

Specification

Customer Name :Chengdu Heltec Automation Technology Co., Ltd.

Part No. : Vae-WiFi-V01

Customer P/N :

Manufacturer Name :Chengdu VAE Communication Co., Ltd

Manufacturer Addr.: Room 201-03, 2F, Unit 1, Bldg IC Park, No. 2 Heshun Rd, High-Tech West Zone, Chengdu, Sichuan, China

Manufacturer P/N :633220600801

Made	Check	Approve
Songhao Lin	Guo Dai	Wei Liu
Sample Date	Version	
2025.07.16	V1	

版本更改记录

Revise Record

Version	Record of change	Made	Approve	Date
V1	Initial Release	Songhao Lin	Wei Liu	2025.07.16
备注： 1、更改产品指标时，版本号需更换（V1 换为 V2、V3……）；				

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2. Antenna Specification

2.1. Electrical Specification

Electrical Specification	
Operation Frequency (MHz)	2400-2500
Impedance (Ohms)	50
VSWR	2400-2500≤ 3.0
Efficiency (%)	2400-2500: 43.68
Peak Gain (dBi)	2400-2500:0.93
Radiation Properties	Omnidirectional
Polarization	Vertical Polarization
Max input Power (Watts)	50

2.2 Mechanical Parameter

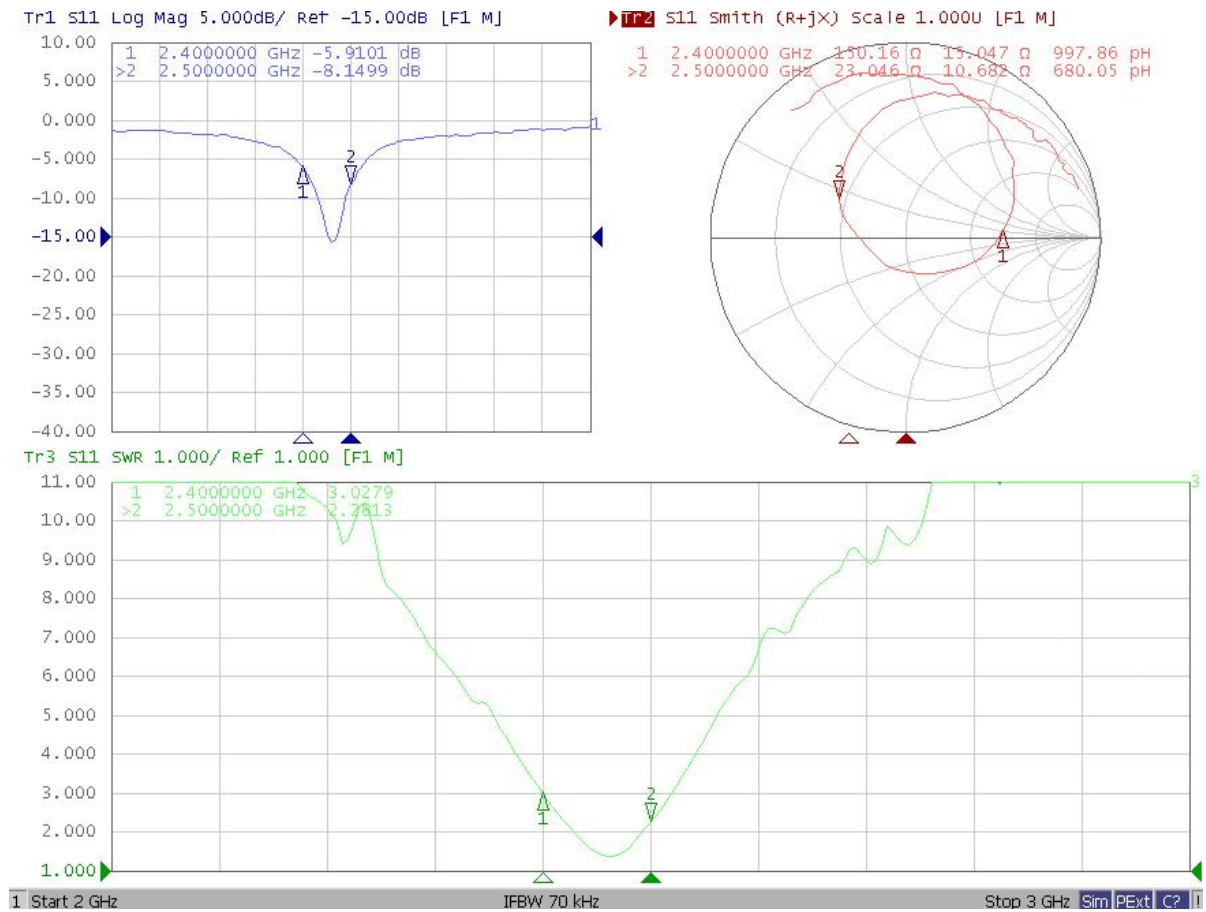
Mechanical Parameter	
Structure Type	FPC Antenna
Dimension	32.6*6.65*0.12
Material	PI+ED+3M9471
Salt Spray	48H

2.3 Environment Specification

Environment Specification	
Operating temperature	-40°C ~ +80°C
Storage temperature	-40°C ~ +80°C

