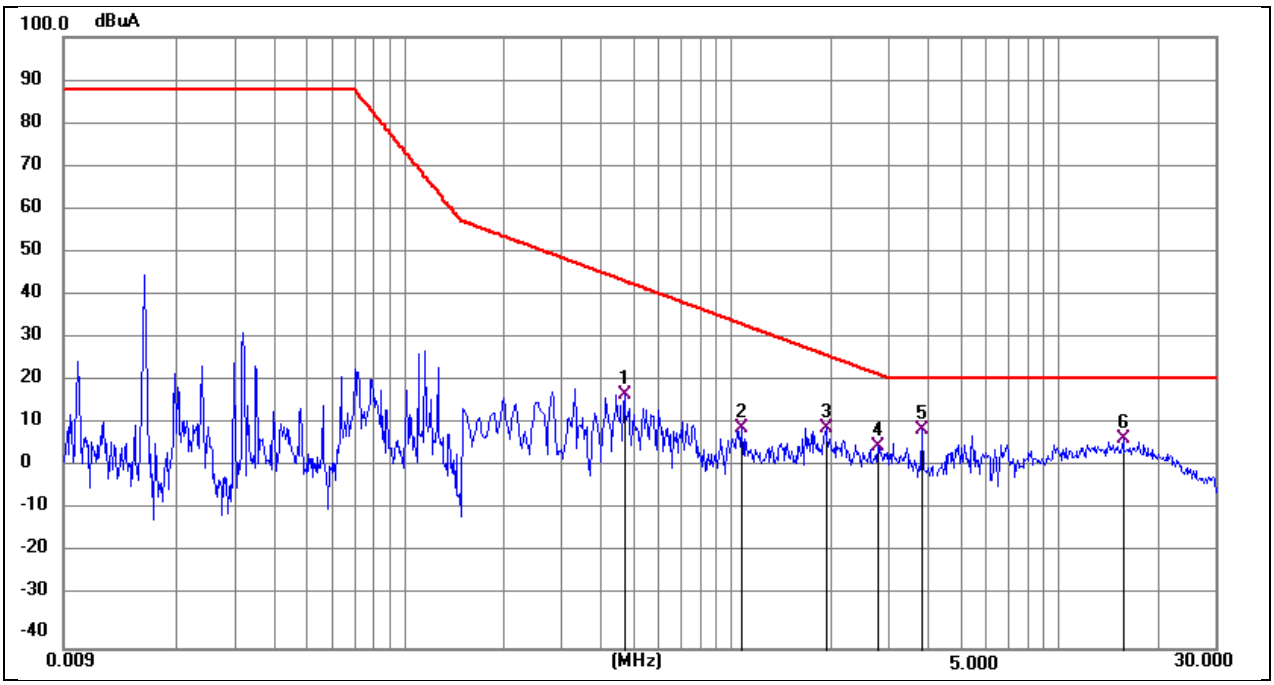
Phase: X	Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.2760	22.60	1.63	24.23	50.67	-26.44	QP
2	0.4692	15.58	2.69	18.27	44.30	-26.03	QP
3	0.9915	16.20	2.41	18.61	35.30	-16.69	QP
4	1.9815	13.25	1.32	14.57	26.98	-12.41	QP
5	4.4880	8.49	1.20	9.69	22.00	-12.31	QP
6	6.7605	7.94	0.97	8.91	22.00	-13.09	QP



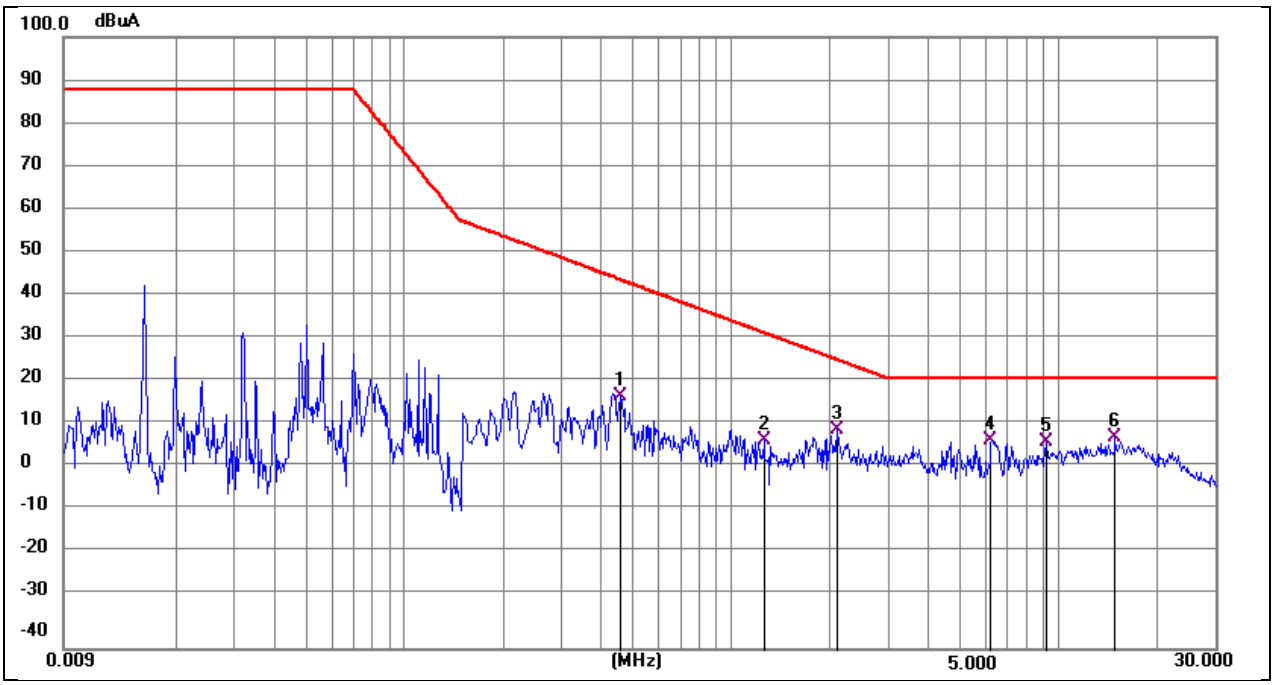
Phase: X	Mode: M03

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4692	18.90	0.48	19.38	44.22	-24.84	QP
2	1.0455	9.64	1.82	11.46	34.62	-23.16	QP
3	1.6800	9.55	1.82	11.37	28.94	-17.57	QP
4	3.6600	5.79	1.57	7.36	22.00	-14.64	QP
5	5.1540	8.16	1.48	9.64	22.00	-12.36	QP
6	15.1080	3.76	4.04	7.80	22.00	-14.20	QP



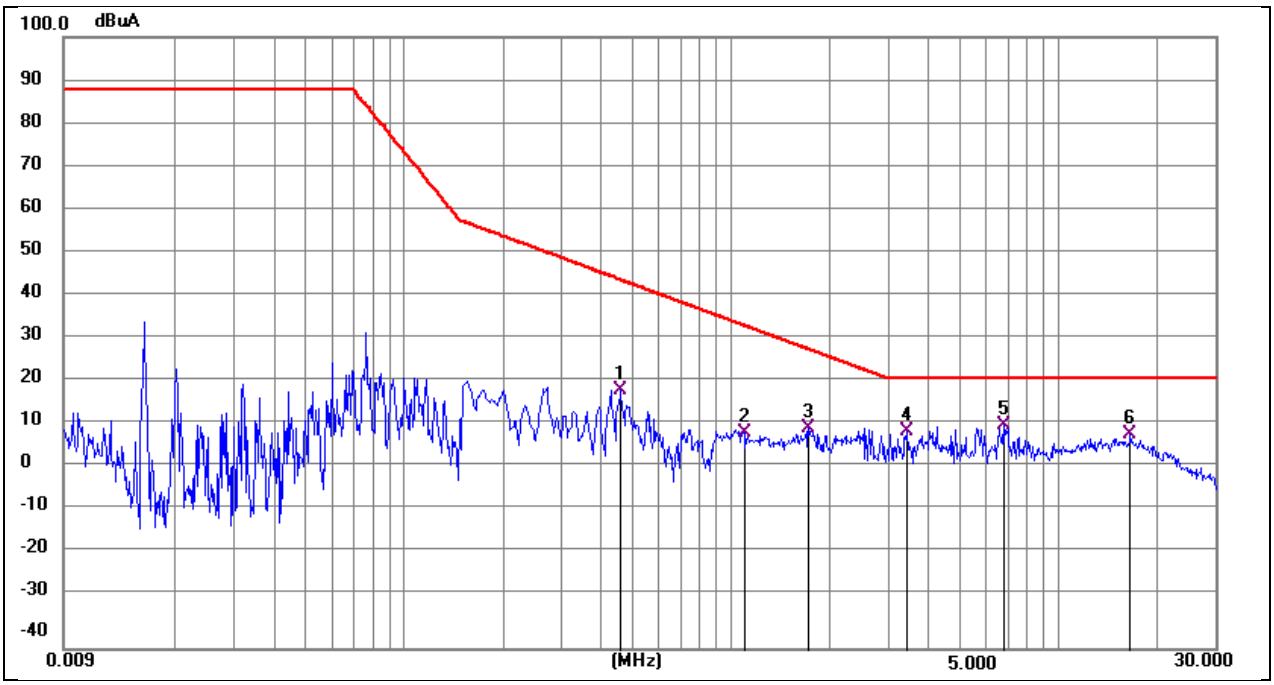
Phase: Y	Mode: M03

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4676	17.61	0.48	18.09	44.26	-26.17	QP
2	1.0690	8.64	1.82	10.46	34.36	-23.90	QP
3	1.9334	8.83	1.82	10.65	27.26	-16.61	QP
4	2.7854	4.60	1.70	6.30	22.89	-16.59	QP
5	3.8220	8.54	1.55	10.09	22.00	-11.91	QP
6	15.6780	3.73	4.24	7.97	22.00	-14.03	QP



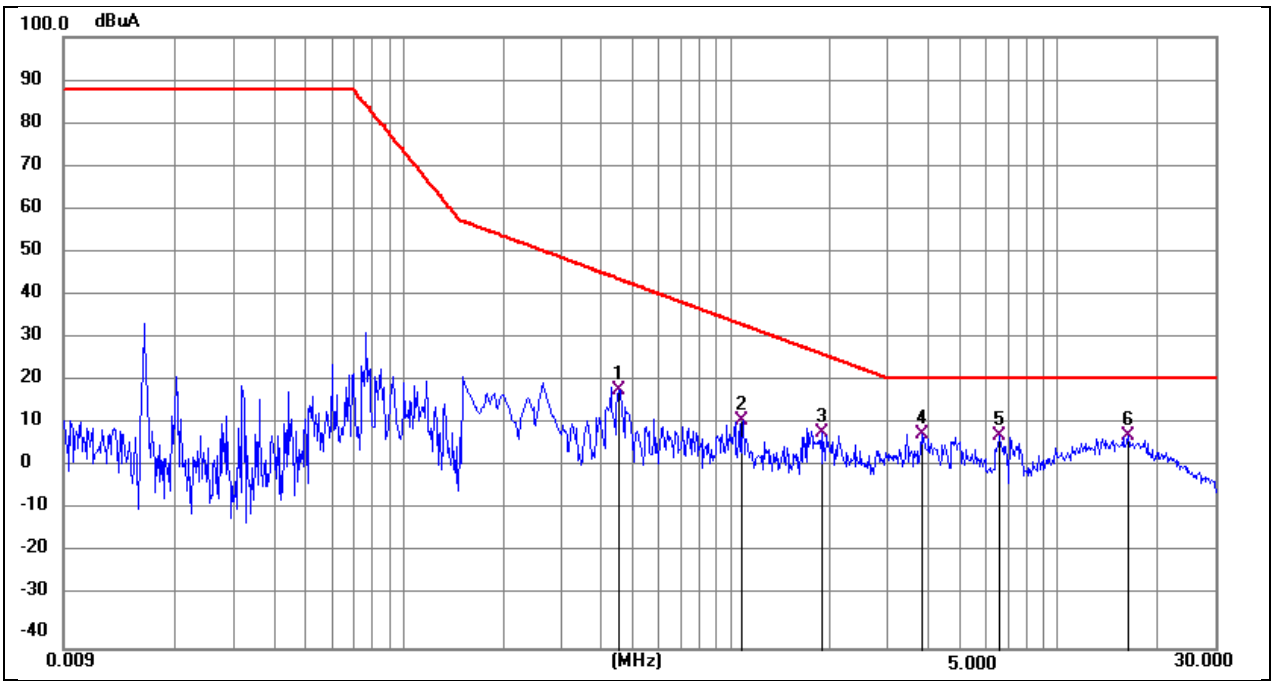
Phase: Z	Mode: M03

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4560	17.47	0.47	17.94	44.56	-26.62	QP
2	1.2570	5.92	1.82	7.74	32.42	-24.68	QP
3	2.1120	8.33	1.80	10.13	26.20	-16.07	QP
4	6.2204	6.41	1.35	7.76	22.00	-14.24	QP
5	9.1181	6.34	0.98	7.32	22.00	-14.68	QP
6	14.8871	4.67	3.96	8.63	22.00	-13.37	QP



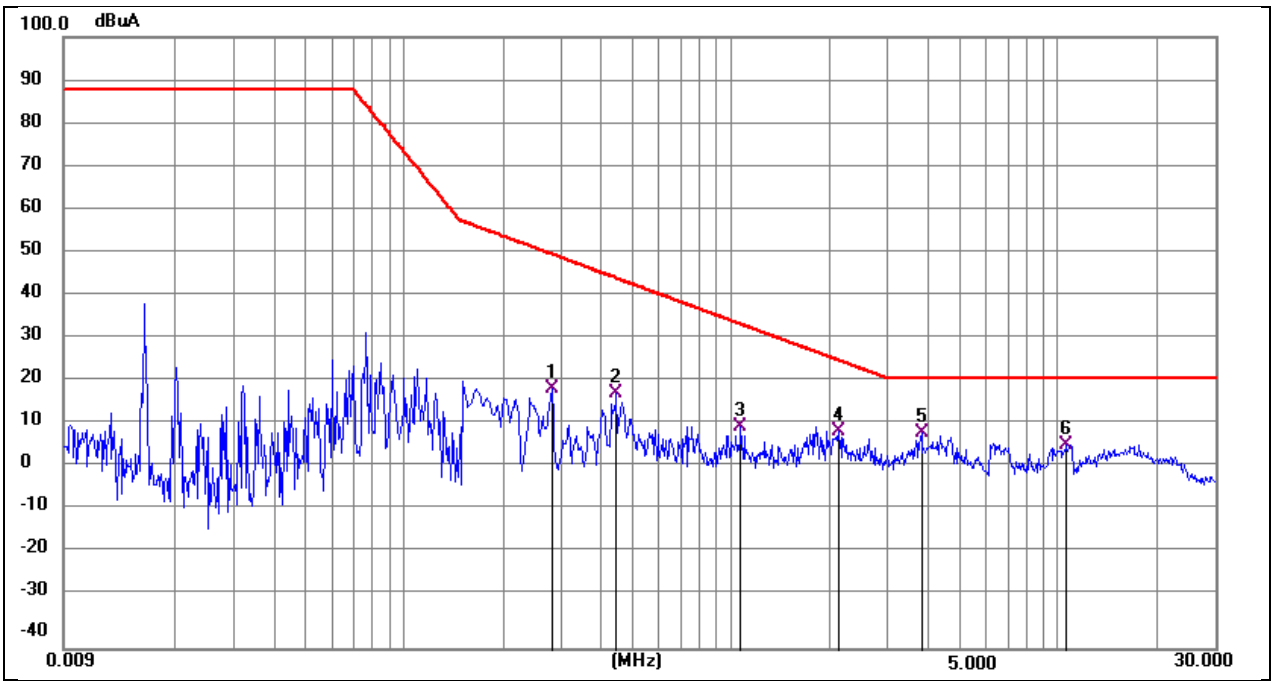
Phase: Z	Mode: M04

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4560	18.71	0.47	19.18	44.56	-25.38	QP
2	1.0905	7.82	1.82	9.64	34.12	-24.48	QP
3	1.7250	8.65	1.82	10.47	28.63	-18.16	QP
4	3.4214	8.34	1.61	9.95	22.00	-12.05	QP
5	6.7470	10.14	1.11	11.25	22.00	-10.75	QP
6	16.4760	4.99	4.10	9.09	22.00	-12.91	QP



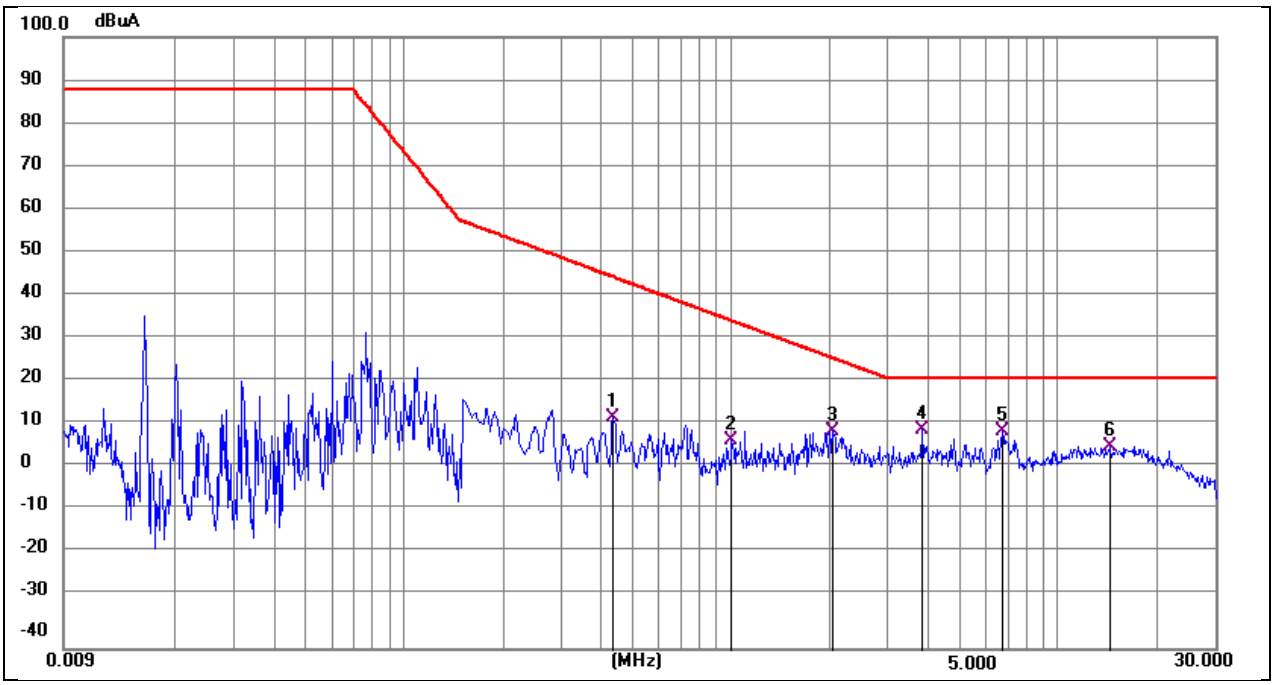
Phase: Y	Mode: M04

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4515	18.87	0.46	19.33	44.68	-25.35	QP
2	1.0859	10.37	1.82	12.19	34.17	-21.98	QP
3	1.8825	7.63	1.82	9.45	27.58	-18.13	QP
4	3.8220	7.74	1.55	9.29	22.00	-12.71	QP
5	6.6210	7.47	1.17	8.64	22.00	-13.36	QP
6	16.2375	4.70	4.23	8.93	22.00	-13.07	QP



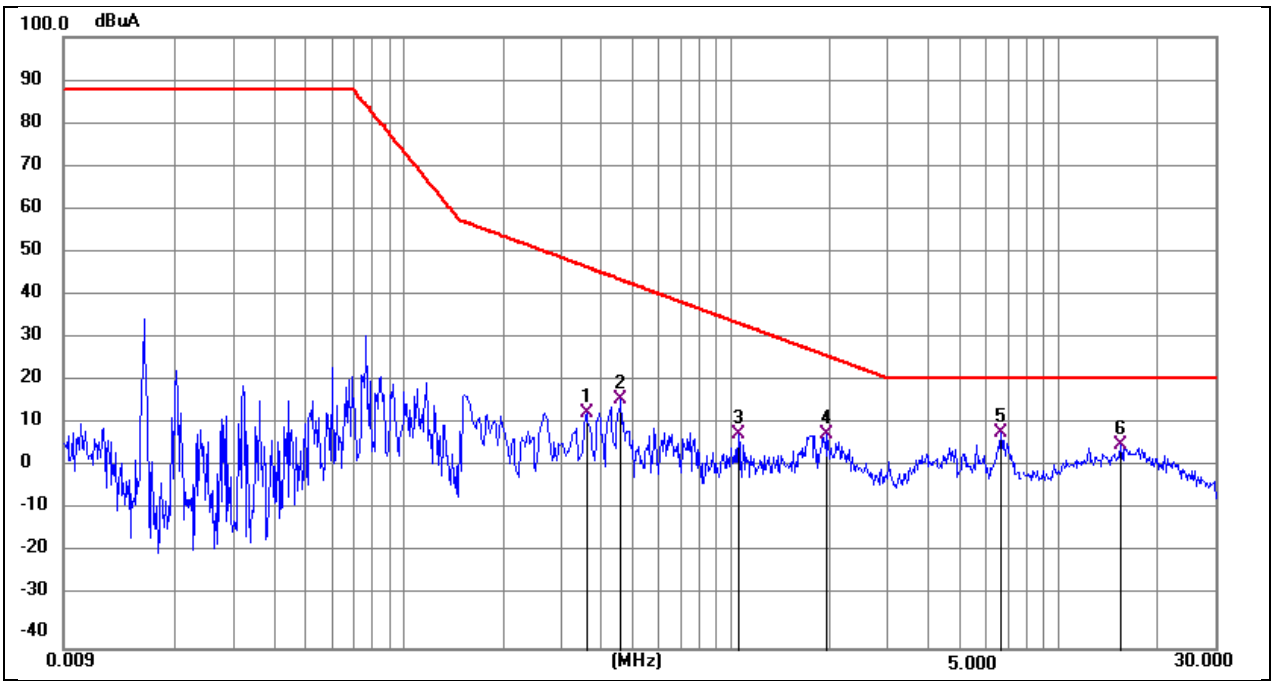
Phase: X	Mode: M04

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.2805	19.31	0.17	19.48	50.38	-30.90	QP
2	0.4425	17.96	0.45	18.41	44.92	-26.51	QP
3	1.0630	9.11	1.82	10.93	34.42	-23.49	QP
4	2.1210	7.91	1.80	9.71	26.15	-16.44	QP
5	3.8220	7.95	1.55	9.50	22.00	-12.50	QP
6	10.6035	4.76	1.83	6.59	22.00	-15.41	QP



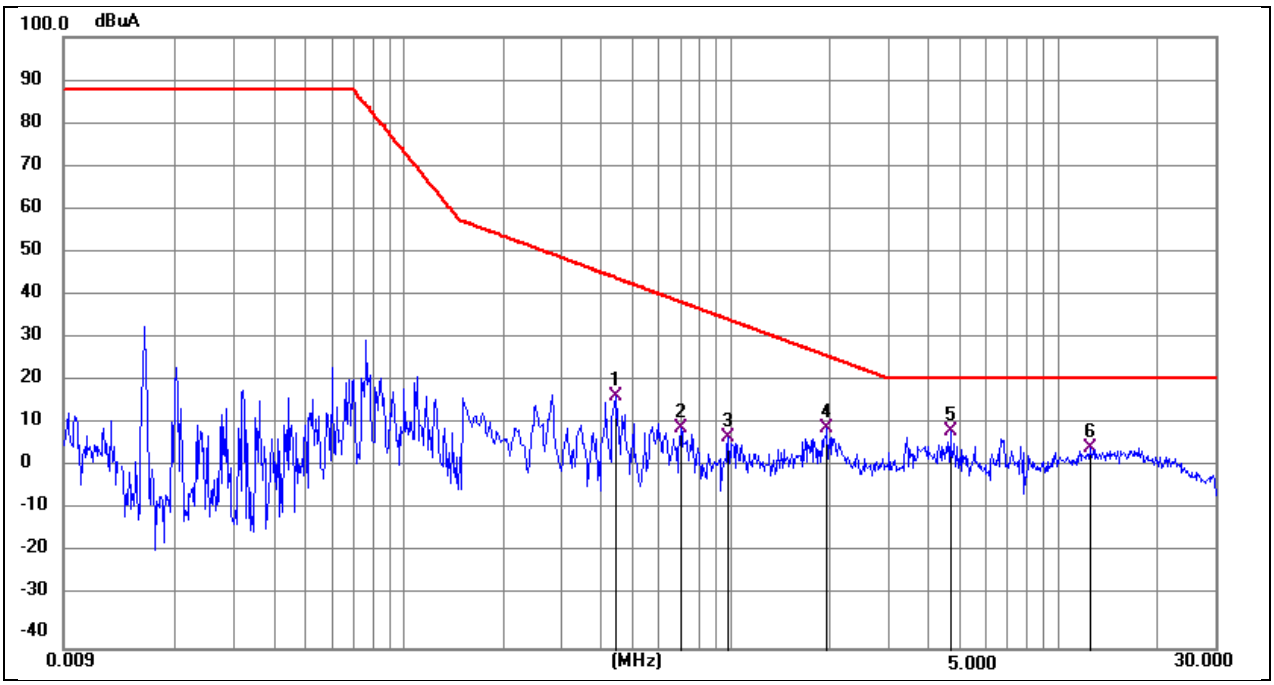
Phase: Z	Mode: M05

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4334	12.49	0.44	12.93	45.17	-32.24	QP
2	1.0001	6.02	1.82	7.84	35.15	-27.31	QP
3	2.0310	8.06	1.82	9.88	26.67	-16.79	QP
4	3.8264	8.70	1.55	10.25	22.00	-11.75	QP
5	6.7065	8.87	1.13	10.00	22.00	-12.00	QP
6	14.3070	2.69	3.76	6.45	22.00	-15.55	QP



Phase: Y	Mode: M05

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.3570	13.80	0.32	14.12	47.49	-33.37	QP
2	0.4560	16.79	0.47	17.26	44.56	-27.30	QP
3	1.0500	7.22	1.82	9.04	34.57	-25.53	QP
4	1.9410	7.28	1.82	9.10	27.21	-18.11	QP
5	6.6480	8.31	1.16	9.47	22.00	-12.53	QP
6	15.5355	2.45	4.19	6.64	22.00	-15.36	QP



Phase: X	Mode: M05

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4380	17.36	0.45	17.81	45.04	-27.23	QP
2	0.6990	9.40	1.06	10.46	39.44	-28.98	QP
3	0.9780	6.75	1.79	8.54	35.42	-26.88	QP
4	1.9590	8.78	1.82	10.60	27.10	-16.50	QP
5	4.6455	8.49	1.50	9.99	22.00	-12.01	QP
6	12.4573	2.89	3.17	6.06	22.00	-15.94	QP

Remark:
Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
Margin = Result - Limit

7.4. HARMONIC CURRENT EMISSION

LIMITS

a) Active input power > 25 W

For luminaires with incandescent lamps and built-in phase control dimming having a rated power greater than 25 W, the harmonics of the input current shall not exceed the limits given in Table 1.

