Antenna Passive Test Report

Project No.	:	TSED260901057
Product Type	:	LED Bulb
Test Mode	:	Free Space
Date of Receipt	:	2026/09/18
Date of Test	:	2026/09/18
Issued Date	:	2026/09/24
Test Sample	:	HTB260900075-001
Standard(s)	:	ANSI/IEEE Std 149-2008
Applicant	:	Jiangmen Maker Lighting Co.,Ltd
Address	:	A06 5th Floor, Building 7, 1st & 2nd Floor, Building 3, No.18 Xinyi Road Jianghai District Jiangmen City Guangdong Province China
Manufacturer	:	Jiangmen Maker Lighting Co.,Ltd
Address	:	A06 5th Floor, Building 7, 1st & 2nd Floor, Building 3, No.18 Xinyi Road Jianghai District Jiangmen City Guangdong Province China

TOWE. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

the results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of the model are manufactured with identical electrical and mechanical components. All sample tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of TOWE, the test report shall not be reproduced except in full.

Lin Qilong
Approved By:

Fan Jiafu
Reviewed By:

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Table of Contents

REVISION HISTORY **3**
1 . CERTIFICATE OF COMPLIANCE **4**
1.1 DESCRIPTION OF EUT AND TEST(S) PERFORMED 4
1.2 LABORATORY ENVIRONMENT 4
2 . MEASUREMENT SYSTEM INFORMATION **5**
2.1 GENERAL INFORMATION 5
2.2 LIST OF EQUIPMENT 7
2.3 MEASUREMENT UNCERTAINTY 8
3.TEST RESULTS **9**
4. 2-D PATTERN PLOTS **10**
5. 3-D PATTERN PLOTS **13**
6. THE EUT AND TEST CONFIGURATION **15**
APPENDIX A ANTENNA SPECIFICATION **16**

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REVISION HISTORY

Rev.	Issue Date	Description	Revised by
01	2026/09/24	Original	Fan Jiafu

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1. CERTIFICATE OF COMPLIANCE

1.1 DESCRIPTION OF EUT AND TEST(S) PERFORMED

Manufacturer	Jiangmen Maker Lighting Co.,Ltd
Model	ZJ-WB-L321-S-C5-IIC-B-CT
Serial Number(s) / ESN(s) / IMEI(s)	N/A
Hardware Version	N/A
Software Version	N/A

1.2 LABORATORY ENVIRONMENT

Temperature	Min = 20℃ , Max = 24℃	
Relative humidity	Min = 30% , Max = 70%	
Shield effect	0.6 – 8.5G	> 100dB
Ground resistance	< 0.5Ω	

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2. MEASUREMENT SYSTEM INFORMATION

2.1 GENERAL INFORMATION

Measurement Facility:

- Measurement Chamber: ETS-Lindgren 3D fully anechoic chamber and its measuring system (AMS-8923)
- ETS-Lindgren EMCenter
- Vector Network Analyzer: R&S ZNB8

Instruments View

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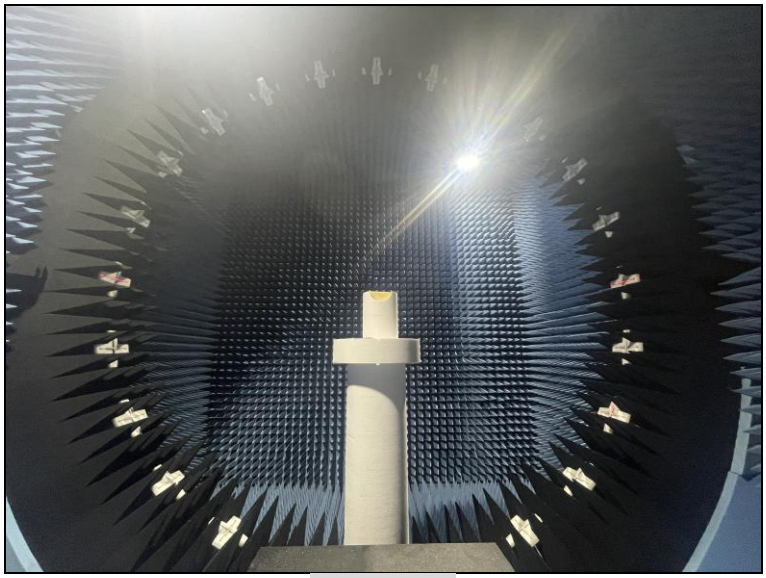

