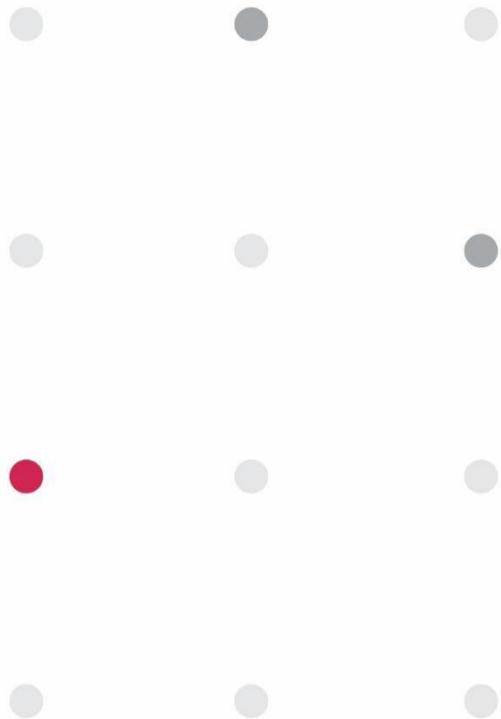


PSA

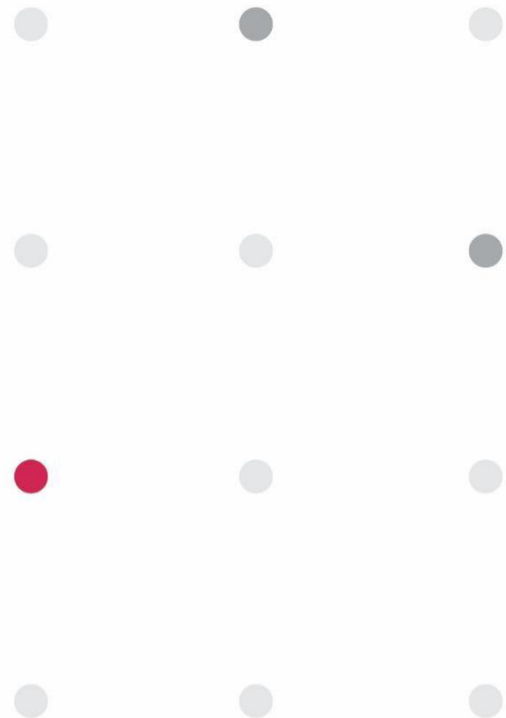
佳邦科技股份有限公司

INPAQ TECHNOLOGY CO., LTD.



PSA

PASSIVE SYSTEM ALLIANCE
INPAQ TECHNOLOGY CO., LTD.



Sercomm ESPOO Pico Wi-Fi Antenna

Test Engineer: Hao Qin

2025 / 07 / 07

Version	Date	Description	Author
V01	2025 / 07 / 07	New Release	Hao Qin

OUTLINE

1. Measurement Information

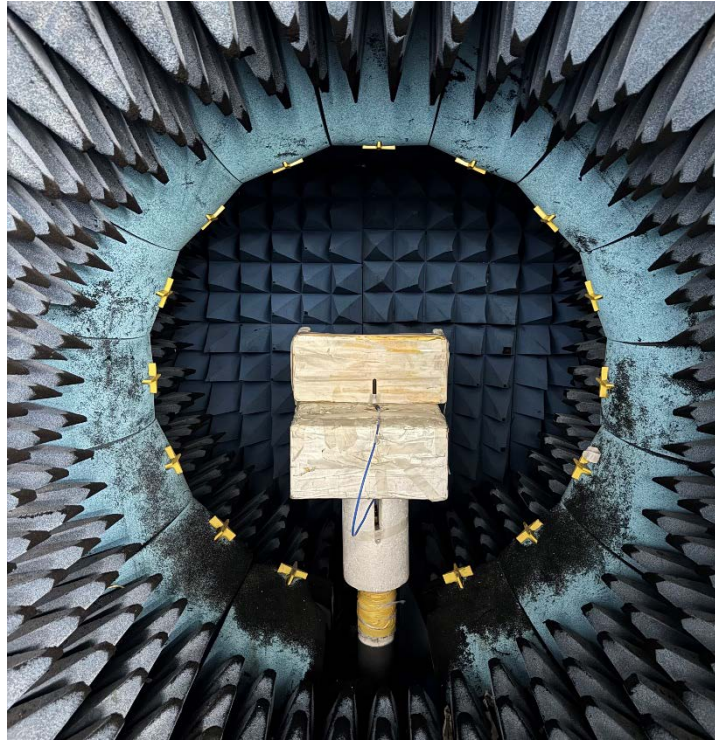
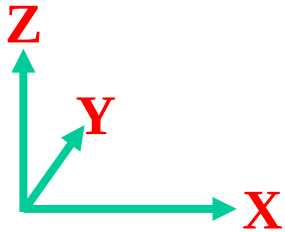
- 1.1 Experimental Setup
- 1.2 Test Equipment & Calibration
- 1.3 Antenna Solution Detail

