



Shenzhen Hailingwei Electronic Co., Ltd.

Address: Building 9, Zone East, Longwangmiao Industrial Zone, Bai Shima Community, Fuyong Subdistrict, Bao'an District, Shenzhen City

PCB antenna Test Report

Customer	SW
Product	R1410S/R1411S
Engineer	PGM
Telephone	13510562013
Date	2026/01/27



Table of Contents

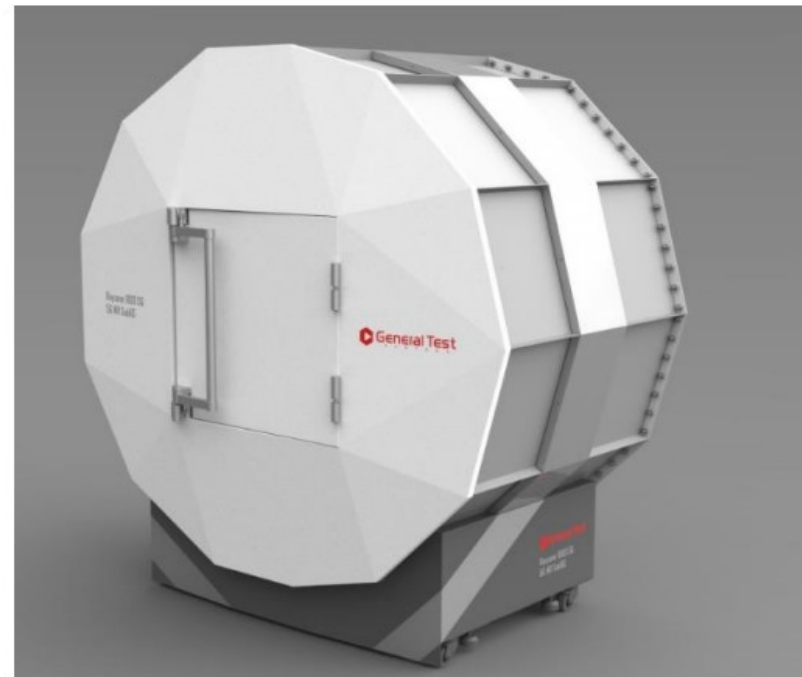
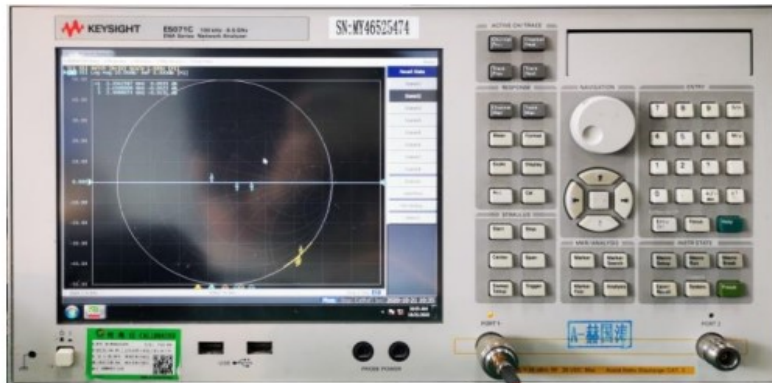
- test equipment
- Prototype Appearance
- Matching parameters
- Network division debugging antenna S-parameters
- Microwave anechoic chamber test of antenna efficiency
field pattern
- Debugging Summary



