



TEST REPORT

Product : Antenna
Model Name : Z-WAVE 915M ANT
Report No. : PTC25061011403E-RF01

Prepared for

Jasco Products Company LLC
10 e memorial road Office oklahoma city OK 73114

Prepared by

Precise Testing & Certification Co., Ltd
Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

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1 Test Result Certification

Applicant's name : Jasco Products Company LLC

Address : 10 e memorial road Office oklahoma city OK 73114

Manufacture's name : Ultra Tech Industries Co., Ltd.

Address : Industrial cluster Non Sao, Tan Dinh commune, Lang Giang district, Bac Giang, VIETNAM

Product name : Antenna

Model name : Z-WAVE 915M ANT

Standards : GB/T 9410-2008; ANSI/IEEE Std 149-1979

Test Date : Jul. 01, 2025 to Jul. 07, 2025

Date of Issue : Jul. 07, 2025

Test Result : Pass

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the GB/T 9410 and ANSI/IEEE Std 149 requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

Technical Manager:



Simon Pu / Manager



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Revision History of Report

Vision No.	Date	Revisions	Modifier
00	Jul. 07, 2025	Initial Issue	



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2 Test Summary

Name	Parameter	Method	Standard no.
Mobile communication antenna	Antenna gain	Generic specification for antennas used in the mobile communications	GB/T 9410-2008
	Radiation pattern		
Antenna	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979
	Gain and directivity		



3 Test Site

3.1 Test Facility

Name	Precise Testing & Certification Co., Ltd
Address	Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China
CNAS Number	L5772

3.2 Measurement Uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO, using the inclusion factor of K=2 and the 95% confidence level to express the extended uncertainty.

Item	Uncertainty
Antenna gain	$\pm 0.68\text{dB}$
Radiation efficiency	$\pm 0.68\text{dB}$

3.3 List Of Test And Measurement Instruments

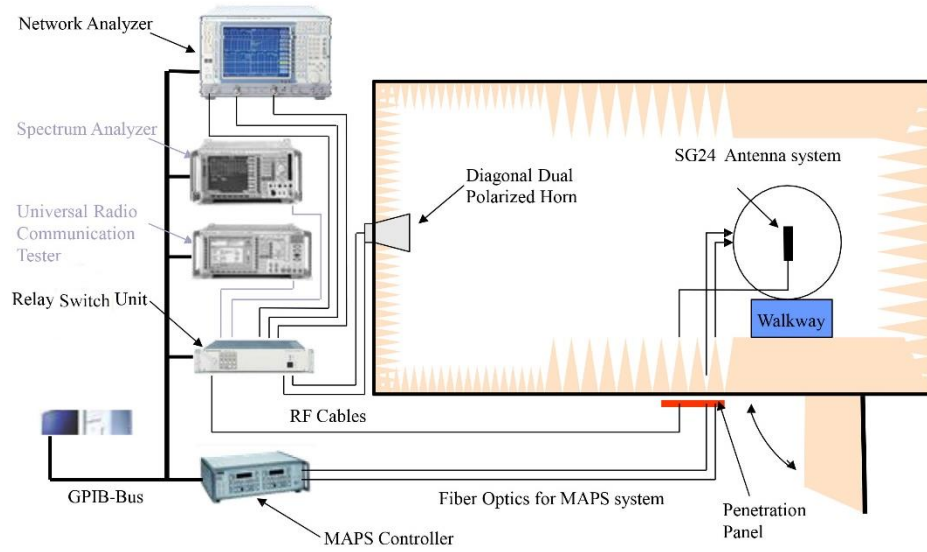
Name of Equipment	Manufacturer	Serial No.	Last Cal.	Calibration Interval
24 probe microwave chamber	YIHENG ELECTPONC	4*4*4	Jan. 10,2025	1 Year
Network Analyzer	E5071C	Agilent	Jan. 10,2025	1 Year
XH.PassiveTest 2.7.6	XH-IOT	/	/	/

3.4 Test environmental

Environment Parameter	Selected Values During the Testes	
Relative Humidity	45% to 55%	
Value	Temperature($^{\circ}\text{C}$)	Voltage(V)
NTNV	20 to 24	N/A
Note: NV: Normal Voltage; NT: Normal Temperature		



3.5 Test Setup





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4 EUT Description

Product Name	Antenna
Sample Model	Z-WAVE 915M ANT
Size	/
Test Item	Antenna gain; Radiation pattern and efficiency
Antenna Type	Spring Antenna
Frequency Range	902MHz-928MHz



