



TEST REPORT

Reference No...... : WTU22U04076223E
Applicant..... : PhotonTek, Inc.
Address..... : Ewropa Business centre, Level 3-701, Dun Karm Street Birkirkara, BKR 9034, Malta
Manufacturer : PhotonTek, Inc.
Address..... : Ewropa Business centre, Level 3-701, Dun Karm Street Birkirkara, BKR 9034, Malta
Product Name..... : LED Luminaires
Model No...... : P-TEK SQ200W PRO
Test specification..... : ICES-005 Issue 5:2018
Date of Receipt sample : Jun.18, 2021
Date of Test : Jun.18, 2021
Date of Issue..... : Apr.24, 2022
Test Result..... : **Pass**

Remarks:

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

Prepared By:

Waltek Testing Group (Suzhou) Co., Ltd.

Address: NO.4499,Wuzhong Avenue,Hengjing Street,Wuzhong Economic Development Zone, Suzhou,Jiang Su,China.

Tel : + 86 - 512 - 6655 2666

Fax: + 86 - 512 - 6603 2668

Email: suz@waltek.com.cn

Tested by:

Approved by:

Anna. Shu

Anna Shu

Fish Yu

Fish Yu



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2 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTU22U04076223E	Jun.18, 2021	Jun.18, 2021	Apr.24, 2022	Original	/	Valid

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3 General Information

3.1 General Description of E.U.T.

Product Name : LED Luminaires

Model No..... : P-TEK SQ200W PRO

Remark..... : This report is based on the original report WTU21U06058253E
to change the name and address of the applicant and the
manufacturer and model.

3.2 Details of E.U.T.

Ratings : AC 120-277V, 50/60Hz, 200W

3.3 Description of Support Units

The EUT has been tested as an independent unit. The test were performed in the condition of AC 120V/60Hz and AC 277V/60Hz input.

3.4 Subcontracted

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

Yes No

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

Test Lab: N/A

Lab address: N/A

Test items: N/A

3.5 Abnormalities from Standard Conditions

None.



4 Test Summary

Test Item	Test Requirement	Test Result
AC Power Line Conducted Emission (150kHz to 30MHz)	ICES-005 Issue 5:2018	Pass
Radiated Emission (30MHz to 1GHz)	ICES-005 Issue 5:2018	Pass

Remark:

- Pass Test item meets the requirement
Fail Test item does not meet the requirement
N/A Test case does not apply to the test object

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5 Equipment Used during Test

5.1 Equipment List

<input checked="" type="checkbox"/> Radiated Emission					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Due
1.	EMI Test Receiver	R&S	ESCI	101346	2022.03.25
2.	Broadband Antenna	SCHWARZBECK	VULB9163	VULB 9163-580	2022.04.05
3.	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1092	2022.03.31
4.	Preamplifier	SCHWARZBECK	BBV 9743	9743-0069	2022.03.27
<input checked="" type="checkbox"/> Conducted Emission					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Due
1.	Test Receiver	ROHDE & SCHWARZ	ESCI	101346	2022.03.25
2.	Two-Line V-Network	ROHDE & SCHWARZ	ENV216	101538	2022.03.27
3.	Manual RF SW	ESE	RSU-A41	-	N/A
4.	LISN	Schwarzbeck	NSLK8128	8128-308	2022.03.27

5.2 Measurement Uncertainty

Parameter	Uncertainty (Note 1)
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions	±2.66dB
Radiated Emission(30MHz~6GHz)	±4.75dB

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

5.3 Test Mode

Test Item	Test Mode	Test Voltage
AC Power Line Conducted Emission (150kHz to 30MHz)	Lighting mode	AC 120V/60Hz AC 277V/60Hz
Radiated Emissions (30MHz-1GHz)	Lighting mode	AC 120V/60Hz AC 277V/60Hz



6 Emission Test Results

6.1 Conducted Emission at the mains terminals, 150kHz to 30MHz

Test Requirement : ICES-005 Issue 5:2018
Test Method..... : ANSI C63.4
Test Result..... : Pass
Test Limit..... : ICES-005 Issue 5:2018, Section 5.5, Table 2
Frequency Range..... : 150kHz to 30MHz
Class : Class B

Limit

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

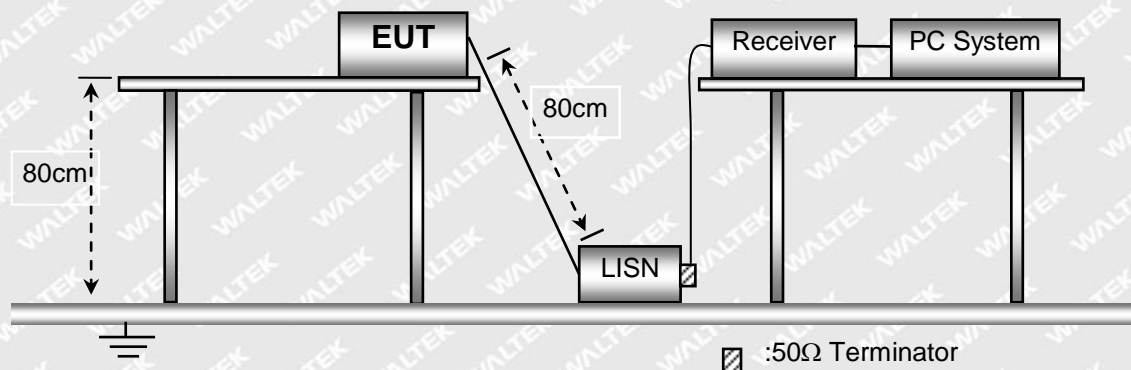
6.1.1 E.U.T. Operation

Operating Environment:

Temperature : 21.3°C
Humidity..... : 46.5%RH
Atmospheric Pressure..... : 101.3 kPa
EUT Operation..... : Lighting mode

6.1.2 Block Diagram of Test Setup

The Mains Terminals Disturbance Voltage tests were performed in accordance with the ICES-005 Issue 5:2018





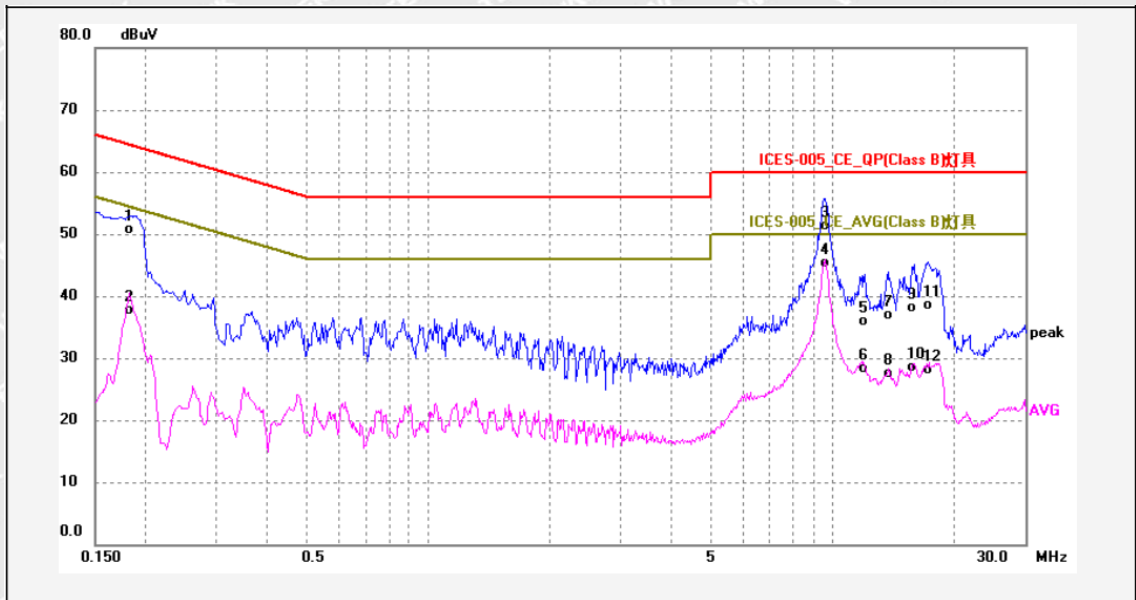
6.1.3 Measurement Data

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

6.1.4 Mains Terminals Disturbance Voltage Test Data

AC 120V/60Hz

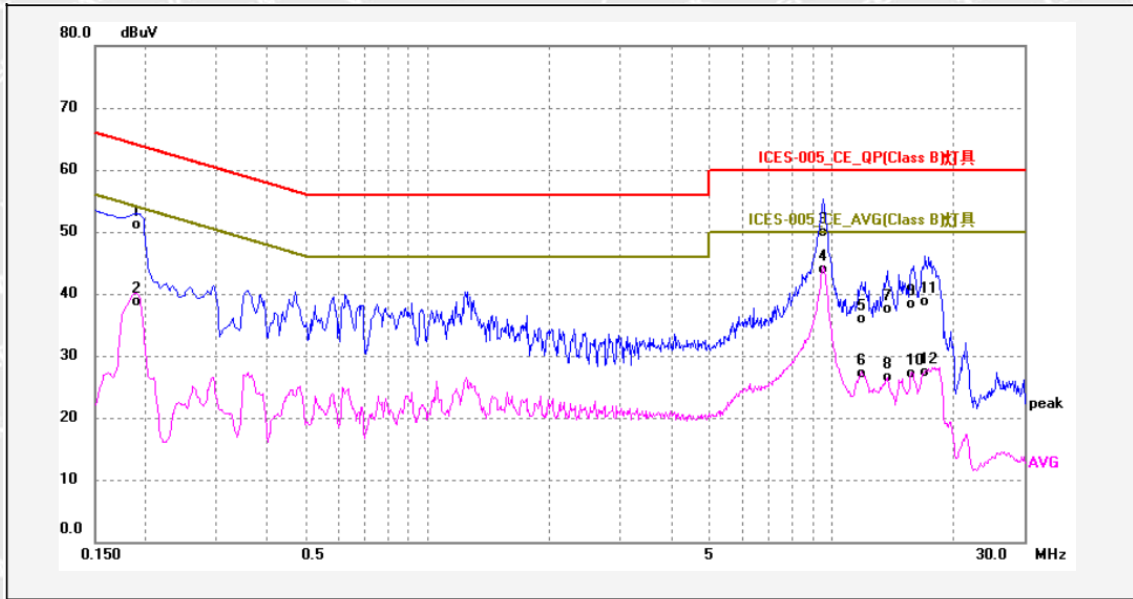
Live Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Remark
1	0.1825	31.10	19.60	50.70	64.37	-13.67	QP	
2	0.1825	18.06	19.60	37.66	54.37	-16.71	AVG	
3	9.5980	31.31	19.90	51.21	60.00	-8.79	QP	
4	9.5980	25.32	19.90	45.22	50.00	-4.78	AVG	
5	12.0260	15.92	20.00	35.92	60.00	-24.08	QP	
6	12.0260	8.24	20.00	28.24	50.00	-21.76	AVG	
7	13.7060	16.83	20.08	36.91	60.00	-23.09	QP	
8	13.7060	7.47	20.08	27.55	50.00	-22.45	AVG	
9	15.9060	17.97	20.13	38.10	60.00	-21.90	QP	
10	15.9060	8.39	20.13	28.52	50.00	-21.48	AVG	
11	17.2020	18.31	20.15	38.46	60.00	-21.54	QP	
12	17.2020	7.95	20.15	28.10	50.00	-21.90	AVG	



