

Test Report Number:	FTS24GR-5716E	Total Page(s): 21
Applicant Name:	BARIS LIGHT V.BARIS CO OE	
Applicant Address:	Eleftheriou Venizelou & Vyronos, P.C.: 26333, Patras Greece	
Test item:	LED NEON STRIP FLAT SHAPE 10X10	
Model / Type Reference:	Refer to section 4	
Date of Issue:	2024-07-20	
Testing Laboratory:	Guangdong Future Test Services Co., Ltd No.228, Min' an South Rd, Xiaolan Town, Zhongshan City, Guangdong Province, China	
Test Specification:	EN IEC 55015:2019+A11:2020 EN 61547:2009 EN IEC 61000-3-2:2019+A1:2021 EN 61000-3-3:2013+A1:2019+A2:2021	
Test Result:	Passed	
Compiled by:	Reviewed by:	
2024-07-20 Grainne Cao	Grainne Cao	2024-07-20 Gordon Xie
<i>Date</i> <i>Name</i>	<i>Signature</i>	<i>Date</i> <i>Name</i> <i>Signature</i>
Remark:		
N/A		
<p>The duplication of this report or parts of it and its use for advertising purposes is only allowed with permission of the testing laboratory. This report contains the result of the examination of the product sample submitted by the applicant. A general statement concerning the quality of the products from the series manufacture cannot be derived therefore.</p>		

Test Summary

6.1.1 Harmonics Current Emission on AC Mains

RESULT: N/A

6.1.2 Voltage Changes, Voltage Fluctuations and Flicker

RESULT: N/A

6.1.3 Conducted Disturbance for Local Wired Port

RESULT: N/A

6.1.4 Radiated Electromagnetic in the Frequency Range 9 kHz to 30 MHz

RESULT: Pass

6.2.1 Radiated Disturbance

RESULT: Pass

7.2.1 Radio-frequency Electromagnetic Fields (RS)

RESULT: Pass

7.3.1 Electrostatic Discharges (ESD)

RESULT: Pass

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1. General Remarks

When applying the basic standards in this test report, please refer to the applied generic or product family standards for edition information:

For dated basic standards, only the edition cited applies. For undated basic standards, the latest edition (including any amendments) applies.

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix 1: Test result.

Appendix 2: Photo of EUT

Appendix 3: List of Test and Measurement Equipment

2. Measurement Uncertainty

Test Item	Uncertainty
Uncertainty for Conduction emission test	3.12dB
Uncertainty for Disturbance Power test	3.26dB
Uncertainty for Radiation Emission test	3.56dB

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

3. Test Sites

3.1 Test Facilities

A. Guangdong Future Test Services Co., Ltd

Add: No.228, Min'an South Rd, Xiaolan Town, Zhongshan City, Guangdong Province, China

3.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Refer to attached Appendix 3.

4. General Product Information

Model list:

No.	Model	Input voltage	Rated power
1.	E9010805-032(2700K)	DC 24V	8.5W/M
2.	E9010805-014(3000K)	DC 24V	8.5W/M
3.	E9010805-016(4000K)	DC 24V	8.5W/M
4.	E9010805-015(6000K)	DC 24V	8.5W/M
5.	E9010805-017(RED)	DC 24V	8.5W/M
6.	E9010805-039(GREEN)	DC 24V	8.5W/M
7.	E9010805-018(BLUE)	DC 24V	8.5W/M

Model difference:

- All models differ only in color temperature, the rest are identical.

According to the above information, all tests were performed on following models

Model	EMC test item	Model name In appendix 1
E9010805-032(2700K)	RE, LOOP, ESD, RS	E9010805-032(2700K)

4.1 Product Function and Intended Use

Refer to Technical Documentation and User Manual

4.2 Ratings and System Details

Type designation:	Refer to section 4
Rated input:	Refer to section 4
Max. power:	Refer to section 4
Protection class:	Class III
Ports:	DC input line(<3m)
Cables:	Unshielded

Refer to the Technical Documentation for further information.

4.3 Independent Operation Modes

The basic operation modes are:

- Lighting mode

Refer to the user manual for further information.

4.4 Noise Generating and Noise Suppressing Parts

Refer to the Technical Documentation for further information.

4.5 Submitted Documents

Difference Declaration
Circuit Diagram
PCB Layout
User Manual
Label

5. Test Set-up and Operation Modes

5.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

Immunity: The equipment under test (EUT) was configured to have its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the instructions for use.

5.2 Physical Configuration for Testing

Refer to relative paragraphs of this test report.

5.3 Test Operation and Test Software

Refer to test setup in chapter 6 and chapter 7.

5.4 Special Accessories and Auxiliary Equipment

None.

5.5 Countermeasures to achieve EMC Compliance

No additional countermeasures to the submitted test sample(s) were employed to achieve compliance.

6. Test Results Emission

6.1 Emission in the Frequency Range up to 30 MHz

6.1.1 Harmonics Current Emission on AC Mains

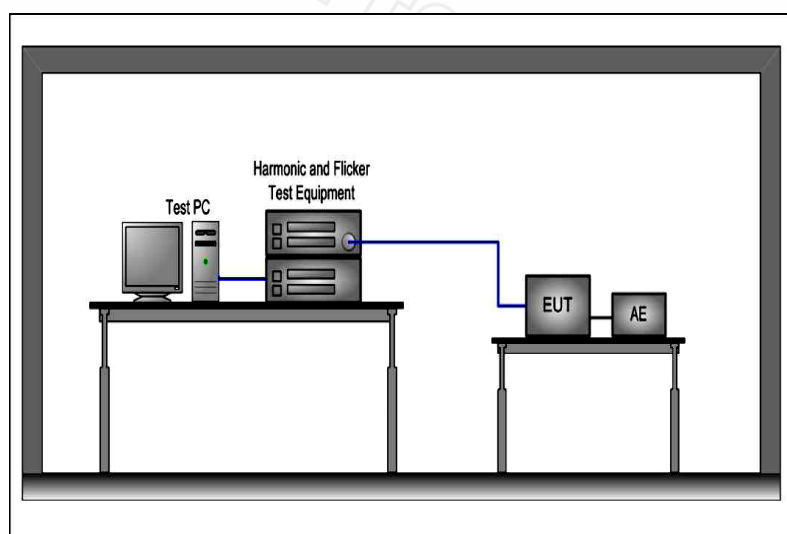
RESULT:

N/A

Test Specification

Basic standard	:	EN IEC 61000-3-2:2019+A1
Measurement equipment requirement	:	IEC 61000-4-7
Measured harmonics	:	1 – 40
Equipment class	:	C
Limits	:	Clause 7.4

Test Connection Diagram



This part of EN IEC 61000-3-2:2019 is applicable to electrical and electronic equipment having a rated input current up to and including 16 A per phase, and intended to be connected to public low-voltage distribution systems. The EUT is not applicable to this test.

6.1.2 Voltage Changes, Voltage Fluctuations and Flicker

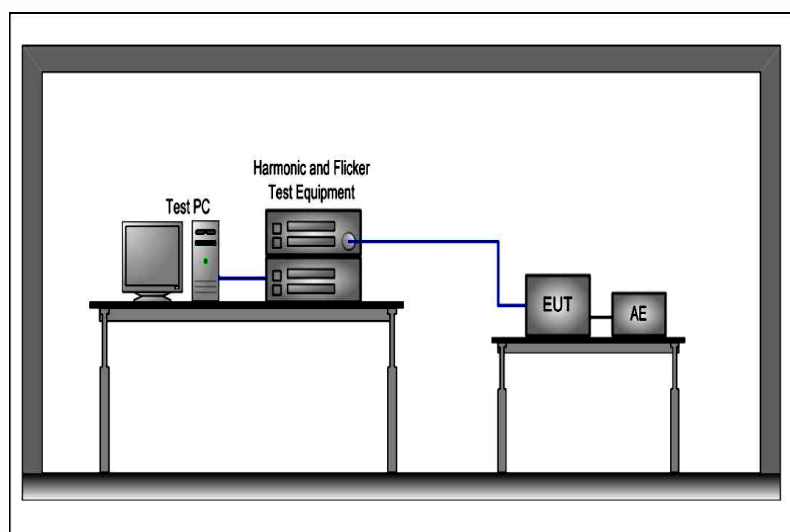
RESULT:

N/A

Test Specification

Basic standard	:	EN 61000-3-3:2013+A1:2019+A2
Measurement equipment requirement	:	IEC 61000-4-15
Limits	:	Clause 5

Test Connection Diagram



This part of EN 61000-3-3:2013+A1:2019+A2:2021 is applicable to electrical and electronic equipment having an input current equal to or less than 16 A per phase, intended to be connected to public low-voltage distribution systems of between 220 V and 250 V line to neutral at 50 Hz and not subject to conditional connection. The EUT is not applicable to this test.

6.1.3 Conducted Disturbance for Local Wired Port

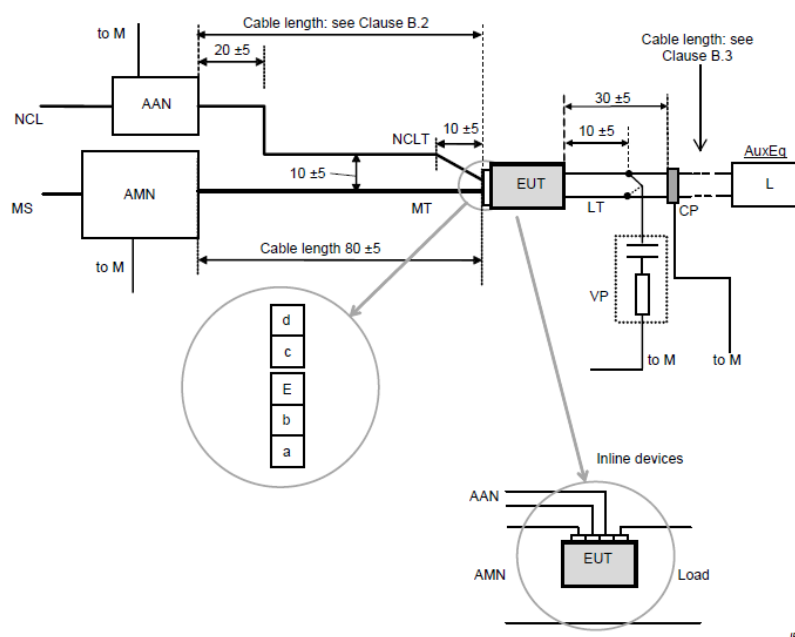
RESULT:

N/A

Test Specification

Family standard	: EN IEC 55015:2019+A11, Clause 8
Port	: Electric power supply interface
Frequency range of Mains	: 150kHz-30MHz
Test site	: Shielded Room
Limits	: EN IEC 55015:2019+A11, Table 6

Test Connection Diagram



According to EN IEC 55015:2019+A11:2020, Clause 4.4 and Clause 5.3.3, This section applies to EUT interface that does not connect to a network, directly or indirectly, and which can be connected to cables having a length equal to or greater than 3m. The EUT is not applicable to this test.