For any other lighting equipment having a rated power greater than 25 W, the harmonics of the input current shall not exceed the relative limits given in Table 2. For those types that include means for control (e.g. dimming, colour), the harmonics of the input current shall not exceed the harmonic current values derived from the percentage limits given in Table 2 for the maximum active input power (P max) condition when tested in both following conditions:

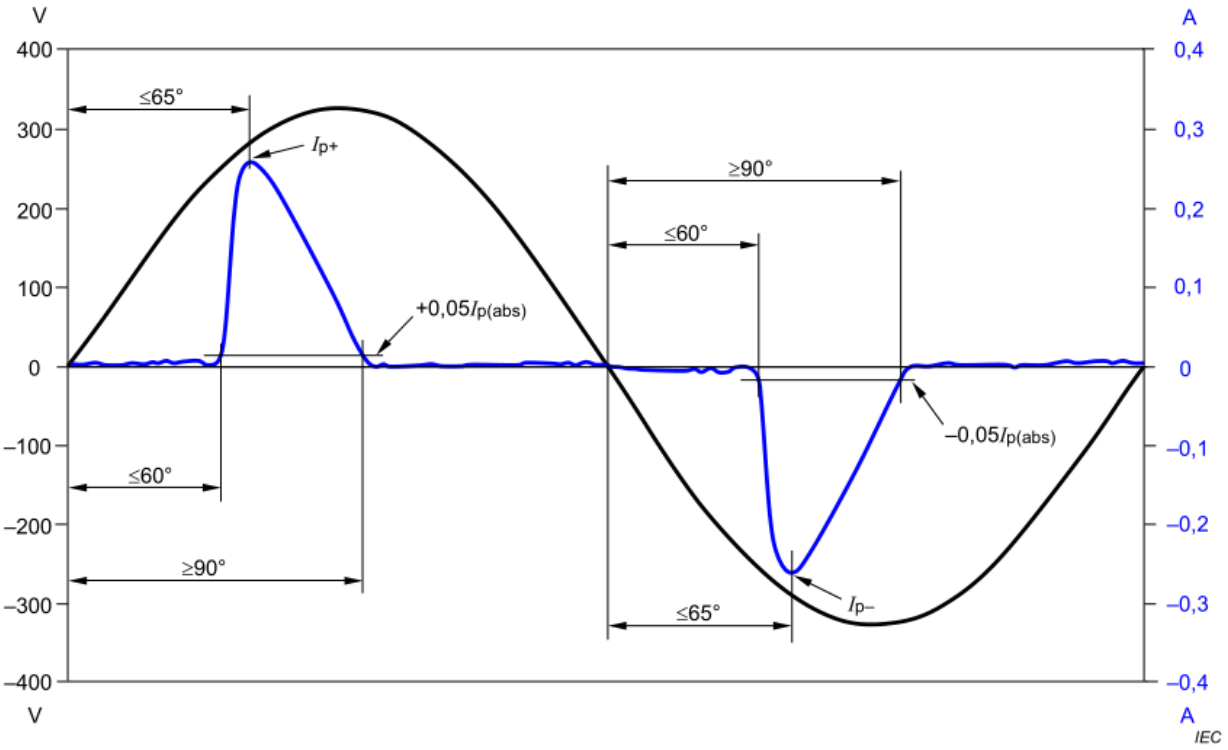
- with the means for control set to obtain P max ;
- with the means for control set to the position expected to produce the maximum total harmonic current (THC) within the active input power range [P min , P max], where

• P min = 5 W, if P max ⩽ 50 W;
• P min = 10 % of P max, if 50 W < P max ⩽ 250 W;
• P min = 25 W, if P max > 250 W.

b) Rated power ⩾ 5 W and ⩽ 25 W

Lighting equipment having a rated power greater than or equal to 5 W and less than or equal to 25 W shall comply with one of the following three sets of requirements:

- the harmonic currents shall not exceed the power-related limits of Table 3, column 2;
- the third harmonic current, expressed as a percentage of the fundamental current, shall not exceed 86 % and the fifth harmonic current shall not exceed 61 %. In addition, the waveform of the input current shall be such that it reaches the 5 % current threshold before or at 60°, has its peak value before or at 65° and does not fall below the 5 % current threshold before 90°, referenced to any zero crossing of the fundamental supply voltage. The current threshold is 5 % of the highest absolute peak value that occurs in the measurement window, and the phase angle measurements are made on the cycle that includes this absolute peak value (see Figure 2). Components of current with frequencies above 9 kHz shall not influence this evaluation (a filter similar to the one described in 5.3 of IEC 61000-4-7:2002 and IEC 61000-4-7:2002/AMD1:2008 may be used);
- the THD shall not exceed 70 %. The third order harmonic current, expressed as a percentage of the fundamental current, shall not exceed 35 %, the fifth order current shall not exceed 25 %, the seventh order current shall not exceed 30 %, the ninth and eleventh order currents shall not exceed 20 % and the second order current shall not exceed 5 %.



NOTE $I_{p(abs)}$ is the higher absolute value of I_{p+} and I_{p-}.

Table 1 – Limits for Class A equipment

Limits for class A Equipment	
Harmonic order h	Maximum permissible harmonic current A
Odd harmonics	
3	2.30
5	1.14
7	0.77
9	0.40
11	0.33
13	0.21
15≤ h≤ 39	0.15(15/h)
Even harmonics	
2	1.08
4	0.43
6	0.30
8≤ h ≤40	0.23(8/h)

Table 2 – Limits for Class C equipment

Limits for class C Equipment active input power > 25W	
Harmonic order h	Maximum permissible harmonic current expressed as a percentage of the input current at the fundamental frequency %
2	2
3	27
5	10
7	7
9	5
11≤ h≤ 39 (odd harmonic only)	3
[a] λ is the circuit power factor.	

Table 3 – Limits for Class D equipment

Harmonic order h	**Maximum permissible harmonic current per watt** mA/W	**Maximum permissible harmonic current** A
3	3,4	2,30
5	1,9	1,14
7	1,0	0,77
9	0,5	0,40
11	0,35	0,33
$13 \leq h \leq 39$ (odd harmonics only)	$\frac{3,85}{h}$	See Table 1

TEST PROCEDURE

a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under normal operating Condition.

b. The classification of EUT is according to EN 61000-3-2. The EUT is classified as follows:

Class A:

Balanced three-phase equipment, Household appliances excluding equipment as Class D, Tools excluding portable tools, Dimmers for incandescent lamps, audio equipment, equipment not specified in one of the three other classes.

Class C:

Lighting equipment.

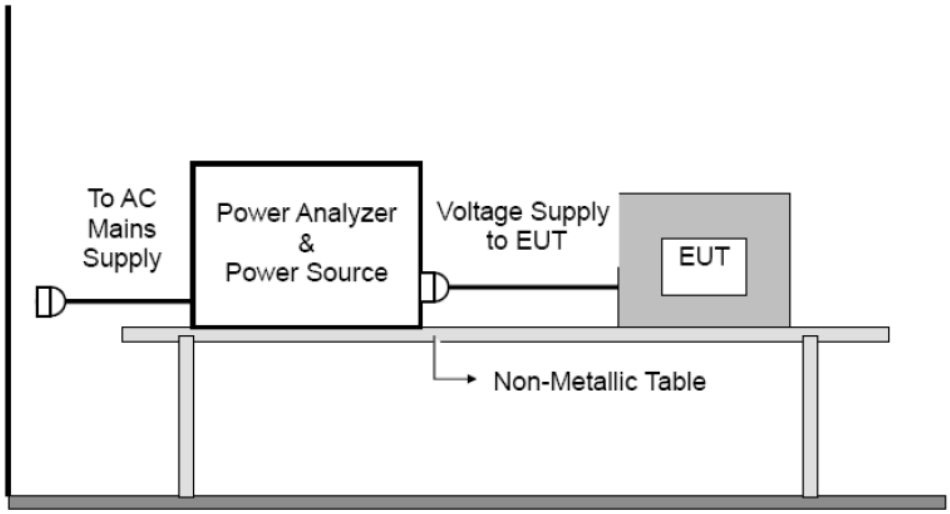
Class D:

Equipment having a specified power less than or equal to 600W of the following types: Personal computers and personal computer monitors and television receivers.

c. The correspondent test program of test instrument to measure the current harmonics emanated

from EUT is chosen. The measure time shall be not less than the time necessary for the EUT to be exercised.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.1℃	Relative Humidity	52%
Atmosphere Pressure	101kPa		

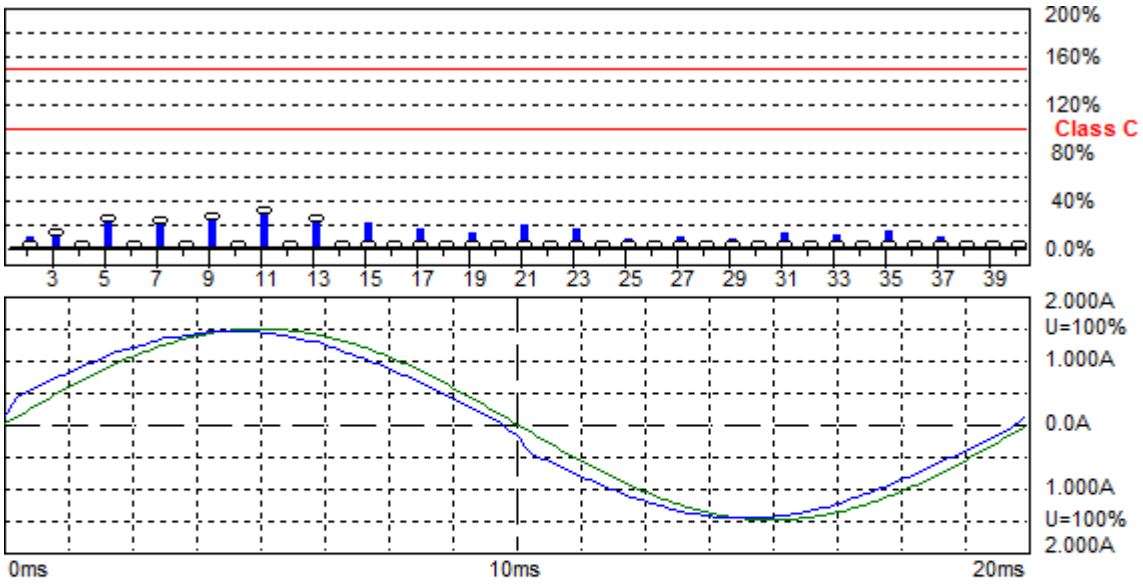
TEST MODE

Pre-test Mode:	M01 ~ M05
Final Test Mode:	M01, M02, M03, M04, M05

Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS

For M01



Harmonic Emission - IEC 61000-3-2 , EN 61000-3-2 , (EN60555-2) 2026/4/21 11:10:57

Urms =	231.3	V	P =	238.6	W	THC =	0.045	A	Range: 2 A
Irms =	1.044	A	pf =	0.988			1.046		V-nom: 231 V
									TestTime: 3 min (100%)

Test completed, Result: PASSED

HAR-1000 EMC-Partner

Urms = 231.3V Freq = 50.000 Range: 2 A
Irms = 1.044A Ipk = 1.473A cf = 1.411
P = 238.6W S = 241.4VA pf = 0.988
THDi = 4.30 % THDu = 0.20 % Class C

Test - Time : 3min (100 %)

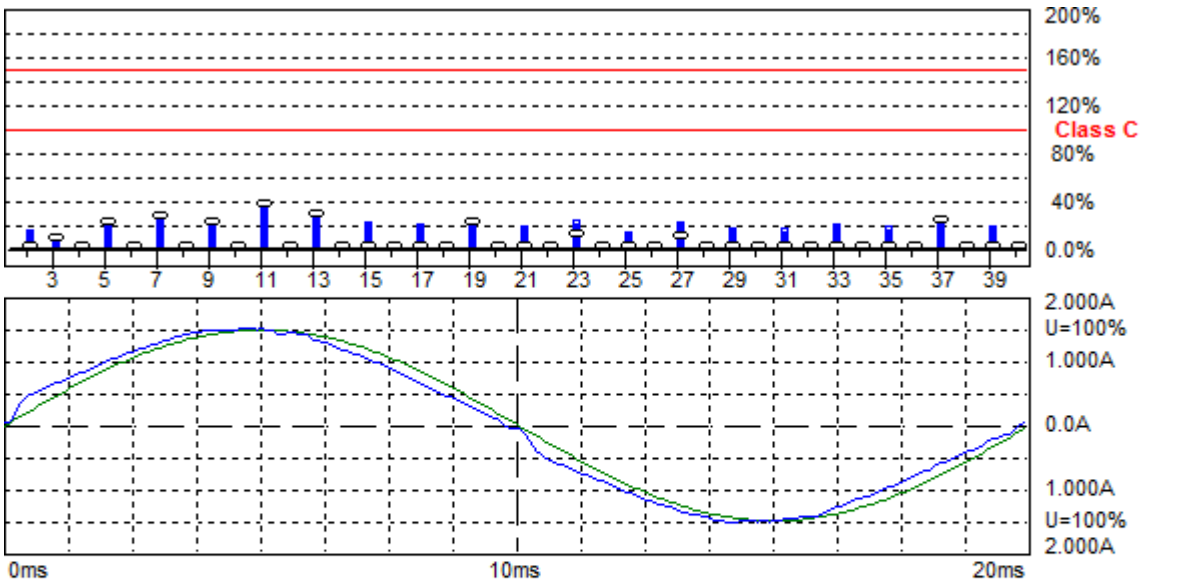
Limit Reference: H1(max)= 1.0463A pf(max)= 0.994

Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Irms [A]	Imax [A]	Limit [A]	Status
1	50	1.0424	1.0428	1.0463		
2	100	0.0000	0.0012	0.0013	0.0209	
3	150	0.0297	0.0294	0.0302	0.2825	
4	200	0.0000	0.0005	0.0005		
5	250	0.0234	0.0233	0.0237	0.1046	
6	300	0.0000	0.0005	0.0005		
7	350	0.0147	0.0146	0.0149	0.0732	
8	400	0.0000	0.0004	0.0004		
9	450	0.0119	0.0118	0.0121	0.0523	

10	500	0.0000	0.0004	0.0005	
11	550	0.0092	0.0089	0.0094	0.0314
12	600	0.0000	0.0004	0.0004	
13	650	0.0071	0.0070	0.0072	0.0314
14	700	0.0000	0.0004	0.0004	
15	750	0.0000	0.0056	0.0059	0.0314
16	800	0.0000	0.0004	0.0004	
17	850	0.0000	0.0042	0.0044	0.0314
18	900	0.0000	0.0004	0.0004	
19	950	0.0000	0.0027	0.0031	0.0314
20	1000	0.0000	0.0004	0.0004	
21	1050	0.0000	0.0049	0.0051	0.0314
22	1100	0.0000	0.0004	0.0004	
23	1150	0.0000	0.0038	0.0040	0.0314
24	1200	0.0000	0.0004	0.0004	
25	1250	0.0000	0.0017	0.0018	0.0314
26	1300	0.0000	0.0004	0.0004	
27	1350	0.0000	0.0021	0.0022	0.0314
28	1400	0.0000	0.0004	0.0004	
29	1450	0.0000	0.0012	0.0015	0.0314
30	1500	0.0000	0.0004	0.0004	
31	1550	0.0000	0.0024	0.0029	0.0314
32	1600	0.0000	0.0004	0.0004	
33	1650	0.0000	0.0026	0.0027	0.0314
34	1700	0.0000	0.0004	0.0005	
35	1750	0.0000	0.0034	0.0034	0.0314
36	1800	0.0000	0.0004	0.0004	
37	1850	0.0000	0.0022	0.0023	0.0314
38	1900	0.0000	0.0004	0.0004	
39	1950	0.0000	0.0009	0.0009	0.0314
40	2000	0.0000	0.0004	0.0005	

For M02



Harmonic Emission - IEC 61000-3-2 , EN 61000-3-2 , (EN60555-2) 2026/4/21 11:15:27

Urms =	231.3	V	P =	241.4	W	THC =	0.042	A	Range: 2 A
Irms =	1.053	A	pf =	0.992			1.058		V-nom: 231 V
									TestTime: 3 min (100%)

Test completed, Result: PASSED

HAR-1000 EMC-Partner

Urms = 231.3V Freq = 50.013 Range: 2 A
Irms = 1.053A Ipk = 1.543A cf = 1.466
P = 241.4W S = 243.5VA pf = 0.992
THDi = 4.00 % THDu = 0.10 % Class C

Test - Time : 3min (100 %)

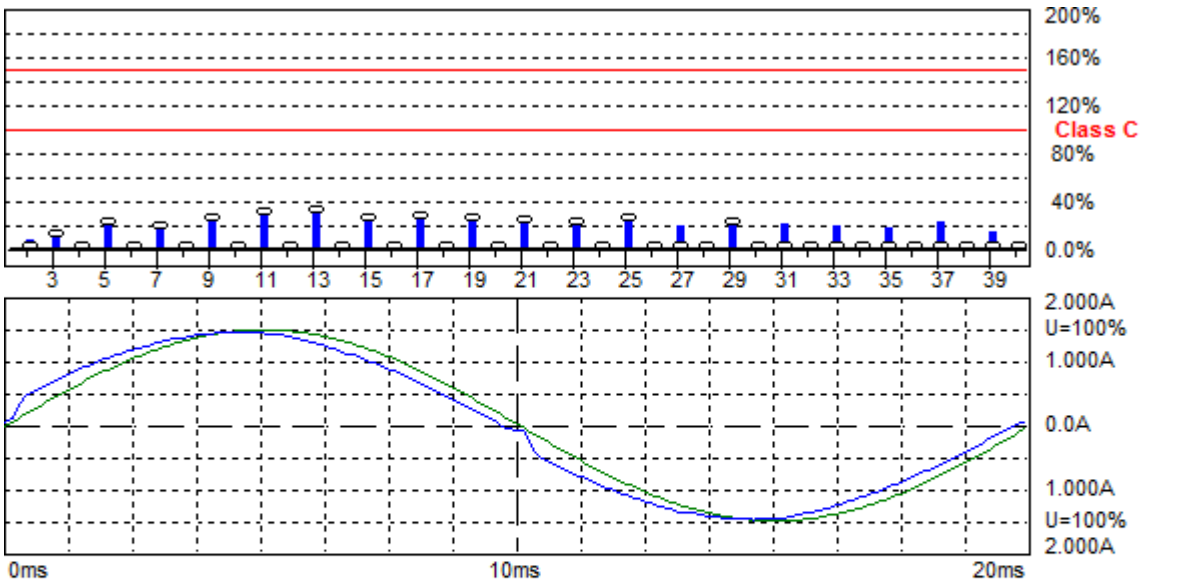
Limit Reference: H1(max)= 1.0576A pf(max)= 0.994

Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Irms [A]	Imax [A]	Limit [A]	Status
1	50	1.0503	1.0515	1.0577		
2	100	0.0000	0.0024	0.0028	0.0212	
3	150	0.0172	0.0171	0.0177	0.2856	
4	200	0.0000	0.0012	0.0013		
5	250	0.0212	0.0209	0.0217	0.1058	
6	300	0.0000	0.0013	0.0015		
7	350	0.0184	0.0183	0.0188	0.0740	
8	400	0.0000	0.0012	0.0015		
9	450	0.0109	0.0110	0.0112	0.0529	

10	500	0.0000	0.0012	0.0013	
11	550	0.0110	0.0107	0.0114	0.0317
12	600	0.0000	0.0012	0.0013	
13	650	0.0084	0.0087	0.0088	0.0317
14	700	0.0000	0.0012	0.0013	
15	750	0.0002	0.0061	0.0063	0.0317
16	800	0.0000	0.0011	0.0013	
17	850	0.0000	0.0055	0.0056	0.0317
18	900	0.0000	0.0011	0.0013	
19	950	0.0065	0.0066	0.0068	0.0317
20	1000	0.0000	0.0012	0.0013	
21	1050	0.0000	0.0051	0.0054	0.0317
22	1100	0.0000	0.0012	0.0013	
23	1150	0.0033	0.0061	0.0067	0.0317
24	1200	0.0000	0.0013	0.0013	
25	1250	0.0000	0.0037	0.0038	0.0317
26	1300	0.0000	0.0012	0.0013	
27	1350	0.0024	0.0059	0.0065	0.0317
28	1400	0.0000	0.0012	0.0013	
29	1450	0.0000	0.0049	0.0050	0.0317
30	1500	0.0000	0.0012	0.0013	
31	1550	0.0000	0.0039	0.0045	0.0317
32	1600	0.0000	0.0012	0.0013	
33	1650	0.0000	0.0054	0.0056	0.0317
34	1700	0.0000	0.0012	0.0013	
35	1750	0.0000	0.0043	0.0052	0.0317
36	1800	0.0000	0.0011	0.0013	
37	1850	0.0067	0.0066	0.0070	0.0317
38	1900	0.0000	0.0012	0.0013	
39	1950	0.0000	0.0046	0.0052	0.0317
40	2000	0.0000	0.0012	0.0013	

For M03



Harmonic Emission - IEC 61000-3-2 , EN 61000-3-2 , (EN60555-2) 2026/4/21 11:25:47

Urms =	231.3	V	P =	237.9	W	THC =	0.046	A	Range: 2 A
Irms =	1.041	A	pf =	0.988			1.043		V-nom: 231 V
									TestTime: 3 min (100%)

Test completed, Result: PASSED

HAR-1000 EMC-Partner

Urms = 231.3V Freq = 50.013 Range: 2 A
Irms = 1.041A Ipk = 1.474A cf = 1.416
P = 237.9W S = 240.8VA pf = 0.988
THDi = 4.40 % THDu = 0.10 % Class C

Test - Time : 3min (100 %)

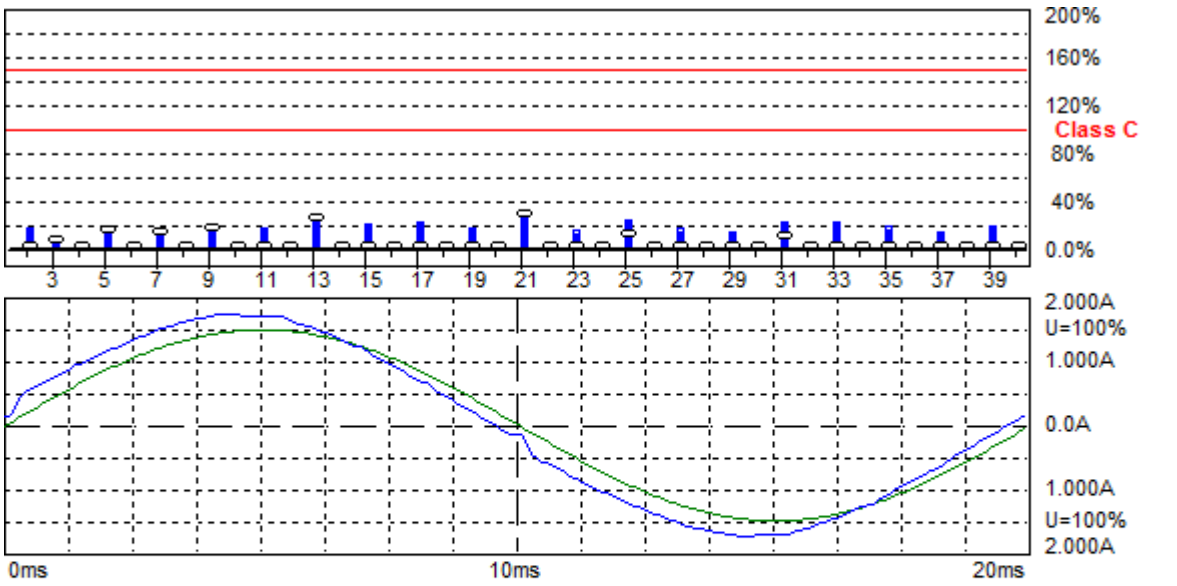
Limit Reference: H1(max)= 1.0432A pf(max)= 0.994

Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Irms [A]	Imax [A]	Limit [A]	Status
1	50	1.0413	1.0397	1.0433		
2	100	0.0000	0.0009	0.0011	0.0209	
3	150	0.0261	0.0256	0.0267	0.2817	
4	200	0.0000	0.0005	0.0005		
5	250	0.0218	0.0215	0.0221	0.1043	
6	300	0.0000	0.0004	0.0005		
7	350	0.0128	0.0127	0.0131	0.0730	
8	400	0.0000	0.0004	0.0005		
9	450	0.0119	0.0118	0.0121	0.0522	

10	500	0.0000	0.0004	0.0005	
11	550	0.0089	0.0089	0.0090	0.0313
12	600	0.0000	0.0004	0.0004	
13	650	0.0094	0.0094	0.0095	0.0313
14	700	0.0000	0.0004	0.0004	
15	750	0.0075	0.0076	0.0077	0.0313
16	800	0.0000	0.0004	0.0004	
17	850	0.0078	0.0078	0.0081	0.0313
18	900	0.0000	0.0004	0.0004	
19	950	0.0075	0.0074	0.0076	0.0313
20	1000	0.0000	0.0004	0.0004	
21	1050	0.0066	0.0066	0.0068	0.0313
22	1100	0.0000	0.0004	0.0004	
23	1150	0.0065	0.0065	0.0067	0.0313
24	1200	0.0000	0.0004	0.0004	
25	1250	0.0074	0.0073	0.0076	0.0313
26	1300	0.0000	0.0004	0.0004	
27	1350	0.0000	0.0050	0.0052	0.0313
28	1400	0.0000	0.0004	0.0004	
29	1450	0.0065	0.0065	0.0068	0.0313
30	1500	0.0000	0.0004	0.0004	
31	1550	0.0000	0.0057	0.0059	0.0313
32	1600	0.0000	0.0004	0.0004	
33	1650	0.0000	0.0046	0.0050	0.0313
34	1700	0.0000	0.0004	0.0004	
35	1750	0.0000	0.0046	0.0049	0.0313
36	1800	0.0000	0.0004	0.0005	
37	1850	0.0000	0.0057	0.0062	0.0313
38	1900	0.0000	0.0004	0.0004	
39	1950	0.0000	0.0029	0.0034	0.0313
40	2000	0.0000	0.0004	0.0004	

For M04



Harmonic Emission - IEC 61000-3-2 , EN 61000-3-2 , (EN60555-2) 2026/4/21 11:21:22

Urms =	231.3	V	P =	273.1	W	THC =	0.037	A	Range: 2 A
Irms =	1.196	A	pf =	0.987			1.203		V-nom: 231 V
									TestTime: 3 min (100%)

Test completed, Result: PASSED

HAR-1000 EMC-Partner

Urms = 231.3V Freq = 49.987 Range: 2 A
Irms = 1.196A Ipk = 1.748A cf = 1.461
P = 273.1W S = 276.7VA pf = 0.987
THDi = 3.10 % THDu = 0.10 % Class C

Test - Time : 3min (100 %)

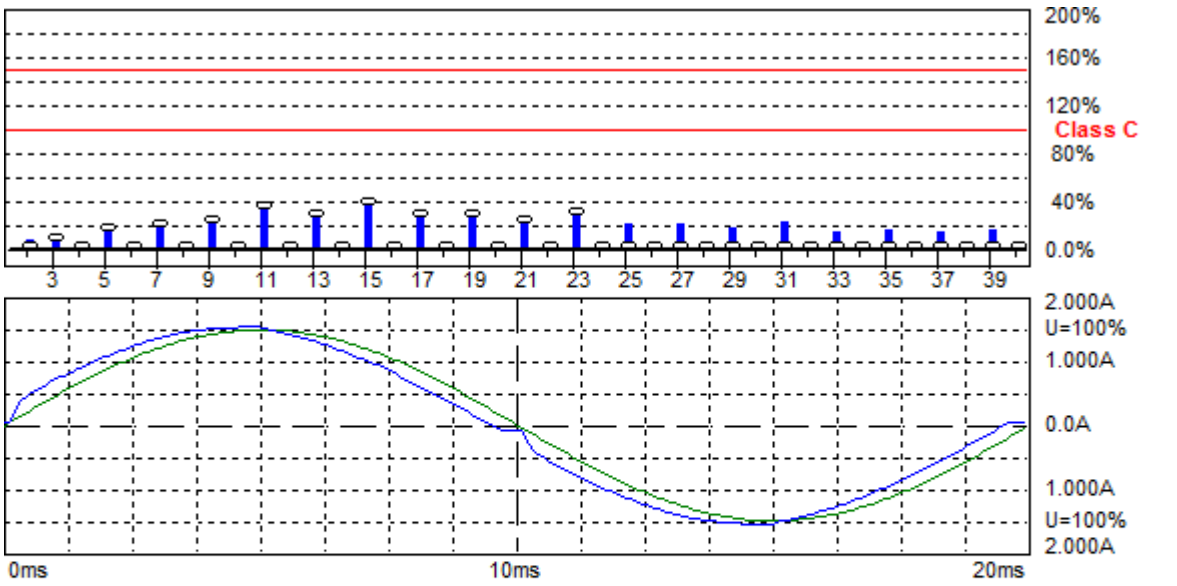
Limit Reference: H1(max)= 1.2030A pf(max)= 0.994

Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Irms [A]	Imax [A]	Limit [A]	Status
1	50	1.1947	1.1959	1.2031		
2	100	0.0000	0.0033	0.0037	0.0241	
3	150	0.0176	0.0182	0.0183	0.3248	
4	200	0.0000	0.0004	0.0006		
5	250	0.0166	0.0164	0.0171	0.1203	
6	300	0.0000	0.0004	0.0005		
7	350	0.0105	0.0101	0.0110	0.0842	
8	400	0.0000	0.0006	0.0006		
9	450	0.0090	0.0090	0.0092	0.0601	

10	500	0.0000	0.0005	0.0006	
11	550	0.0000	0.0055	0.0056	0.0361
12	600	0.0000	0.0005	0.0005	
13	650	0.0084	0.0084	0.0084	0.0361
14	700	0.0000	0.0005	0.0005	
15	750	0.0000	0.0062	0.0068	0.0361
16	800	0.0000	0.0005	0.0005	
17	850	0.0000	0.0067	0.0070	0.0361
18	900	0.0000	0.0006	0.0006	
19	950	0.0000	0.0050	0.0055	0.0361
20	1000	0.0000	0.0006	0.0007	
21	1050	0.0094	0.0094	0.0095	0.0361
22	1100	0.0000	0.0006	0.0007	
23	1150	0.0000	0.0039	0.0048	0.0361
24	1200	0.0000	0.0007	0.0010	
25	1250	0.0035	0.0077	0.0077	0.0361
26	1300	0.0000	0.0009	0.0010	
27	1350	0.0000	0.0045	0.0057	0.0361
28	1400	0.0000	0.0010	0.0011	
29	1450	0.0000	0.0040	0.0042	0.0361
30	1500	0.0000	0.0010	0.0010	
31	1550	0.0028	0.0070	0.0073	0.0361
32	1600	0.0000	0.0007	0.0007	
33	1650	0.0000	0.0067	0.0070	0.0361
34	1700	0.0000	0.0006	0.0006	
35	1750	0.0000	0.0050	0.0059	0.0361
36	1800	0.0000	0.0011	0.0011	
37	1850	0.0000	0.0043	0.0044	0.0361
38	1900	0.0000	0.0009	0.0009	
39	1950	0.0000	0.0056	0.0061	0.0361
40	2000	0.0000	0.0005	0.0009	

For M05



Harmonic Emission - IEC 61000-3-2 , EN 61000-3-2 , (EN60555-2) 2026/4/21 11:30:26

Urms =	231.3	V	P =	244.1	W	THC =	0.042	A	Range: 2 A
Irms =	1.071	A	pf =	0.985			1.076		V-nom: 231 V
									TestTime: 3 min (100%)

Test completed, Result: PASSED

HAR-1000 EMC-Partner

Urms = 231.3V Freq = 50.039 Range: 2 A
Irms = 1.071A Ipk = 1.558A cf = 1.454
P = 244.1W S = 247.8VA pf = 0.985
THDi = 3.90 % THDu = 0.10 % Class C

Test - Time : 3min (100 %)

Limit Reference: H1(max)= 1.0762A pf(max)= 0.998

Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Irms [A]	Imax [A]	Limit [A]	Status
1	50	1.0645	1.0698	1.0763		
2	100	0.0000	0.0009	0.0011	0.0215	
3	150	0.0202	0.0201	0.0203	0.2906	
4	200	0.0000	0.0004	0.0005		
5	250	0.0154	0.0148	0.0161	0.1076	
6	300	0.0000	0.0004	0.0005		
7	350	0.0137	0.0138	0.0139	0.0753	
8	400	0.0000	0.0004	0.0005		
9	450	0.0119	0.0121	0.0121	0.0538	

10	500	0.0000	0.0004	0.0005	
11	550	0.0107	0.0106	0.0110	0.0323
12	600	0.0000	0.0004	0.0004	
13	650	0.0087	0.0087	0.0089	0.0323
14	700	0.0000	0.0002	0.0004	
15	750	0.0121	0.0122	0.0123	0.0323
16	800	0.0000	0.0004	0.0005	
17	850	0.0087	0.0088	0.0089	0.0323
18	900	0.0000	0.0002	0.0004	
19	950	0.0084	0.0083	0.0087	0.0323
20	1000	0.0000	0.0004	0.0004	
21	1050	0.0069	0.0068	0.0071	0.0323
22	1100	0.0000	0.0002	0.0004	
23	1150	0.0090	0.0092	0.0093	0.0323
24	1200	0.0000	0.0002	0.0004	
25	1250	0.0000	0.0057	0.0061	0.0323
26	1300	0.0000	0.0002	0.0004	
27	1350	0.0000	0.0059	0.0060	0.0323
28	1400	0.0000	0.0002	0.0004	
29	1450	0.0000	0.0048	0.0050	0.0323
30	1500	0.0000	0.0004	0.0005	
31	1550	0.0000	0.0062	0.0063	0.0323
32	1600	0.0000	0.0002	0.0004	
33	1650	0.0000	0.0034	0.0040	0.0323
34	1700	0.0000	0.0004	0.0005	
35	1750	0.0000	0.0043	0.0043	0.0323
36	1800	0.0000	0.0002	0.0004	
37	1850	0.0000	0.0032	0.0035	0.0323
38	1900	0.0000	0.0004	0.0004	
39	1950	0.0000	0.0039	0.0042	0.0323
40	2000	0.0000	0.0004	0.0005	

8. IMMUNITY TEST

8.1. PERFORMANCE CRITERIA

EN IEC 61547:2023

GENERAL PERFORMANCE CRITERIA

According to EN 61547 standard, the general performance criteria as following:

Criteria 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.
Criteria 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 1min.Regulating controls need not unaction 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.
Criteria 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.Additional requirement for lighting equipment incorporating a starting device: After the test,the lighting equipment is switched off. After half an hour, it is switched on again. The lighting equipment shall start and operate as intended.

8.2. ELECTROSTATIC DISCHARGE

TEST SPECIFICATION

Standard:	EN IEC 61547:2023 IEC 61000-4-2:2008
Test Level:	Air Discharge: 2 kV, 4 kV, 8 kV (Direct); Contact Discharge: 4 kV (Direct/Indirect)
Criterion Required:	Performance criteria B
Discharge Impedance:	330 Ω / 150 pF
Polarity:	Positive & Negative
Number of Discharge:	Minimum 10 times at each test point
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum

TEST PROCEDURE

The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

a. Contact discharge was applied to conductive surfaces and coupling planes of the EUT. During the test, it was performed with single discharges. For the single discharge time between successive single discharges was at least 1 second.
   Vertical Coupling Plane (VCP):
   The coupling plane, of dimensions 0.5 m x 0.5 m, is placed parallel to, and positioned at a distance 0.1 m from, the EUT, with the Discharge Electrode touching the coupling plane. The four faces of the EUT will be performed with electrostatic discharge.
   Horizontal Coupling Plane (HCP):
   The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1 m from the EUT, with the Discharge Electrode touching the coupling plane. The four faces of the EUT will be performed with electrostatic discharge.

b. Air discharges at insulation surfaces of the EUT.
   It was at least ten single discharges with positive and negative at the same selected point.

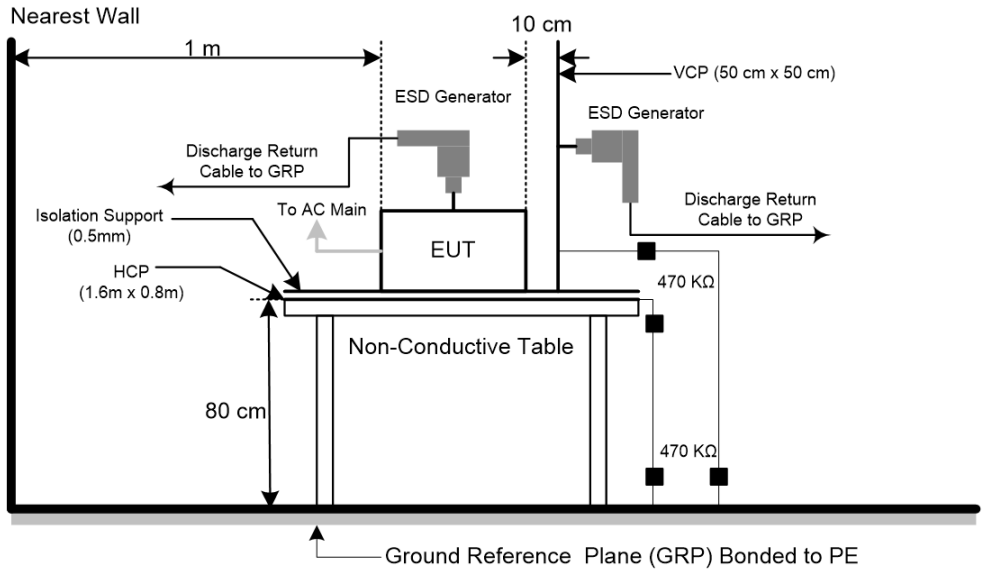
c. The test shall be performed with single discharges. On each pre-selected point at least 10 single discharges (in the most sensitive polarity) shall be applied.

d. For air discharge testing, the test shall be applied at all test levels 4 kV and 8 kV.

e. The ESD test should be executed for both normal operation and handling cases.

f. For the actual test configuration, please refer to the related Item: EUT Test Photos.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.1℃	Relative Humidity	52%
Atmosphere Pressure	101kPa	Test Voltage	

TEST MODE

Test Mode:	M01, M02, M03, M04, M05, M06

TEST RESULTS

Mode	Level(kV)	Polarity	Test Point	Criteria	Result	Judgement
Air Discharge	8	+	All Slot	B	A	Pass
Air Discharge	8	-	All Slot	B	A	Pass
Contact Discharge	4	+	All Metal	B	A	Pass
Contact Discharge	4	-	All Metal	B	A	Pass
Horizontal Coupling	4	+	Front,rear,left,right	B	A	Pass
Horizontal Coupling	4	-	Front,rear,left,right	B	A	Pass
Vertical Coupling	4	+	Front,rear,left,right	B	A	Pass
Vertical Coupling	4	-	Front,rear,left,right	B	A	Pass
Air Discharge	15	+	All Slot	B	A	Pass
Air Discharge	15	-	All Slot	B	A	Pass
Contact Discharge	8	+	All Metal	B	A	Pass
Contact Discharge	8	-	All Metal	B	A	Pass

Observation:
A: No observable change.
Conclusion: The EUT met the requirements of the standard

8.3. CONTINUOUS RF ELECTROMAGNETIC FIELD DISTURBANCES

TEST SPECIFICATION

Standard:	EN IEC 61547:2023 IEC 61000-4-3:2006+A1:2007+A2:2010
Criterion Required:	Performance criteria A
Frequency range:	80 MHz to 1 000 MHz
Test level:	3 V/m (unmodulated)
Modulation:	1 kHz, 80 % AM, sine wave
Frequency Step:	1 % increment
Antenna Polarization:	Horizontal and vertical
Antenna Height:	1.5 meters
Test Distance:	3 meters
Dwell time:	2 seconds

TEST PROCEDURE

The test procedure was in accordance with IEC 61000-4-3.

a. The testing was performed in a fully anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.

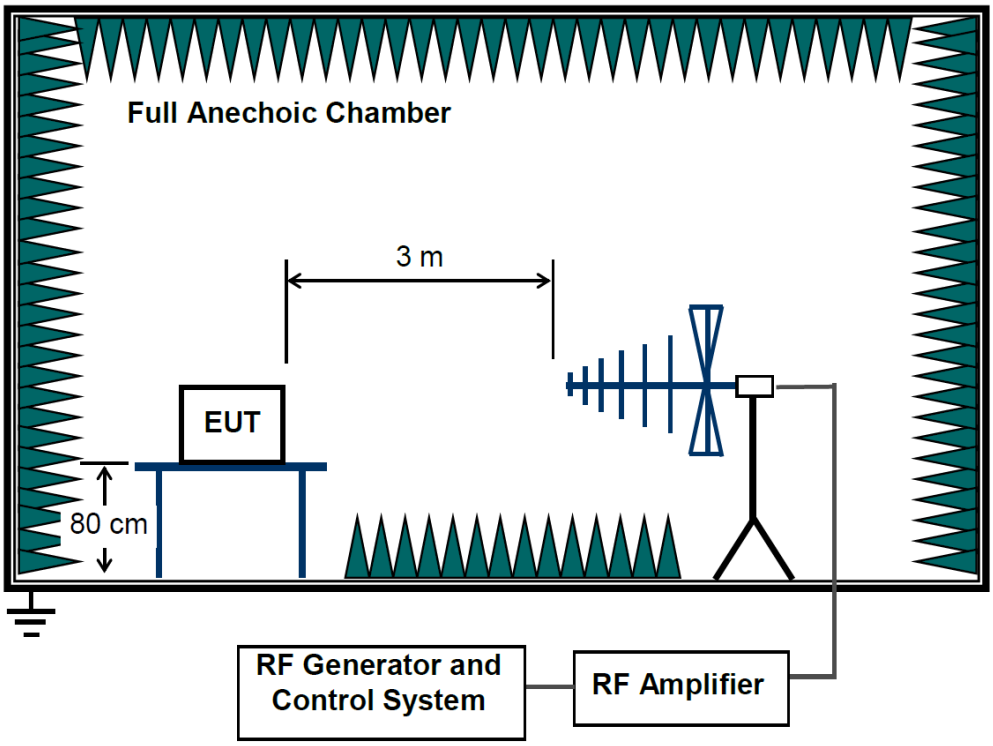
b. The disturbance test signal shall be 80 % amplitude modulated by a sine wave, preferably having a frequency of 1 kHz. A frequency other than 1 kHz may be used where permitted within EN 61547.

c. 1 % step size is preferred, the frequency range can be swept incrementally with a step size not exceeding 4 % of the previous frequency with a test level of twice the value of the specified test level.

d. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised and to be able to respond. However, the dwell time should not exceed 5 s at each of the frequencies during the scan.

e. The test was performed with the EUT exposed to both vertically and horizontally polarized fields.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.5℃	Relative Humidity	54%
Atmosphere Pressure	101kPa	Test Voltage	

TEST MODE

Test Mode:	M01, M02, M03, M04, M05

TEST RESULTS

Freq.Range (MHz)	Position (Face)	Polarity (H or V)	Field Strength (V/m) (unmodulated,r.m.s)	Criterion	Result	Judgment
80-1000	0°	H&V	3 V/m	A	A	Pass
80-1000	90°	H&V	3 V/m	A	A	Pass
80-1000	180°	H&V	3 V/m	A	A	Pass
80-1000	270°	H&V	3 V/m	A	A	Pass

Observation:
A: No observable change.
Conclusion: The EUT met the requirements of the standard

8.4. ELECTRICAL FAST TRANSIENTS BURST (AC MAINS POWER PORTS)

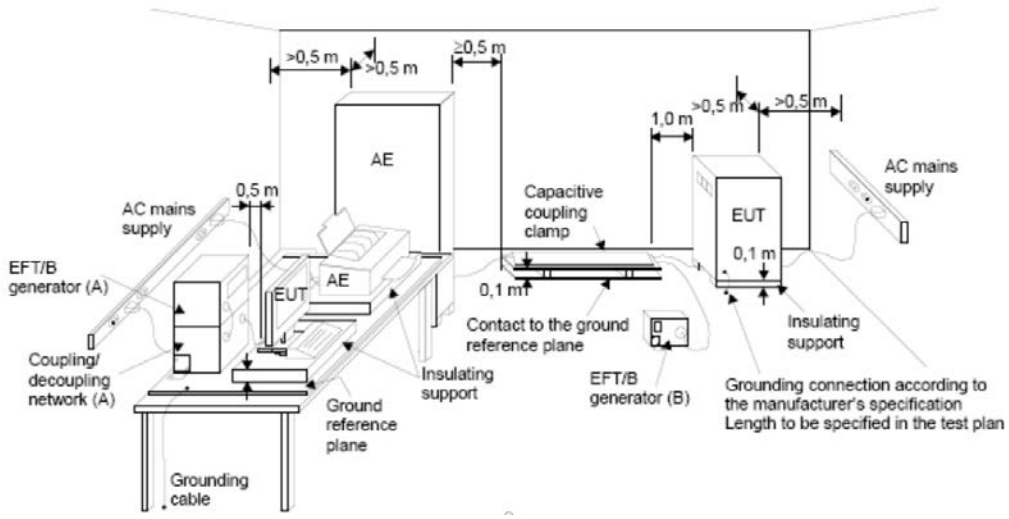
TEST SPECIFICATION

Standard:	EN IEC 61547:2023 IEC 61000-4-4:2012
Criterion Required:	Performance criteria B
Polarity:	Positive & Negative
Test Level:	± 1 kV (peak)
Repetition frequency	5 kHz
Impulse Wave shape:	5/50 ns
Burst Duration:	15 ms
Burst Period:	300 ms
Test Duration:	2 minute per level & polarity

TEST PROCEDURE

a. Both positive and negative polarity discharges were applied.
b. 2 min with a positive polarity and for 2 min with a negative polarity
c. The transient/burst waveform was in accordance with IEC 61000-4-4, 5/50ns.
d. Multi conductor cables shall be tested as a single cable. Cables shall not be split or divided into groups of conductors for this test.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.1℃	Relative Humidity	52%
Atmosphere Pressure	101kPa	Test Voltage	

TEST MODE

Test Mode:	M01, M02, M03, M04, M05

TEST RESULTS

Coupling Line	Test Levels(kV)	Polarity	Criteria	Results	Judgement
L, N, PE	1	+	B	A	Pass
L, N, PE	1	-	B	A	Pass
Analogue/Digital data ports	0.5	+	B	/	/
Analogue/Digital data ports	0.5	-	B	/	/
DC network power ports	0.5	+	B	/	/
DC network power ports	0.5	-	B	/	/

Observation:
A: No observable change.
Conclusion: The EUT met the requirements of the standard

8.5. SURGES (AC MAINS POWER PORTS)

TEST SPECIFICATION

Standard:	EN IEC 61547:2023 IEC 61000-4-5:2014+A1:2017
Criterion Required:	Performance criteria C
Wave Shape:	1.2/50 (8/20) μs
Test Level:	Self-ballasted lamps ⩽ 25 W: ± 0.5 kV at line-to-line; Lighting equipment (except selfballasted lamps ⩽ 25 W): ± 1 kV at line-to-line, ± 2 kV at line-to-earth; Road and street lighting equipment : ± 2 kV at line-to-line, ± 4 kV at line-to-earth; 1.2/50 us
Polarity:	Positive & Negative
Interval:	1 per minute
Phase Angle:	5 positive at 90°and 5 negative at 270

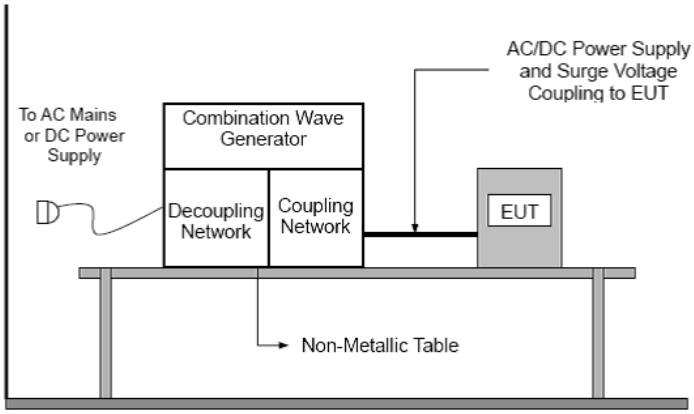
TEST PROCEDURE

a. The EUT and the auxiliary equipment were placed on a table of 0.8m heights above a metal ground reference plane. The size of ground plane is greater than 1m×1m and project beyond the EUT by at least 0.1m on all sides. The ground plane is connected to the protective earth. The length of power cord between the coupling device and the EUT was less than 2 meters (provided by the manufacturer).

b. The EUT was connected to the power mains through a coupling device that directly couples the surge interference signal. The surge noise was applied synchronized to the voltage phase at the zero crossing and the peak value of the AC voltage wave (positive and negative).

c. The surges were applied line to line and line(s) to earth. When testing line to earth the test voltage was applied successively between each of the lines and earth. Steps up to the test level specified increased the test voltage. All lower levels including the selected test level were tested. The polarity of each surge level included positive and negative test pulses.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.1℃	Relative Humidity	52%
Atmosphere Pressure	101kPa	Test Voltage	

TEST MODE

Test Mode:	M01, M02, M03, M04, M05

TEST RESULTS

Coupling Line	Self-ballasted lamps ⩽ 25 W	Road and street lighting	Other Lighting	Polarity	Phase	Criteria	Result	Judgement
L-N	0.5KV	0.5KV; 1KV; 2KV	0.5KV; 1KV	+	90°	C,B(emergency light)	A	Pass
L-N	0.5KV	0.5KV; 1KV; 2KV	0.5KV; 1KV	-	270°	C,B(emergency light)	A	Pass
L-PE	N/A	0.5KV; 1KV; 2KV; 4KV	0.5KV; 1KV; 2KV	+	90°	C,B(emergency light)	A	Pass
L-PE	N/A	0.5KV; 1KV; 2KV; 4KV	0.5KV; 1KV; 2KV	-	270°	C,B(emergency light)	A	Pass
N-PE	N/A	0.5KV; 1KV; 2KV; 4KV	0.5KV; 1KV; 2KV	+	90°	C,B(emergency light)	A	Pass
N-PE	N/A	0.5KV; 1KV; 2KV; 4KV	0.5KV; 1KV; 2KV	-	270°	C,B(emergency light)	A	Pass

Observation:
A: No observable change.
Conclusion: The EUT met the requirements of the standard

8.6. CONTINUOUS INDUCED RF DISTURBANCES (AC MAINS POWER PORTS)

TEST SPECIFICATION

Standard:	EN IEC 61547:2023 IEC 61000-4-6:2013
Criterion Required:	Performance criteria A
Frequency range:	0.15 MHz to 80 MHz
Test Level:	3 V r.m.s. (unmodulated)
Modulation:	1 kHz, 80 % AM, sine wave
Step Size:	1% increment
Dwell Time:	1 seconds

TEST PROCEDURE

a. The EUT shall be tested within its intended operating and climatic conditions.