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Test conditions

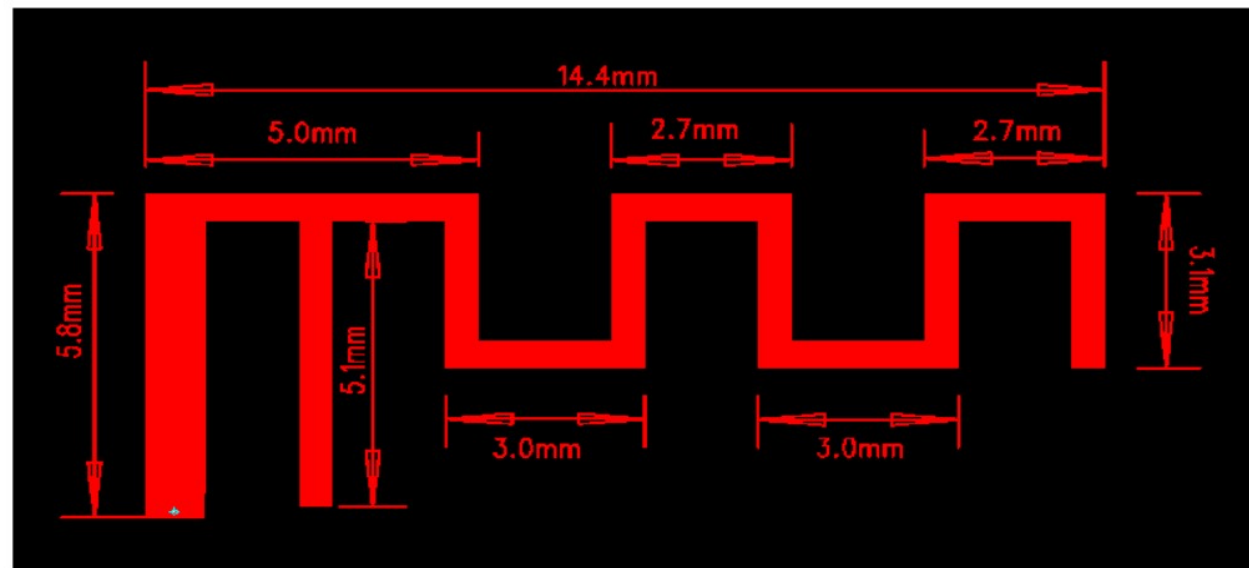
- 1.S-parameter measurement
- 2.Equipment: Network Analyzer (Agilent E5062A), Microwave Chamber, MT8852B
- 3. Project: Impedance, Return Loss, VSWR, Efficiency, Gain, Radiation Field Pattern, Sensitivity, Power, Frequency Offset, Active Data TRP, TIS





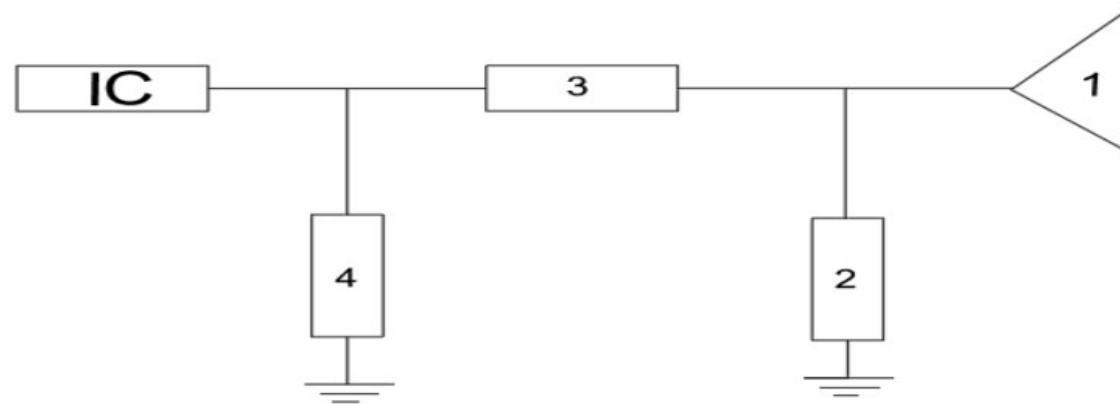
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Antenna Size





Matching parameters



Number	Name	Specification	Manufacturer	Part Number	Tolerance	
1	PCB Antenna					
2	Capacitor	0.5PF/0402	VIIYONG		$\pm 0.1\text{PF}$	
3	Capacitor	1.0PF/0402	VIIYONG		$\pm 0.1\text{PF}$	
4	NC					



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Network division debugging antenna S-parameters

