



FCC TEST REPORT

For

ARTIKA FOR LIVING INC

Solar string light

Test Model: OUT-BZSO-C2BL

Additional Model No.: OUT-BZSO-XXXXXX("XXXXXX" can be A to Z and/or 0 to 9 and/or blank (commercial code))

Prepared for : ARTIKA FOR LIVING INC
Address : 1756 50th avenue, Lachine, Qc, Canada H8T 2V5

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
101, 201 Bldg A & 301 Bldg C, Juji Industrial Park
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Date of receipt of test sample : August 28, 2024
Number of tested samples : 1
Serial number : Prototype
Sample No. : A240826137001
Date of Test : August 28, 2024 to September 06, 2024
Date of Report : September 09, 2024



**TEST REPORT****Report No.** : **LCSA08054304E****Date of Issue** : September 09, 2024**Testing Laboratory Name** : **Shenzhen LCS Compliance Testing Laboratory Ltd.****Address** : 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park
Yabianxueziwei, Shajing Street, Baoan District,
Shenzhen, 518000, China**Testing Location/ Procedure** : Full application of Harmonised standards ■
Partial application of Harmonised standards □
Other standard testing method □**Applicant's Name** : **ARTIKA FOR LIVING INC****Address** : 1756 50th avenue, Lachine, Qc, Canada H8T 2V5**Test Specification****Standard** : FCC 47 CFR Part 15, Subpart B
ANSI C63.4-2014**Test Report Form No.** : TRF-4-E-010 A/0**TRF Originator** : Shenzhen LCS Compliance Testing Laboratory Ltd.**Master TRF** : Dated 2011-03**Shenzhen LCS Compliance Testing Laboratory Ltd. All rights reserved.**

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Test Item Description. : **Solar string light****Trade Mark** : ARTIKA**Test Model** : OUT-BZSO-C2BL**Result** : **Positive****Compiled by:**

Emma wang / File Administrator

Supervised by:

Cary Luo/ Technique principal

Approved by:

Gavin Liang / Manager





TEST REPORT

Test Report No.: LCSA08054304E**September 09, 2024**
Date of issue**Test Model..... : OUT-BZSO-C2BL****EUT : Solar string light****Applicant : ARTIKA FOR LIVING INC****Address : 1756 50th avenue, Lachine, Qc, Canada H8T 2V5****Telephone : /****Fax : /****Manufacturer : VIETNAM GLS LIGHTING CO., LTD. /****Dongguan Gateway Lighting Co., Ltd.****Address : Hợp Thịnh Socio-Economic Zone, Cầu Củi Area, Hợp
Thịnh Commune, Tam Dương District, Vĩnh Phúc
Province, Vietnam /****3 / F, Yunjing Science and Technology Industrial Park, 203
Donghuan Road, Hengli Town, Dongguan City,
Guangdong Province****Telephone : /****Fax : /****Factory : VIETNAM GLS LIGHTING CO., LTD. /****Dongguan Gateway Lighting Co., Ltd.****Address : Hợp Thịnh Socio-Economic Zone, Cầu Củi Area, Hợp
Thịnh Commune, Tam Dương District, Vĩnh Phúc
Province, Vietnam /****3 / F, Yunjing Science and Technology Industrial Park, 203
Donghuan Road, Hengli Town, Dongguan City,
Guangdong Province****Telephone : /****Fax : /****Test Result****Positive**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



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Revision History

Report Version	Issue Date	Revision Content	Revised By
000	September 09, 2024	Initial Issue	/





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1. SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

Description of Test Item	Standard	Limits	Result
Conducted emissions on AC mains	FCC 47 CFR Part 15, Subpart B ANSI C63.4-2014	15.107, Class B	Pass
Radiated emissions (Below 1GHz)	FCC 47 CFR Part 15, Subpart B ANSI C63.4-2014	15.109, Class B	Pass





1.2 Description of Test Modes

No	Title	Description
TM1	Charging(DC 5V From USB Host Unit)	Record
TM2	Charging(Solar battery charging)	Record
TM3	Discharging(DC form Battery)	Record