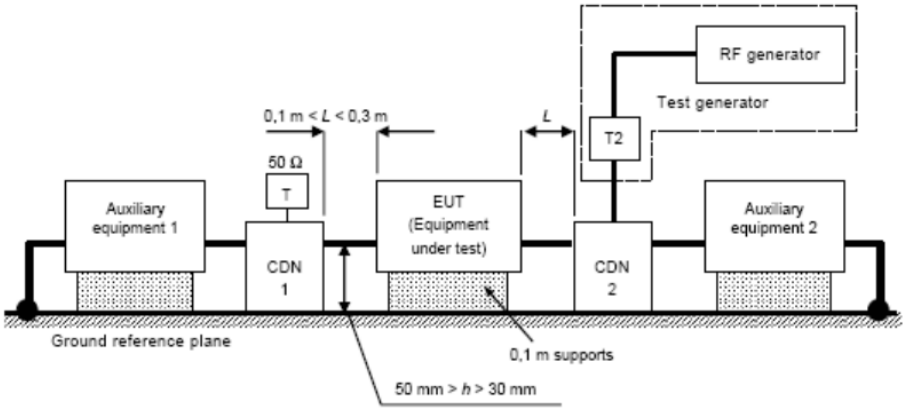
b. The test shall be performed with the test generator connected to each of the coupling and decoupling devices in turn, while the other non-excited RF input ports of the coupling devices are terminated by a 50-ohm load resistor.

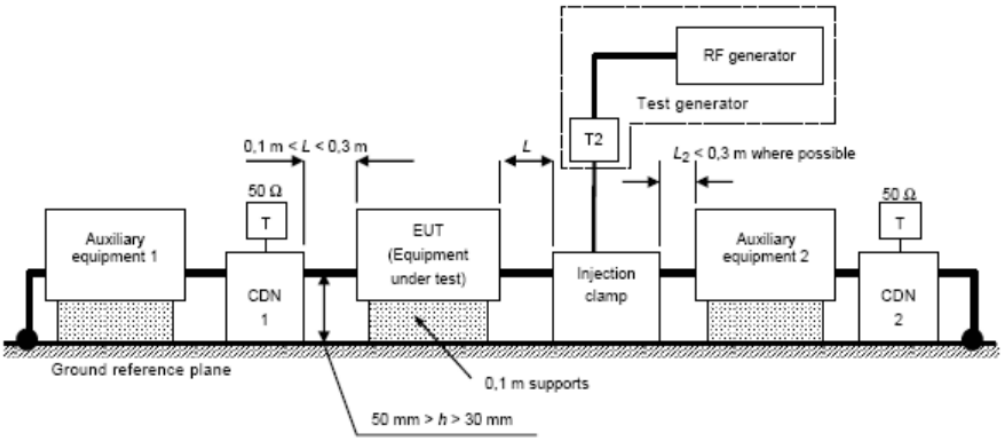
c. The frequency range is swept from 150 kHz to 80 MHz, using the signal level established during the setting process and with a disturbance signal of 80 % amplitude. The signal is modulated with a 1 kHz sine wave, pausing to adjust the RF signal level or the switch coupling devices as necessary. The sweep rate shall not exceed 1.5×10^{-3} decades/s. The step size shall not exceed 1 % of the start and thereafter 1 % of the preceding frequency value where the frequency is swept incrementally.

d. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised, and able to respond. Sensitive frequencies such as clock frequencies and harmonics or frequencies of dominant interest, shall be analyzed separately.

e. Attempts should be made to fully exercise the EUT during test, and to fully interrogate all exercise modes selected for susceptibility.

TEST SETUP





TEST ENVIRONMENT

Temperature	23.3℃	Relative Humidity	53%
Atmosphere Pressure	101kPa	Test Voltage	

TEST MODE

Test Mode:	M01, M02, M03, M04, M05

TEST RESULTS

Test Ports (Mode)	Freq.Range (MHz)	Field Strength (unmodulated,r.m.s)	Criteria	Results	Judgment
AC mains power ports	0.15---80	3 V	A	A	Pass
DC network power ports	0.15---80	3 V	A	/	/
Analogue/digital data ports	0.15---80	3 V	A	/	/
Observation: A: No observable change. **Conclusion:** The EUT met the requirements of the standard					

8.7. VOLTAGE DIPS AND INTERRUPTIONS (AC MAINS POWER PORTS)

TEST SPECIFICATION

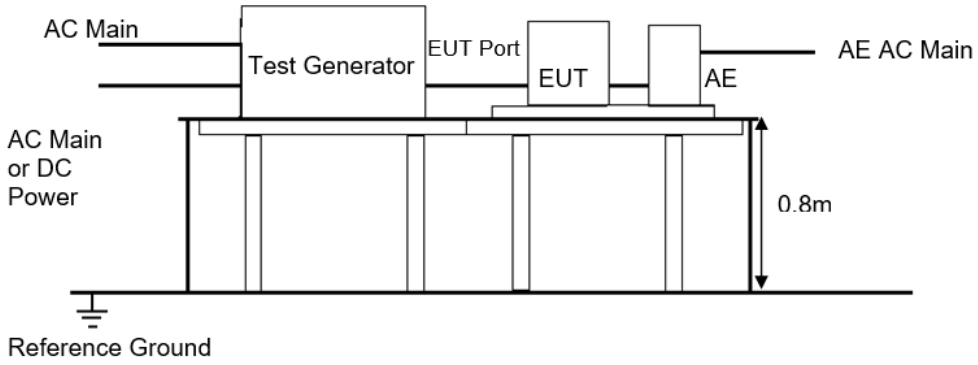
Standard:	EN IEC 61547:2023 IEC 61000-4-11:2004+A1:2017
Criterion Required:	Voltage dips: B; Voltage short interruptions: B
Test Level:	Voltage dips: 70%, 10 Cycles, Voltage short interruptions: 0%, 0.5 Cycles
No. of Dips / Interruptions:	3 per Level
Interval between Event:	Minimum 10 seconds
Phase Angle:	0°/45°/90°/135°/180°/225°/270°/315°

TEST PROCEDURE

a. The power cord was used as supplied by the manufacturer. The EUT was connected to the line output of the Voltage Dips and Interruption Generator.

b. Voltage reductions occur at 0 degree crossover point of the voltage waveform. The performance of the EUT was checked after the voltage dip or interruption.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.1℃	Relative Humidity	52%
Atmosphere Pressure	101kPa	Test Voltage	

TEST MODE

Test Mode:	M01, M02, M03, M04, M05

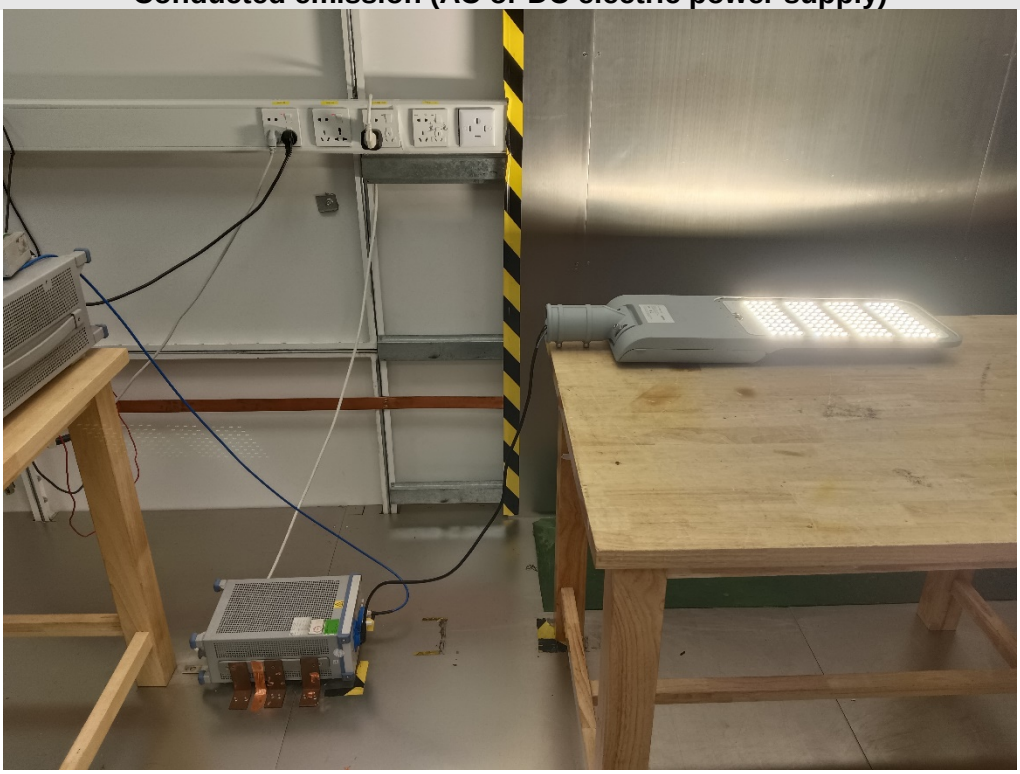
TEST RESULTS

Voltage（AC)	Interruption & Dips	Durations(T)	Volatge Reduction	Perform Criteria	Results	Judgment
230V 50Hz	Voltage dips 70%	10 Cycles	30%	B	A	Pass
230V 50Hz	Voltage short interruptions 0%	0.5 Cycles	100%	B	A	Pass

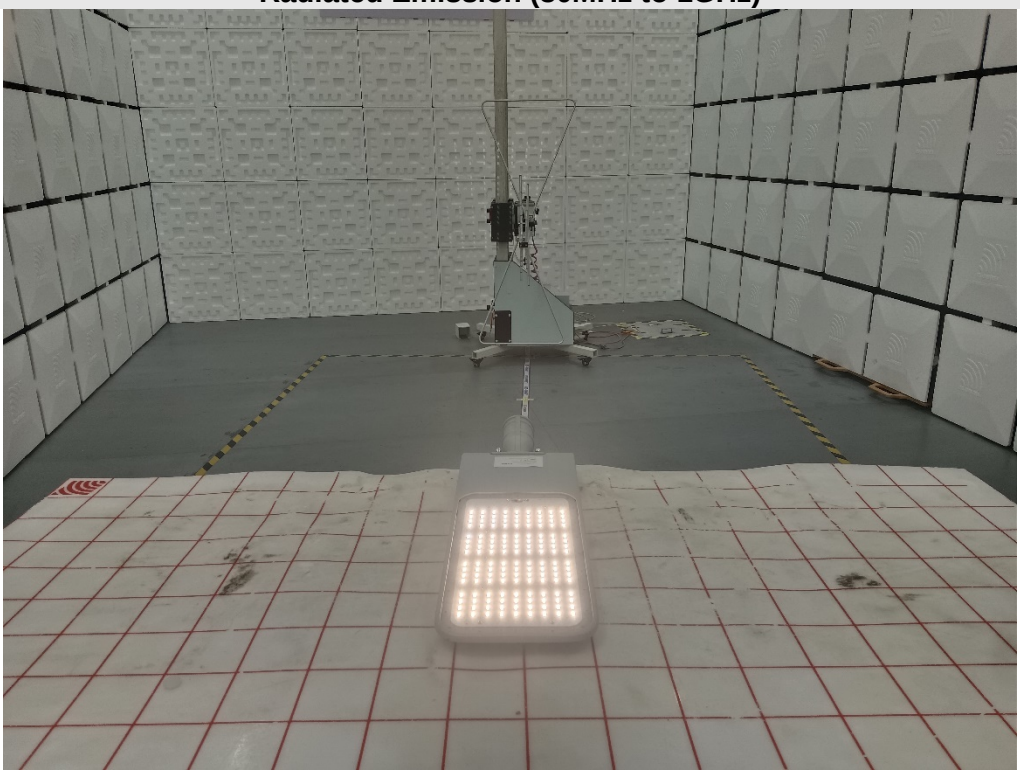
Observation:
A: No observable change.
Conclusion: The EUT met the requirements of the standard

APPENDIX: PHOTOGRAPHS OF TEST CONFIGURATION

Conducted emission (AC or DC electric power supply)



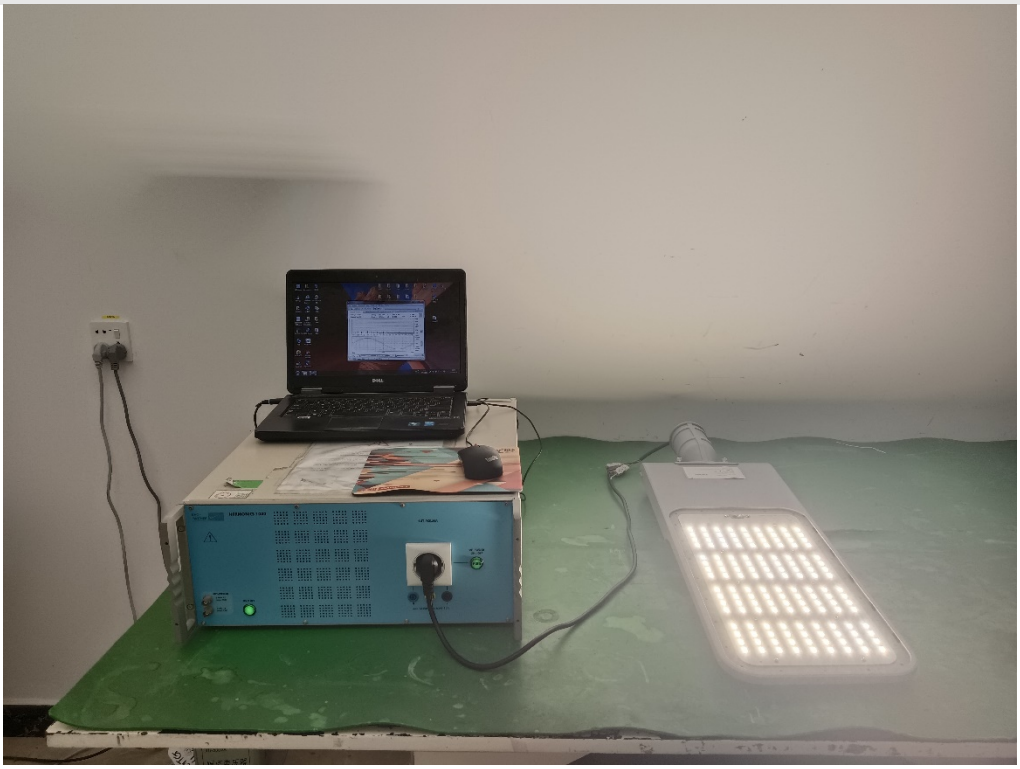
Radiated Emission (30MHz to 1GHz)



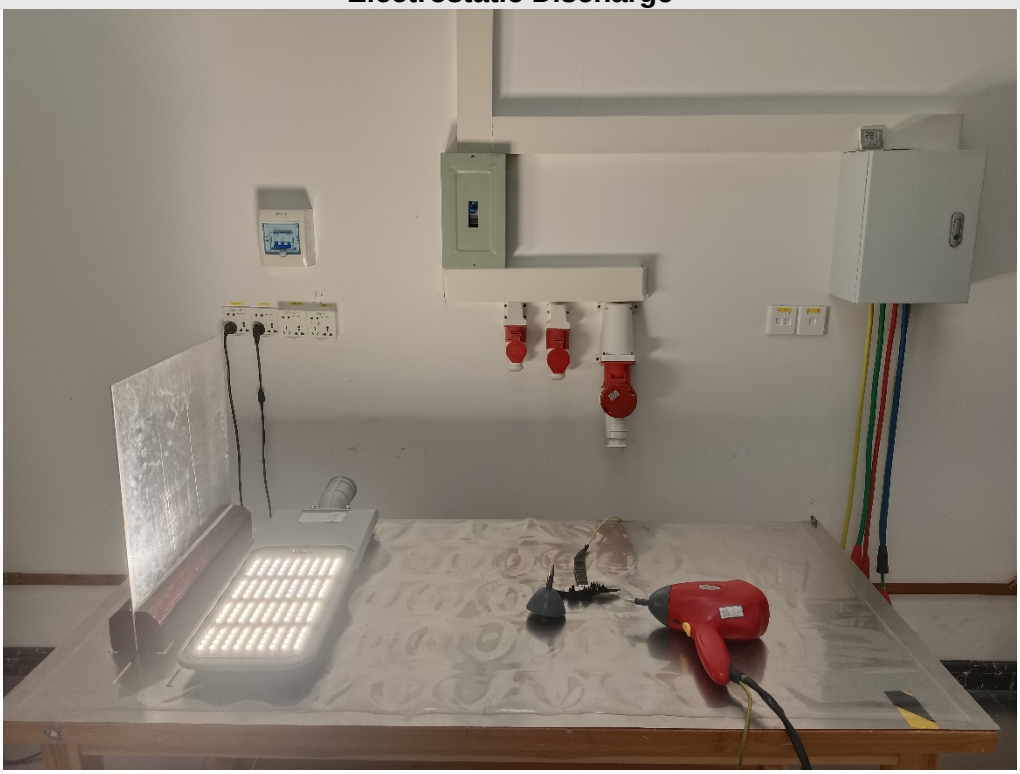
Radiated Emission (9 kHz to 30 MHz 2m loop)



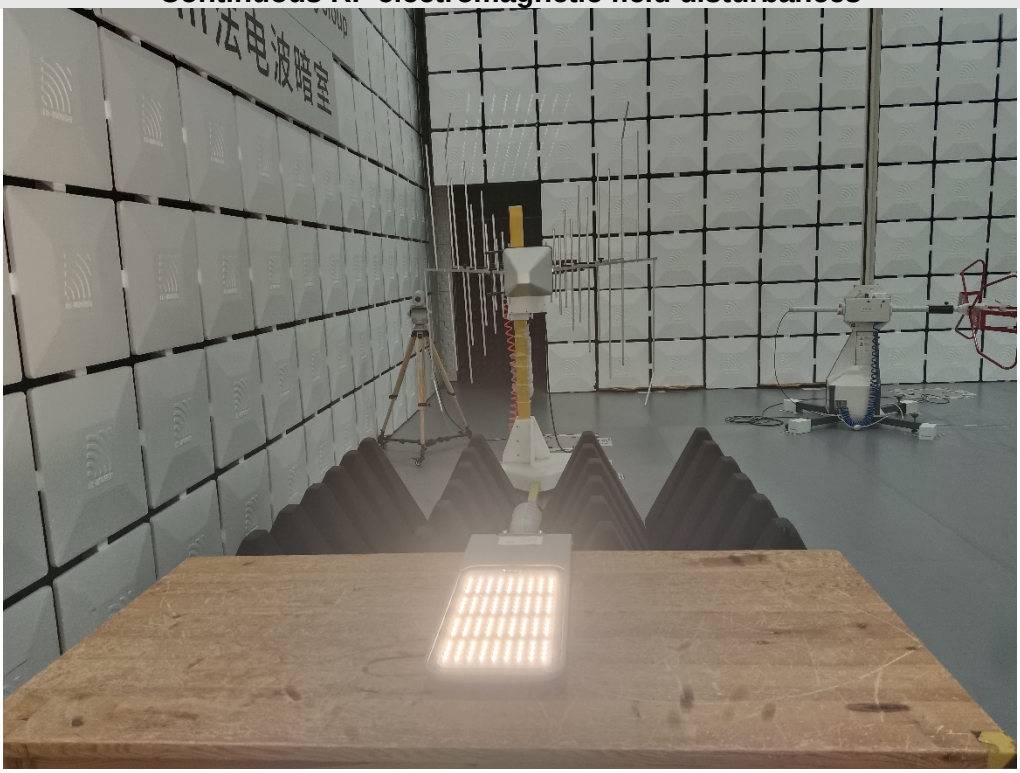
Harmonic Current Emission



Electrostatic Discharge



Continuous RF electromagnetic field disturbances



Electrical fast transients burst (AC mains power ports)



Surges (AC mains power ports)



Continuous induced RF disturbances (AC mains power ports)



Voltage dips and interruptions (AC mains power ports)



APPENDIX: PHOTOGRAPHS OF THE EUT

Details of: Outlook view for SWL-S22-4L-240-HV

Remark: --



Details of: Outlook view for SWL-S22-4L-240-HV

Remark: --



Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



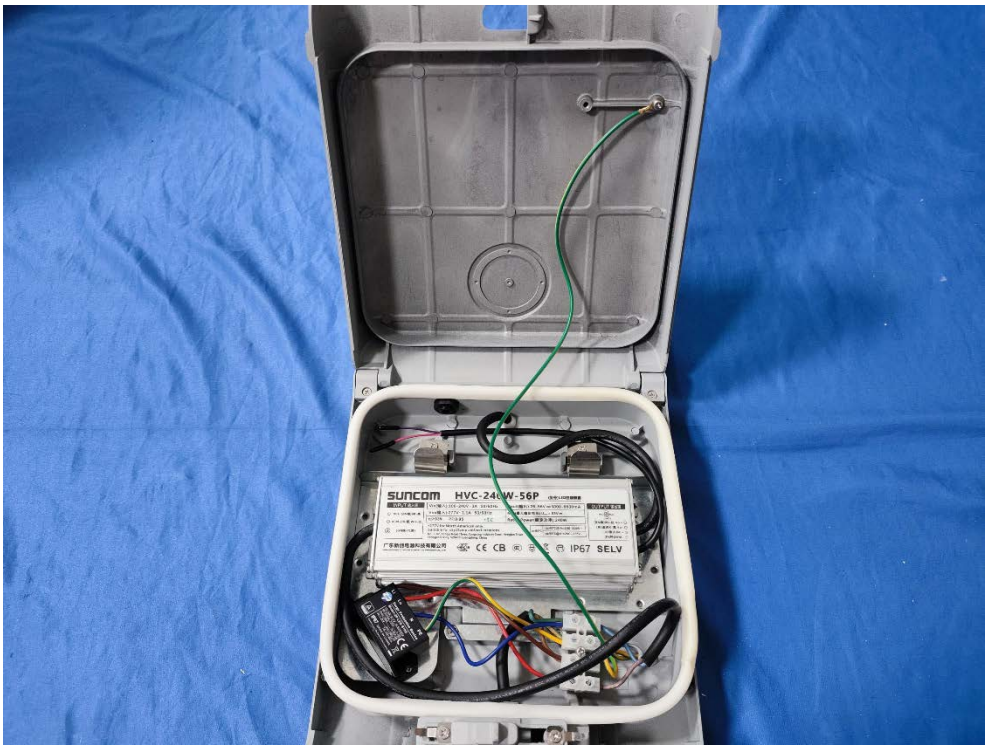
Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