Debugging waveform





Microwave anechoic chamber test of antenna efficiency field pattern

1. Microwave anechoic chamber test of antenna efficiency

Characteristic assessment
10% Low
20% Mid
30% High



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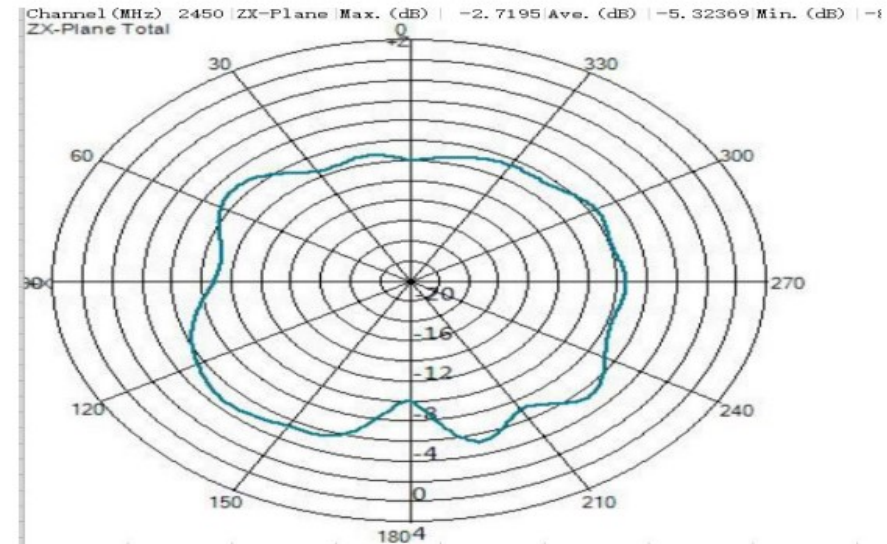
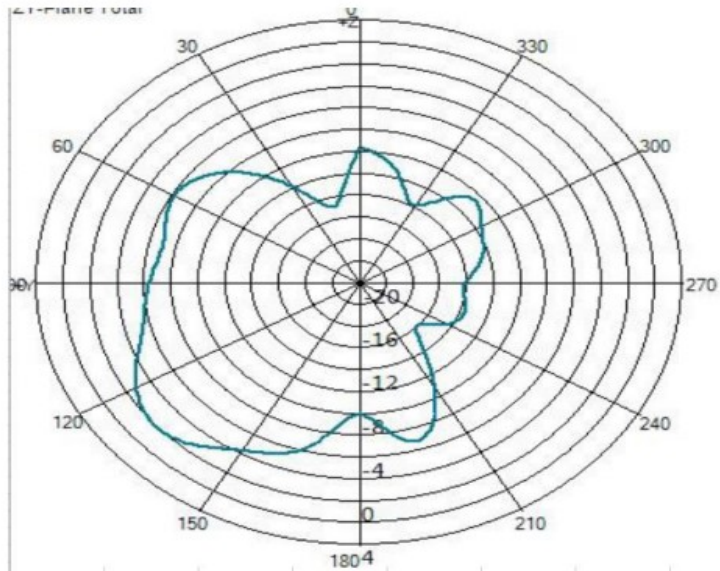
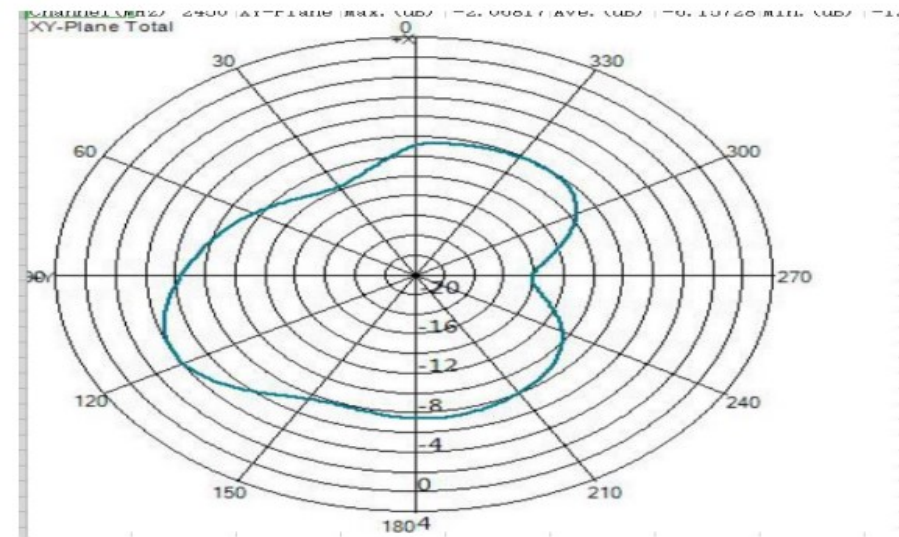
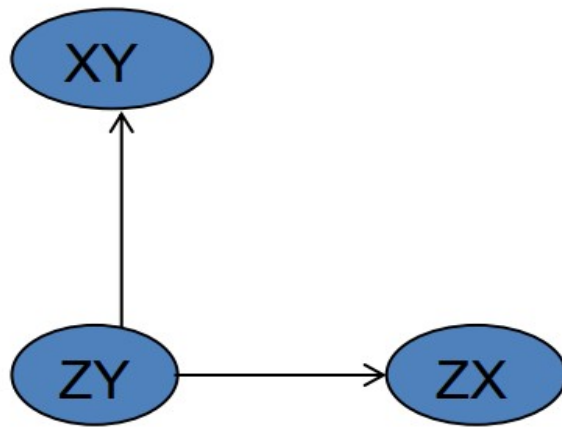
Microwave anechoic chamber test of antenna efficiency

Freq(MHz)	Gain(dB)	Efficiency(dB)	Efficiency(%)
2400	1.56985586	-5.440514066	32.69596188
2410	1.332145308	-5.311962626	33.37780531
2420	1.515501026	-5.242816727	33.75299226
2430	1.345455864	-4.923111279	35.56753576
2440	1.183066296	-5.708818618	36.86075021
2450	1.102098419	-4.593353974	37.58446737
2460	1.420969951	-4.610935811	37.47302105
2470	1.424651063	-4.592631435	37.589057
2480	0.527103736	-4.643575154	37.26732186
2490	1.122804557	-4.758739364	36.55376232
2500	0.181447408	-5.112322643	34.47753813