2. GENERAL INFORMATION

2.1 Description of Device (EUT)

EUT	: Solar string light
Test Model	: OUT-BZSO-C2BL
Additional Model No.	: OUT-BZSO-XXXXXX("XXXXXX" can be A to Z and/or 0 to 9 and/or blank (commercial code))
Model Declaration	: PCB board, structure and internal of these model(s) are the same, So no additional models were tested.
Power Supply	: Input: DC 5V 18650 lithium battery
Highest Internal Frequency	: 1.705-108MHz
Classification of Equipment	: Class B

Highest internal frequency (Fx)	Highest measured frequency
$F_x \leq 1.705\text{MHz}$	30MHz
$1.705\text{MHz} < F_x \leq 108\text{MHz}$	1GHz
$108\text{MHz} < F_x \leq 500\text{MHz}$	2GHz
$500\text{MHz} < F_x \leq 1000\text{MHz}$	5GHz
$F_x > 1\text{GHz}$	5 x Fx up to a maximum of 40GHz

2.2 Support equipment List

The EUT was tested as an independent device.

2.3 Description of Test Facility

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

NVLAP Accreditation Code is 600167-0.

FCC Designation Number is CN5024.

CAB identifier is CN0071.

CNAS Registration Number is L4595.

Test Firm Registration Number: 254912.

2.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emission (150kHz to 30MHz)	$\pm 2.35\text{ dB}$
Radiated Emission (30MHz to 1000MHz)	$\pm 3.48\text{ dB}$
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	





3. MEASURING DEVICES AND TEST EQUIPMENT

Conducted emissions on AC mains

Equipment	Manufacturer	Model No	Serial No.	Cal Date	Due Date
EMI Test Software	Farad	EZ	/	/	/
Artificial Mains	R&S	ENV216	101288	2024-06-06	2025-06-05
Pulse Limiter	R&S	ESH3-Z2	102750-NB	2024-06-06	2025-06-05
EMI Test Receiver	R&S	ESR3	102312	2024-03-02	2025-03-01

Radiated emissions (Below 1GHz)

Equipment	Manufacturer	Model No	Serial No.	Cal Date	Due Date
EMI Test Software	Farad	EZ	/	/	/
EMI Test Software	AUDIX	E3	/	/	/
By-log Antenna	SCHWARZBECK	VULB9163	01143	2024-07-20	2027-07-19
Horn Antenna	SCHWARZBECK	3115	EABF-018	2024-07-20	2027-07-19
EMI Test Receiver	R&S	ESR3	102311	2024-06-06	2025-06-05
Broadband Preamplifier	/	BP-01M18G	P190501	2024-06-06	2025-06-05
EMI Test Receiver	R&S	ESCI7	101173	2023-10-25	2024-10-24
By-log Antenna	SchwarzZBECK	VULB9163	01565	2024-07-13	2025-07-12





4. EMISSION TEST RESULTS (EMI)

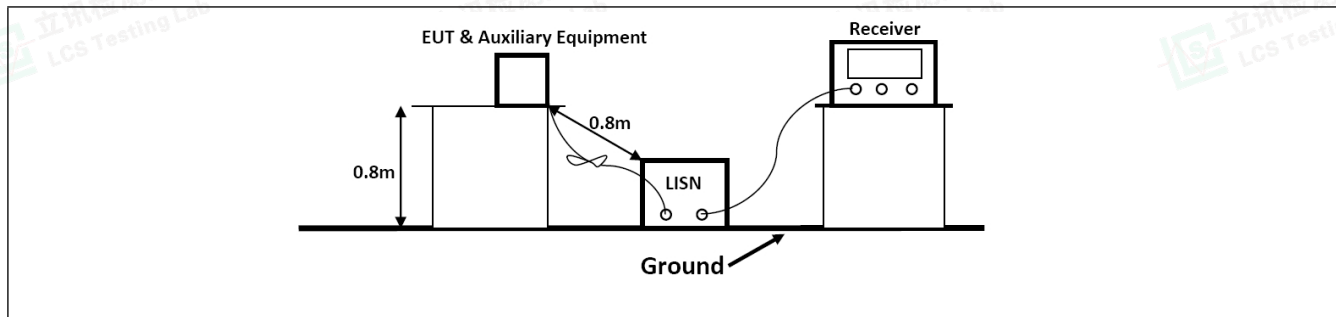
4.1 Conducted emissions on AC mains

Test Requirement:	15.107, Class B		
Test 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
	*Decreases with the logarithm of the frequency.		
Test Method:	ANSI C63.4-2014		
Procedure:	An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor		