2. Antenna Characteristics

- 2.1 VSWR
- 2.2 Antenna Efficiency and Peak Gain
- 2.3 3 views of antenna & 2D Radiation Patterns

1. Measurement Information

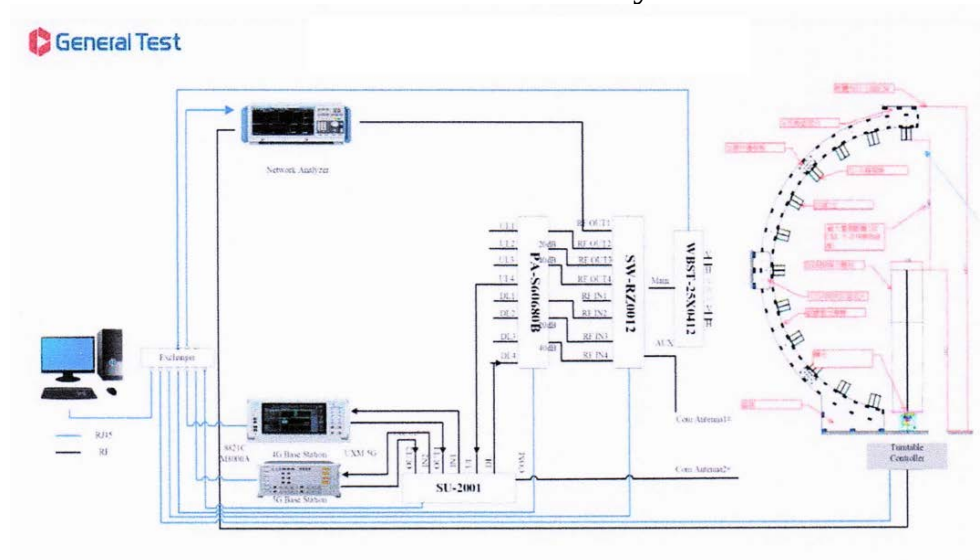
1.1 Experimental Setup



1. Measurement Information

1.1 Experimental Setup

General Test System

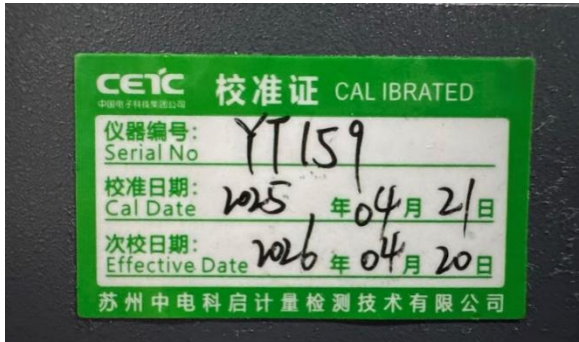
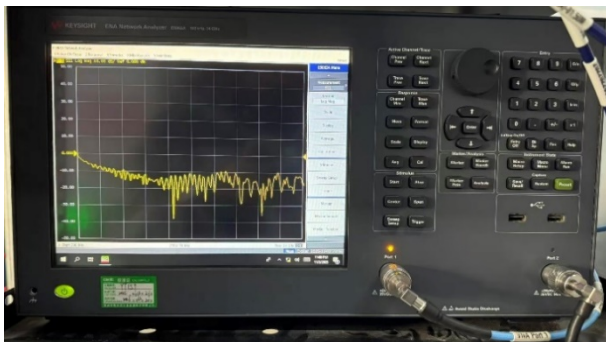
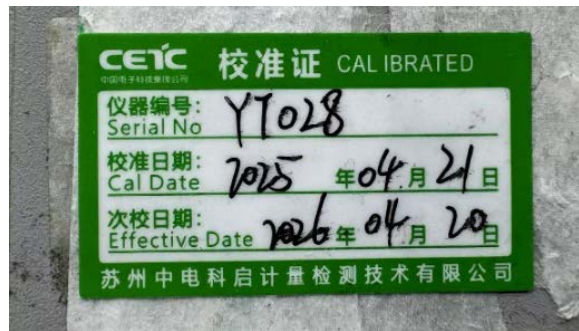
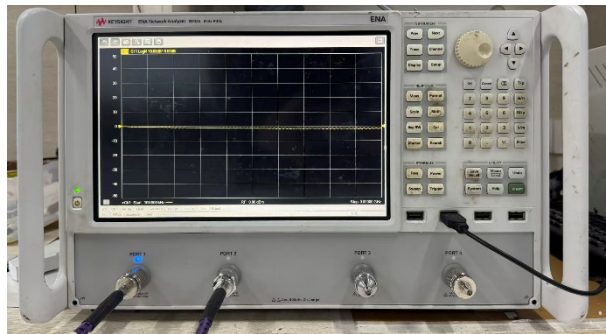