6.1.4 Radiated Electromagnetic in the Frequency Range 9 kHz to 30 MHz

RESULT:

Pass

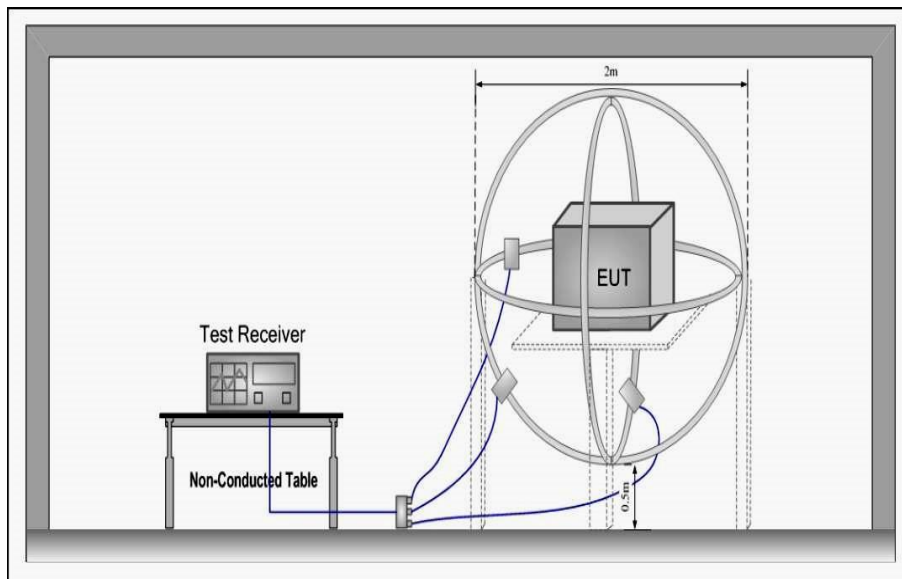
Test Specification

Test procedure	:	EN IEC 55015:2019+A11, Clause 8
Frequency range	:	9kHz-30MHz
Test site	:	Shielded Room
Limits	:	EN IEC 55015:2019+A11, Table 8

Test Setup

Date of testing	:	Refer to Appendix 1
Input voltage	:	Refer to Appendix 1
Operation mode	:	A
Test configuration	:	Table-top (2m loop)
Temperature	:	Refer to Appendix 1
Humidity	:	Refer to Appendix 1
Air pressure	:	Refer to Appendix 1

Test Connection Diagram



Test Result

Measurement uncertainty: 3.0dB ($k=2$, $\sigma=95\%$)

Horizontal component of disturbance is measured by A1 and A2 antennas of LAS, while vertical component of disturbance is measured by A3 antenna of LAS.

Disturbances other than those mentioned are small or not detectable.

For measurement results, please refer to the attached appendix 1.

6.2 Emission in the Frequency Range above 30 MHz

6.2.1 Radiated Disturbance

RESULT:

Pass

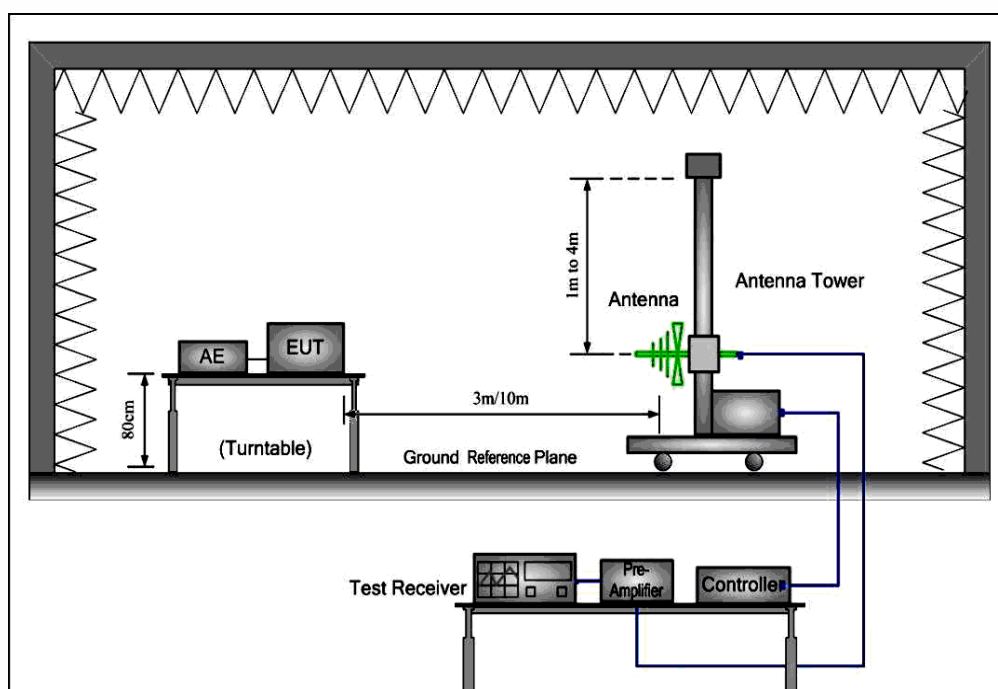
Test Specification

Test procedure	:	EN IEC 55015:2019+A11, Clause 9
Ports	:	Enclosure
Frequency range	:	30MHz-1000MHz
Test site	:	SAC
Limits	:	EN IEC 55015:2019+A11, Table 10

Test Setup

Date of testing	:	Refer to the appendix 1
Input voltage	:	Refer to the appendix 1
Operation mode	:	A
Test configuration	:	Table-top
Temperature	:	Refer to the appendix 1
Humidity	:	Refer to the appendix 1
Air pressure	:	Refer to the appendix 1

Test Connection Diagram



Test Result

Measurement uncertainty: 3.26dB ($k=2$, $\sigma=95\%$)

Disturbances other than those mentioned are small or not detectable.

For test results, please refer to the attached appendix 1.