Neutral Line:

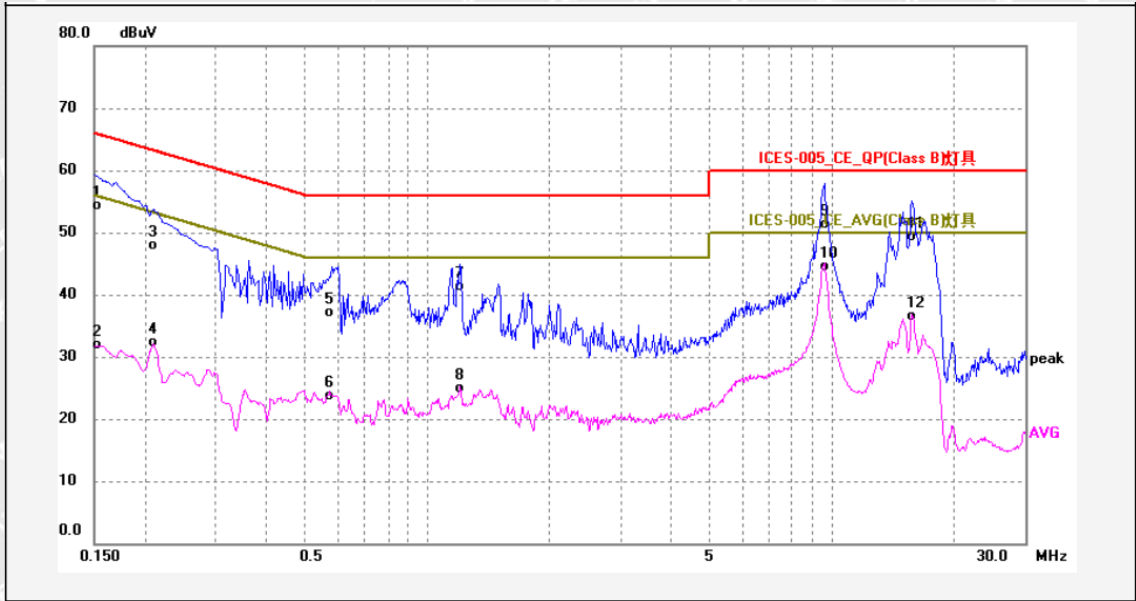


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Remark
1	0.1900	31.54	19.59	51.13	64.03	-12.90	QP	
2	0.1900	19.02	19.59	38.61	54.03	-15.42	AVG	
3	9.5420	30.00	19.91	49.91	60.00	-10.09	QP	
4	9.5420	23.96	19.91	43.87	50.00	-6.13	AVG	
5	12.1020	15.95	20.01	35.96	60.00	-24.04	QP	
6	12.1020	7.14	20.01	27.15	50.00	-22.85	AVG	
7	13.7660	17.44	20.09	37.53	60.00	-22.47	QP	
8	13.7660	6.45	20.09	26.54	50.00	-23.46	AVG	
9	15.8860	18.22	20.13	38.35	60.00	-21.65	QP	
10	15.8860	6.97	20.13	27.10	50.00	-22.90	AVG	
11	17.0980	18.66	20.12	38.78	60.00	-21.22	QP	
12	17.0980	7.23	20.12	27.35	50.00	-22.65	AVG	