Antenna Testing Principle: By radiating or receiving electromagnetic waves at specific frequencies in a controlled environment (anechoic chamber), the antenna's gain, efficiency, and radiation characteristics in all directions are measured, enabling precise analysis of its actual performance parameters.

1. Measurement Information

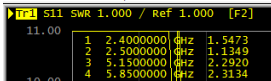
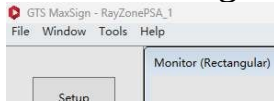
1.1 Experimental Setup

Equipment Calibration



1. Measurement Information

1.1 Experimental Setup

Test Software	Network Analyzer E5063A Network Analyzer 1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analy  <table><tr><th></th><th>1</th><th>2</th><th>3</th><th>4</th></tr><tr><td>1</td><td>2.4000000</td><td>GHz</td><td>1.5473</td><td></td></tr><tr><td>2</td><td>2.5000000</td><td>GHz</td><td>1.1349</td><td></td></tr><tr><td>3</td><td>5.1500000</td><td>GHz</td><td>2.2920</td><td></td></tr><tr><td>4</td><td>5.8500000</td><td>GHz</td><td>2.5134</td><td></td></tr></table>		1	2	3	4	1	2.4000000	GHz	1.5473		2	2.5000000	GHz	1.1349		3	5.1500000	GHz	2.2920		4	5.8500000	GHz	2.5134		GTS MaxSign GTS MaxSign - RayZonePSA_1 File Window Tools Help 
	1	2	3	4																							
1	2.4000000	GHz	1.5473																								
2	2.5000000	GHz	1.1349																								
3	5.1500000	GHz	2.2920																								
4	5.8500000	GHz	2.5134																								
Instrument List	Keysight VNA E5063A 	Keysight VNA E5080A 																									
	RF Switch Control Unit 	Positioning Controller 																									
	Power Amplifier control unit 																										

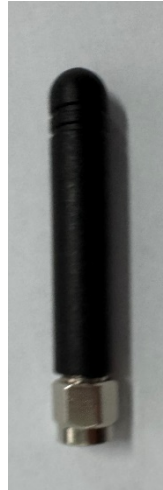
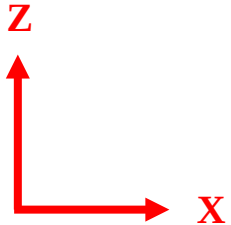
1. Measurement Information

1.2 Test Equipment & Calibration

Instrument	Brand	Characteristics	Model No.	Serial No.	Calibration Date	Calibration Due Date
VNA	Keysight	100 KHz~14 GHz	E5063C	MY54705858	April 21,2025	April 20,2026
VNA	Keysight	9 KHz~9 GHz	E5080C	MY55100378	April 21,2025	April 20,2026
General Test System Chamber	GTS	100 KHz~14 GHz	RF GTS	150109224	Nov. 21,2025	Nov. 20,2026
RF Switch Control Unit	GTS	100 KHz~14 GHz	SW-RZ0012	21111703	Non-Calibration Required	Non-Calibration Required
Positioning Controller	MF	0-360°	MF-7802BS	MF780208457	Non-Calibration Required	Non-Calibration Required
Power Amplifier control unit	GTS	100 KHz~14 GHz	PS-S60612B	QT20220412001	Non-Calibration Required	Non-Calibration Required