5 Test Data

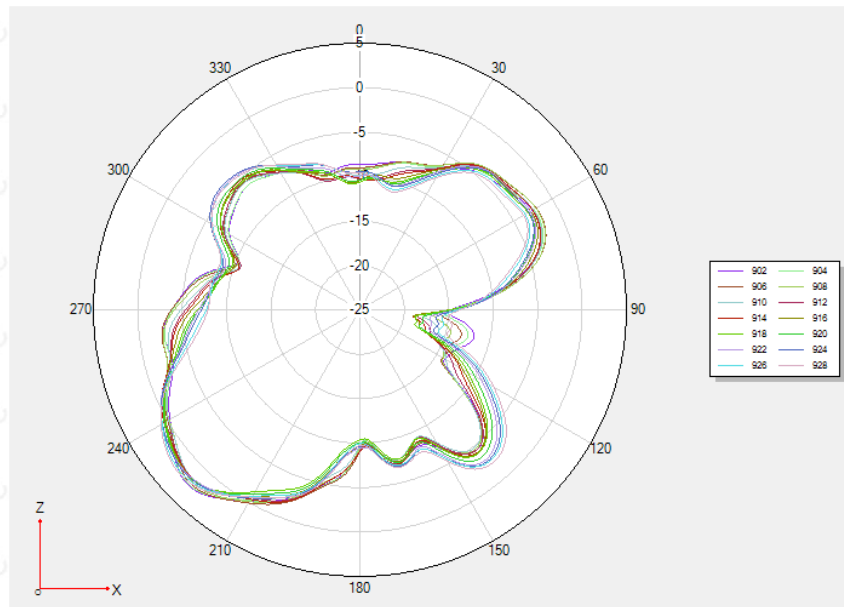
5.1 Typical free space efficiency and gain

Frequency/MHz	Efficiency / dB	Efficiency / %	Max Gain/dBi	Avg Gain/dBi
902	-2.18	60.53	3.00	-2.18
904	-2.17	60.67	3.12	-2.17
906	-2.00	63.10	3.40	-2.00
908	-2.08	61.94	3.13	-2.08
910	-2.29	59.02	2.79	-2.29
912	-2.24	59.70	3.04	-2.24
914	-2.15	60.95	3.11	-2.15
916	-2.32	58.61	2.58	-2.32
918	-2.51	56.10	2.35	-2.51
920	-2.34	58.34	2.91	-2.34
922	-2.07	62.09	3.53	-2.07
924	-2.04	62.52	3.46	-2.04
926	-2.20	60.26	3.26	-2.20
928	-2.20	60.26	3.55	-2.20

5.2 Typical free space radiation pattern

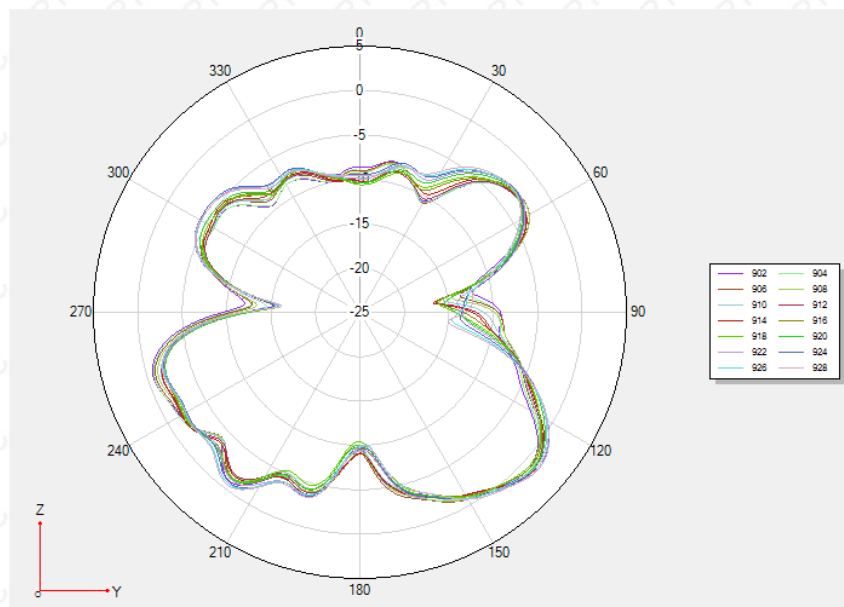
(1) X-Z Plane:

V Phi=0



(2) Y-Z Plane:

V Phi=90

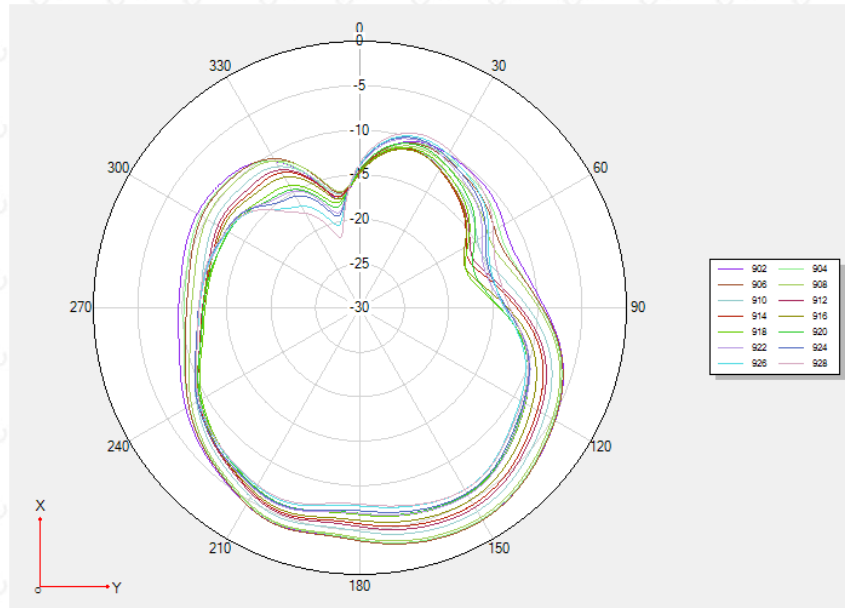


(3) X-Y Plane:

H Theta=90



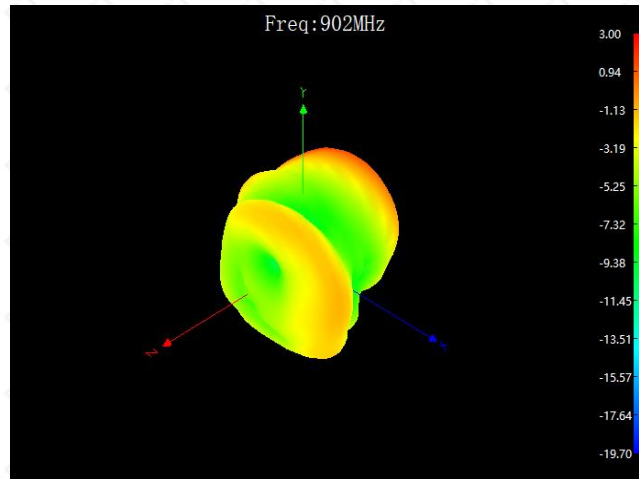
Report No.: PTC25061011403E-RF01



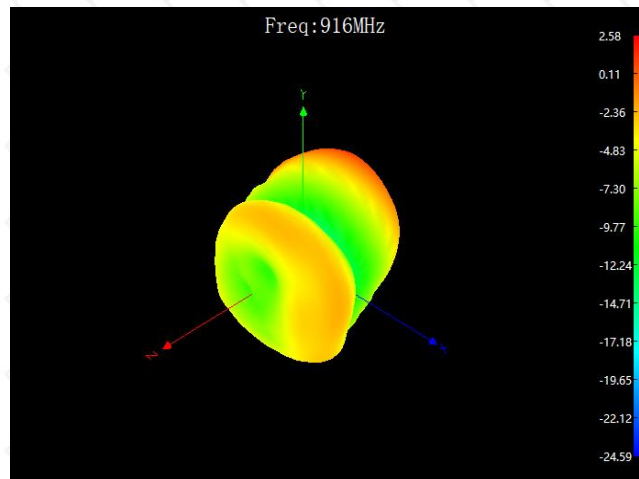


5.3 3D Pattern

3D Pattern for 902MHz



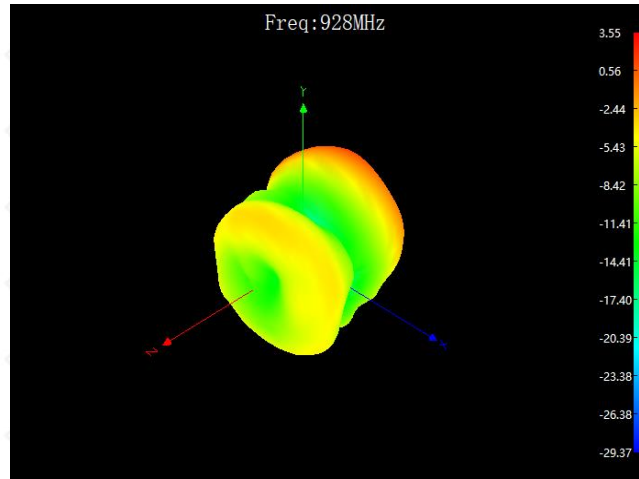
3D Pattern for 916MHz



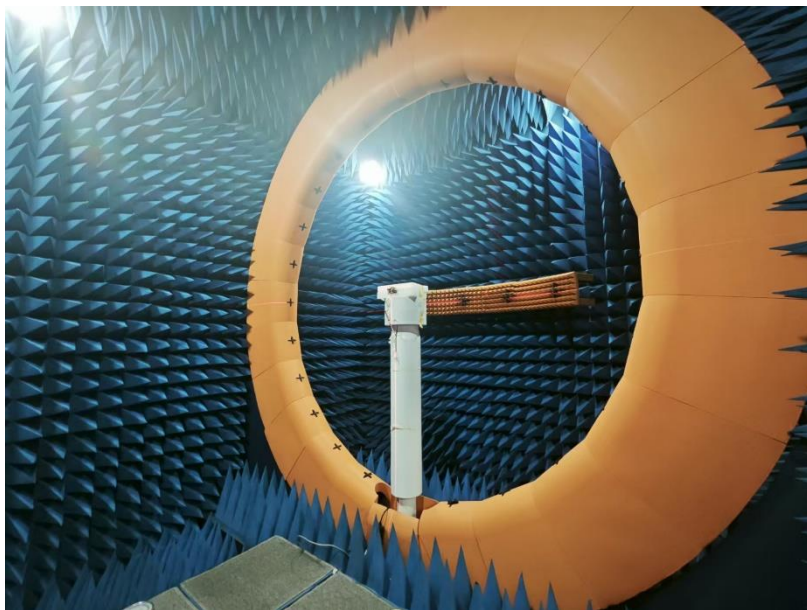
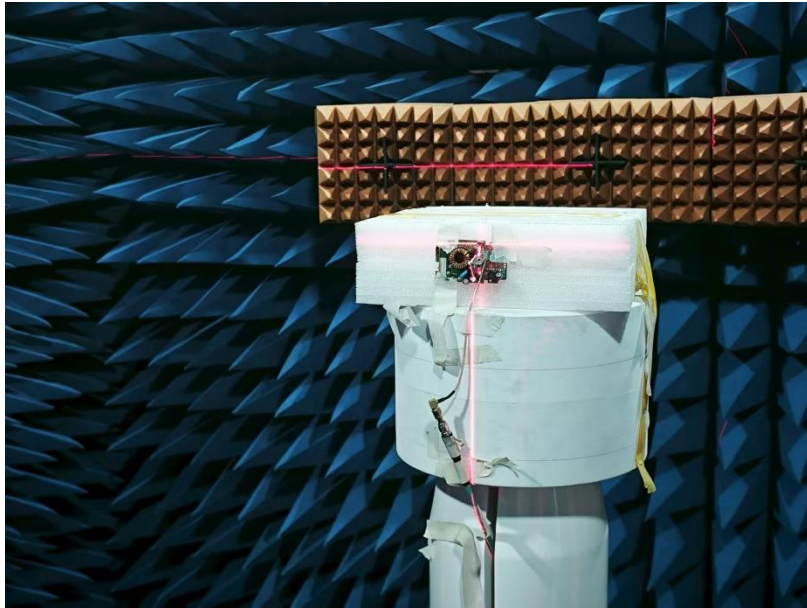


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3D Pattern for 928MHz



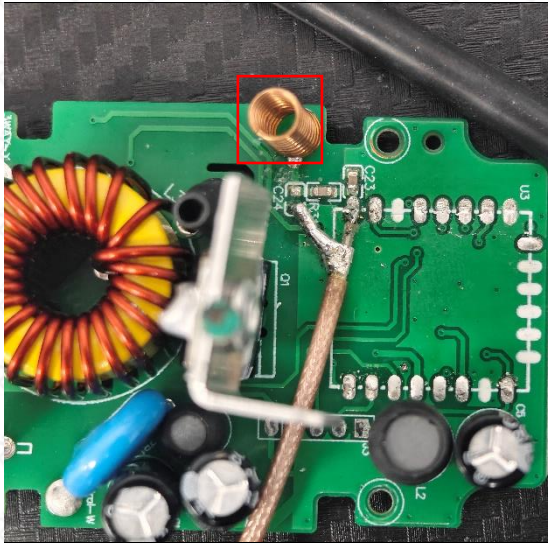
6 EUT setup photo of free space OTA testing



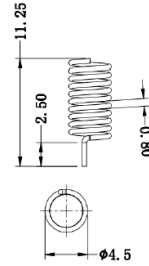


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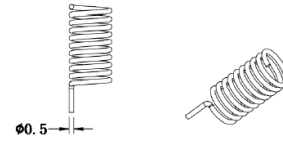
7 EUT appearance



Unit:mm



单位: mm



Notes:
1. 产品外观不可有变形、氧化等不良;
2. 良好的上锡性

*****THE END REPORT*****