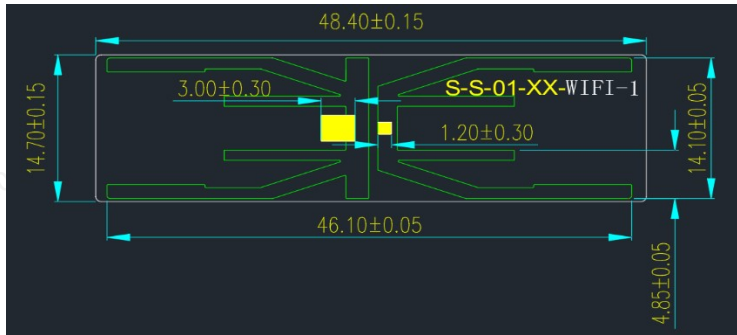


332L S031 Antenna report

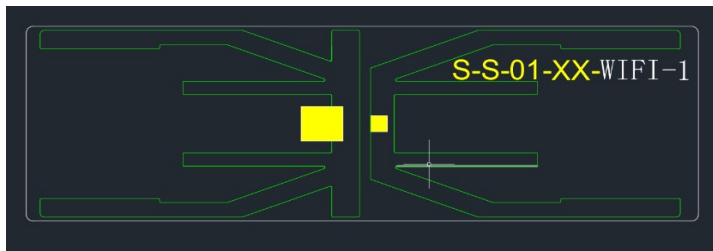
Applicant	LiangXiang
Address	202, Building A, countrymen Communication Building, No. 5, Keji Middle Third Road, Maling Community, Yuehai Street, Nanshan District, Shenzhen, Guangdong

Manufacturer or Supplier	Shenzhen Speed Wireless Technology Co., Ltd
Address	202, Building A, countrymen Communication Building, No. 5, Keji Middle Third Road, Maling Community, Yuehai Street, Nanshan District, Shenzhen, Guangdong
Product	332L S031 ANT
Brand Name	Shenzhen PICEA Robotics Co., Ltd.
Antenna Types:	dipole
Model	FPC
Max. Peak Gain	4.8dBi
Date of tests	2024-12-18
Tested by : LiangXiang	Approved by : LiangXiang

1. Antenna Size (mm)



2. Antenna photo (Please refer to Antena photos document)



3. Test setup photo (Please refer to Antena photos document)

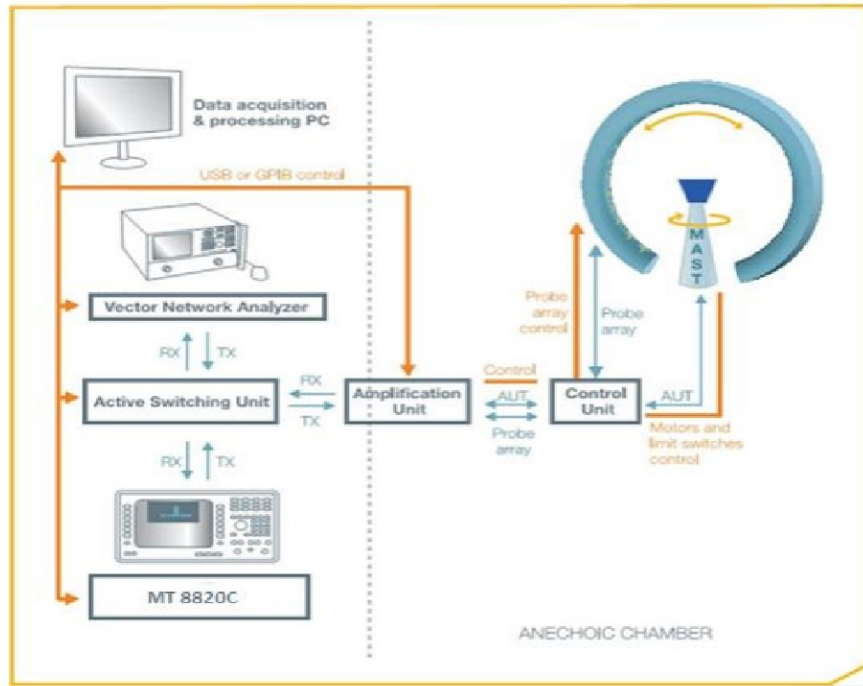
4. Test standard

Name	Parameter	Method	Standard no.
Antenna performance	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979

5. Equipment list

Equipment	Manufacturer	Model No	Serial No.	Last Cal.	Due Date
Network Aanalyzer	Agilent	E5071C	MY46523586	2024.7.25	2025.7.24
Microwave chamber	SATIMO	SATIMO SG24		2024.7.25	2025.7.24
Turn table	SATIMO			2024.7.25	2025.7.24
turn table controller	SATIMO			2024.7.25	2025.7.24
Broad-Band Horn Antenna	SATIMO	SH400-215		2024.7.25	2025.7.24
Test Software	SPM	SPM1.5		2024.7.25	2025.7.24

6.Test configuration diagram



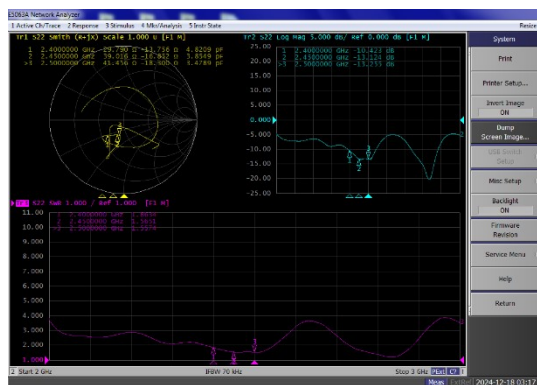
Test step flow:

- 1) Maintain the test ambient temperature of 23 ± 2 C, the instrument is powered on and preheated for more than 30 minutes;
- 2) Turn on the darkroom power supply, connect the test cable, and set up the sample according to the standard;
- 3) Outline sets the test content objectives and conducts calibration tests;
- 4) Run the software, when the test is completed, export the corresponding test diagram and test data, and save to the corresponding directory.