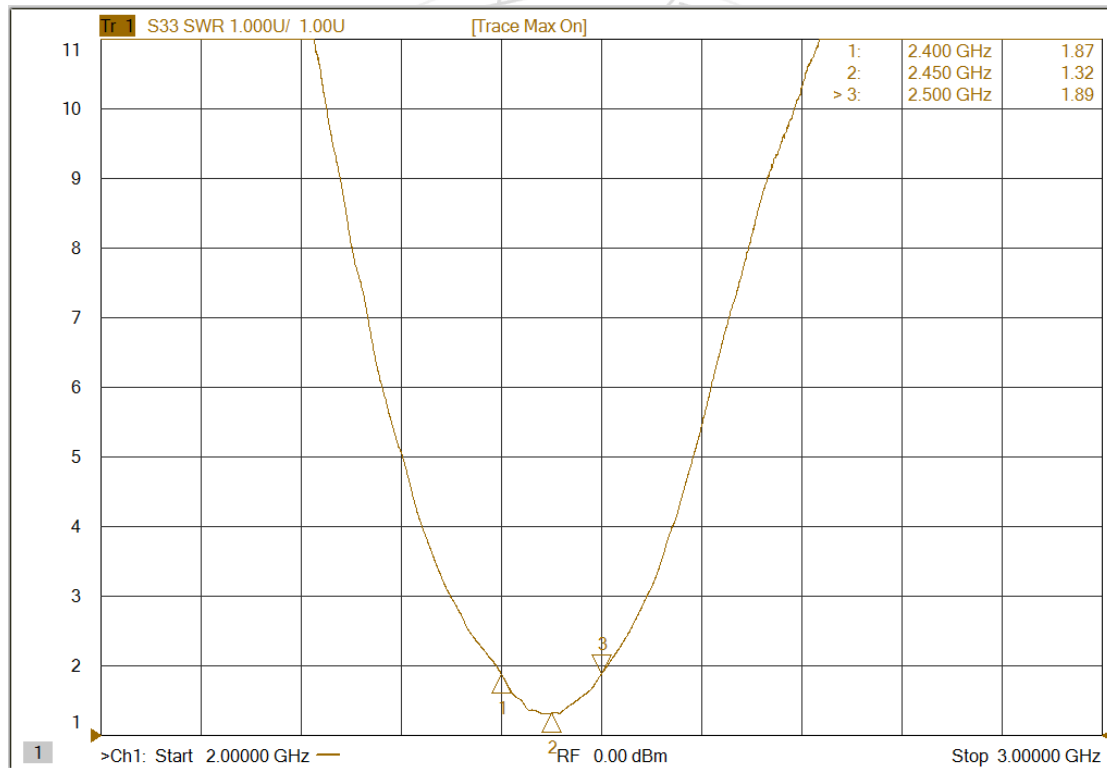
1. Measurement Information

1.3 Antenna Solution Detail



2. Antenna Characteristics

2.1 VSWR



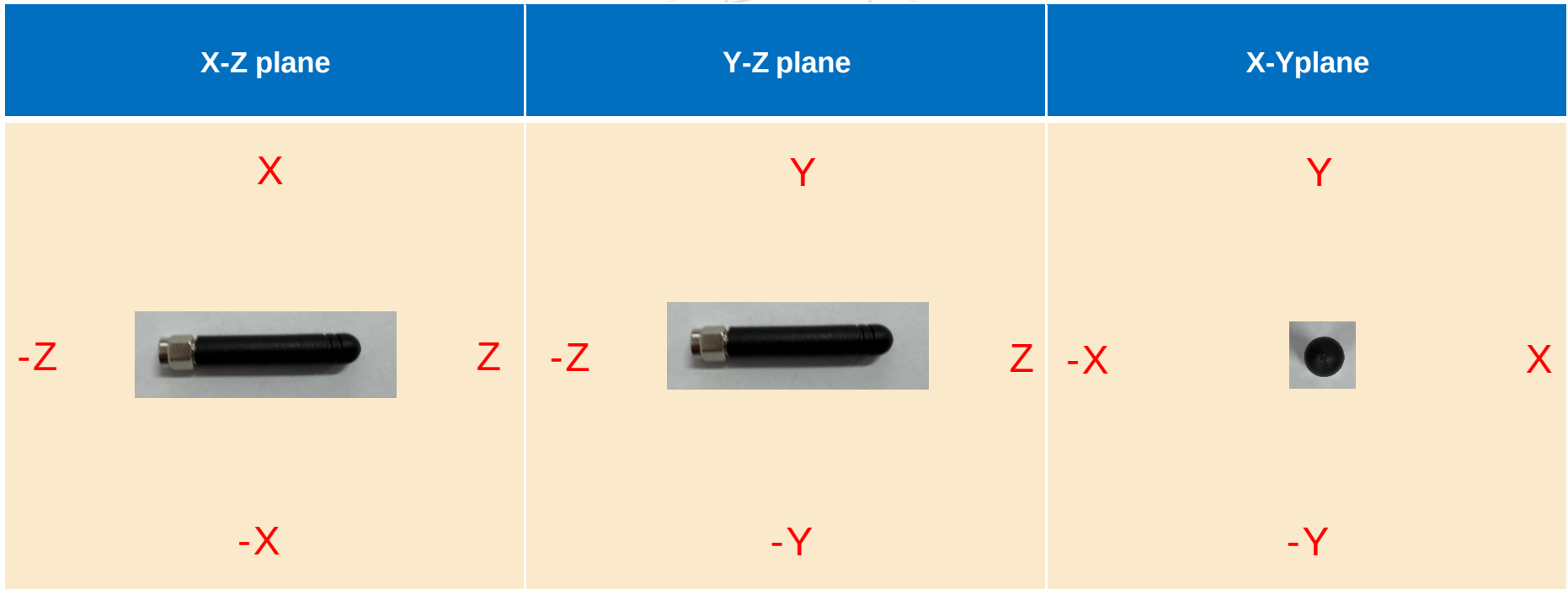
2. Antenna Characteristics

2.2 Antenna Efficiency and Peak Gain

Ant		
Frequency (GHz)	Efficiency (%)	Peak gain (dBi)
2400	54.86	5.58
2450	60.52	5.76
2500	51.68	5.14

2. Antenna Characteristics