AC 277V/60Hz

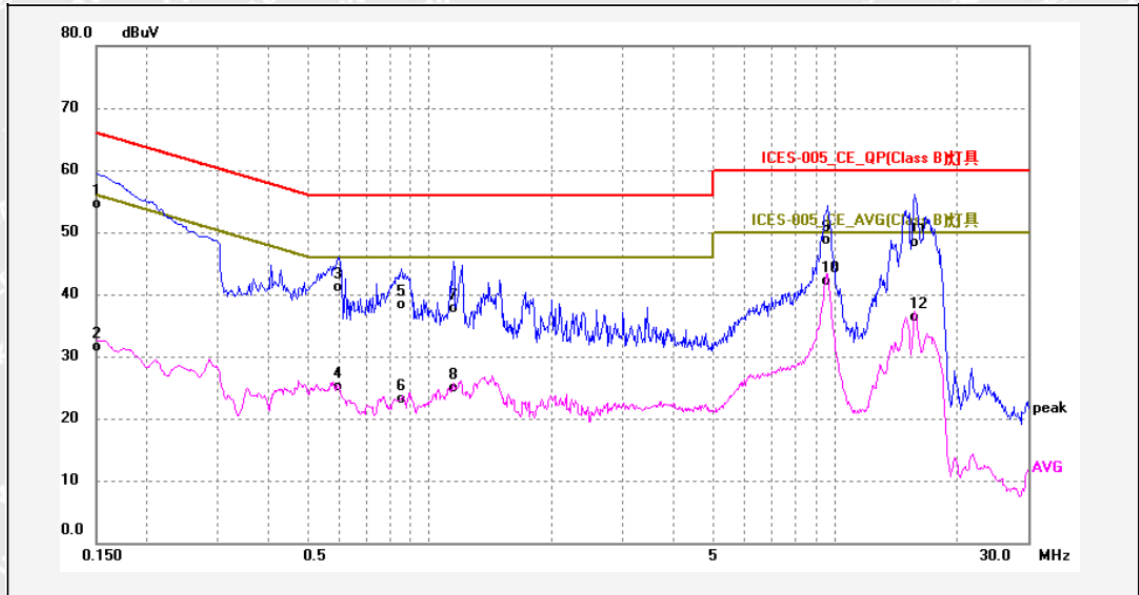
Live Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1500	44.15	10.13	54.28	65.99	-11.71	QP	
2	0.1500	21.69	10.13	31.82	55.99	-24.17	AVG	
3	0.2100	37.74	10.12	47.86	63.20	-15.34	QP	
4	0.2100	22.13	10.12	32.25	53.20	-20.95	AVG	
5	0.5820	27.02	10.11	37.13	56.00	-18.87	QP	
6	0.5820	13.60	10.11	23.71	46.00	-22.29	AVG	
7	1.2059	31.10	10.14	41.24	56.00	-14.76	QP	
8	1.2059	14.75	10.14	24.89	46.00	-21.11	AVG	
9	9.5620	40.83	10.38	51.21	60.00	-8.79	QP	
10	9.5620	34.16	10.38	44.54	50.00	-5.46	AVG	
11	15.7300	38.63	10.73	49.36	60.00	-10.64	QP	
12	15.7300	25.69	10.73	36.42	50.00	-13.58	AVG	



Neutral Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1516	44.47	10.11	54.58	65.91	-11.33	QP	
2	0.1516	21.48	10.11	31.59	55.91	-24.32	AVG	
3	0.5940	31.00	10.11	41.11	56.00	-14.89	QP	
4	0.5940	15.01	10.11	25.12	46.00	-20.88	AVG	
5	0.8500	28.16	10.12	38.28	56.00	-17.72	QP	
6	0.8500	12.94	10.12	23.06	46.00	-22.94	AVG	
7	1.1420	27.54	10.13	37.67	56.00	-18.33	QP	
8	1.1420	14.78	10.13	24.91	46.00	-21.09	AVG	
9	9.6059	38.32	10.48	48.80	60.00	-11.20	QP	
10	9.6059	31.70	10.48	42.18	50.00	-7.82	AVG	
11	15.7820	37.30	10.92	48.22	60.00	-11.78	QP	
12	15.7820	25.29	10.92	36.21	50.00	-13.79	AVG	



6.2 Radiation Emission, 30MHz to 1000MHz

Test Requirement.....	: ICES-005 Issue 5:2018
Test Method.....	: ANSI C63.4
Test Limit	: ICES-005 Issue 5:2018, Section 5.5, Table 4
Test Result.....	: Pass
Frequency Range	: 30MHz to 1000MHz
Class.....	: Class B
Limit.....	:

Frequency (MHz)	Distance (Meter)	Limit (dB μ V/m)
		Quasi-peak
30 to 88	3	40
88 to 216	3	43.5
216 to 1000	3	46