Inside View

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2.2 LIST OF EQUIPMENT

Equipment Description	Manufacturer	Identification No.	SN	Current Calibration Date	Next Calibration Date
Vector Network Analyzer	R&S	ZNB8	101413	2026/7/13	2027/7/12
RF switch control	ETS-Lindgren	EMCenter	00251211	N/A	N/A
Measurement software	ETS-Lindgren	EMQuest	N/A	N/A	N/A

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2.3 MEASUREMENT UNCERTAINTY

Item	2400 – 2500MHz
Gain	0.83 dB
Efficiency	0.83 dB
Measurement Uncertainty (95% Confidence Interval) K=2	

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3.TEST RESULTS

Free Space		
Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	33.70	2.72
2410	33.62	2.68
2420	35.54	2.83
2430	36.02	2.92
2440	35.53	2.93
2450	33.48	2.63
2460	32.10	2.34
2470	30.94	2.05
2480	29.49	1.85
2490	28.81	1.73
2500	28.08	1.63

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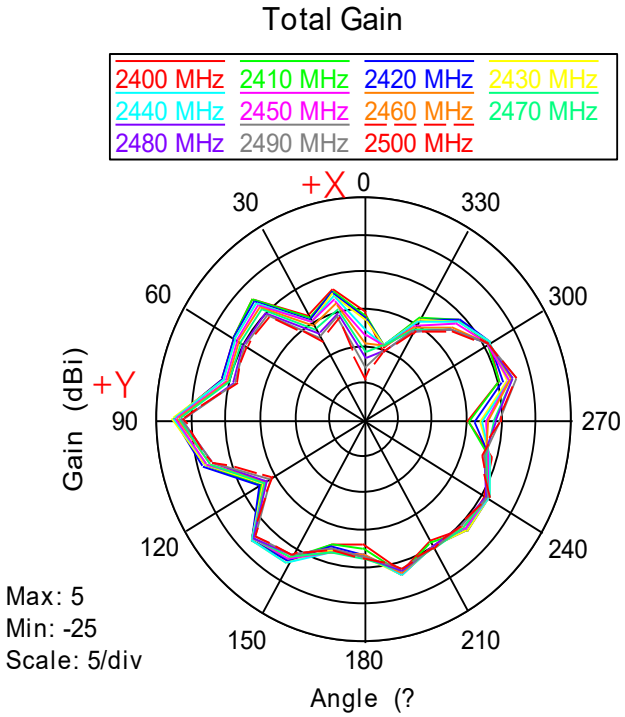
4. 2-D PATTERN PLOTS



Theta=90° (X-Y Plane)

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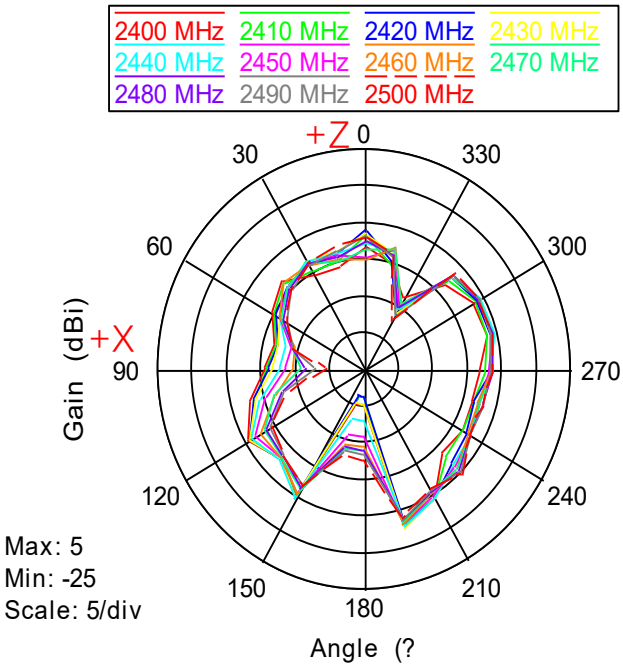
Total Gain