4.1.1 E.U.T. Operation:

Operating Environment:			
Temperature:	22.7 °C	Humidity:	53.7 %
Pre test mode:	TM1		
Final test mode:	TM1		

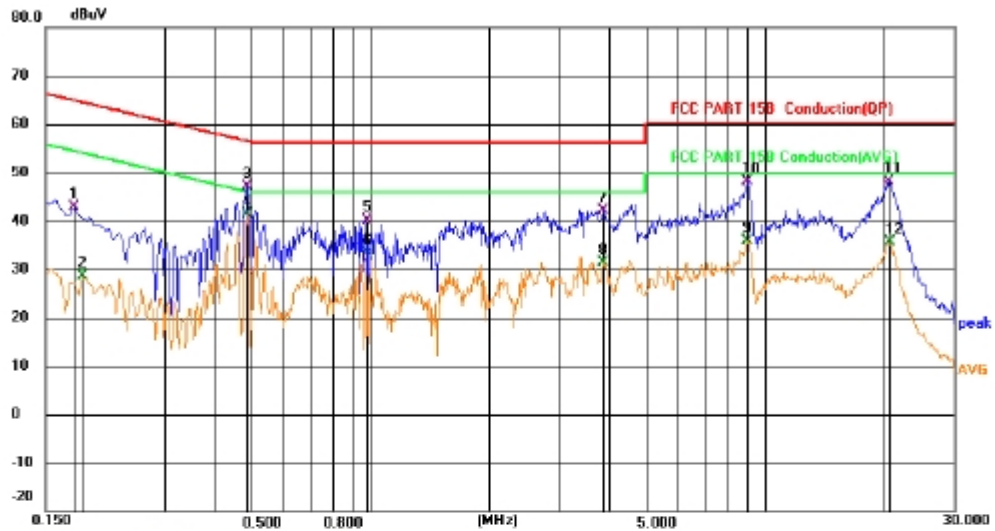
4.1.2 Test Setup Diagram:





4.1.3 Test Data:

TM1 / Line: Line

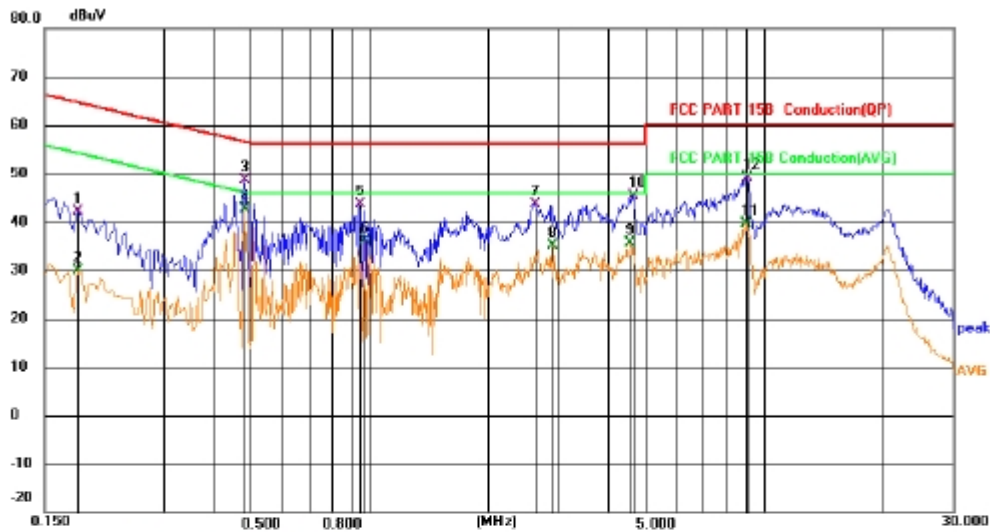


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1771	23.34	19.63	42.97	64.62	-21.65	QP	
2		0.1861	8.96	19.63	28.59	54.21	-25.62	AVG	
3		0.4876	27.52	19.64	47.16	56.21	-9.05	QP	
4	*	0.4876	21.63	19.64	41.27	46.21	-4.94	AVG	
5		0.9736	20.60	19.65	40.25	56.00	-15.75	QP	
6		0.9736	13.61	19.65	33.26	46.00	-12.74	AVG	
7		3.8851	22.34	19.70	42.04	56.00	-13.96	QP	
8		3.8851	11.74	19.70	31.44	46.00	-14.56	AVG	
9		8.9836	16.05	19.82	35.87	50.00	-14.13	AVG	
10		9.0376	28.36	19.82	48.18	60.00	-11.82	QP	
11		20.5756	27.95	20.18	48.13	60.00	-11.87	QP	
12		20.8051	15.40	20.16	35.56	50.00	-14.44	AVG	





TM1 / Line: Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1816	22.57	19.63	42.20	64.41	-22.21	QP	
2		0.1816	10.30	19.63	29.93	54.41	-24.48	AVG	
3		0.4831	29.03	19.64	48.67	56.29	-7.62	QP	
4	*	0.4831	22.95	19.64	42.59	46.29	-3.70	AVG	
5		0.9420	23.98	19.65	43.63	56.00	-12.37	QP	
6		0.9735	16.48	19.65	36.13	46.00	-9.87	AVG	
7		2.6161	23.99	19.71	43.70	56.00	-12.30	QP	
8		2.8951	15.31	19.72	35.03	46.00	-10.97	AVG	
9		4.5871	15.74	19.80	35.54	46.00	-10.46	AVG	
10		4.6366	25.61	19.80	45.41	56.00	-10.59	QP	
11		9.0061	19.80	19.85	39.65	50.00	-10.35	AVG	
12		9.0331	29.33	19.85	49.18	60.00	-10.82	QP	

***Note: 1) Pre-scan all modes and recorded the worst case results in this report.

2) Margin= Reading level + Correct factor-Limit

Correct Factor=Lisn Factor+Cable Factor+Insertion loss of Pulse Limiter





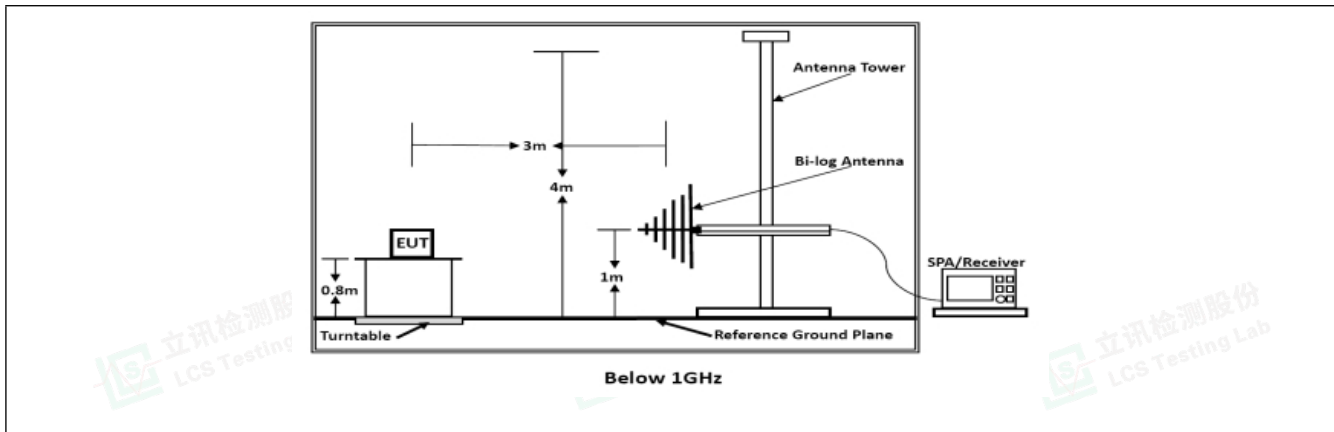
4.2 Radiated emissions (Below 1GHz)