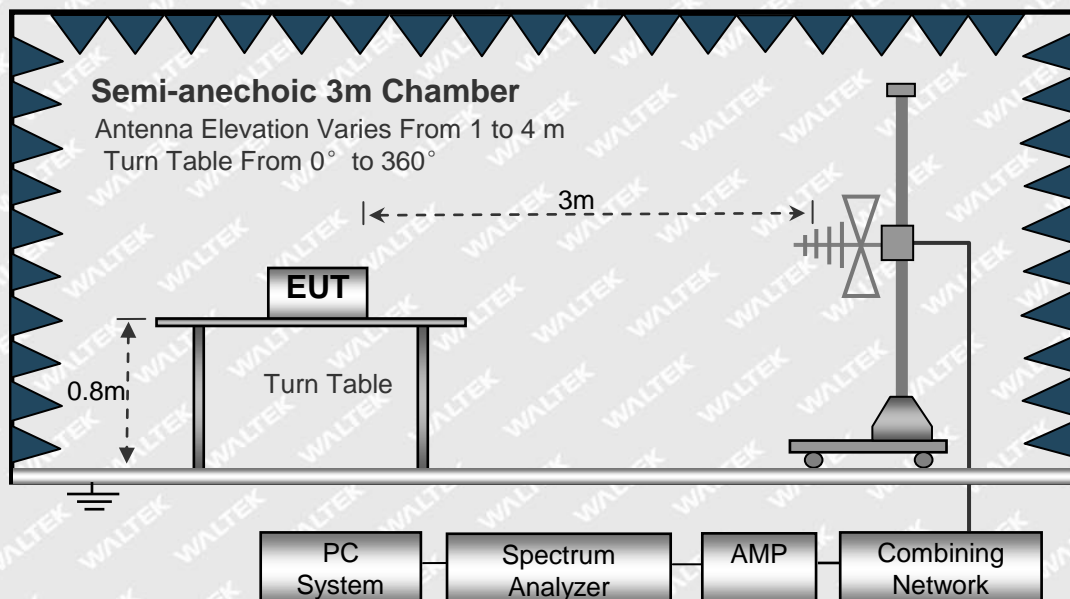
6.2.1 E.U.T. Operation

Operating Environment:

Temperature.....	: 21.4°C
Humidity	: 51.7%RH
Atmospheric Pressure.....	: 101.5 kPa
EUT Operation.....	: Lighting mode

6.2.2 Block Diagram of Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ICES-005 Issue 5:2018





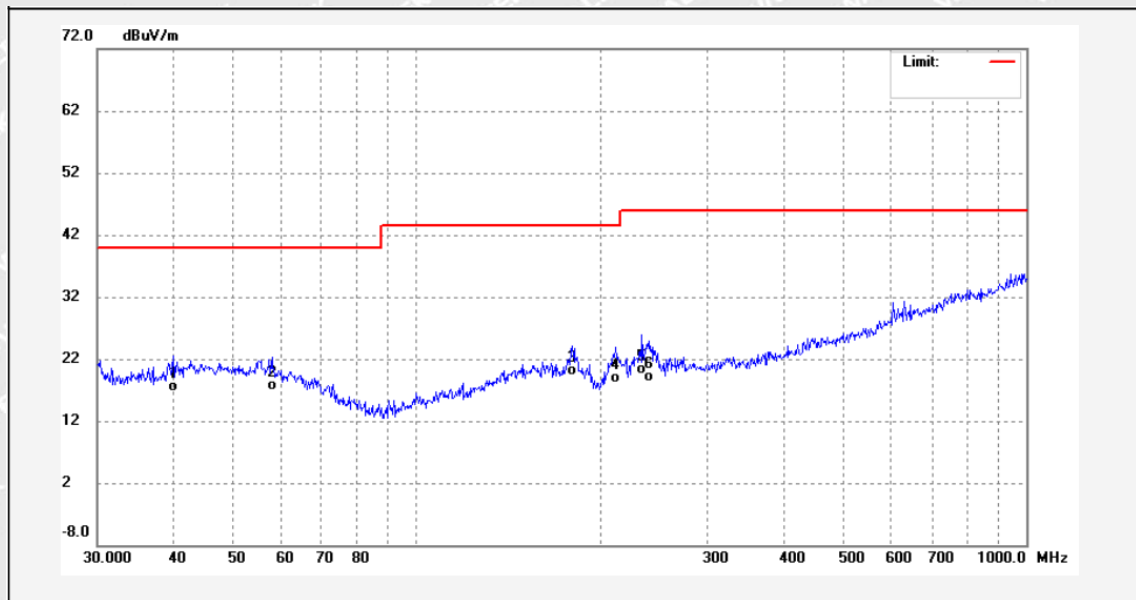
6.2.3 Measurement Data

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

6.2.4 Radiated Emission Test Data, 30MHz to 1000MHz

AC 120V/60Hz

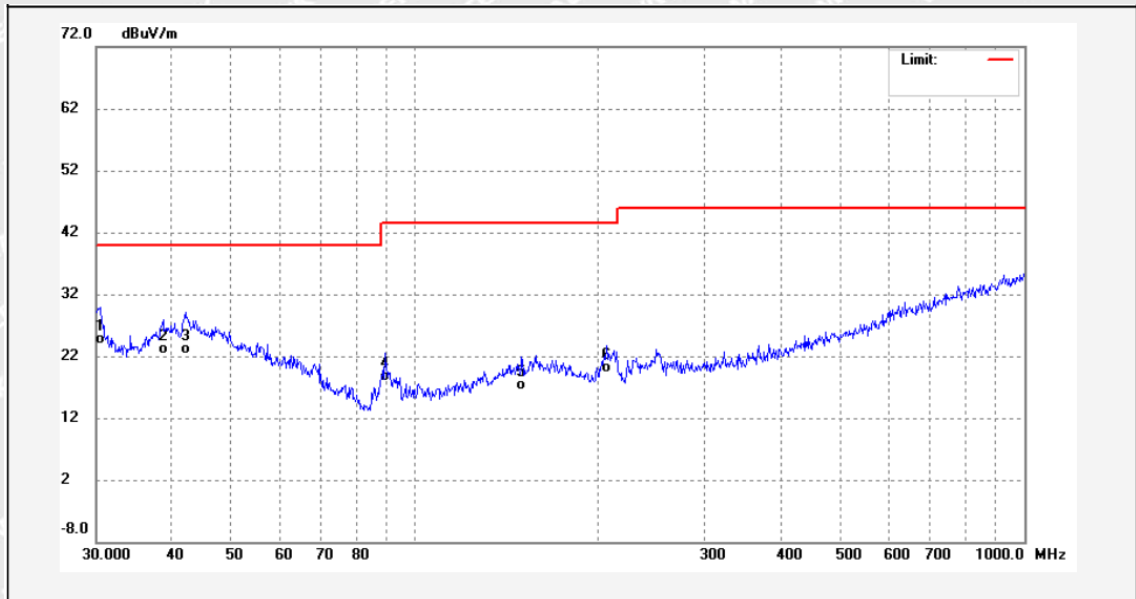
Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	39.9942	3.33	14.15	17.48	40.00	-22.52	QP	
2	57.9993	3.34	14.35	17.69	40.00	-22.31	QP	
3	180.0165	6.82	13.21	20.03	43.50	-23.47	QP	
4	212.2695	6.98	11.95	18.93	43.50	-24.57	QP	
5	234.1684	7.45	12.94	20.39	46.00	-25.61	QP	
6	240.8304	5.90	13.23	19.13	46.00	-26.87	QP	