Phi=0° (X-Z Plane)

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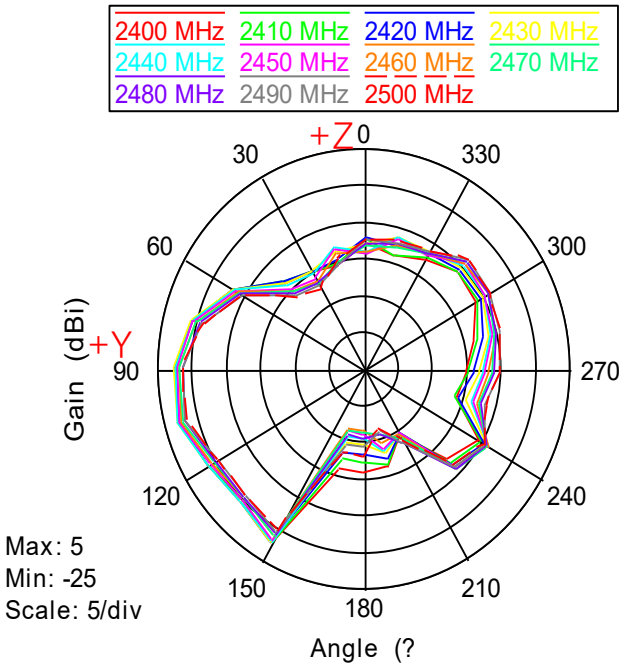
Total Gain



Phi=90° (Y-Z Plane)

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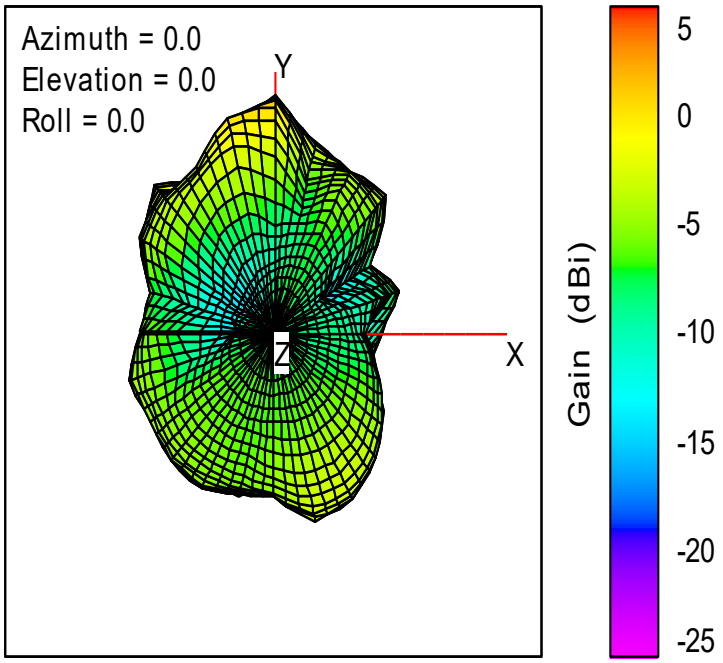
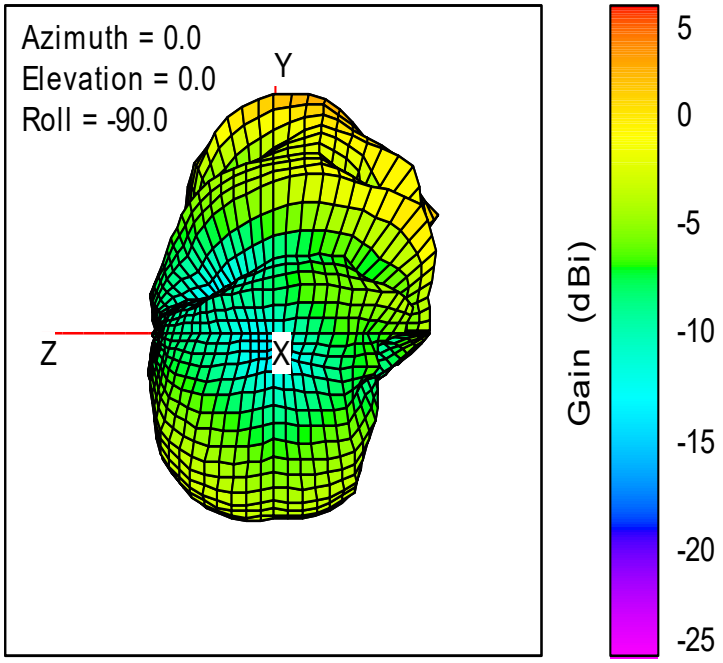
5. 3-D PATTERN PLOTS