Test Requirement:	15.109, Class B				
Test Limit:	Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:				
	Frequency of emission (MHz)	Field strength @3m		Field strength @10m	
		(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)
	30 – 88	100	40	30	29.5
	88 – 216	150	43.5	45	33.1
	216 – 960	200	46	60	35.6
	Above 960	500	54	150	43.5
Test Method:	ANSI C63.4-2014				
Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor				

4.2.1 E.U.T. Operation:

Operating Environment:			
Temperature:	22.3 °C	Humidity:	53 %
Pre test mode:	TM1, TM2, TM3		
Final test mode:	TM1, TM2, TM3		

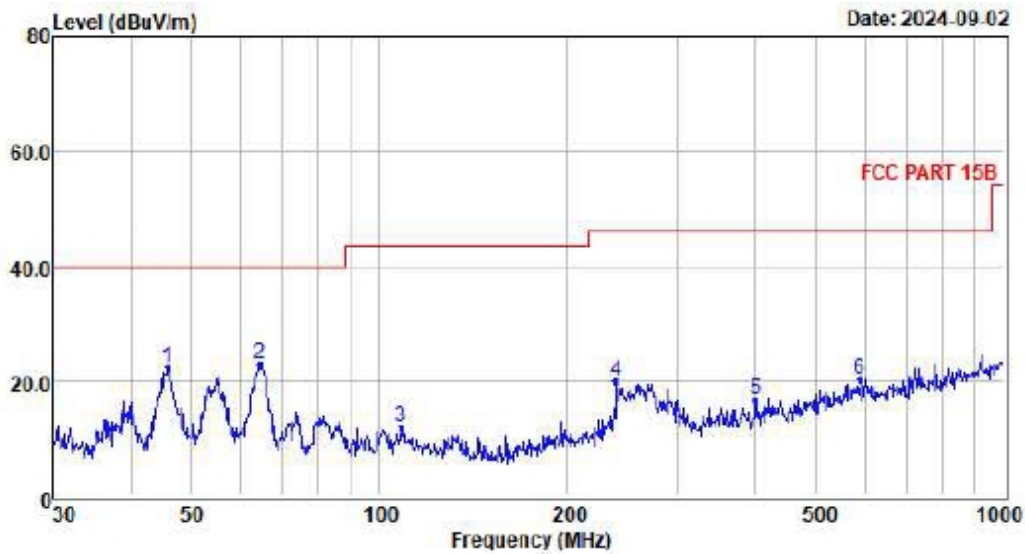
4.2.2 Test Setup Diagram:





4.2.3 Test Data:

TM1 / Polarization: Horizontal



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	45.86	10.03	0.57	11.61	22.21	40.00	-17.79	QP
2	64.43	10.78	0.67	11.44	22.89	40.00	-17.11	QP
3	108.27	-0.17	0.95	11.28	11.96	43.50	-31.54	QP
4	239.99	6.46	1.25	12.21	19.92	46.00	-26.08	QP
5	400.43	0.40	1.40	14.72	16.52	46.00	-29.48	QP
6	588.91	-0.35	1.50	18.96	20.11	46.00	-25.89	QP

Note: 1. All readings are Quasi-peak values.

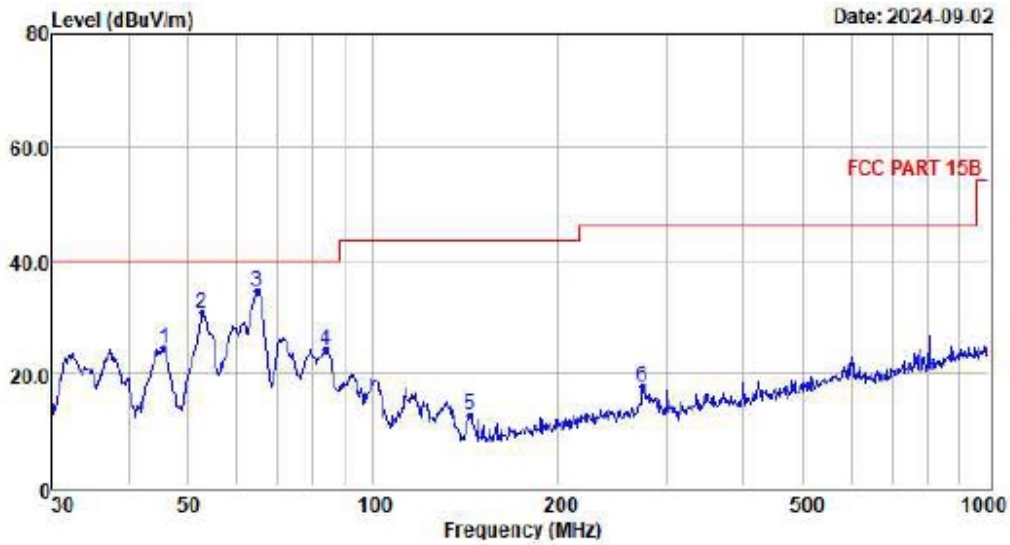
2. Measured= Reading + Antenna Factor + Cable Loss