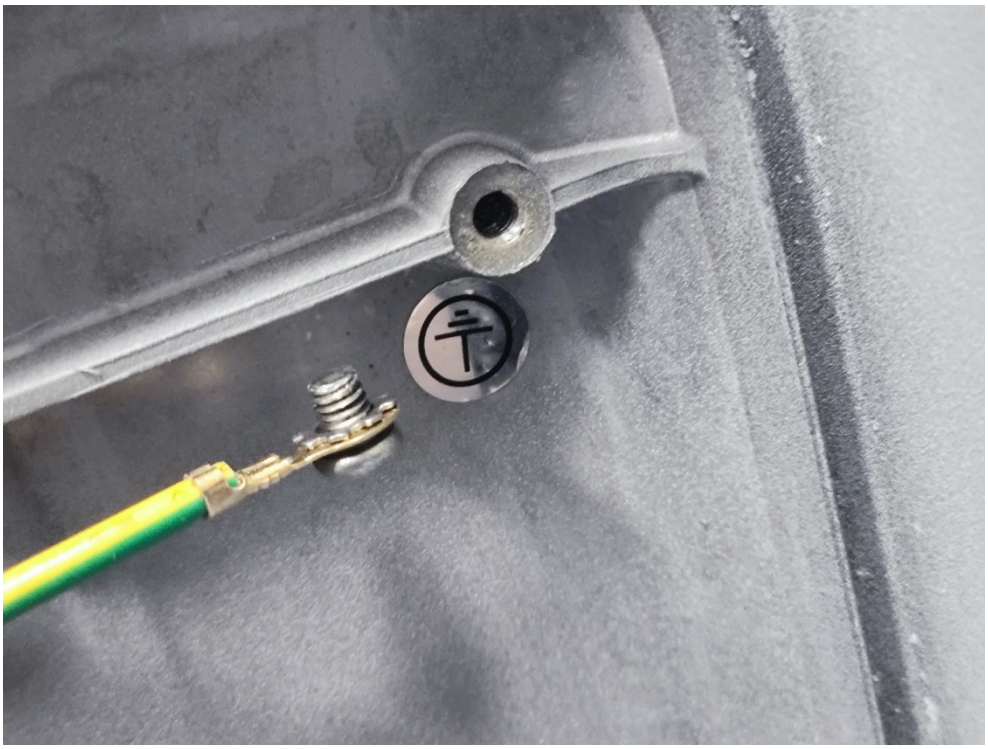
Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



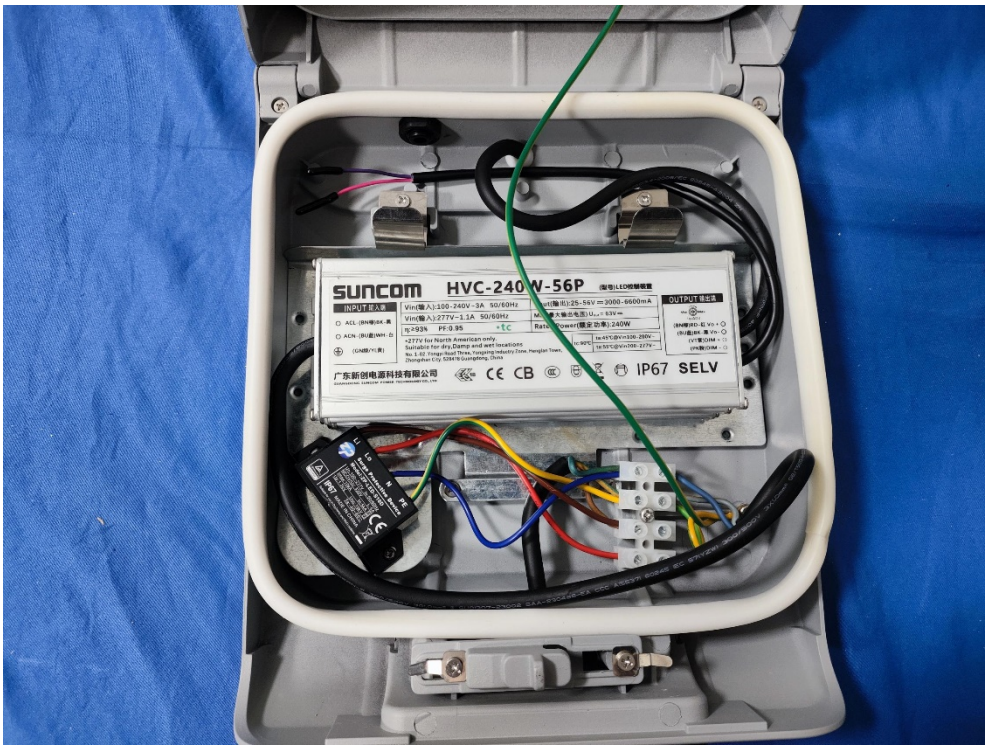
Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



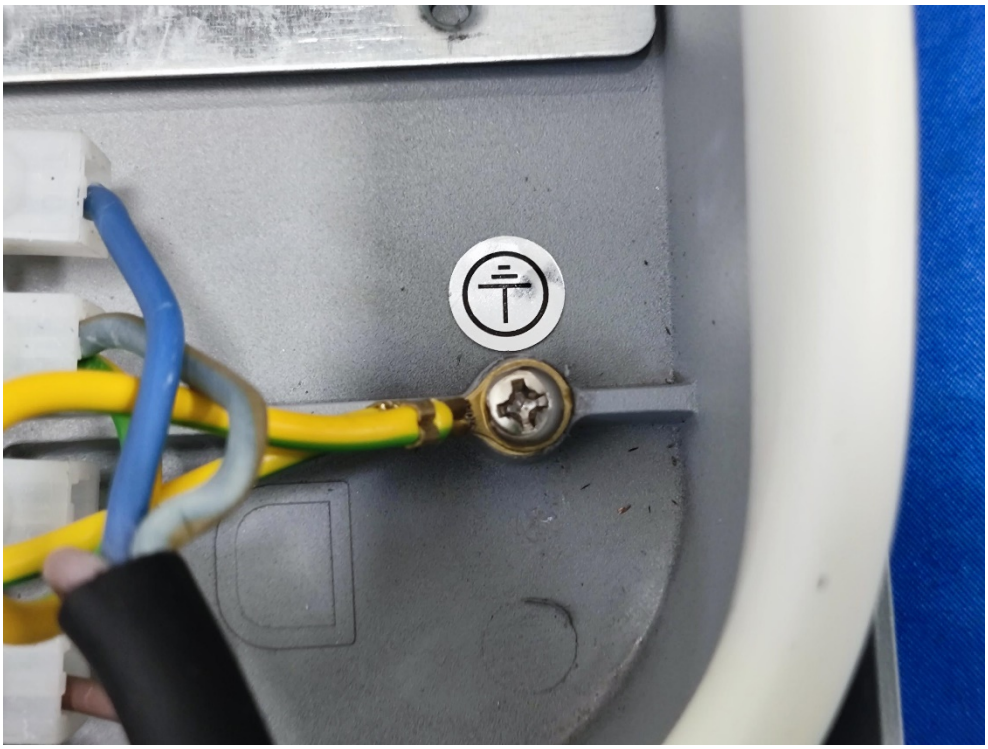
Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



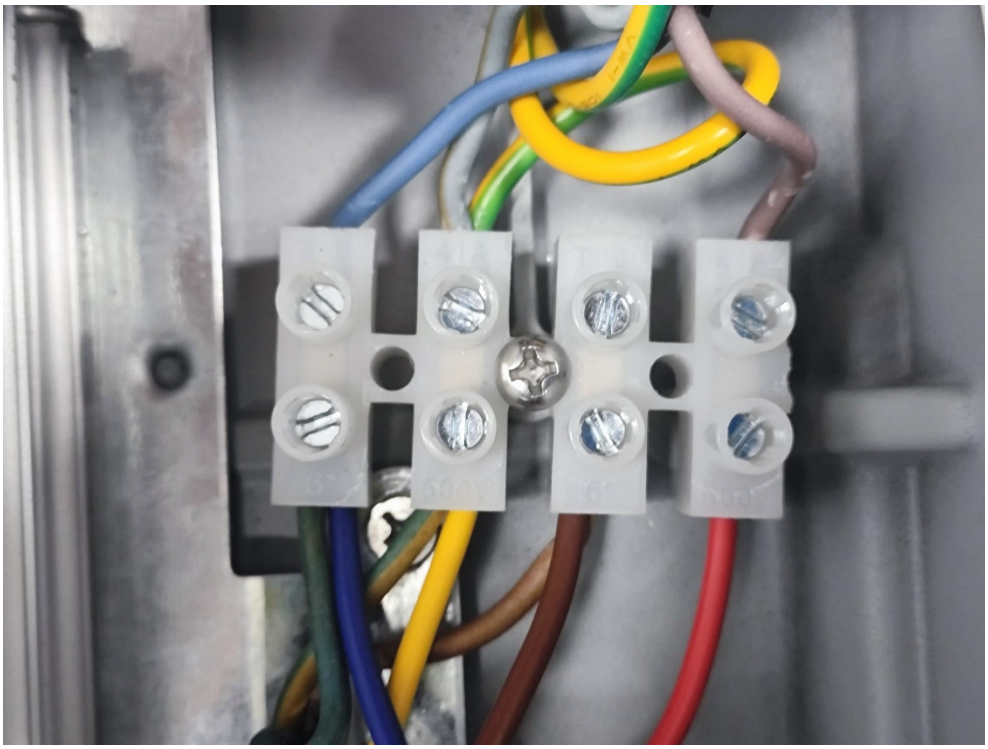
Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



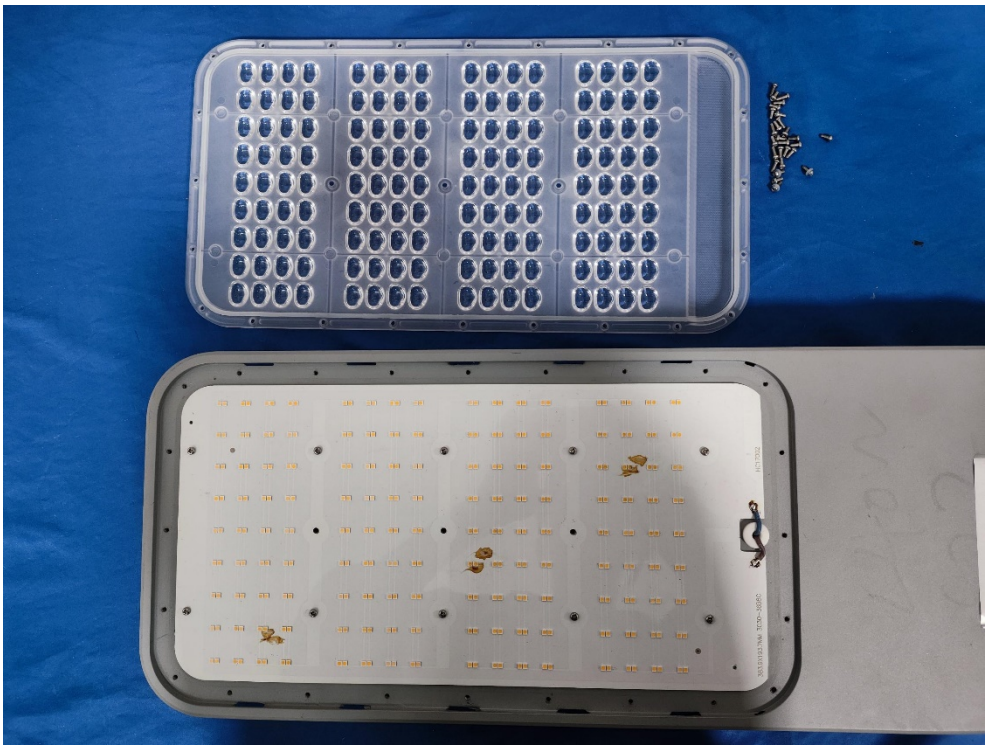
Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



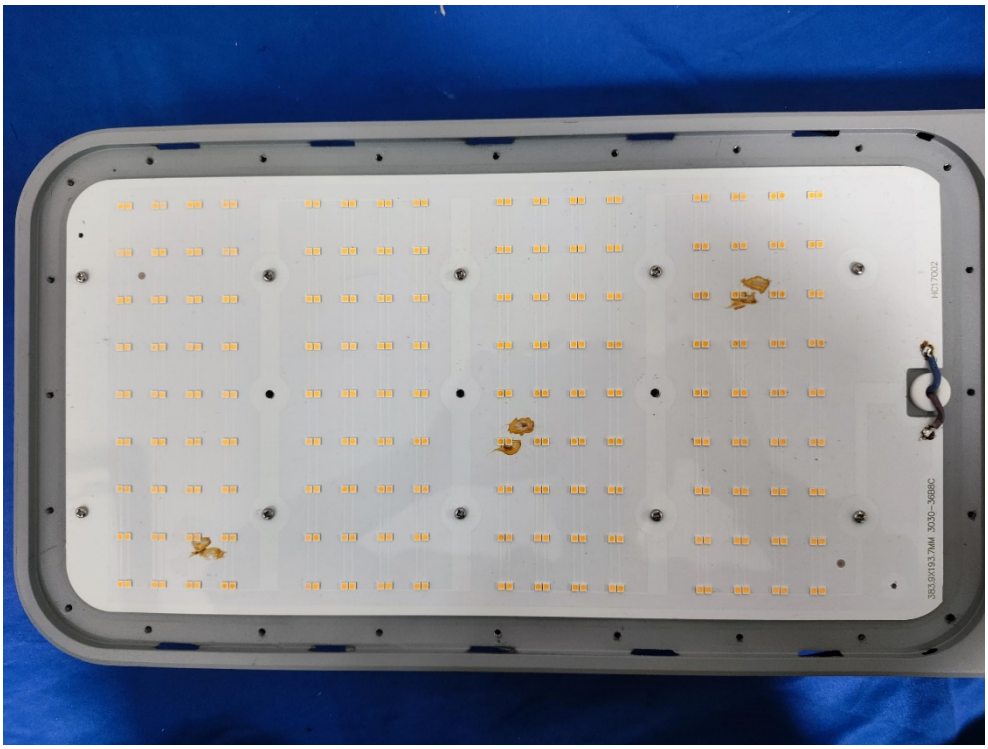
Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



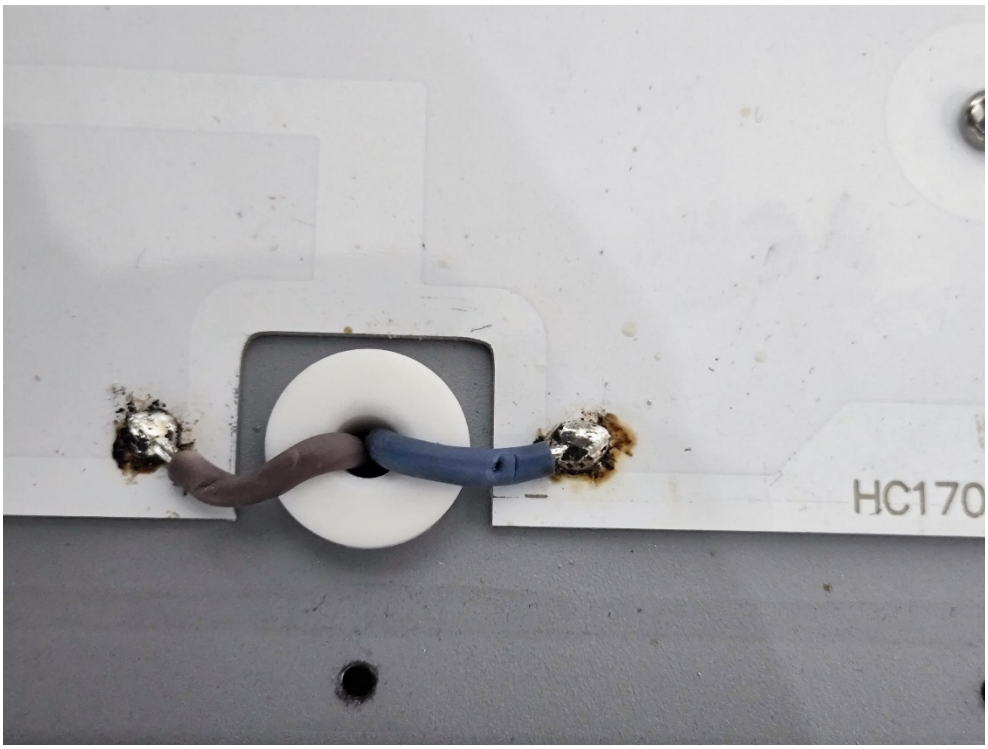
Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



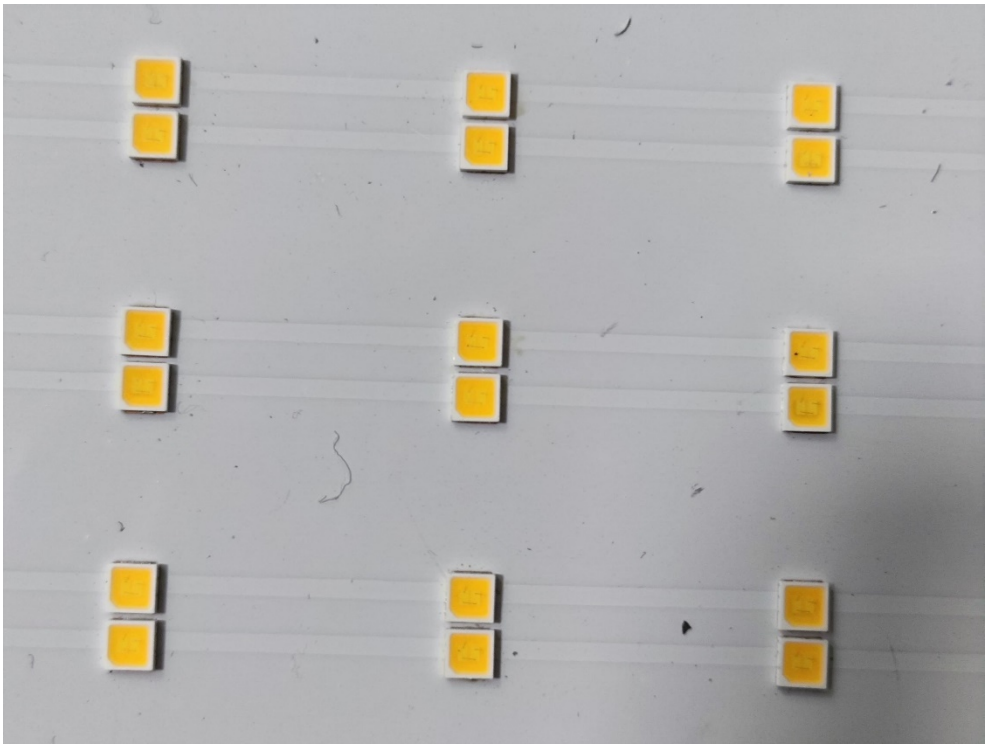
Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



Details of: Internal view for SWL-S22-4L-240-HV

Remark: --



Details of: Outlook view for SWL-S32-4L-240-GE

Remark: --



Details of: Outlook view for SWL-S32-4L-240-GE

Remark: --



Details of: Outlook view for SWL-S32-4L-240-GE

Remark: --



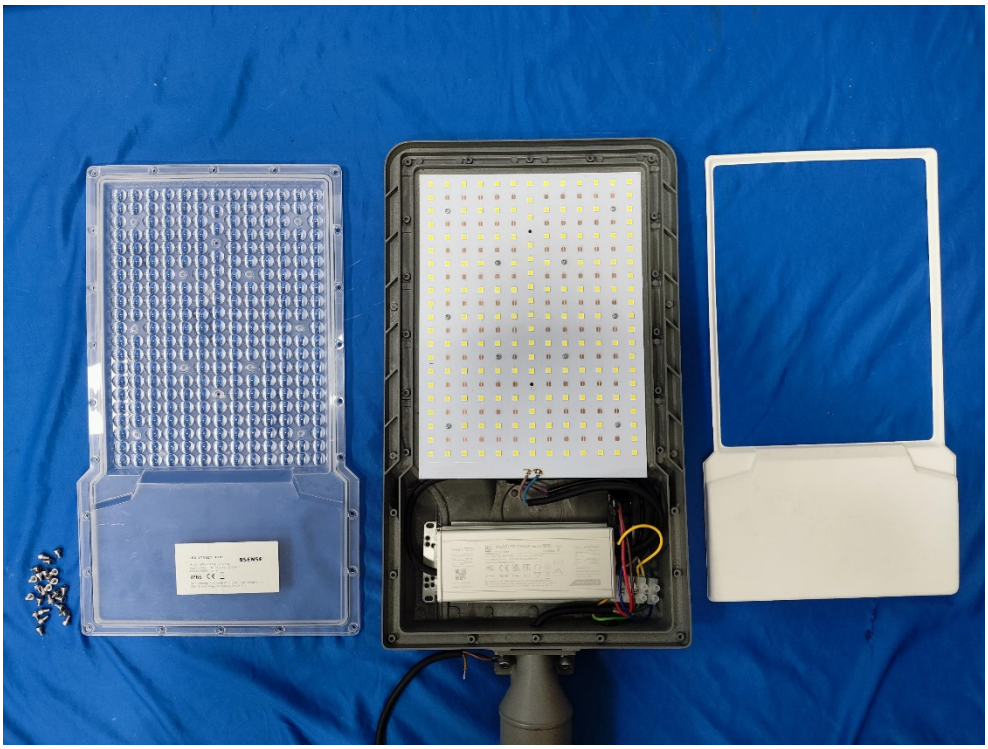
Details of: Internal view for SWL-S32-4L-240-GE

Remark: --



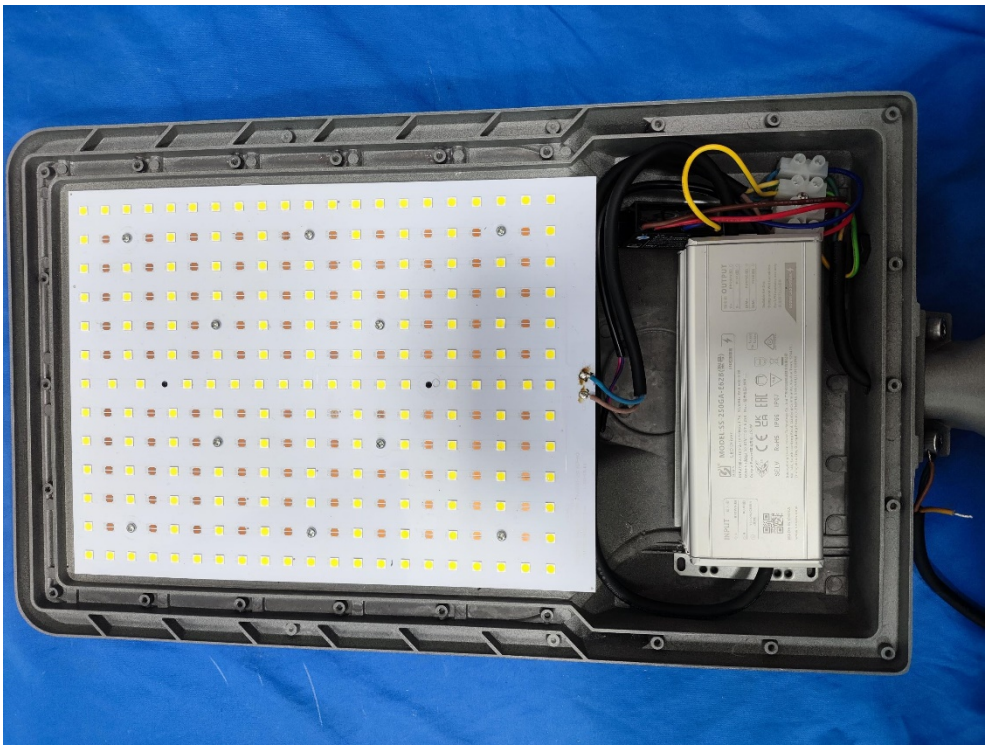
Details of: Internal view for SWL-S32-4L-240-GE

Remark: --



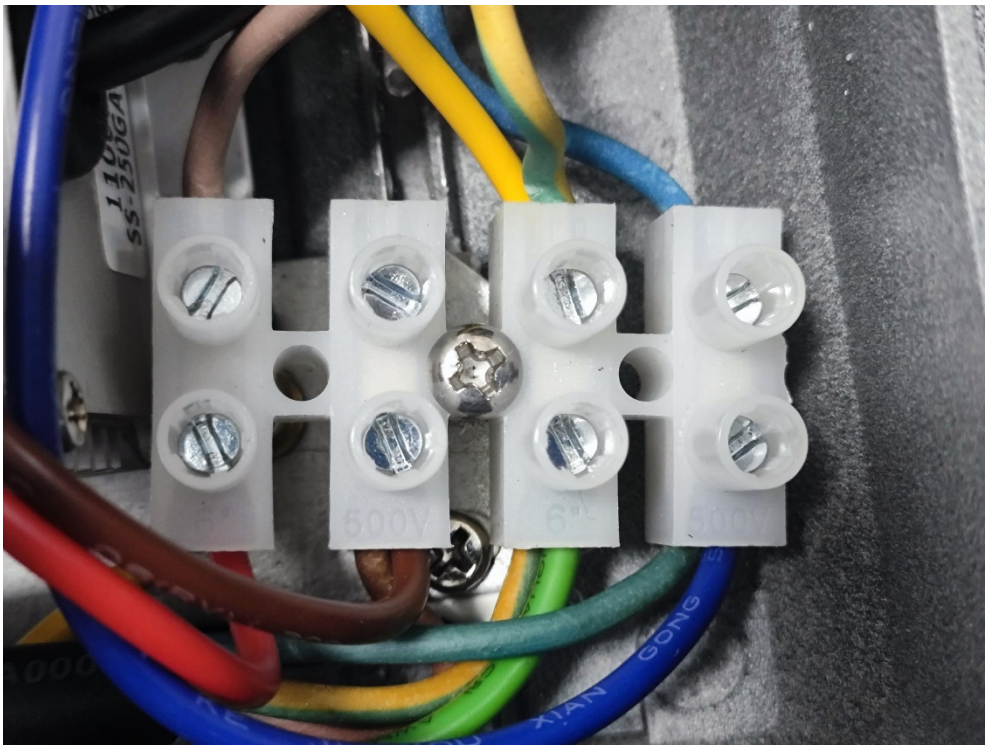
Details of: Internal view for SWL-S32-4L-240-GE