Total Gain



Total Gain



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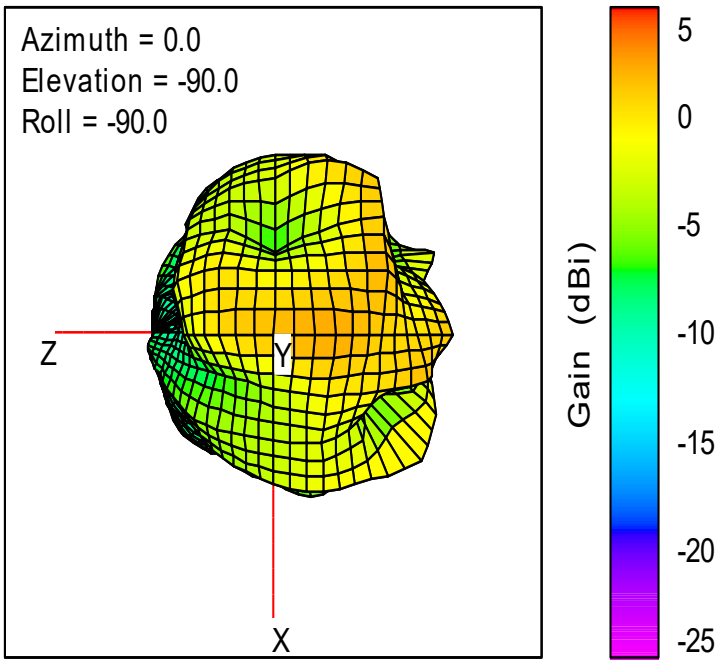
Total Gain



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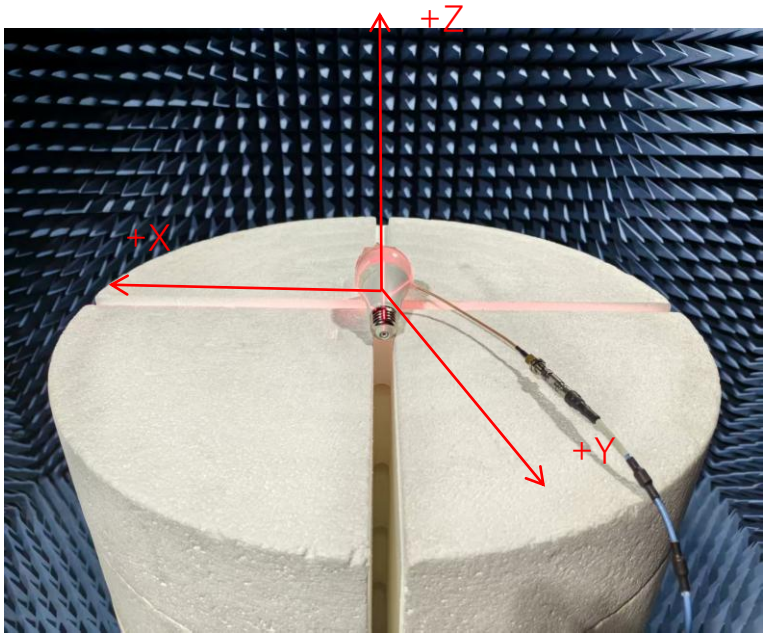
6. THE EUT AND TEST CONFIGURATION