3. The emission that are 20db below the official limit are not reported





TM1 / Polarization: Vertical



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	45.69	12.33	0.56	11.57	24.46	40.00	-15.54	QP
2	52.76	17.37	0.62	12.57	30.56	40.00	-9.44	QP
3	64.89	22.46	0.68	11.33	34.47	40.00	-5.53	QP
4	83.82	13.72	0.75	9.68	24.15	40.00	-15.85	QP
5	143.83	2.77	1.01	8.58	12.36	43.50	-31.14	QP
6	274.19	3.09	1.29	13.18	17.56	46.00	-28.44	QP

Note: 1. All readings are Quasi-peak values.

2. Measured= Reading + Antenna Factor + Cable Loss

3. The emission that are 20db below the official limit are not reported



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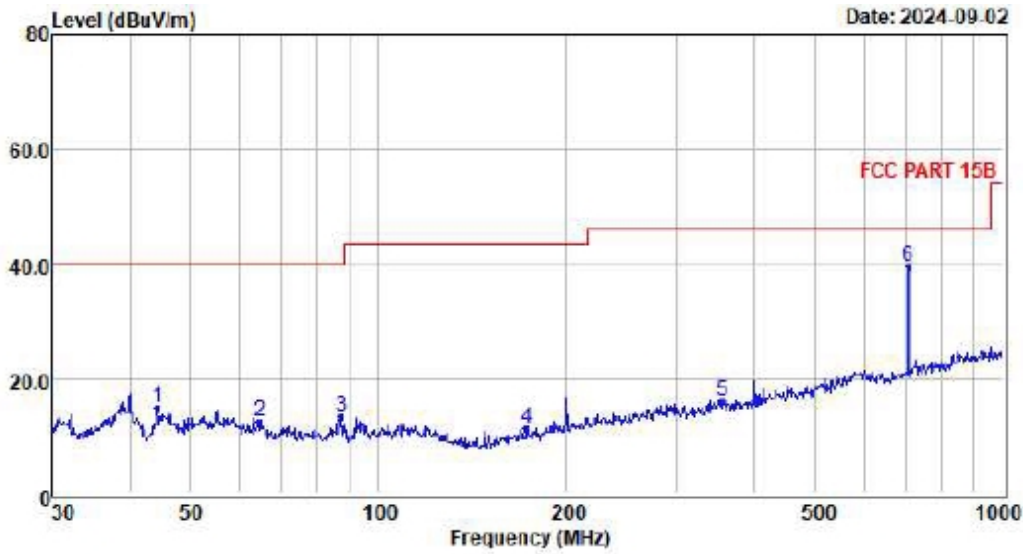
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TM2 / Polarization: Horizontal



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	44.28	2.80	0.55	11.41	14.76	40.00	-25.24	QP
2	64.66	0.56	0.67	11.38	12.61	40.00	-27.39	QP
3	87.42	2.95	0.76	9.57	13.28	40.00	-26.72	QP
4	173.21	0.32	1.12	9.73	11.17	43.50	-32.33	QP
5	355.43	-0.19	1.37	14.81	15.99	46.00	-30.01	QP
6	706.70	19.02	1.81	18.84	39.67	46.00	-6.33	QP

Note: 1. All readings are Quasi-peak values.