Remark: --



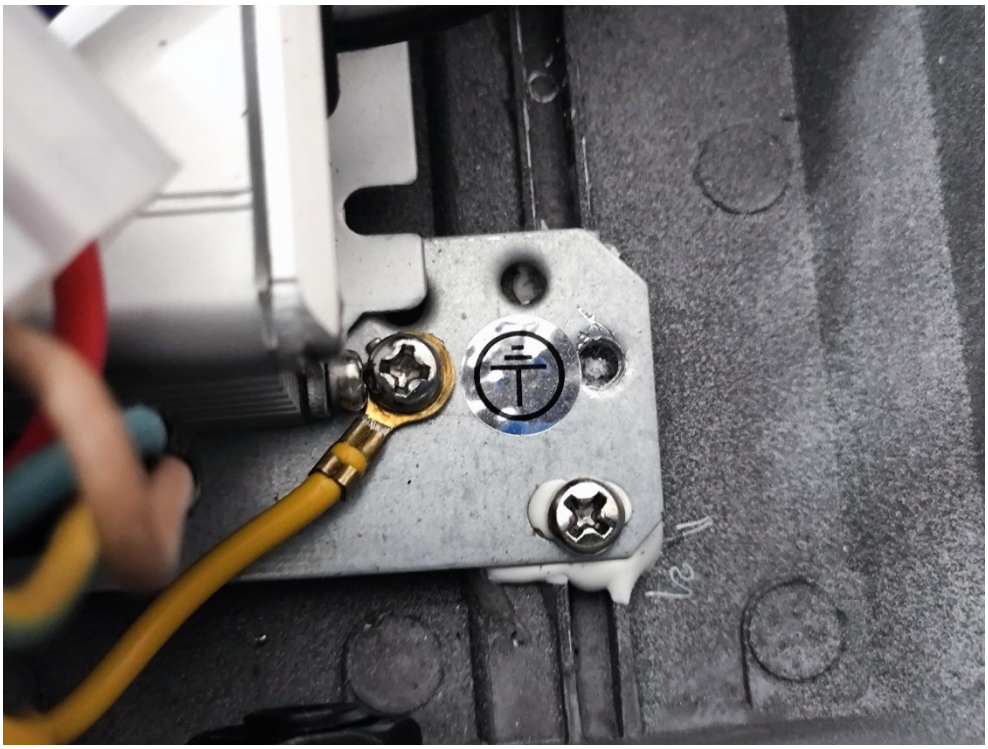
Details of: Internal view for SWL-S32-4L-240-GE

Remark: --



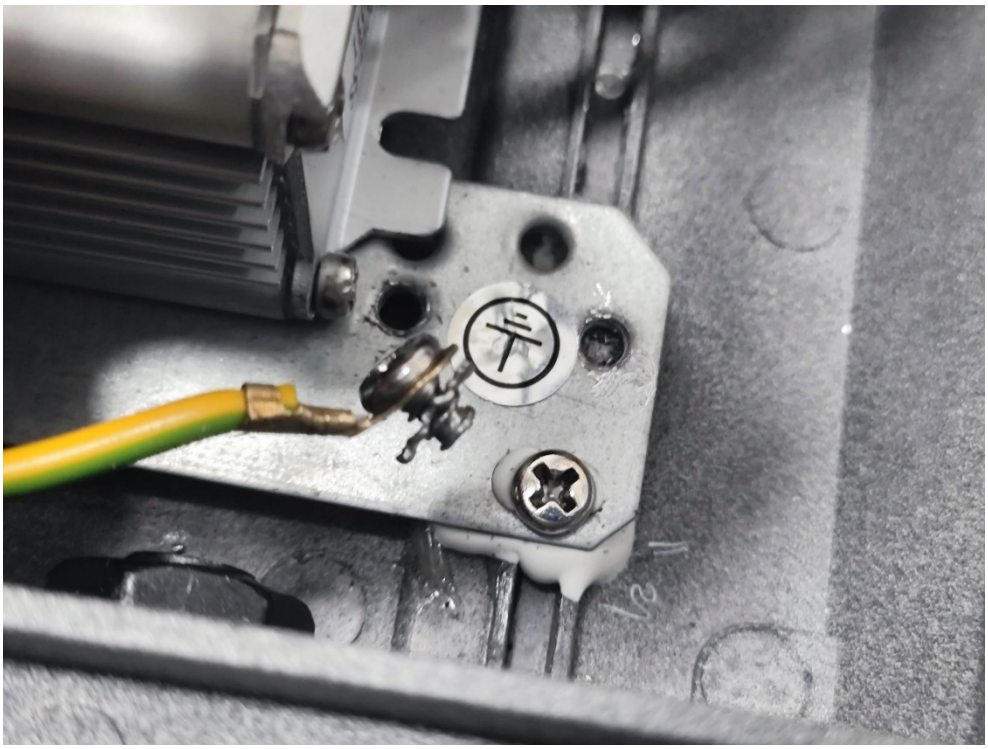
Details of: Internal view for SWL-S32-4L-240-GE

Remark: --



Details of: Internal view for SWL-S32-4L-240-GE

Remark: --



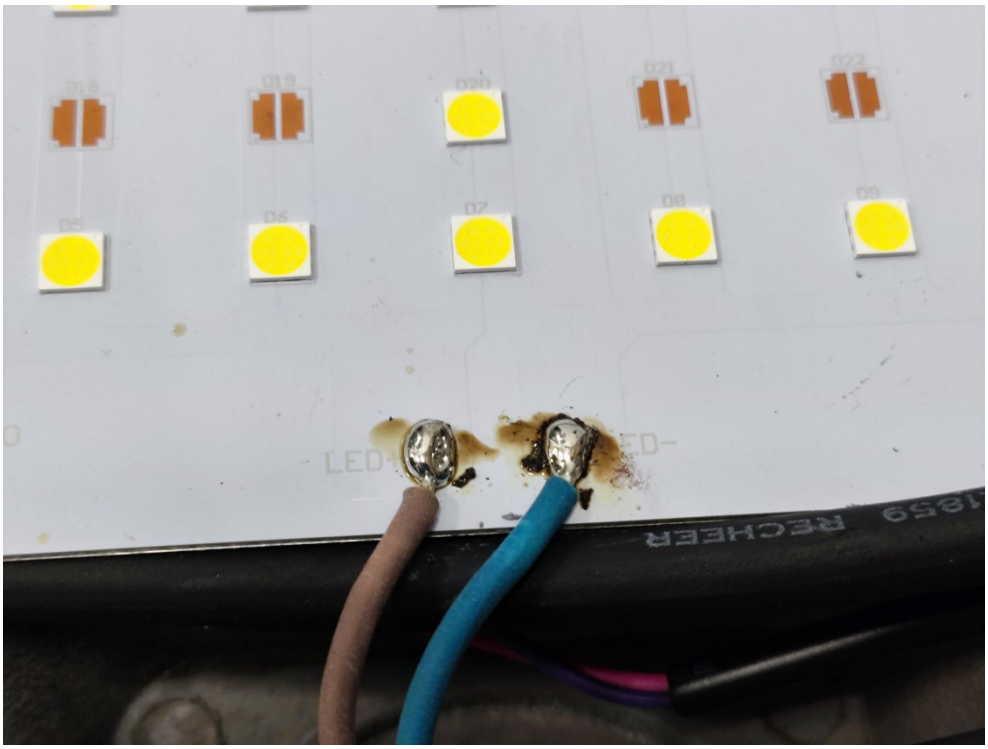
Details of: Internal view for SWL-S32-4L-240-GE

Remark: --



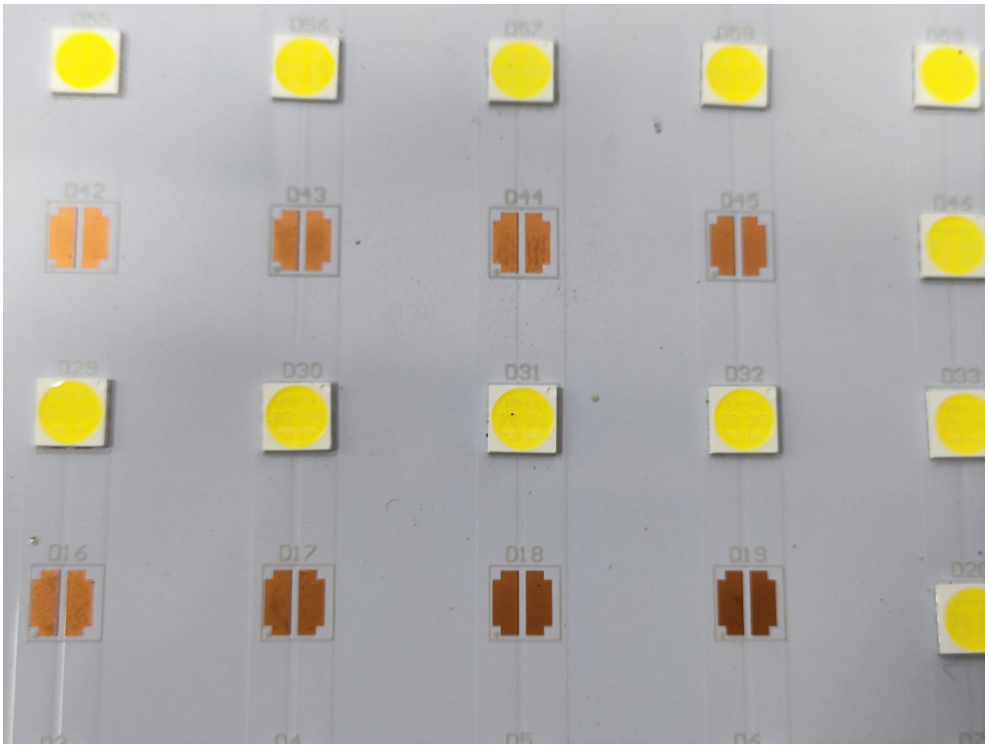
Details of: Internal view for SWL-S32-4L-240-GE

Remark: --



Details of: Internal view for SWL-S32-4L-240-GE

Remark: --



Details of: Outlook view for SWL-S14-3G-240-VH

Remark: --



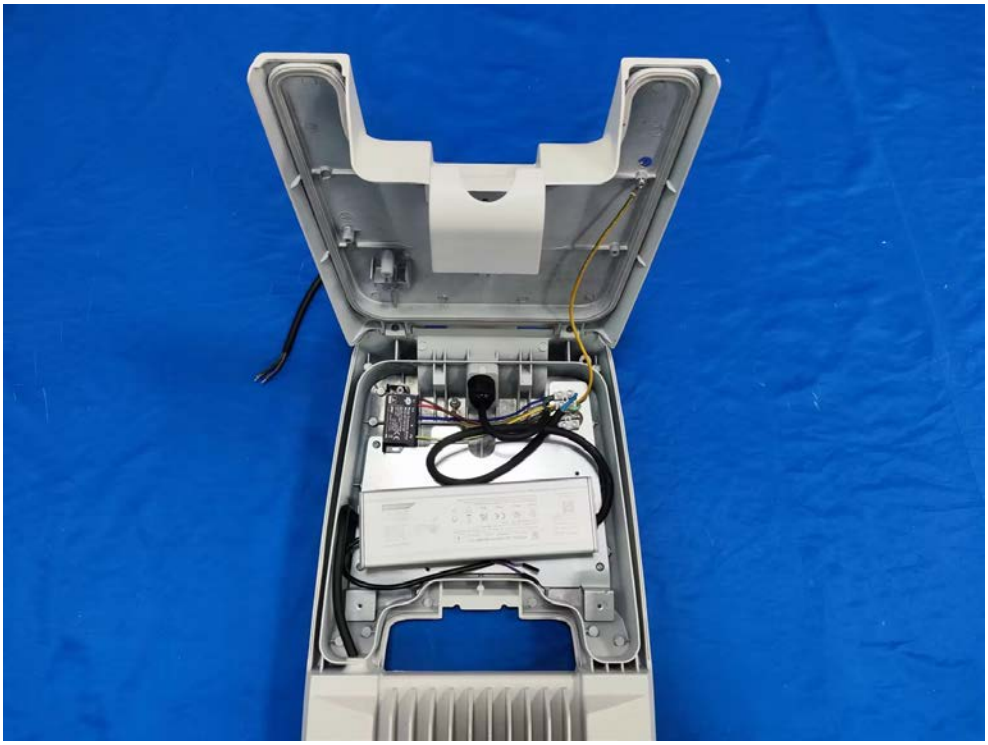
Details of: Outlook view for SWL-S14-3G-240-VH

Remark: --



Details of: Outlook view for SWL-S14-3G-240-VH

Remark: --



Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



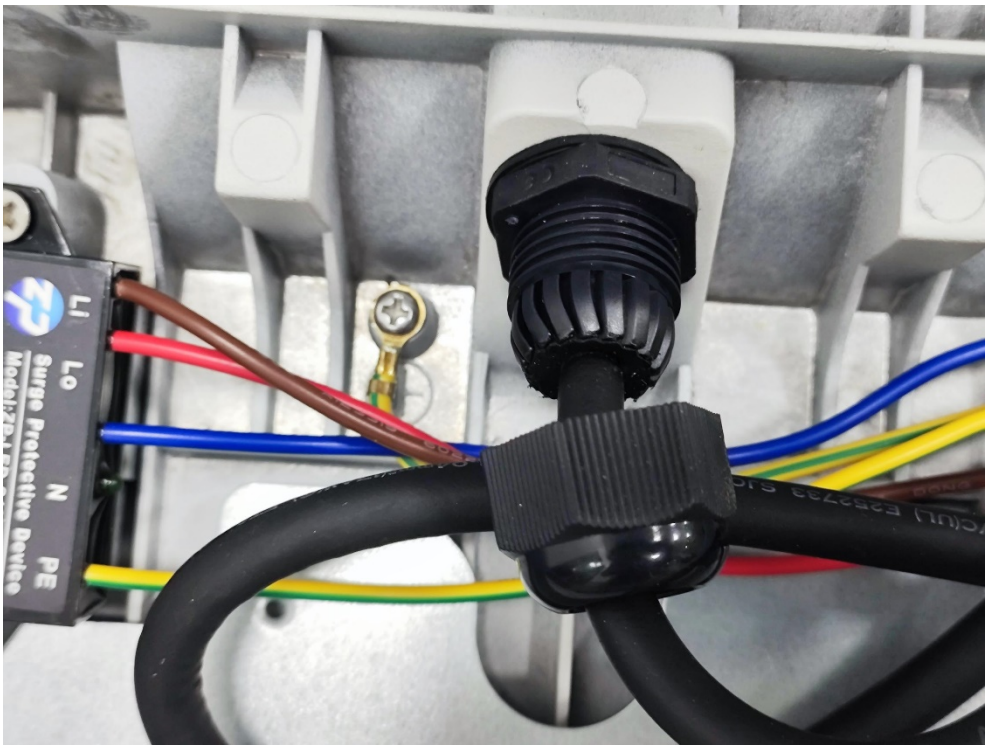
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Remark: --



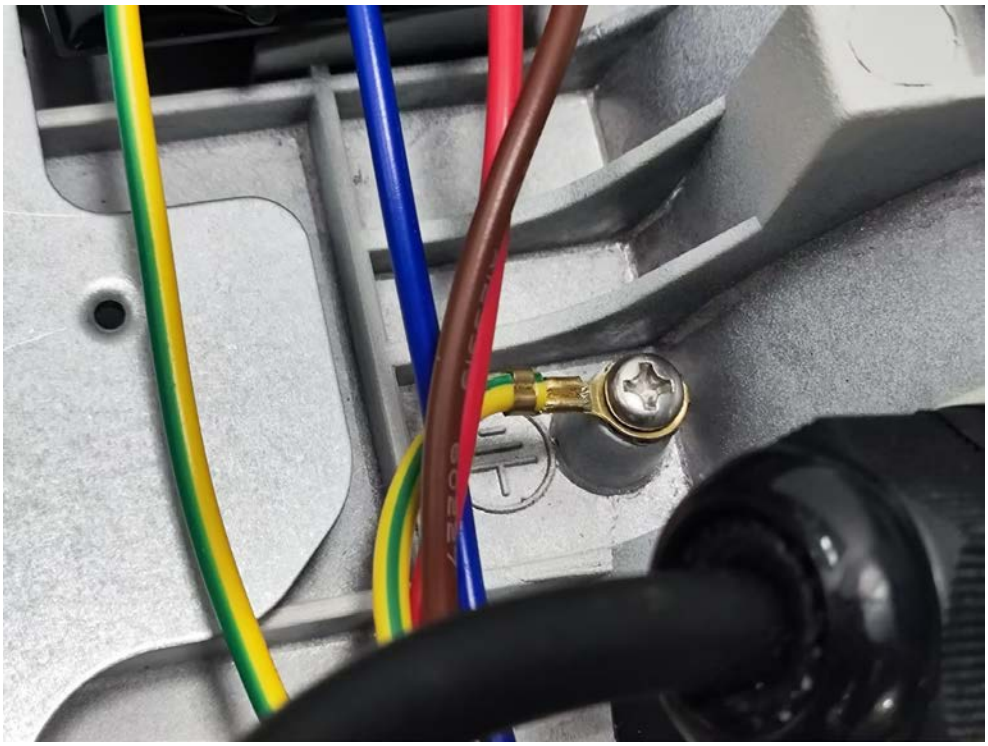
Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



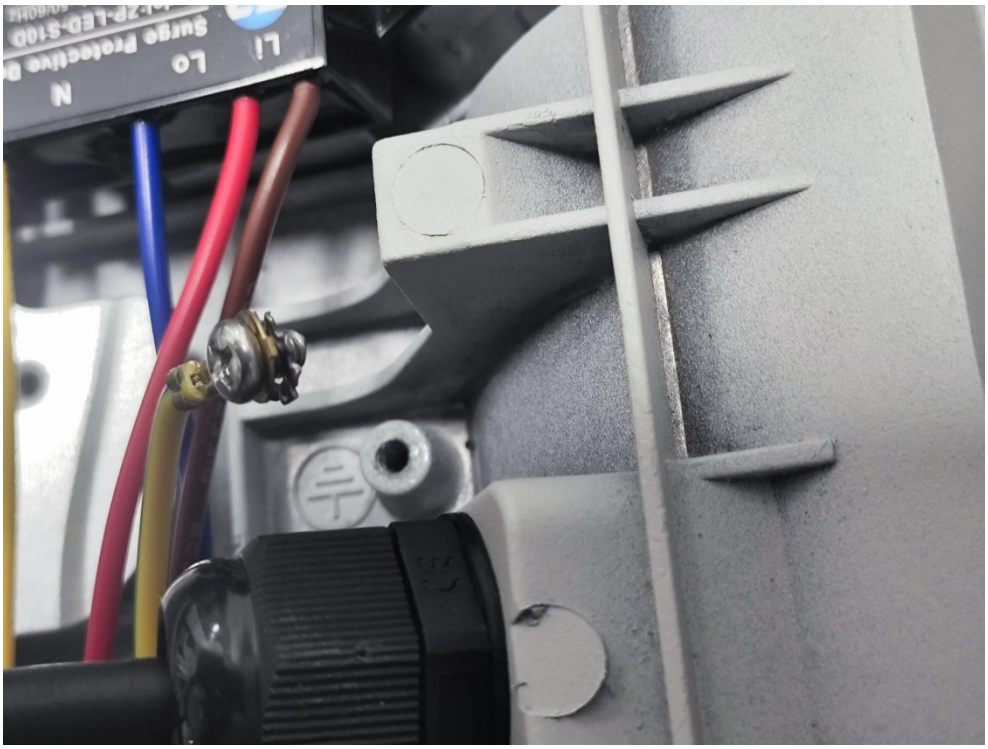
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Remark: --



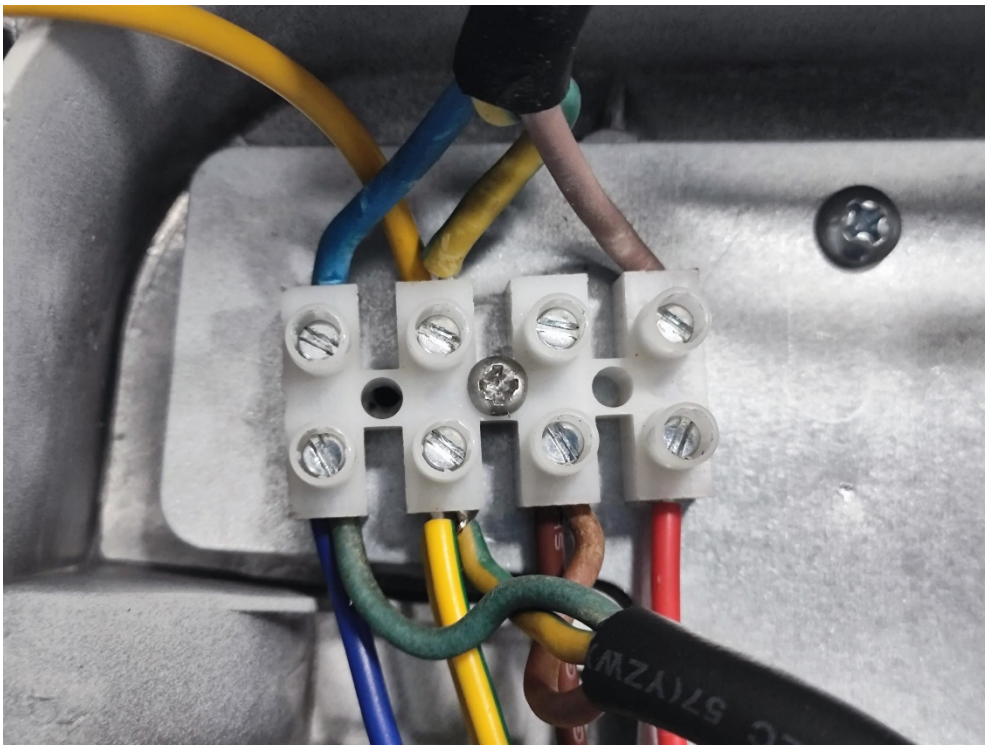
Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



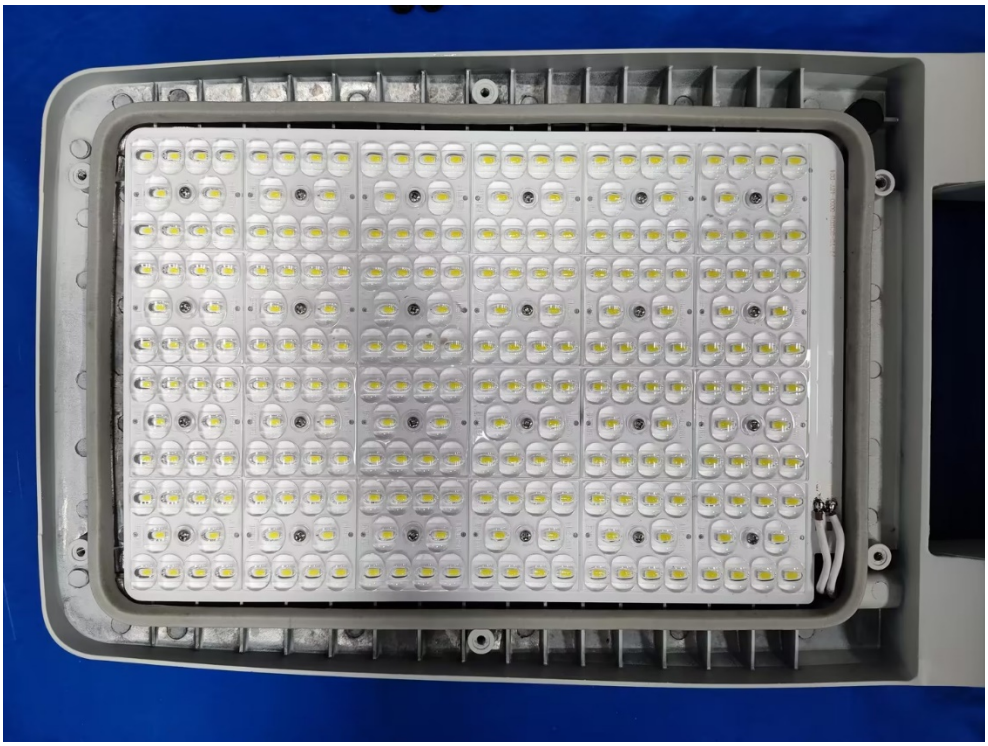
Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