7. Test Results Immunity

7.1 Immunity requirements

According to EN 61547:2009, the appliance shall fulfil the requirements of:

Radio-frequency Electromagnetic Field Amplitude Modulated (RS) Criterion A

Electrostatic Discharge (ESD)

Criterion B

7.2 Continuous Disturbances

7.2.1 Radio-frequency Electromagnetic Fields (RS)

RESULT:

Pass

Test Specification

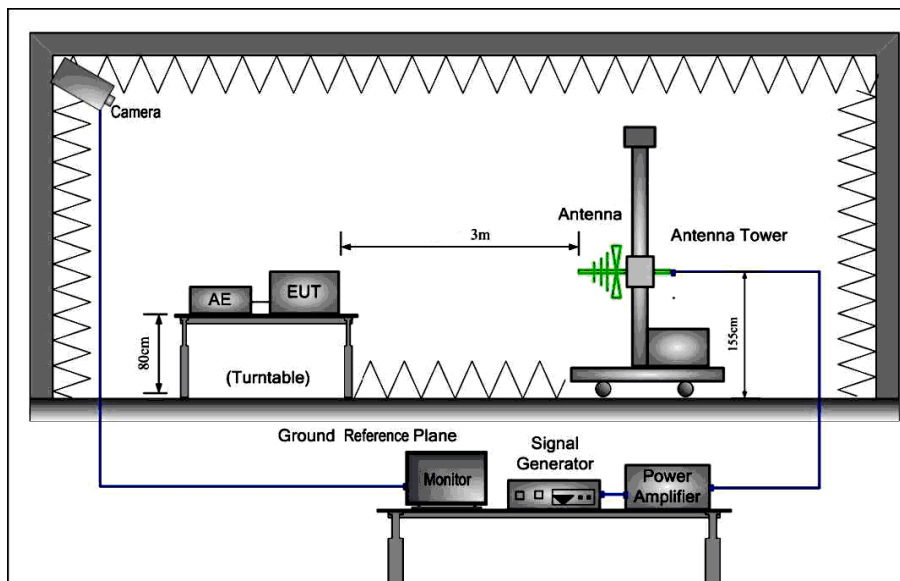
Test Specification

Family standard	: EN 61547:2009
Basic standard	: IEC 61000-4-3
Test level	: 3 V/m
Frequency range	: 80MHz to 1000MHz
Modulation	: 1 kHz sine-wave, 80% AM
Sweep mode	: Automatic
Sweep step	: 1%
Dwell time	: ≥1Sec
Performance criterion	: A

Test Setup

Date of testing	: 19 Jul, 2024
Input voltage	: DC 24V
Operation mode	: A
Temperature	: 24°C
Humidity	: 55%
Air pressure	: 101kPA

Test Connection Diagram



Test Result

Table 2: Immunity against Radio-frequency Electromagnetic Fields (RS)

Side of the equipment under test	Frequency (MHz)	Antenna polarization (Vertical/Horizontal)	Result	Remark
Front	80 -1000	V and H	Pass	A
Rear		V and H	Pass	A
Right		V and H	Pass	A
Left		V and H	Pass	A

*) Remark: No degradation was observed during and after the tests.

7.3 Transient Disturbances

7.3.1 Electrostatic Discharges (ESD)

RESULT:

Pass

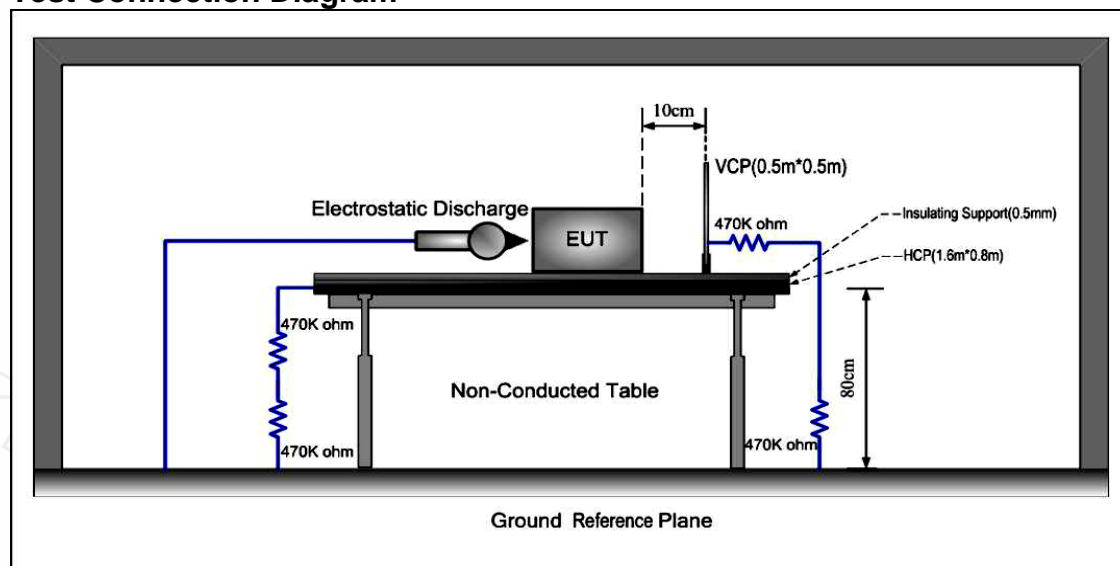
Test Specification

Family standard	: EN 61547:2009
Basic standard	: IEC 61000-4-2
Charge voltage	: $\pm 4\text{kV}$ (contact, VCP, HCP) $\pm 8\text{kV}$ (air discharge)
Number of discharges	: > 10
Polarity	: Positive / Negative
Performance criterion	: B

Test Setup

Date of testing	: 19 Jul, 2024
Input voltage	: DC 24V
Operation mode	: A
Temperature	: 24°C
Humidity	: 55%
Air pressure	: 101kPa