2. Measured= Reading + Antenna Factor + Cable Loss

3. The emission that are 20db below the official limit are not reported



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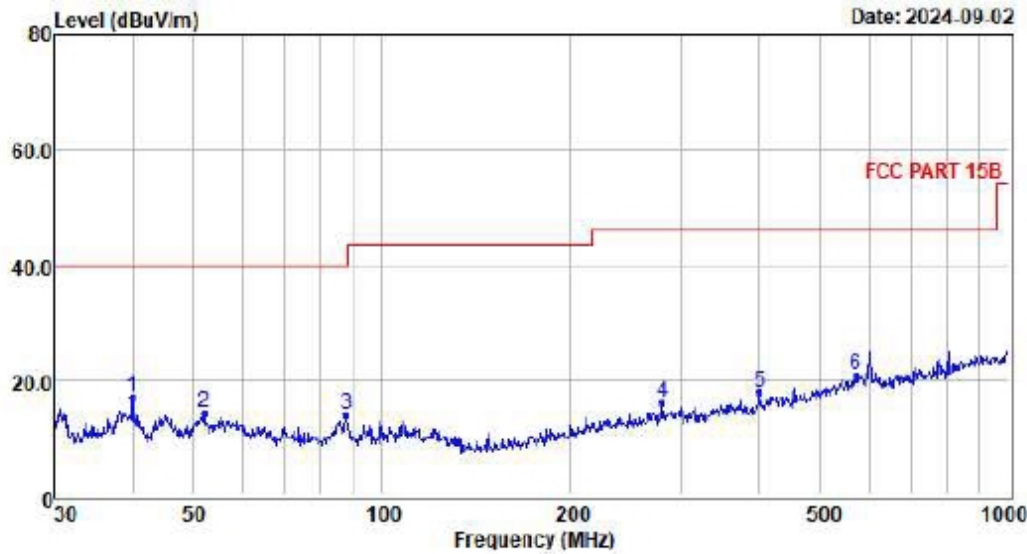
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TM2 / Polarization: Vertical



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	39.99	4.87	0.51	11.50	16.88	40.00	-23.12	QP
2	52.03	1.05	0.61	12.58	14.24	40.00	-25.76	QP
3	87.72	3.68	0.76	9.57	14.01	40.00	-25.99	QP
4	280.02	1.47	1.30	13.30	16.07	46.00	-29.93	QP
5	400.43	1.67	1.40	14.72	17.79	46.00	-28.21	QP
6	570.61	0.98	1.50	18.38	20.86	46.00	-25.14	QP

Note: 1. All readings are Quasi-peak values.

2. Measured= Reading + Antenna Factor + Cable Loss

3. The emission that are 20db below the official limit are not reported



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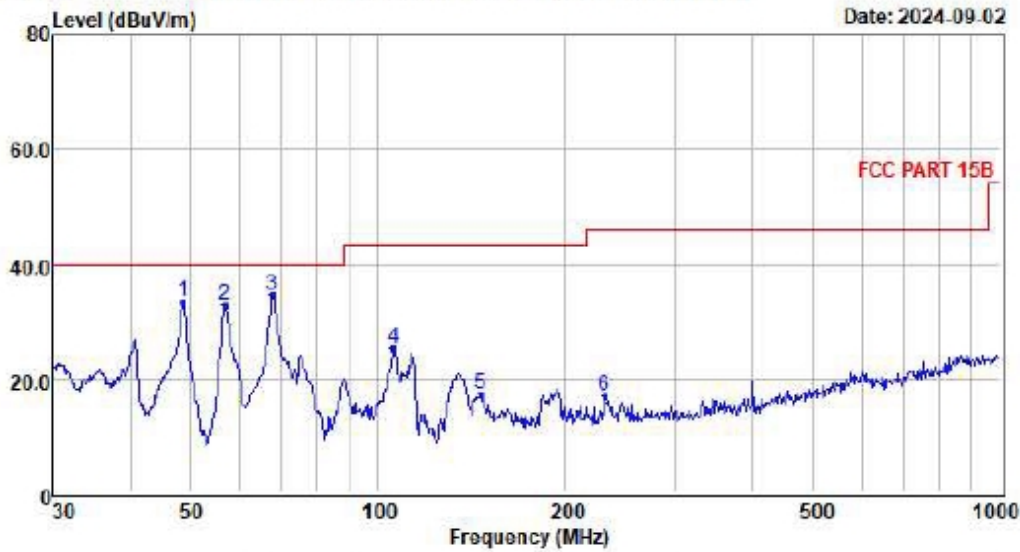
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TM3 / Polarization: Horizontal