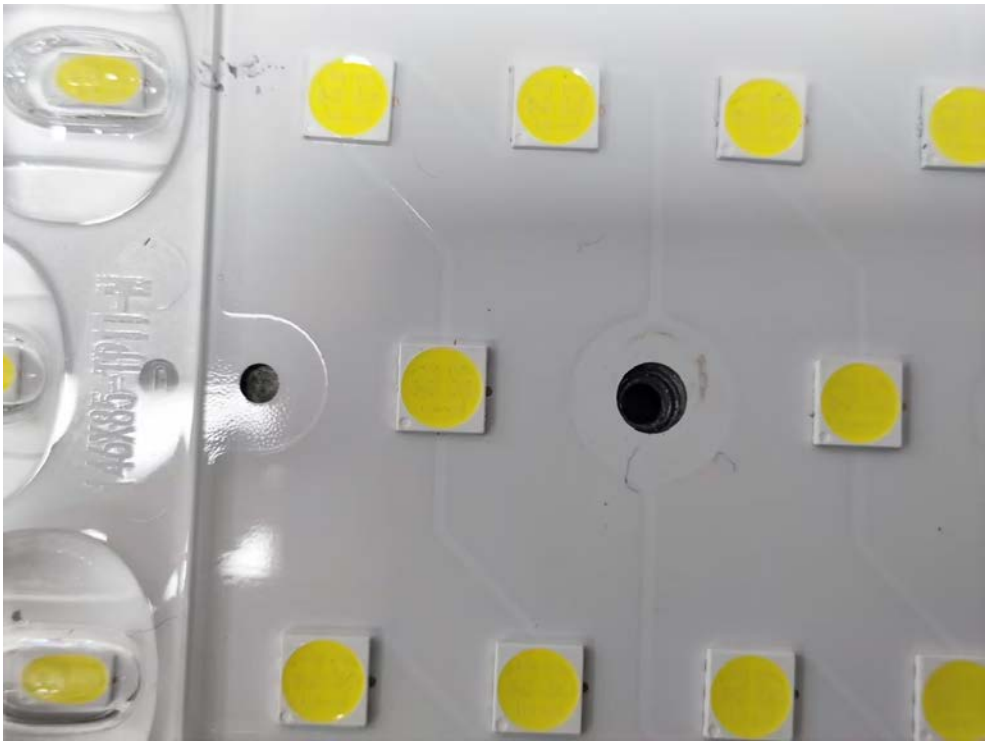
Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



Details of: Internal view for SWL-S14-3G-240-VH

Remark: --



Details of: Outlook view for SWL-S34-5G-280-VH

Remark: --



Details of: Outlook view for SWL-S34-5G-280-VH

Remark: --



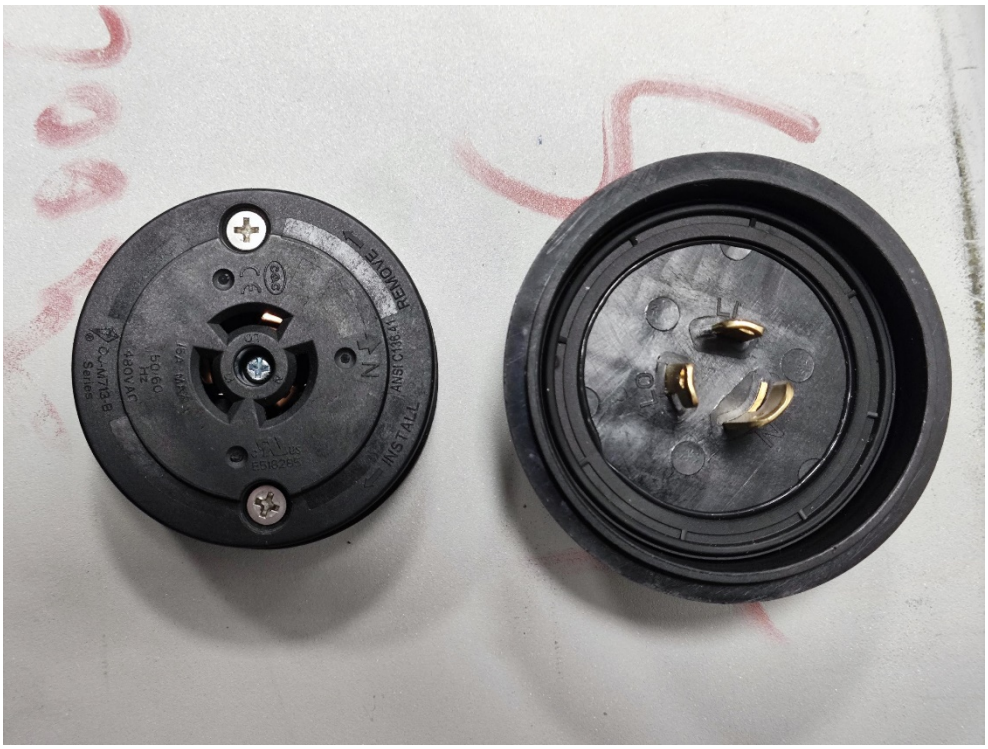
Details of: Outlook view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



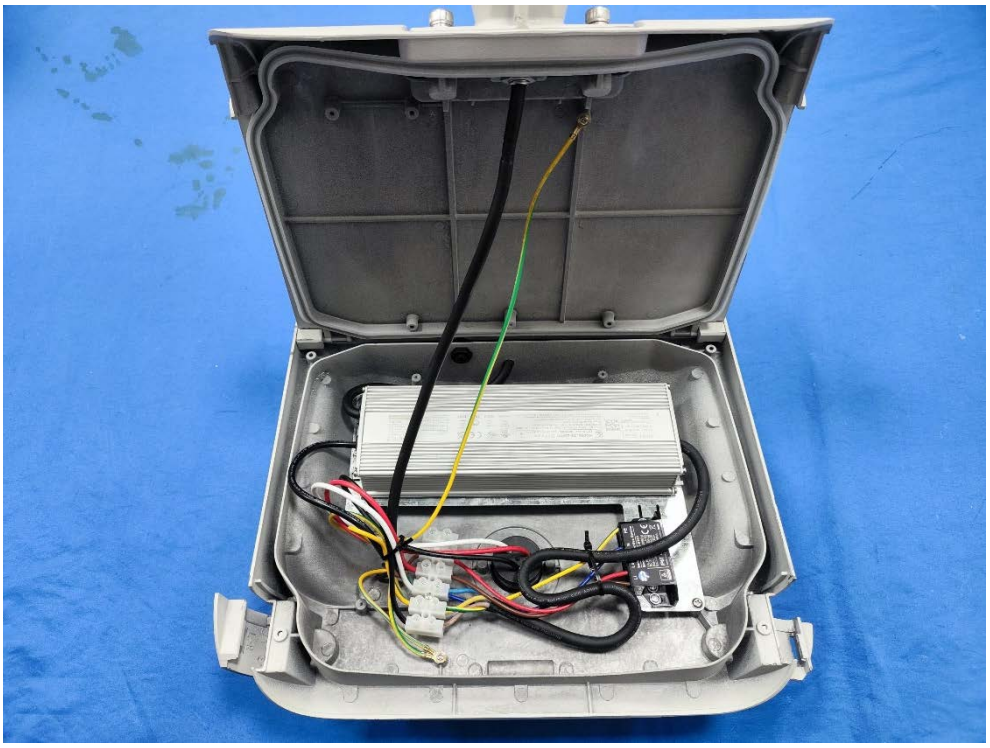
Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



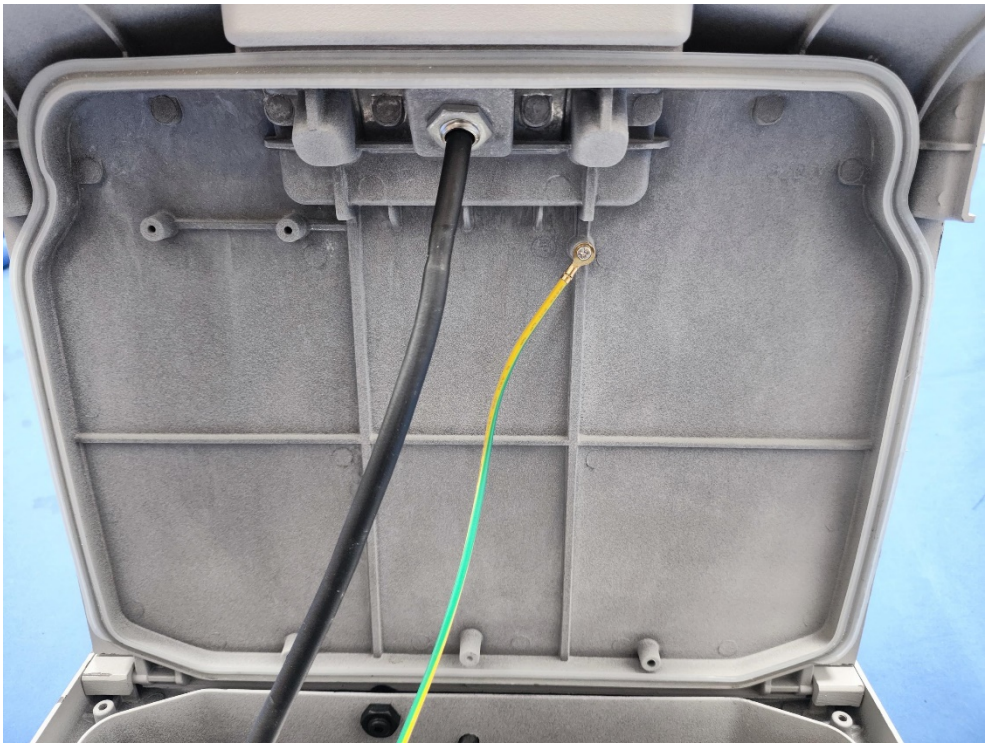
Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



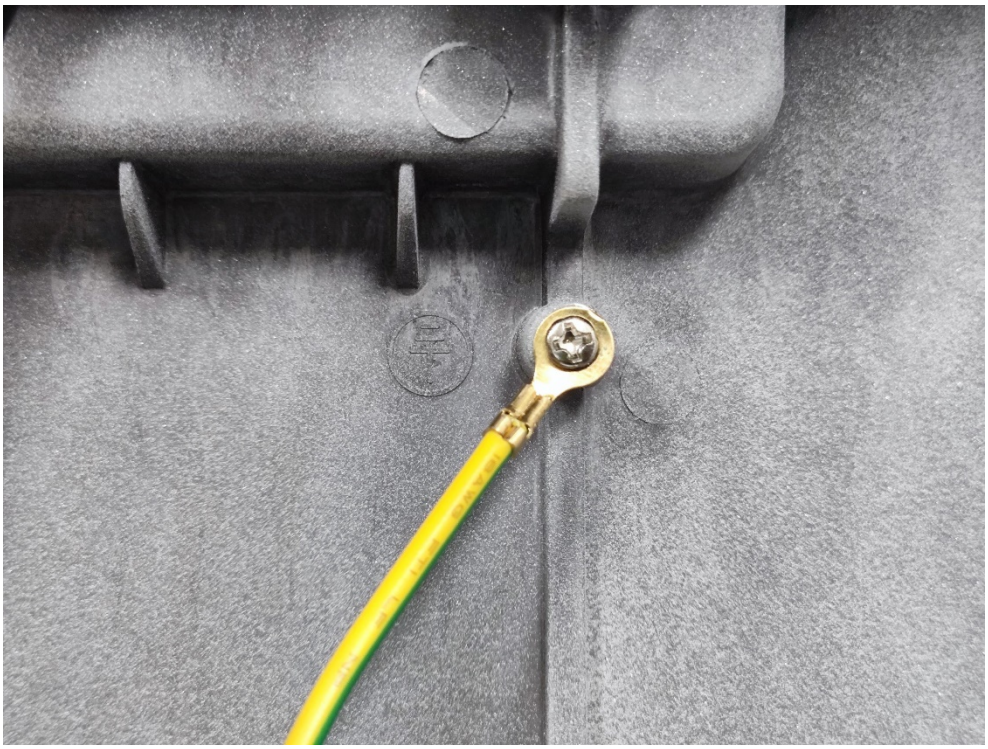
Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



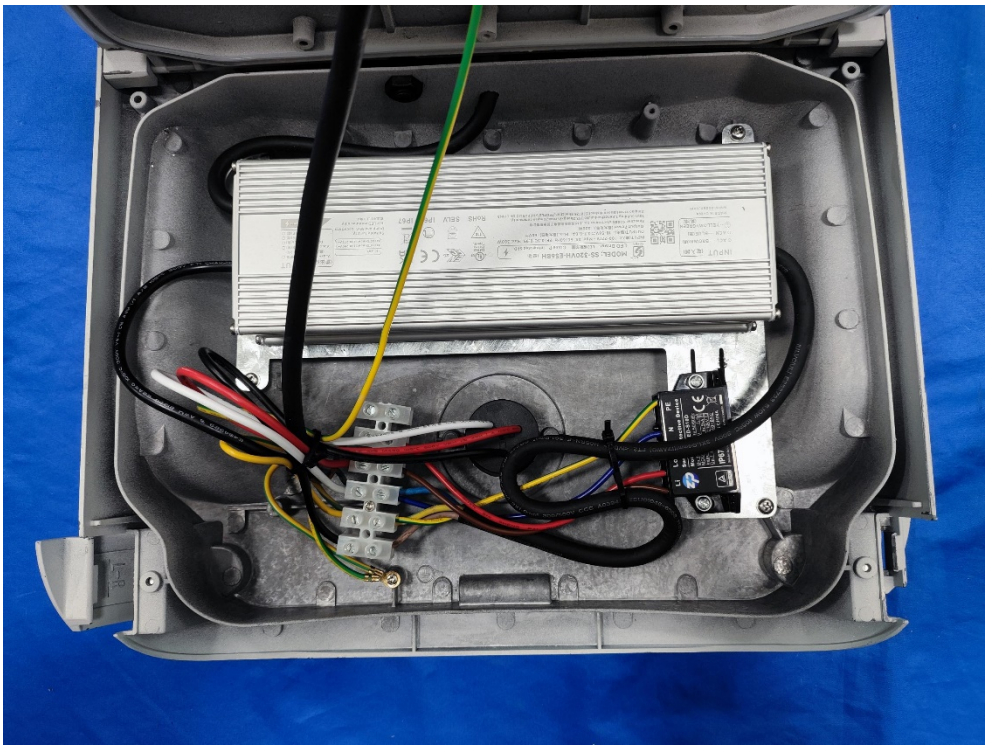
Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



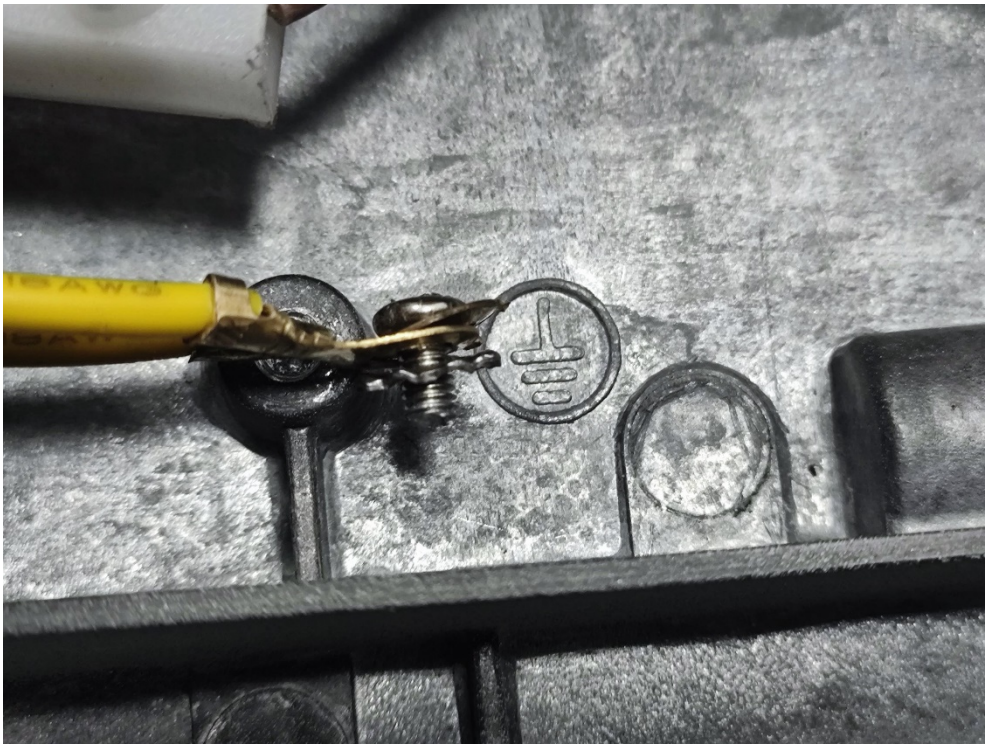
Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



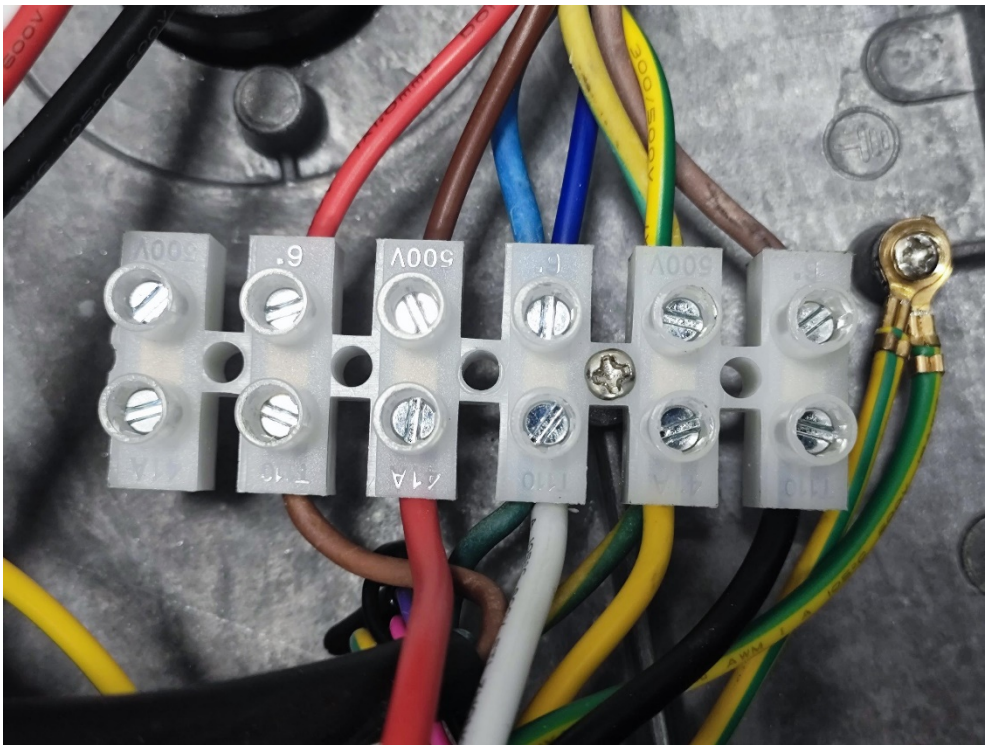
Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



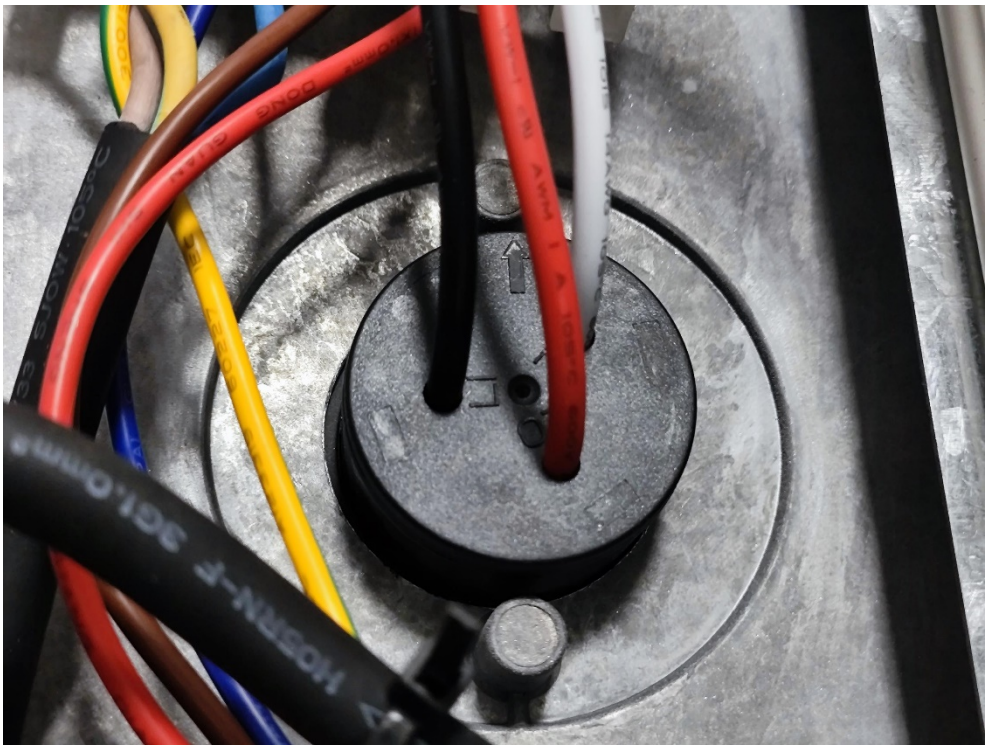
Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



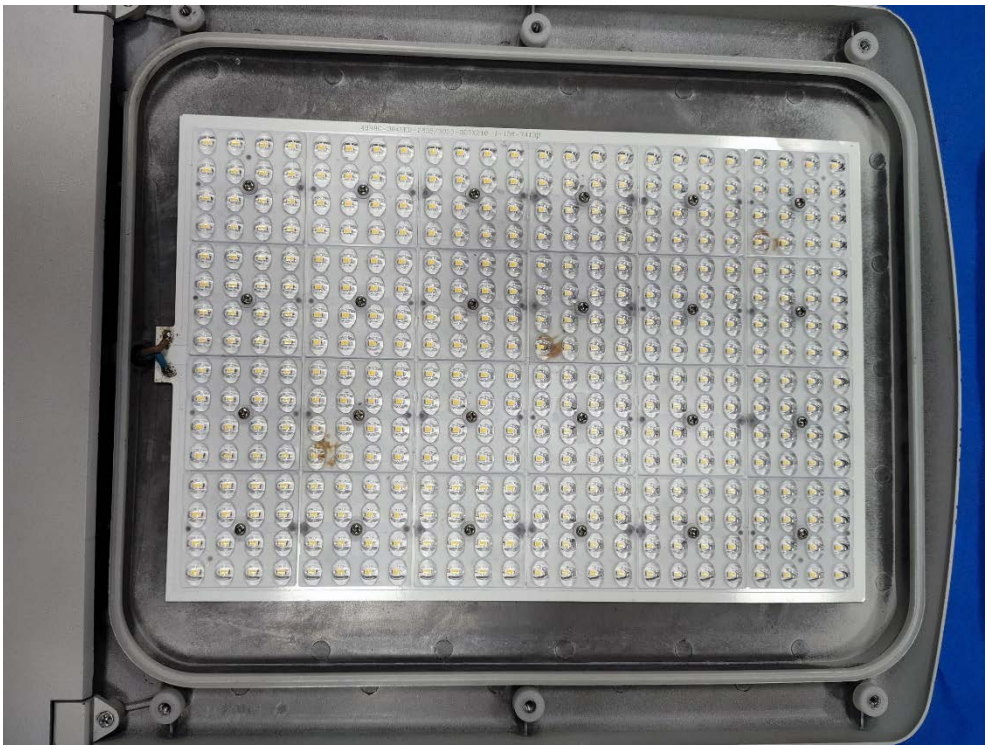
Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



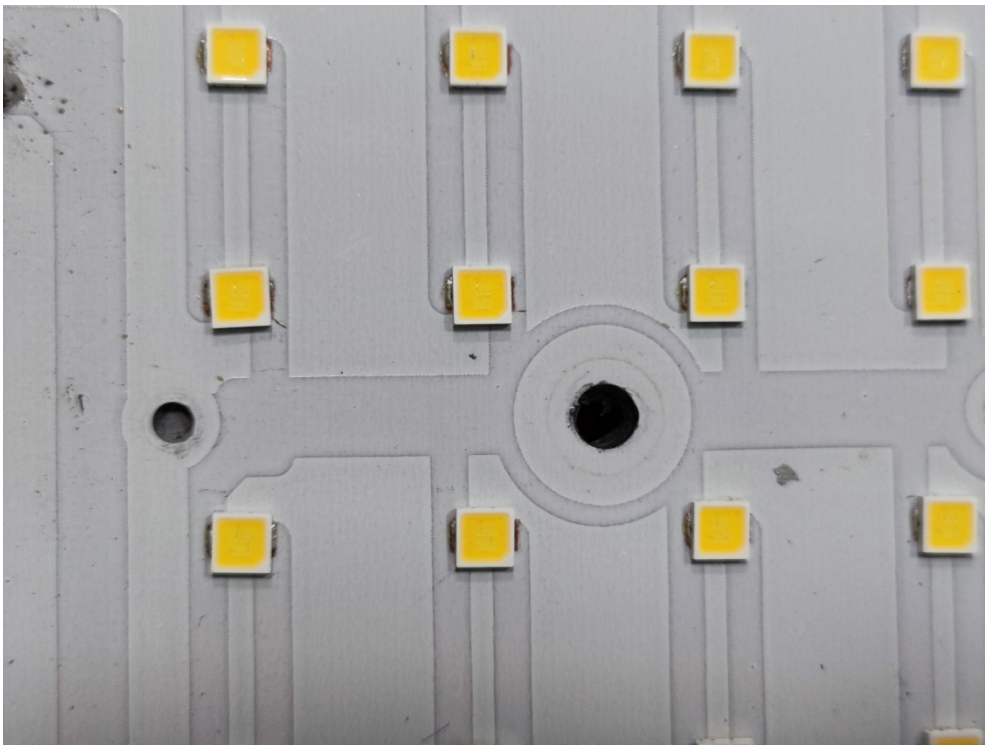
Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Internal view for SWL-S34-5G-280-VH