Test Connection Diagram



Test Result

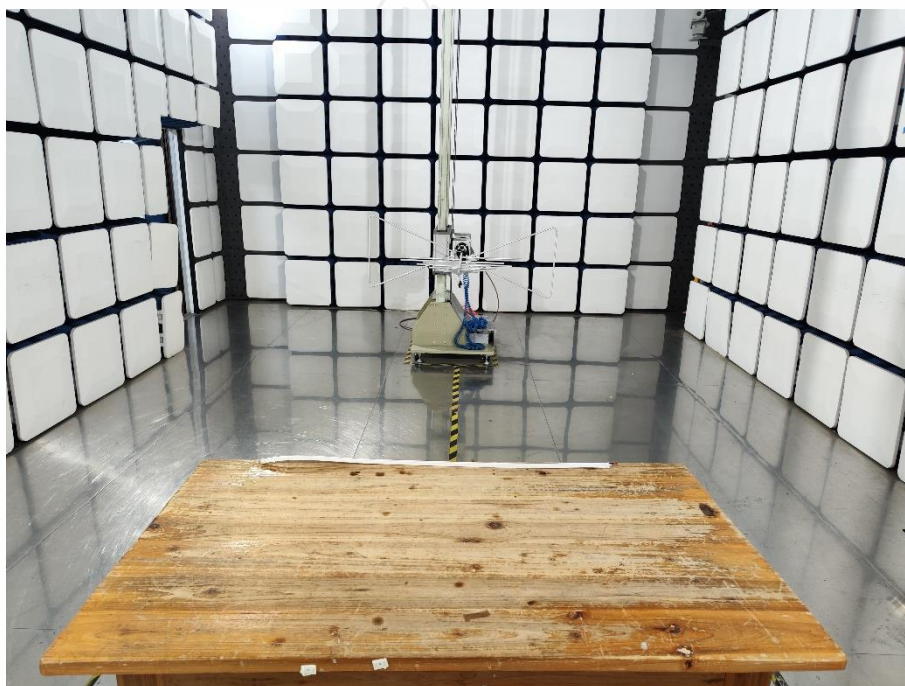
Table 3: Electrostatic Discharge

Direct discharges			
Air discharges	Air discharge voltage (kV)	Polarity	Remark
Discharge location			
Refer to Photograph of ESD setup	8	+/-	Applied, *)
Non-conductive parts	8	+/-	Applied, *)
Contact discharges	Contact discharge voltage (kV)	Polarity	Remark
Discharge location			
Refer to Photograph of ESD setup	4	+/-	N/A
Conductive parts	4	+/-	N/A
Indirect discharges			
Contact discharges	Contact discharge voltage (kV)	Polarity	Remark
Discharge location			
HCP	4	+/-	Applied, *)
VCP	4	+/-	Applied, *)

*) Remark: No degradation was found.

8. The photos of test setting

Radiated Emission:



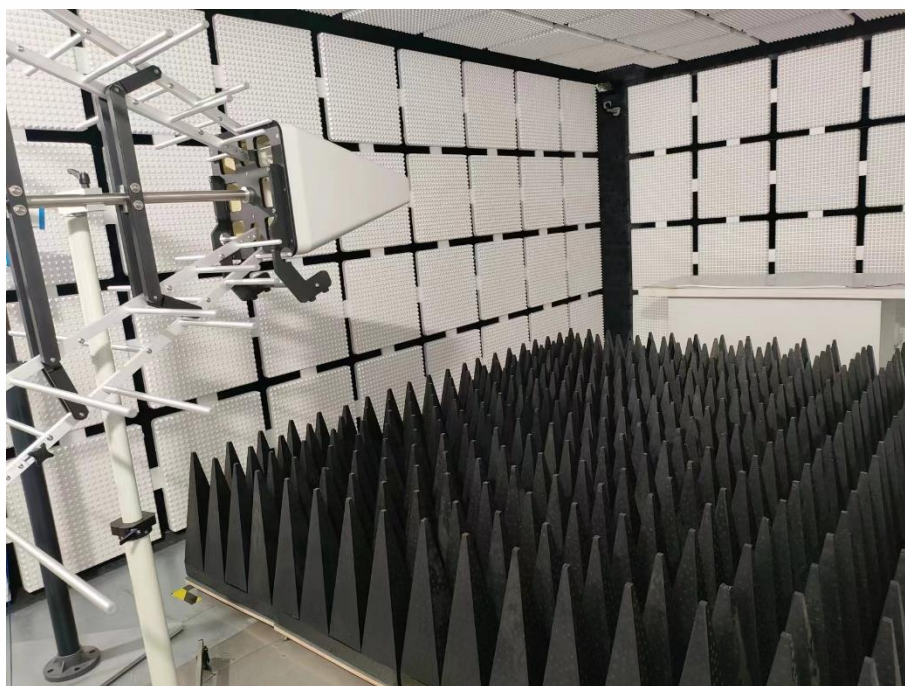
Electrostatic Discharges (ESD):



Loop:



RS:





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Radiated Emission Measurement

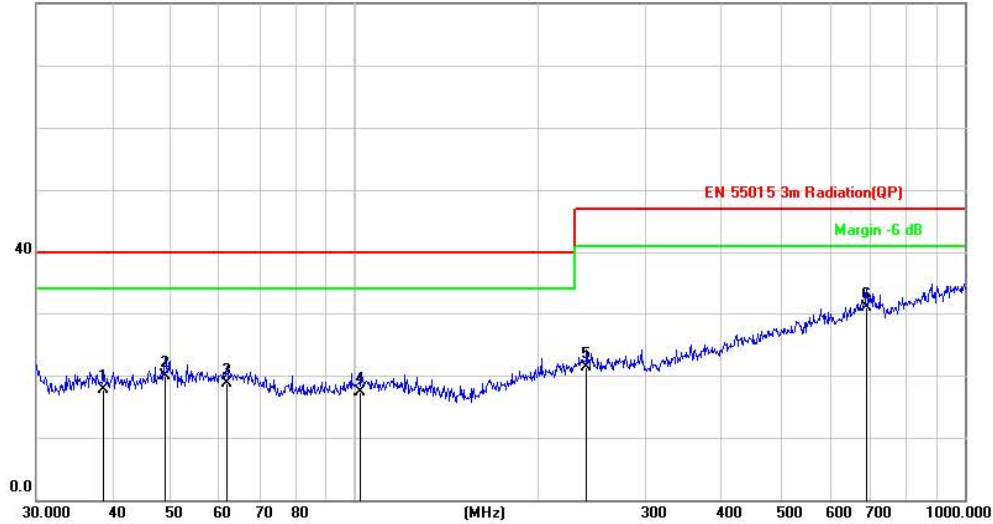
File: FTS24GP-5716

Data: #2

Date: 2024/07/18

Time: 01:56:38

80.0 dBuV/m



Site LAB

Polarization: **Horizontal**

Temperature: 26.9

Limit: EN 55015 3m Radiation(QP)