Antenna Polarization: Vertical

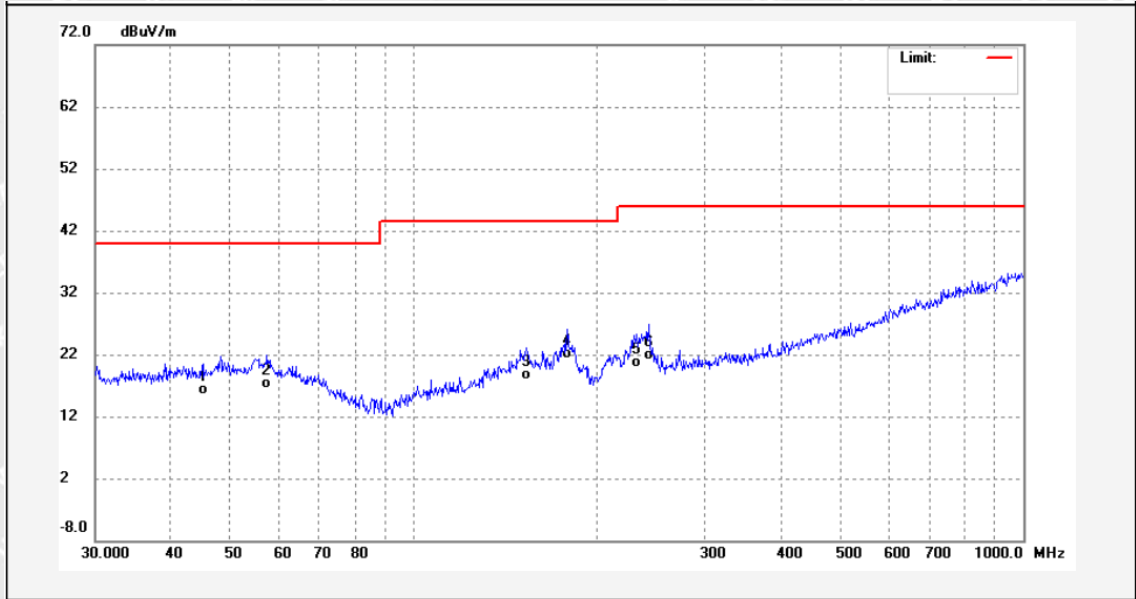


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	30.4238	11.40	13.33	24.73	40.00	-15.27	QP	
2	38.6160	9.08	14.03	23.11	40.00	-16.89	QP	
3	42.0066	8.75	14.28	23.03	40.00	-16.97	QP	
4	89.2764	9.92	8.87	18.79	43.50	-24.71	QP	
5	149.4857	2.67	14.65	17.32	43.50	-26.18	QP	
6	206.3976	8.31	11.70	20.01	43.50	-23.49	QP	



AC 277V/60Hz

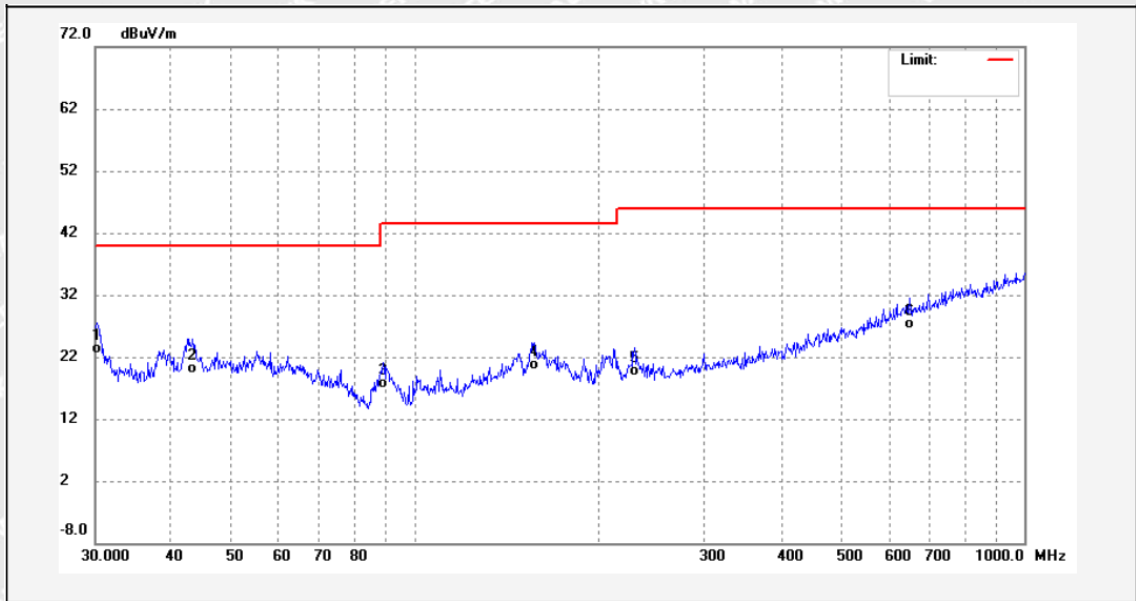
Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	45.0583	1.81	14.47	16.28	40.00	-23.72	QP	
2	57.3923	2.92	14.39	17.31	40.00	-22.69	QP	
3	152.6641	3.96	14.71	18.67	43.50	-24.83	QP	
4	178.1327	8.60	13.41	22.01	43.50	-21.49	QP	
5	231.7179	7.83	12.83	20.66	46.00	-25.34	QP	
6	242.5253	8.66	13.31	21.97	46.00	-24.03	QP	