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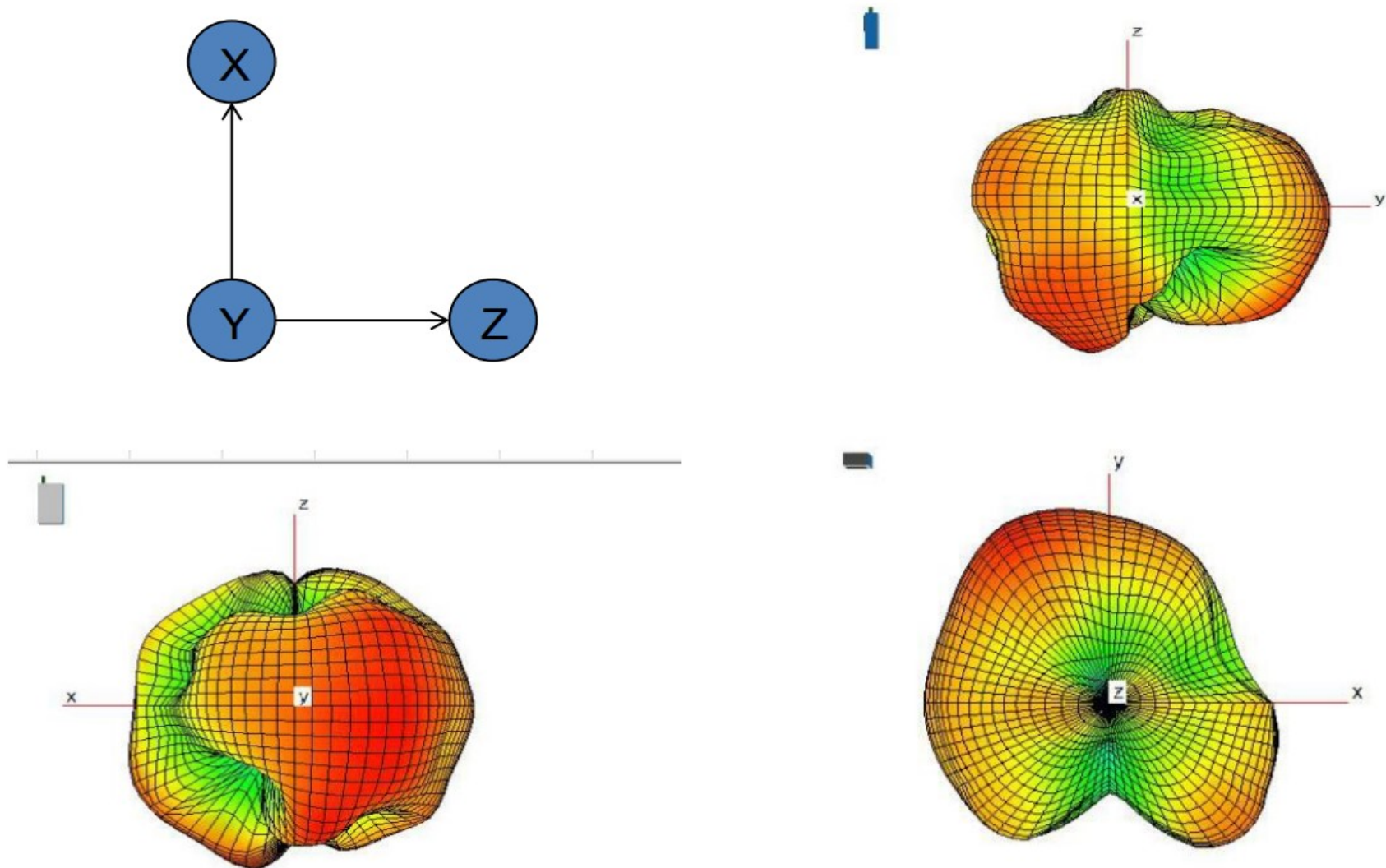
2D diagram of the microwave anechoic chamber





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3D diagram of the microwave anechoic chamber





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Summary

Specification

FrequencyRange	2400 - 2500MHz
Type ofAntennaDirectivity	PCB Printed Antenna
Directivity	Omnidirection
Polarization	Vertical
Gain	1.5dBi
AttachmentType	Internal mounted
Manufacture	Shenzhen Yingfeng Antenna TechnologyCo.,Ltd.
Model	SAMPLE
TestLab.	Shenzhen Yingfeng Antenna Technology Co.,Ltd.