2.3 3 views of antenna

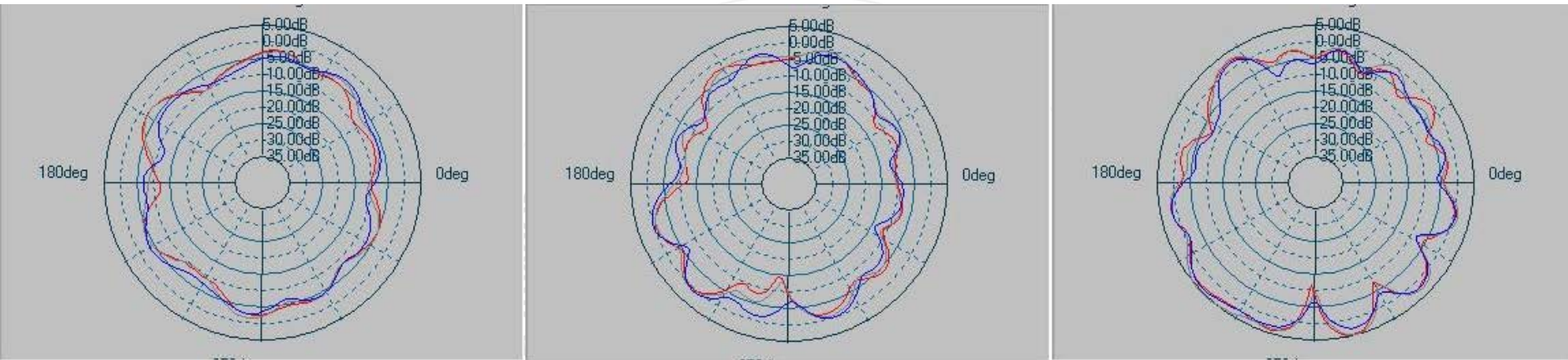


2. Antenna Characteristics

Ant

2400-2500MHz

2.2 2D Radiation Patterns



	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
2400	-2.56	-6.02	-0.04	-5.24	4.72	-0.53
2450	-1.71	-5.75	0.44	-4.78	5.01	0.01
PASSIVE SYSTEM ALLIANCE		-6.25	0.58	-4.58	3.81	-1.08

Thank you

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