Antenna Polarization: Vertical

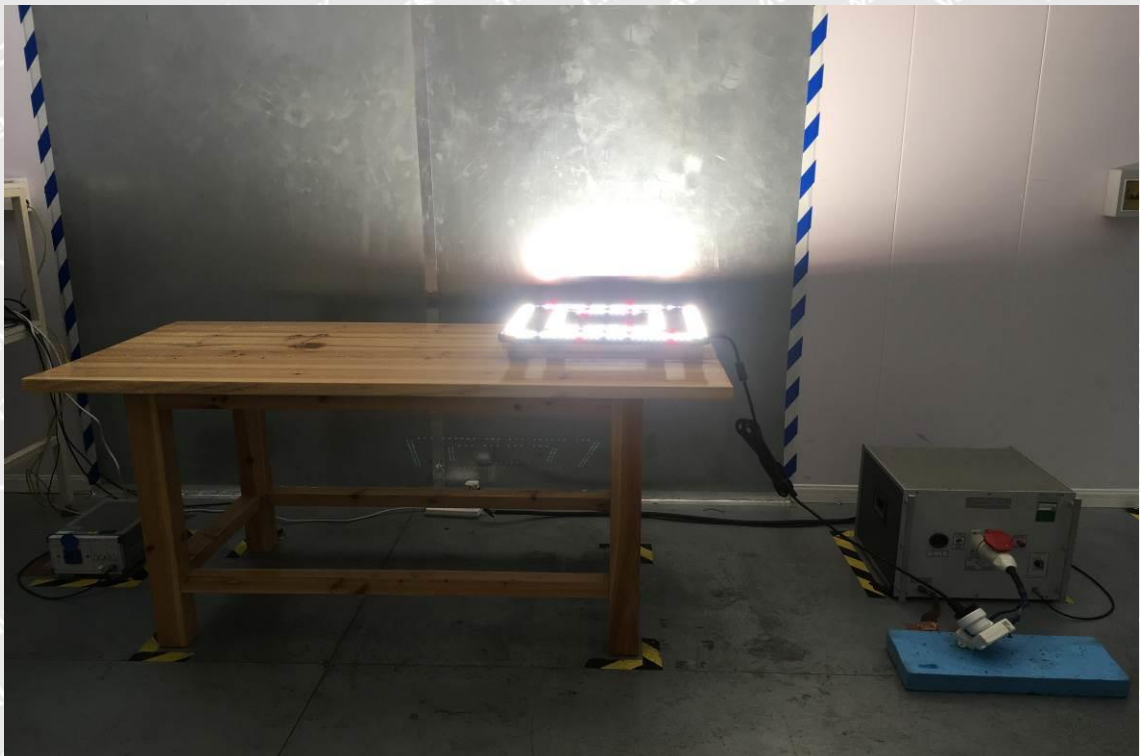


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	30.2111	9.90	13.32	23.22	40.00	-16.78	QP	
2	43.3534	5.78	14.36	20.14	40.00	-19.86	QP	
3	88.9639	8.79	8.90	17.69	43.50	-25.81	QP	
4	157.0074	5.86	14.77	20.63	43.50	-22.87	QP	
5	229.2931	7.05	12.72	19.77	46.00	-26.23	QP	
6	647.3856	3.42	23.90	27.32	46.00	-18.68	QP	