3. Passive Test Data

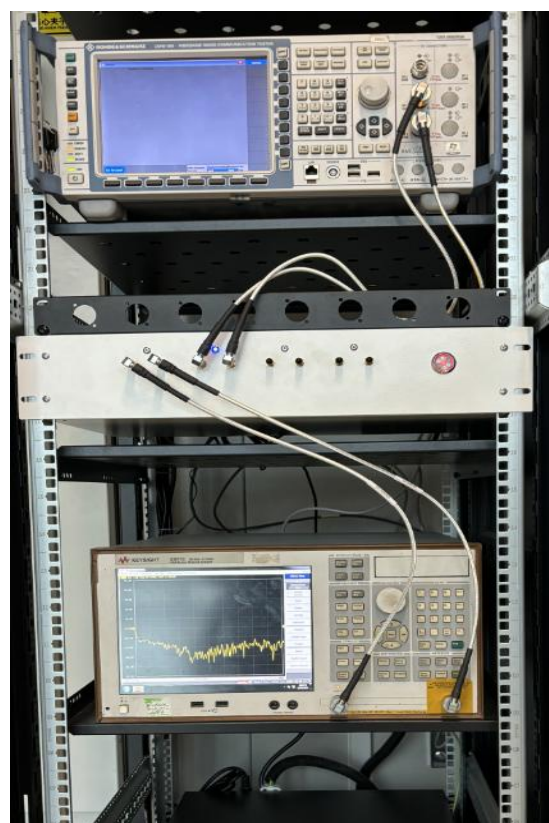
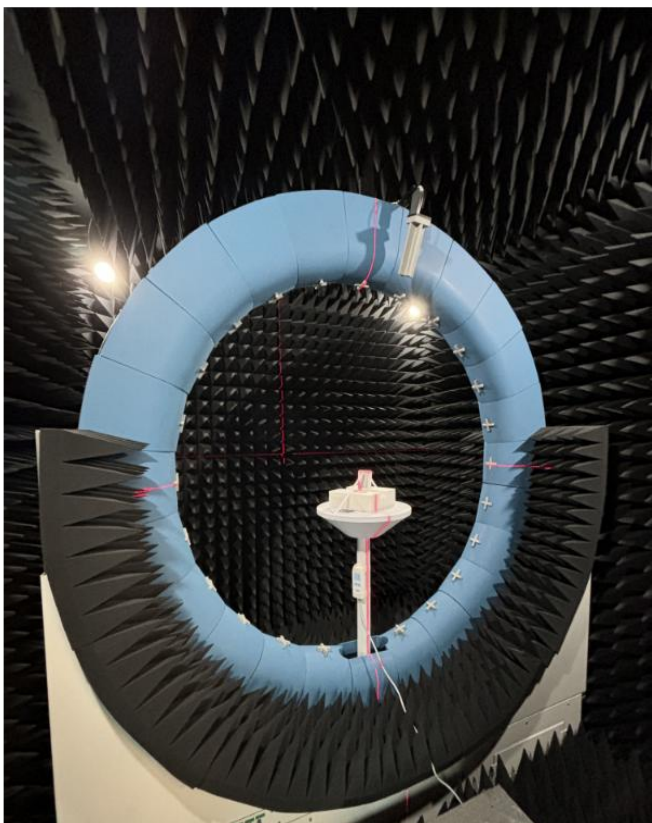
3.1. VSWR



2400MHz-2500MHz

3.2 Test System

Multi-probe spherical near-field anechoic chamber test system that meets the relevant international regulations such as CTIA and 3GPP, a multi-functional wireless test system with excellent performance in radio frequency, absorption, and mechanical structure. The system has high integration and reliability. It supports pendulum sampling frequency-doubling technology and can be adapt to the testing needs of small multi-lobed antennas. It is suitable for the wireless testing of small high-integration electronic devices such as IoT devices, drone modules, car machine modules, smart home devices, and mobile communication equipment. It can also meet the testing needs of ceiling antennas, miniature base stations, and embedded routers, etc., which have high dependence on the passive performance of antennas.

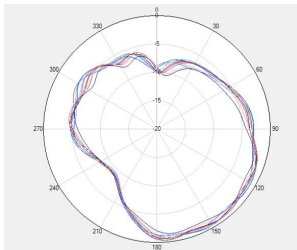
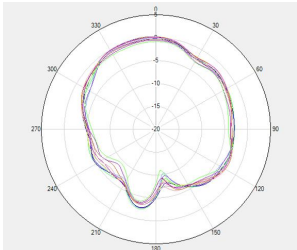
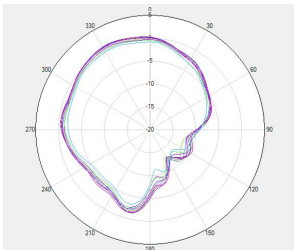


Supported Band	600MHz-9GHz (Expand. 12GHz)
Test Item	Passive: Gain/Efficiency/2D/3D radiation/non-circularity/axial ratio... Active: TRP/TIS/EIRP/EIS
Test Standard	2G/3G/4G/5G/Wi-Fi b/g/n/a/ac/ax/BT /NB-IOT /Cat-M (eMTC)/GPS/BEIDOU/GLONASS/ZigBee/LoRa(Non-signaling)...

3.3. Efficiency & Gain

Frequency/MHz	Efficiency / %	MaxGain/dBi
2400	44.26	0.57
2410	42.95	0.35
2420	46.77	0.74
2430	46.34	0.69
2440	46.13	0.93
2450	46.13	0.86
2460	44.77	0.87
2470	45.08	0.67
2480	41.98	0.41
2490	39.72	0.12
2500	36.39	-0.15
AVG	43.68	0.56

3.4. 2D Ridiation Model

Frequency(MHz)	XOY-plane	XOZ-plane	YOZ-plane
2400-2500			

3.5. 3D Ridiation Model

Frequency(MHz)	XOY-plane	XOZ-plane	YOZ-plane
2450	