Power: DC24V

Humidity: 62.4 %

EUT: LED NEON STRIP FLAT SHAPE 10X10

Distance: 3m

M/N: E9010805-032(2700K)

Mode: Lighting mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	cm	degree	Comment
1		38.7518	4.57	13.07	17.64	40.00	-22.36	QP	100	132
2		48.8429	6.29	13.58	19.87	40.00	-20.13	QP	200	263
3		61.7781	5.23	13.46	18.69	40.00	-21.31	QP	200	206
4		102.0014	5.56	11.67	17.23	40.00	-22.77	QP	100	85
5		239.9874	7.46	13.94	21.40	47.00	-25.60	QP	100	360
6	*	689.5644	8.34	22.64	30.98	47.00	-16.02	QP	100	103

*:Maximum data x:Over limit l:over margin

(Reference Only)

File: FTS24GP-5716\Data: #2

Page: 1

Engineer Signature:



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Radiated Emission Measurement

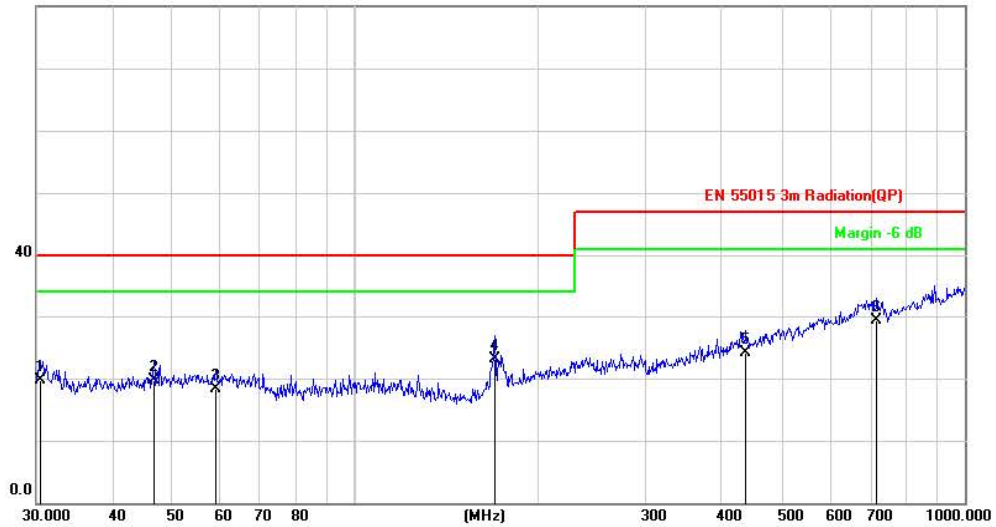
File: FTS24GP-5716

Data: #1

Date: 2024/07/18

Time: 01:53:16

80.0 dBuV/m



Site: LAB

Polarization: **Vertical**

Temperature: 26.9

Limit: EN 55015 3m Radiation(QP)

Power: DC24V

Humidity: 62.4 %

EUT: LED NEON STRIP FLAT SHAPE 10X10

Distance: 3m

M/N: E9010805-032(2700K)

Mode: Lighting mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	cm	degree	Comment
1		30.5306	8.18	11.54	19.72	40.00	-20.28	QP	100	331
2		46.8303	6.18	13.62	19.80	40.00	-20.20	QP	100	92
3		59.2325	4.77	13.50	18.27	40.00	-21.73	QP	100	192
4	*	169.5990	12.66	10.48	23.14	40.00	-16.86	QP	100	247
5		438.6554	6.03	18.16	24.19	47.00	-22.81	QP	100	331
6		716.6820	7.19	22.17	29.36	47.00	-17.64	QP	100	210

*:Maximum data x:Over limit l:over margin

(Reference Only)

File: FTS24GP-5716\Data: #1

Page: 1

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Conducted Emission Measurement

File: 1

Data: #130

Date: 2024/7/20

Time: 3:22:22



Site: LAB

Phase: X

Temperature: 26

Limit: EN55015 loop (QP)

Power: DC24V

Humidity: 60 %

EUT: LED NEON STRIP FLAT SHAPE 10X10

M/N: E9010805-032(2700K)

Mode: Lighting mode

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuA	Limit dBuA	Over dB	Detector	Comment
1		0.2850	-12.88	7.40	-5.48	50.29	-55.77	QP	
2		0.6631	-15.17	-2.99	-18.16	40.14	-58.30	QP	
3	*	1.5226	-18.23	-3.74	-21.97	30.15	-52.12	QP	
4		3.4620	-27.77	-4.26	-32.03	22.00	-54.03	QP	
5		7.6154	-27.57	-4.61	-32.18	22.00	-54.18	QP	
6		22.5643	-31.05	-3.86	-34.91	22.00	-56.91	QP	

*:Maximum data x:Over limit l:over margin

(Reference Only)

File: 1\Data: #130

Page: 1

Engineer Signature:



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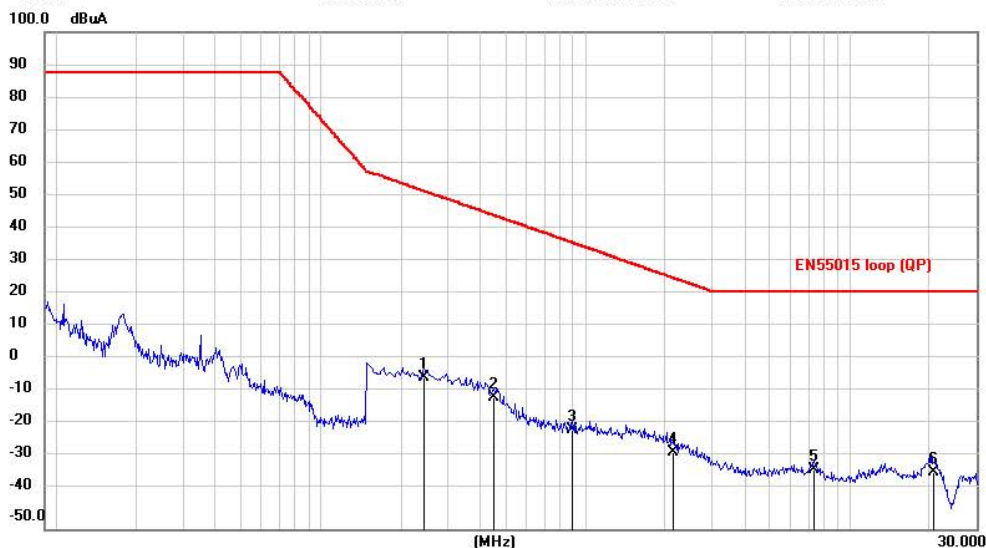
Conducted Emission Measurement

File: 1

Data: #131

Date: 2024/7/20

Time: 3:28:00



Site: LAB

Phase: Y

Temperature: 26

Limit: EN55015 loop (QP)

Power: DC24V

Humidity: 60 %

EUT: LED NEON STRIP FLAT SHAPE 10X10

M/N: E9010805-032(2700K)

Mode: Lighting mode

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuA	Limit dBuA	Over dB	Detector	Comment
1		0.2446	-11.90	7.92	-3.98	52.12	-56.10	QP	
2		0.4516	-14.15	4.25	-9.90	44.76	-54.66	QP	
3		0.8926	-15.30	-4.47	-19.77	36.57	-56.34	QP	
4	*	2.1526	-22.60	-3.91	-26.51	25.99	-52.50	QP	
5		7.3276	-26.48	-5.15	-31.63	22.00	-53.63	QP	
6		20.7241	-31.25	-1.15	-32.40	22.00	-54.40	QP	

*:Maximum data x:Over limit l:over margin

(Reference Only)

File: 1\Data: #131

Page: 1

Engineer Signature:



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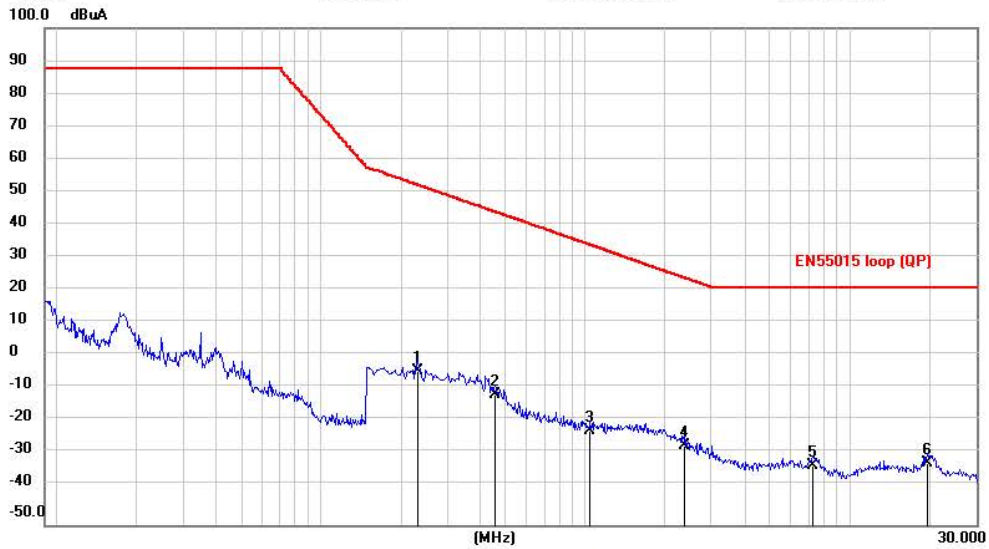
Conducted Emission Measurement

File: 1

Data: #132

Date: 2024/7/20

Time: 3:32:08



Site: LAB

Phase: Z

Temperature: 26

Limit: EN55015 loop (QP)

Power: DC24V

Humidity: 60 %

EUT: LED NEON STRIP FLAT SHAPE 10X10

M/N: E9010805-032(2700K)

Mode: Lighting mode

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuA	Limit dBuA	Over dB	Detector	Comment
1		0.2311	-10.52	7.17	-3.35	52.81	-56.16	QP	
2		0.4561	-14.44	4.02	-10.42	44.64	-55.06	QP	
3		1.0411	-16.55	-4.65	-21.20	34.72	-55.92	QP	
4	*	2.3866	-22.09	-3.55	-25.64	24.75	-50.39	QP	
5		7.2601	-27.42	-4.38	-31.80	22.00	-53.80	QP	
6		19.6261	-31.41	0.17	-31.24	22.00	-53.24	QP	