7 Photographs – Test Setup

7.1 Photograph –Conducted Emission at the mains terminals Test Setup





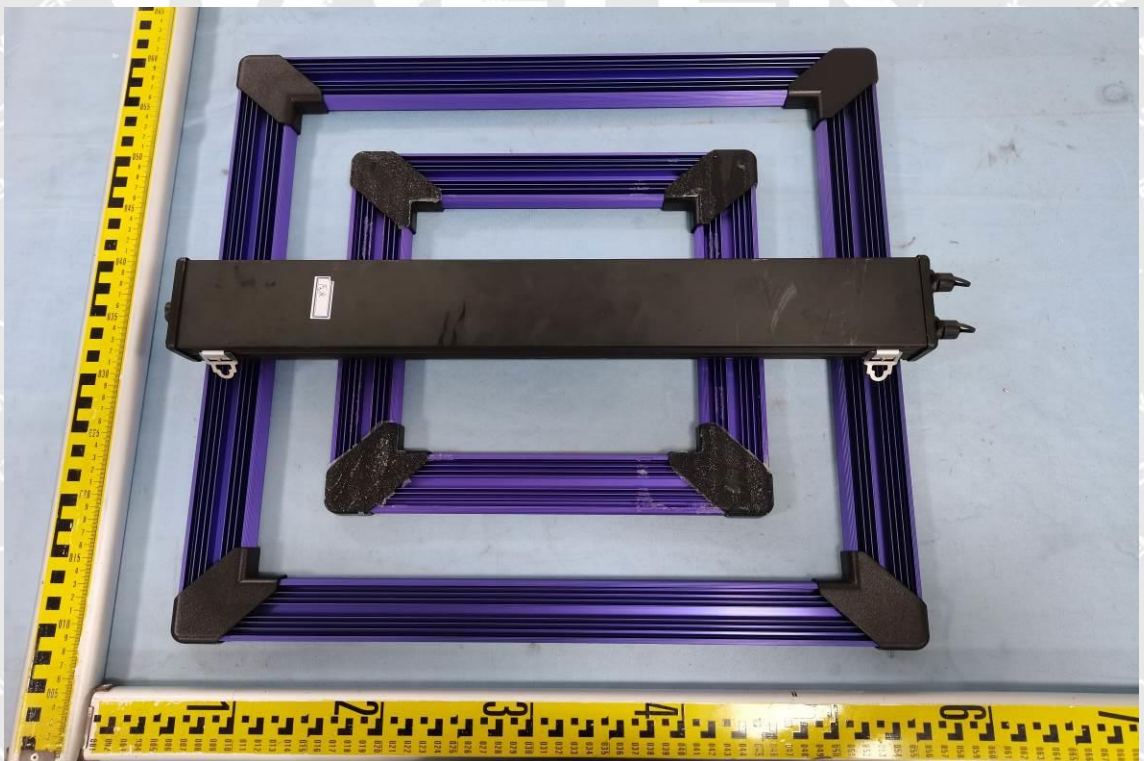
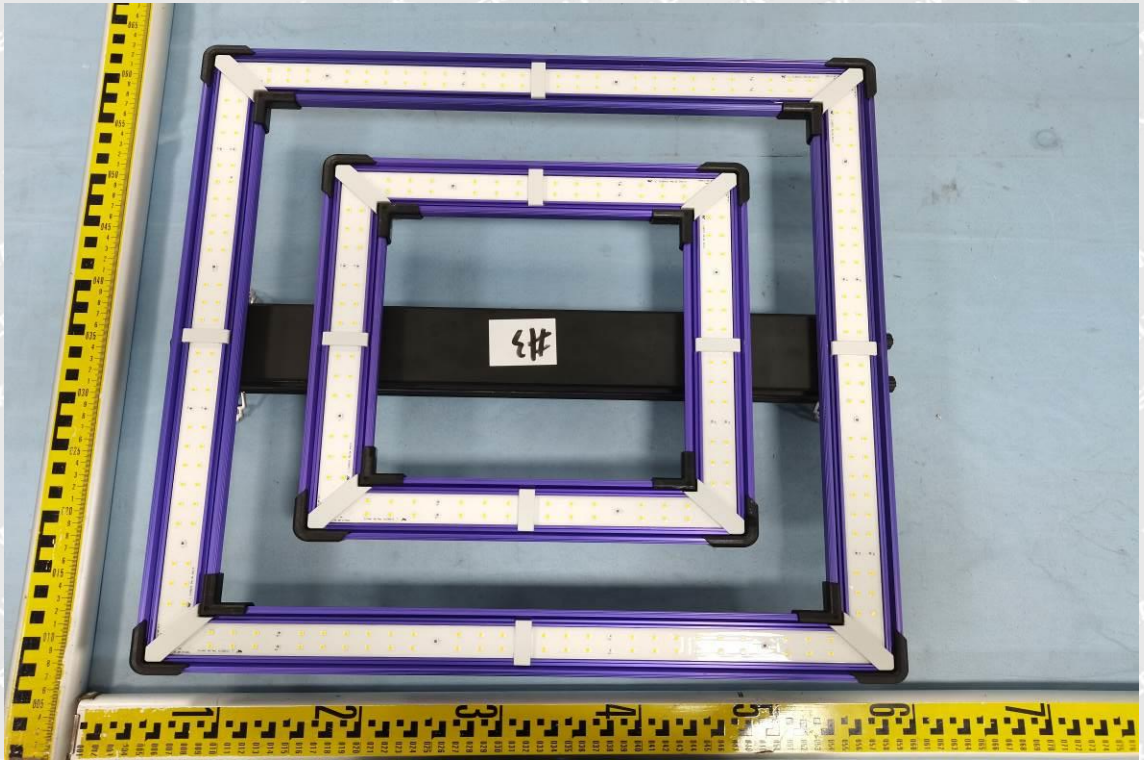
7.2 Photograph –Radiated Emission Test Setup For 30MHz-1000MHz



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8 Photographs – EUT View



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