Remark: --



Details of: Outlook view for SWL-S36-4G-240-1T

Remark: --



Details of: Outlook view for SWL-S36-4G-240-1T

Remark: --



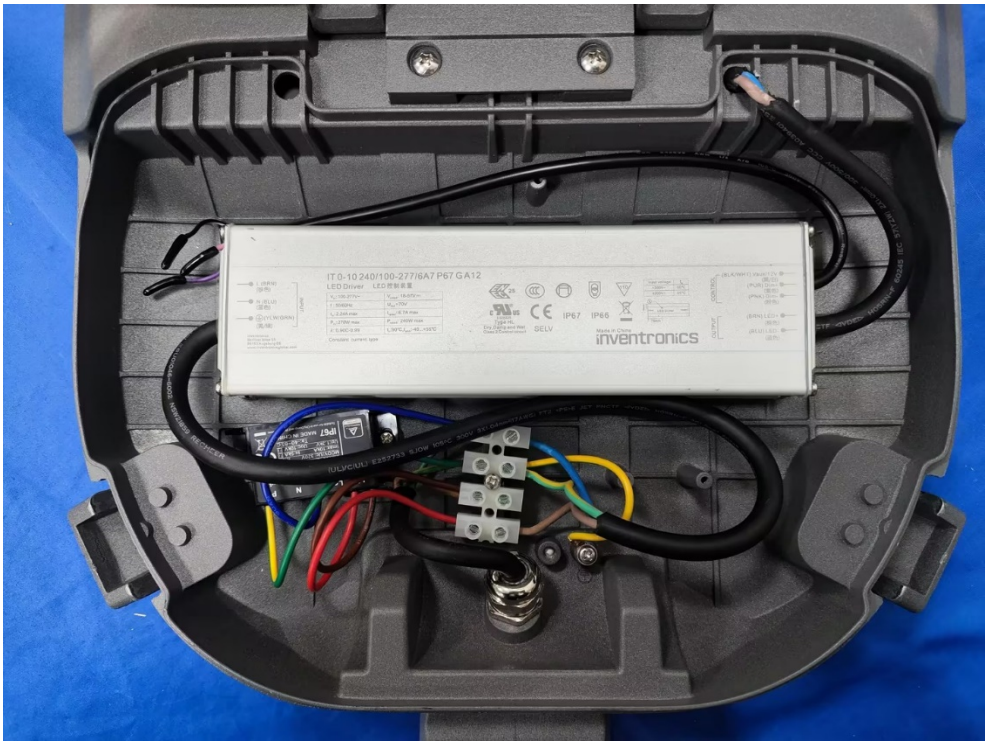
Details of: Outlook view for SWL-S36-4G-240-1T

Remark: --



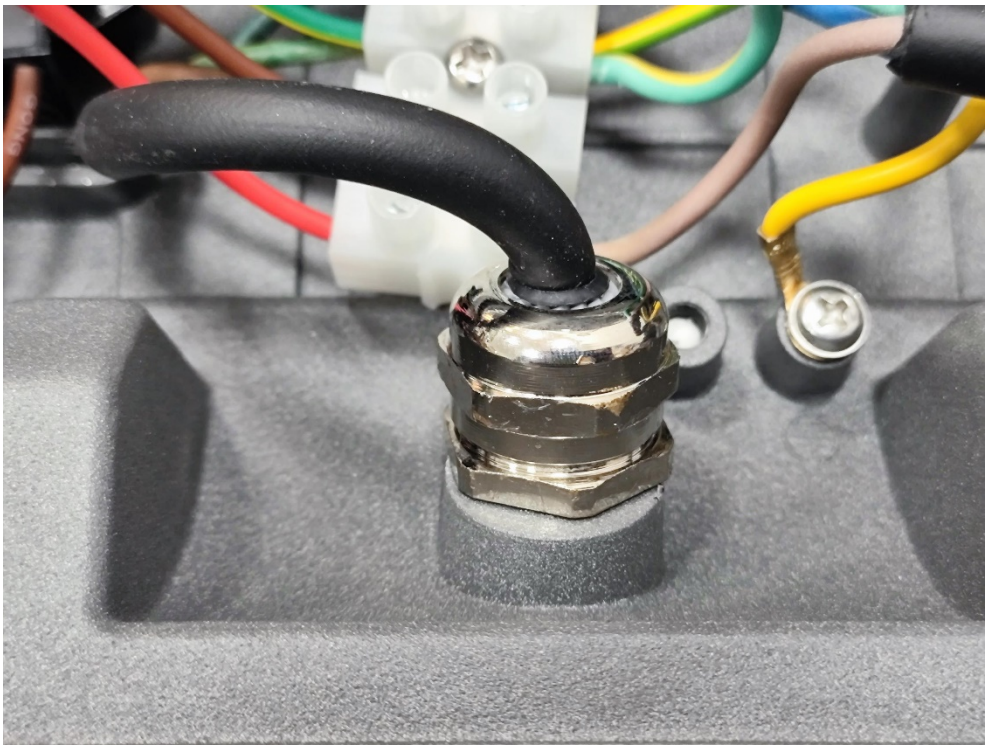
Details of: Internal view for SWL-S36-4G-240-1T

Remark: --



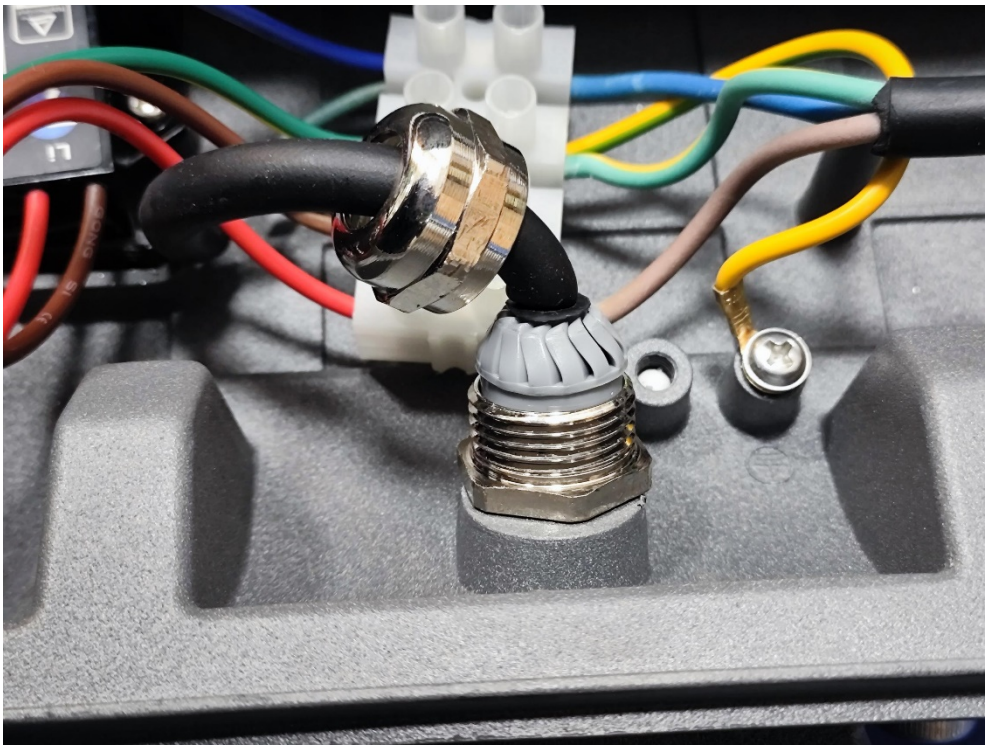
Details of: Internal view for SWL-S36-4G-240-1T

Remark: --



Details of: Internal view for SWL-S36-4G-240-1T

Remark: --



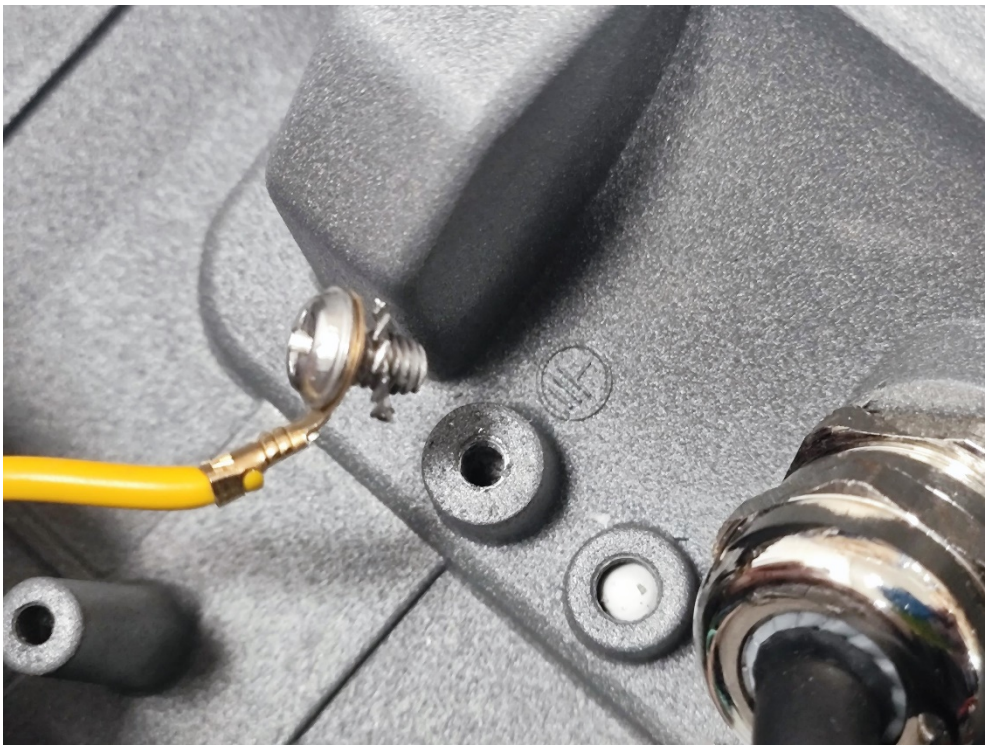
Details of: Internal view for SWL-S36-4G-240-1T

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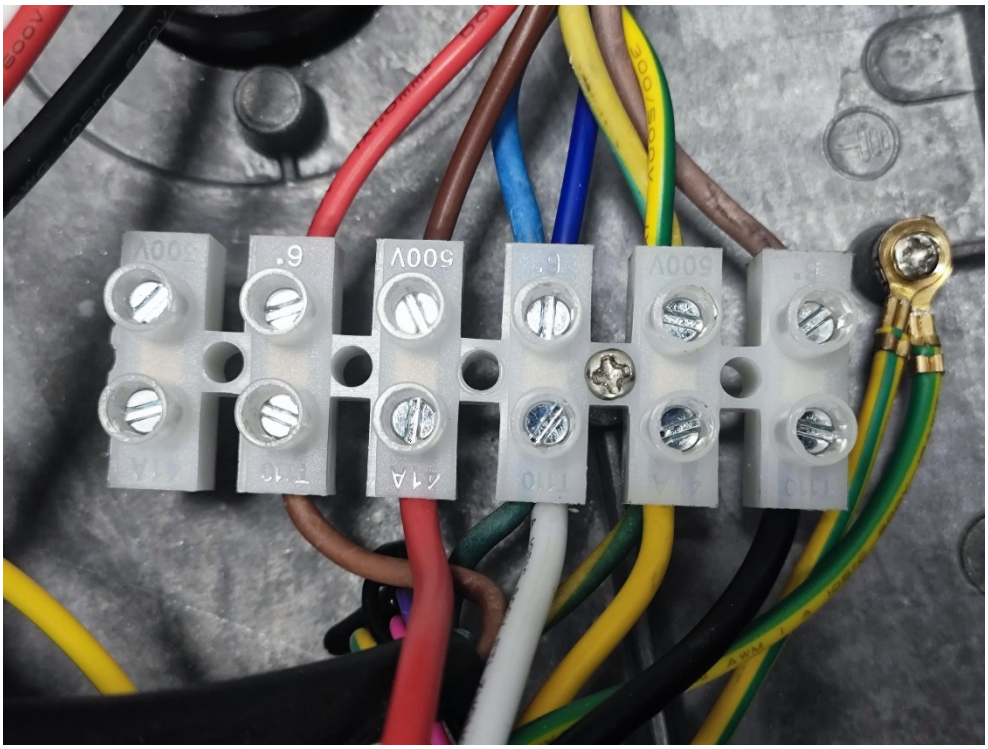
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Remark: --



Details of: Internal view for SWL-S36-4G-240-1T

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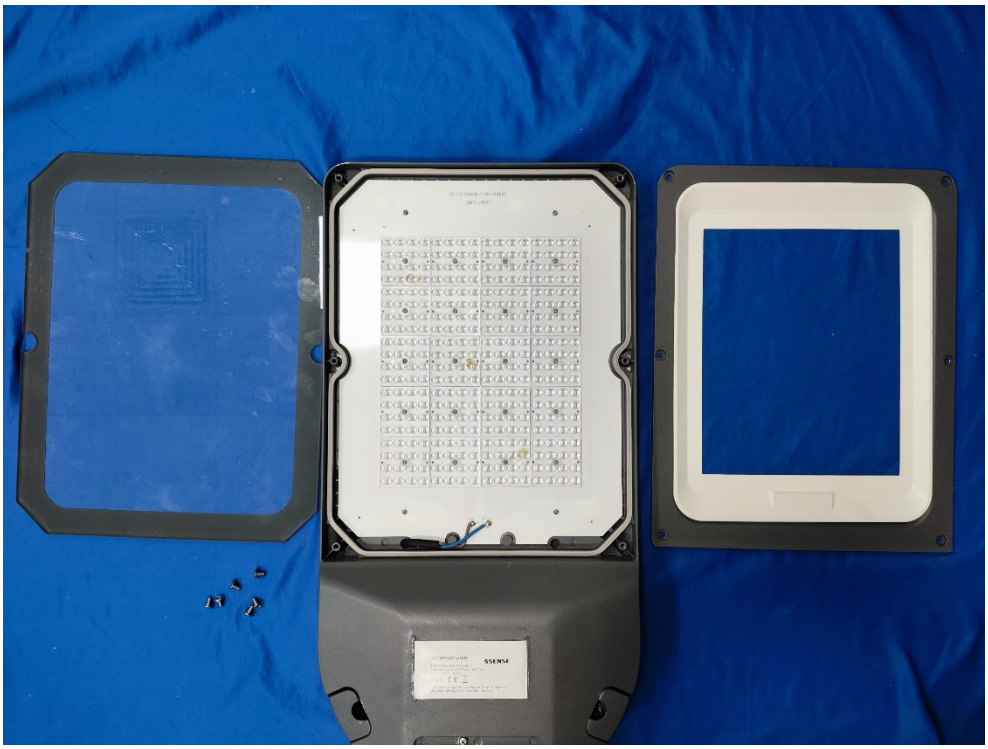
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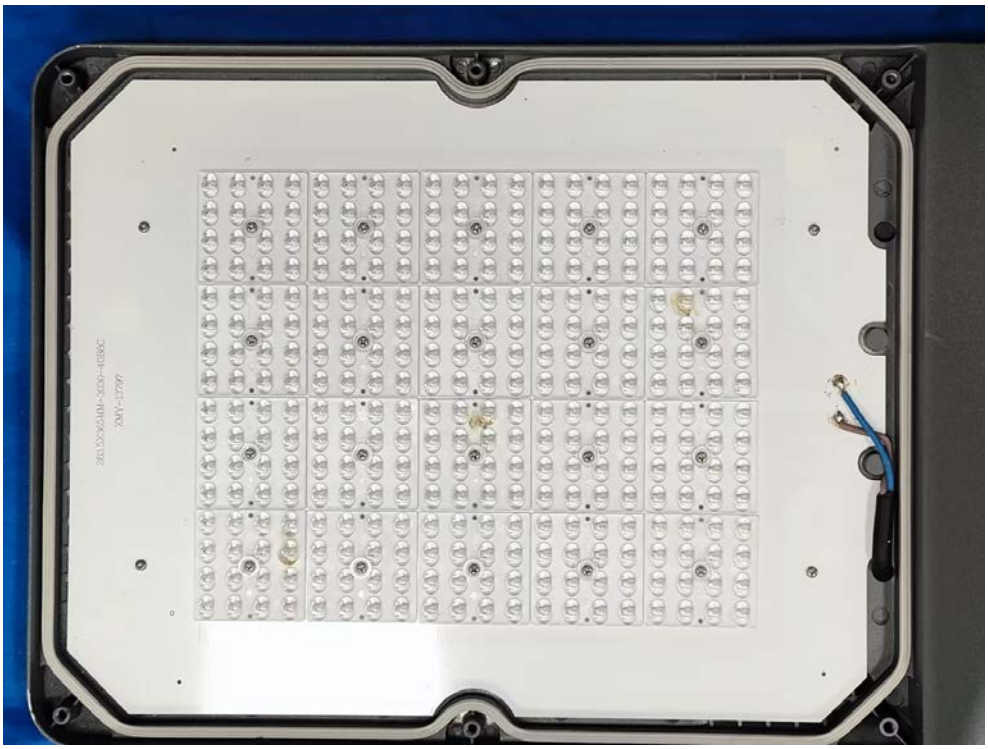
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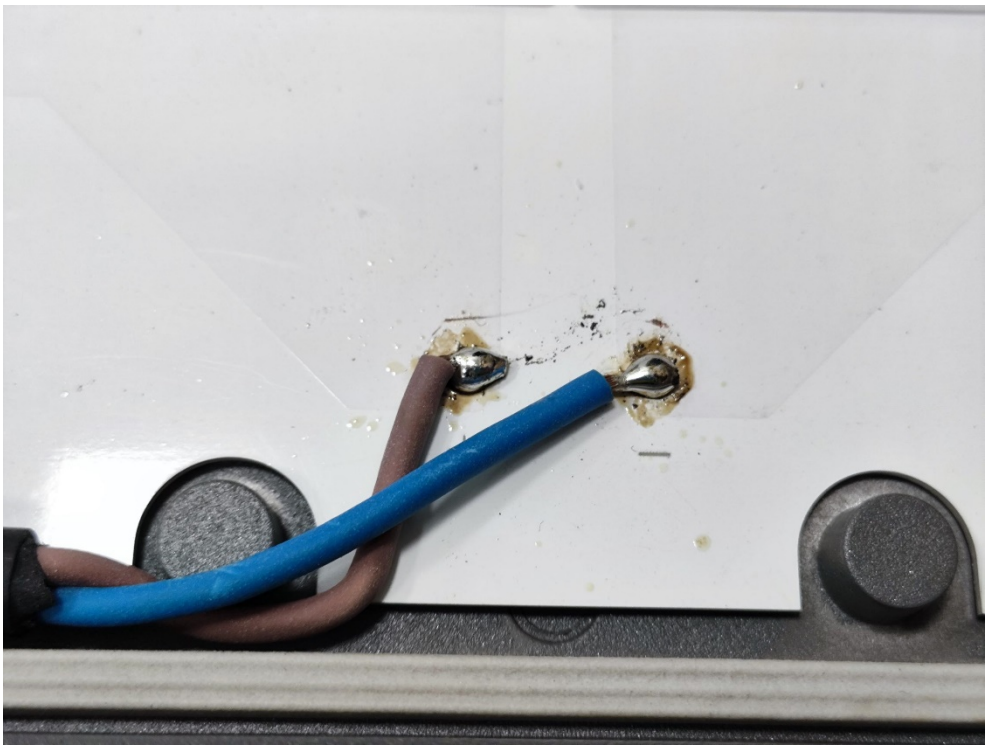
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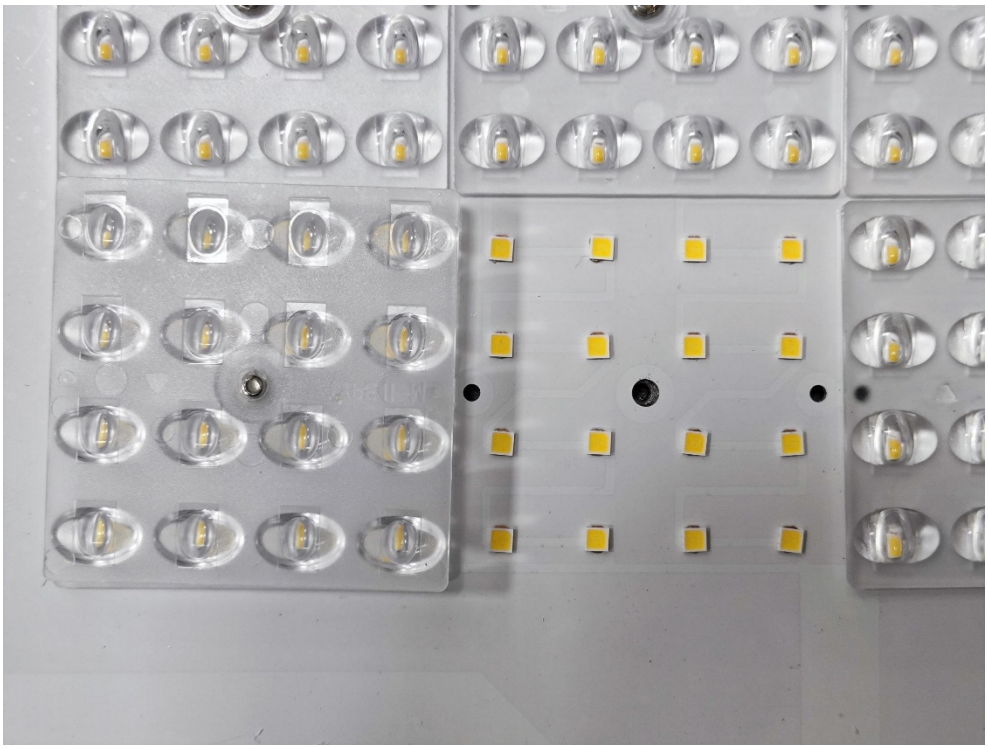
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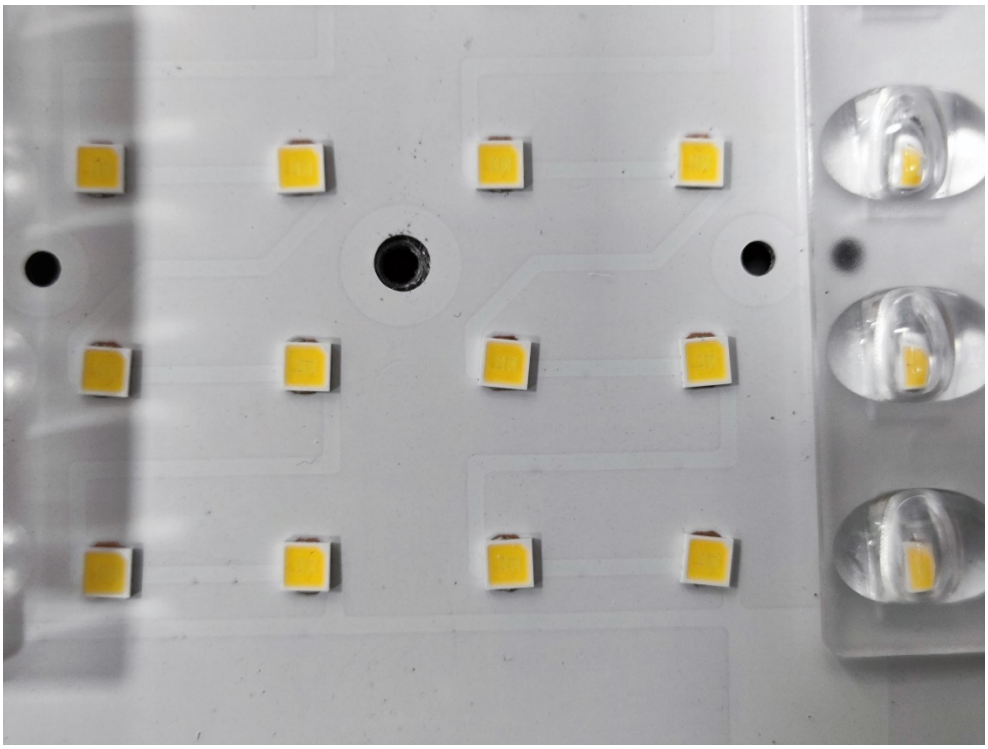
Details of: Internal view for SWL-S36-4G-240-1T

Remark: --



Details of: Internal view for SWL-S36-4G-240-1T

Remark: --



END OF REPORT