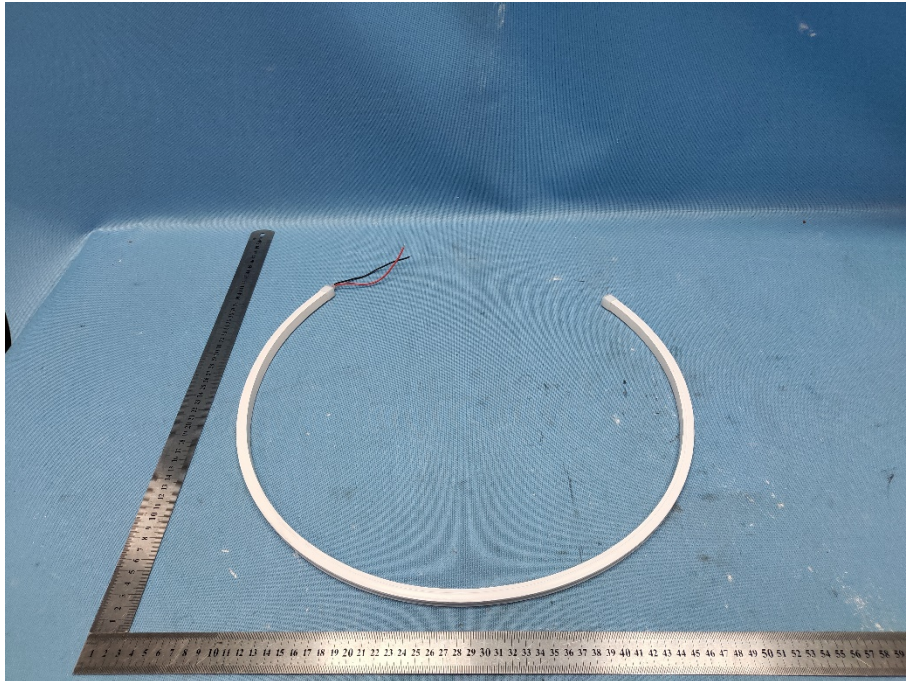
*:Maximum data x:Over limit l:over margin

(Reference Only)

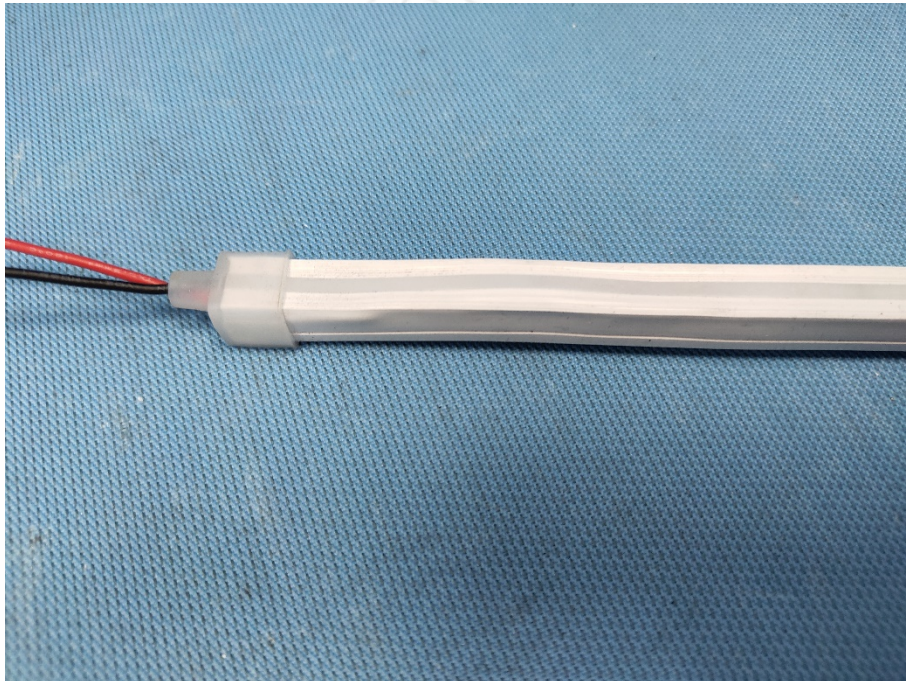
File: 1\Data: #132

Page: 1

Engineer Signature:



Picture 1



Picture 2

Magnetic Radiation <input checked="" type="checkbox"/>				
Equipment	Manufacturer	Model No.	Serial No.	Cal Until
EMI Test Receiver	R&S	ESCI3	1166.5950.03	30 Jul, 2024
Triple Loop Antenna	Laplace	RF300	9186	21 Feb, 2025
Radiated Emission (30MHz – 1000MHz) <input checked="" type="checkbox"/>				
Equipment	Manufacturer	Model No.	Serial No.	Cal Until
EMI Test Receiver	R&S	ESR7	101653	30 Jul, 2024
Broadband TRILOG Antenna	SCHWARZBEC K	VULB 9162	214	25 Feb, 2025
3m Semi-anechoic	YiHeng Electronics	9.0mx6.6mx6.7 m	N/A	31 Jul, 2024
RF Cable	FTS	FTS-235	/	30 Jul, 2024
Electrostatic Discharge <input checked="" type="checkbox"/>				
Equipment	Manufacturer	Model No.	Serial No.	Cal Until
ESD Simulator	TESEQ	NSG 437	536	31 Jul, 2024
Radio-frequency electromagnetic fields <input checked="" type="checkbox"/>				
Equipment	Manufacturer	Model No.	Serial No.	Cal Until
Signal Generator	R&S	SMB100A	1406.6000K02-108906-yF	21 Feb, 2025
Power Meter	Agilent	E4417A	MY45100420	21 Feb, 2025
Radio frequency switch	Tonscend	JS0806S	22B8060550	21 Feb, 2025
power Sensor	Agilent	E9323A	MY44420905	21 Feb, 2025
power Sensor	Agilent	E9323A	MY57070002	21 Feb, 2025
Power Amplifier	micotop	MPA-1000-6000-100	MPA2209324	21 Feb, 2025
Power Amplifier	micotop	MPA-80-1000-250	MPA2209323	21 Feb, 2025
Electric field probe	Naeda	EP 601	811ZX2077	22 Feb, 2025
Antenna	Schwarzbeck	STLP 9129	247	25 Mar,2026
anechoic chamber	HTEC Test	7m*4m*3m	N/A	7 Mar,2026

-----End of test report-----