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	48.67	20.51	0.59	12.29	33.39	40.00	-6.61	QP
2	56.79	19.59	0.64	12.53	32.76	40.00	-7.24	QP
3	67.68	23.04	0.69	10.70	34.43	40.00	-5.57	QP
4	106.01	13.36	0.83	11.13	25.32	43.50	-18.18	QP
5	146.37	7.45	1.02	8.63	17.10	43.50	-26.40	QP
6	231.72	3.72	1.24	12.04	17.00	46.00	-29.00	QP

Note: 1. All readings are Quasi-peak values.

2. Measured= Reading + Antenna Factor + Cable Loss

3. The emission that are 20db below the official limit are not reported



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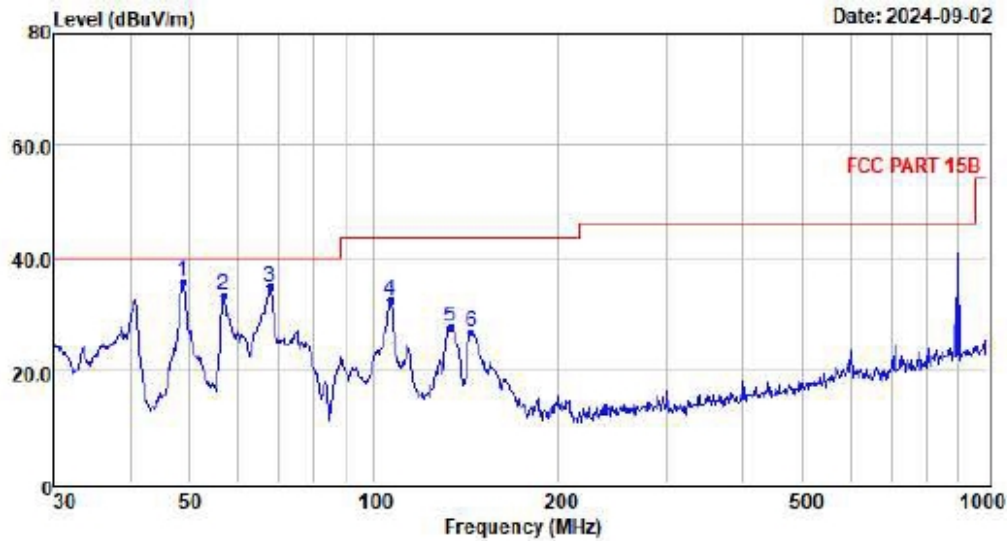
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TM3 / Polarization: Vertical



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	48.84	22.88	0.59	12.33	35.80	40.00	-4.20	QP
2	56.79	20.04	0.64	12.53	33.21	40.00	-6.79	QP
3	67.68	23.44	0.69	10.70	34.83	40.00	-5.17	QP
4	106.39	20.45	0.84	11.15	32.44	43.50	-11.06	QP
5	133.15	17.68	0.97	9.11	27.76	43.50	-15.74	QP
6	144.33	17.06	1.01	8.59	26.66	43.50	-16.84	QP

Note: 1. All readings are Quasi-peak values.

2. Measured= Reading + Antenna Factor + Cable Loss

3. The emission that are 20db below the official limit are not reported

Note:1).Pre-Scan all mode, Thus record worse case mode result in this report.

2) Margin= Reading level + Correct factor – Limit

Correct Factor=Antenna Factor+Cable Factor- Pre-amplifier Factor





5. TEST SETUP PHOTOS

Refer to Appendix - Test Setup Photos for LCSA08054304E.docx

6. EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)

Refer to Appendix - EUT Photos for LCSA08054304E.docx

--- End of Report ---