Free Space View

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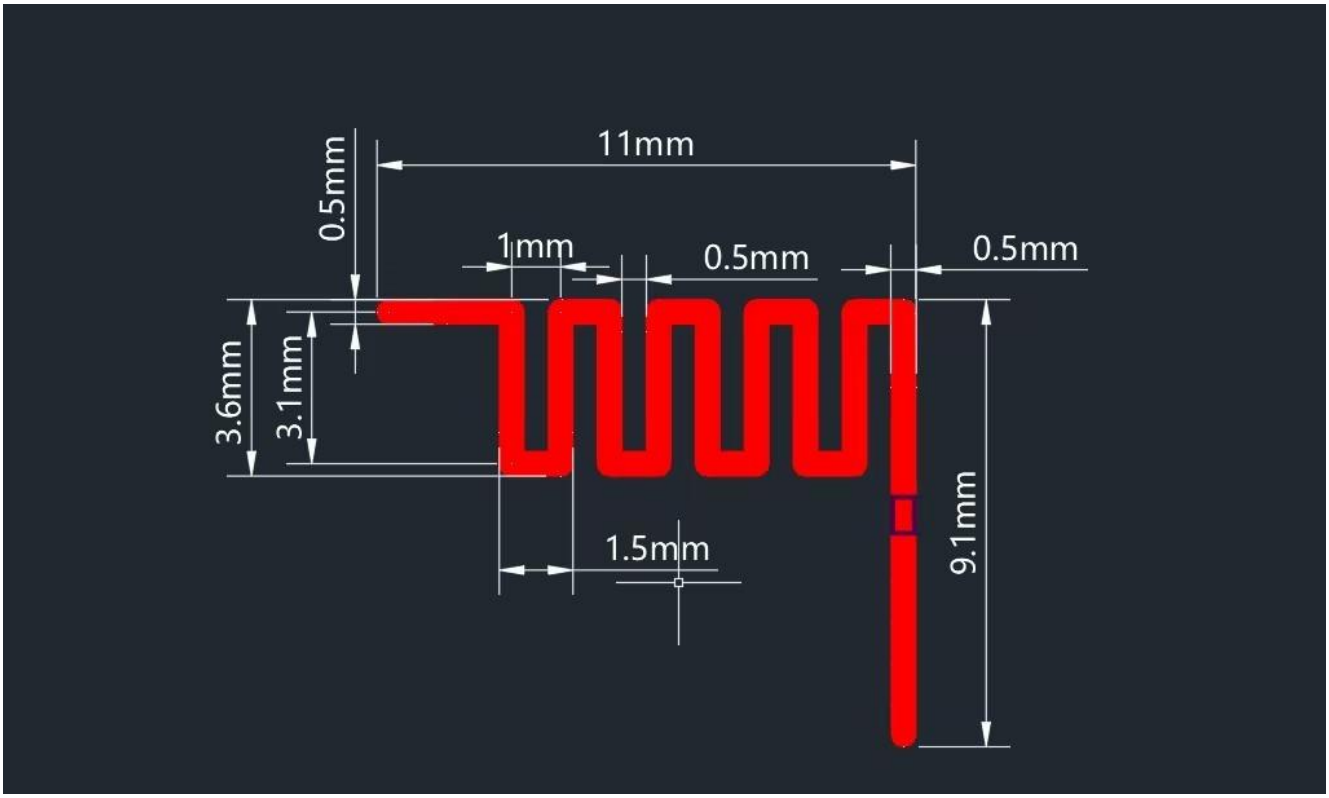
APPENDIX A ANTENNA SPECIFICATION



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