7. Antenna gain

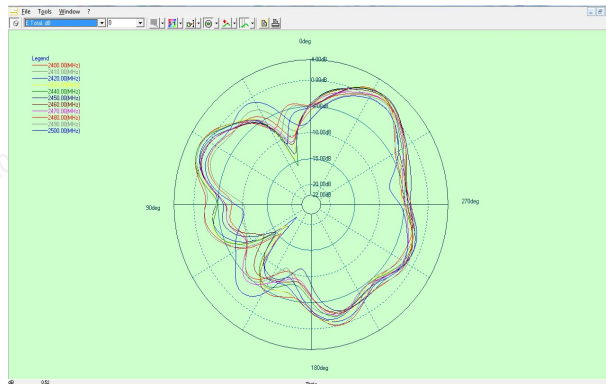
Frequency (MHZ)	Efficiency (dB)	Efficiency (%)	Peak Gain (dB)
2400	-2.3	58%	4.80
2410	-2.5	56%	4.29
2420	-2.7	54%	3.40
2430	-2.3	59%	4.58
2440	-2.4	57%	4.20
2450	-2.8	52%	3.20
2460	-2.7	54%	3.63
2470	-2.5	56%	4.33
2480	-3.1	50%	3.08
2490	-3.1	49%	3.27
2500	-2.6	55%	3.74

8. Antenna S11 & VWSR & Smith

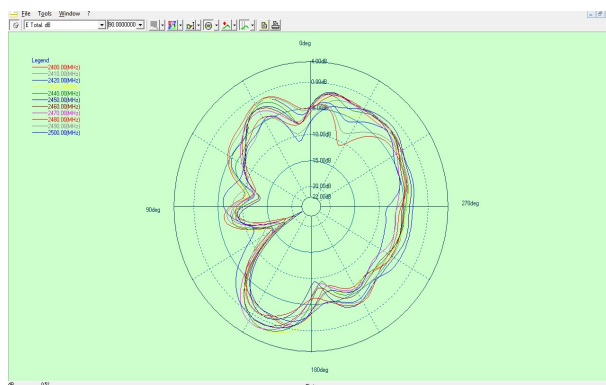


9. Antenna test data 2D

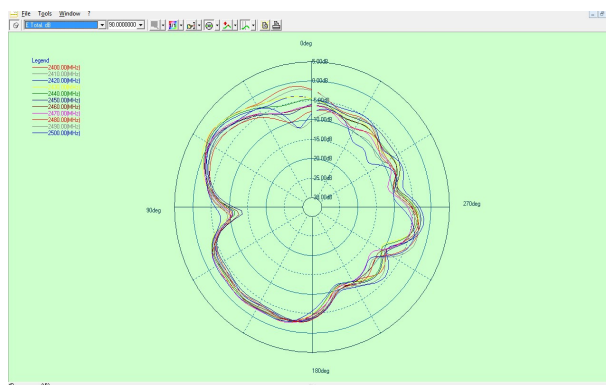
Phi0°



Phi90°

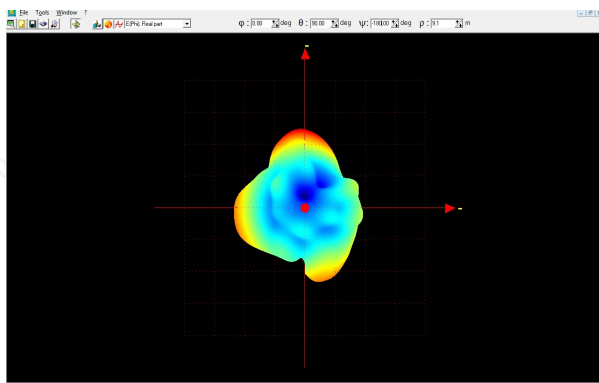


Theta90°

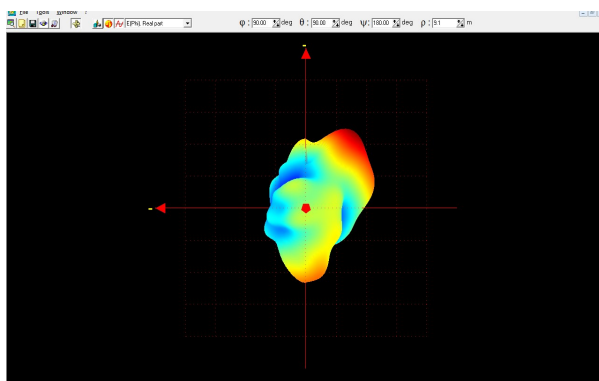


10. Antenna test data 3D 2.44G

Phi0°



Phi90°



Theta90°

