Specification

Customer Name :Chengdu Heltec Automation Technology Co., Ltd.
Part Name. :VAE-868-2206029-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 :633220602904

Made	Check	Approve
Xiaojiang Shi	Guo Dai	Wei Liu
Date	Version	
2026.09.22	V1	

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Revise Record

Version	Record of change	Made	Approve	Date
V1	Initial Release	Xiaojiang Shi	Wei Liu	2026.09.22

Note：
1. Rersion will be updated if any changes（V1 updated as V2、V3…）

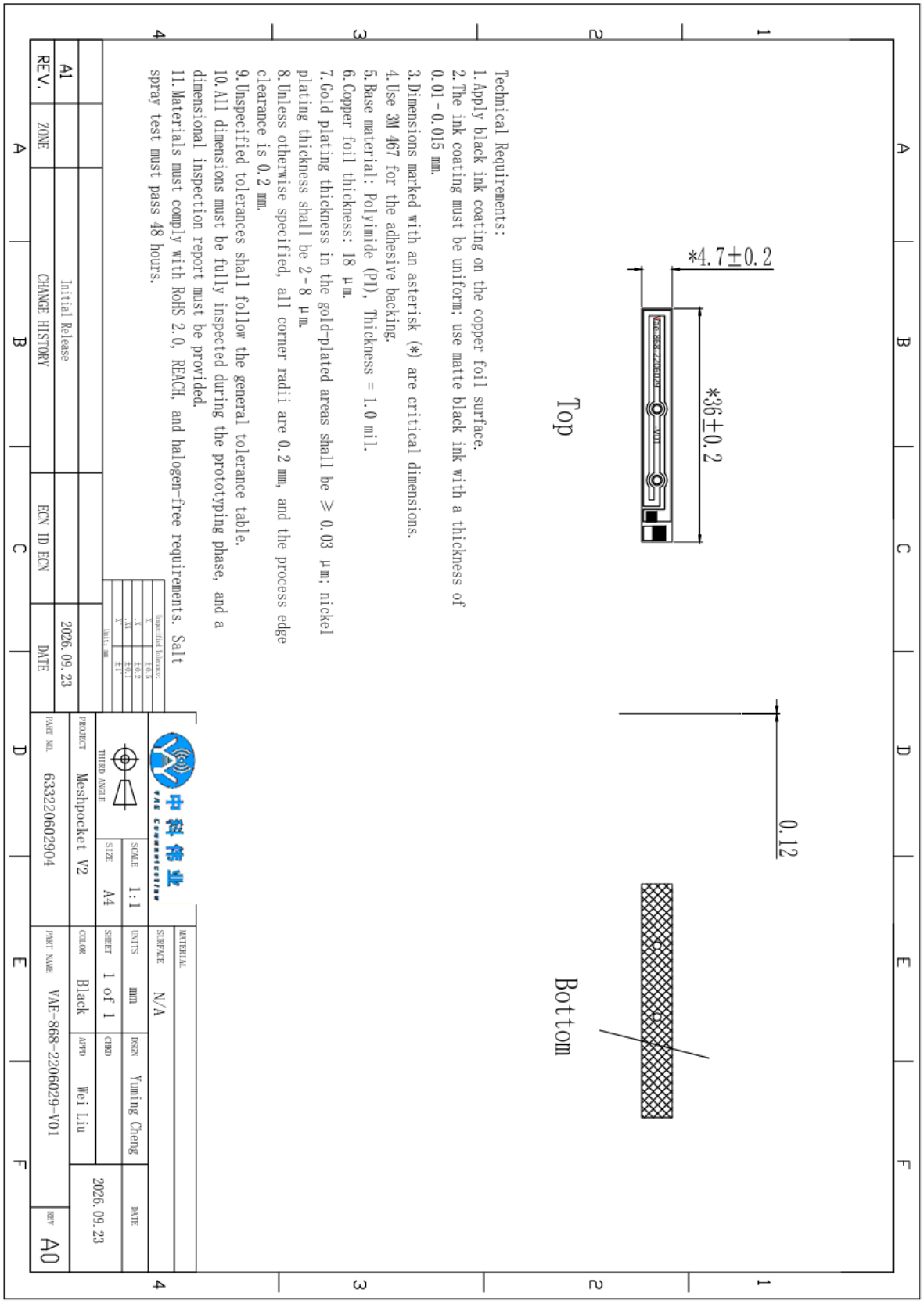
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1. 2D Drawing & Product Picture



1. 2D Drawing & Product Picture



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2. Antenna Specification

2.1. Electrical Specification

Electrical Specification	
Operation Frequency (MHz)	868 915
Impedance (Ohms)	50
VSWR	868 ≤ 3.0 915 ≤ 3.0
Efficiency (%)	868：21.43 915：23.66
Peak Gain (dBi)	868：-1.73 915：-1.63
Radiation Properties	Omnidirectional
Polarization	Line Polarization
Max input Power (Watts)	50

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2.2 Mechanical Parameter

Mechanical Parameter	
Structure Type	Monopole
Dimension	36*4.7
Material	FPC
Salt Spray	48H

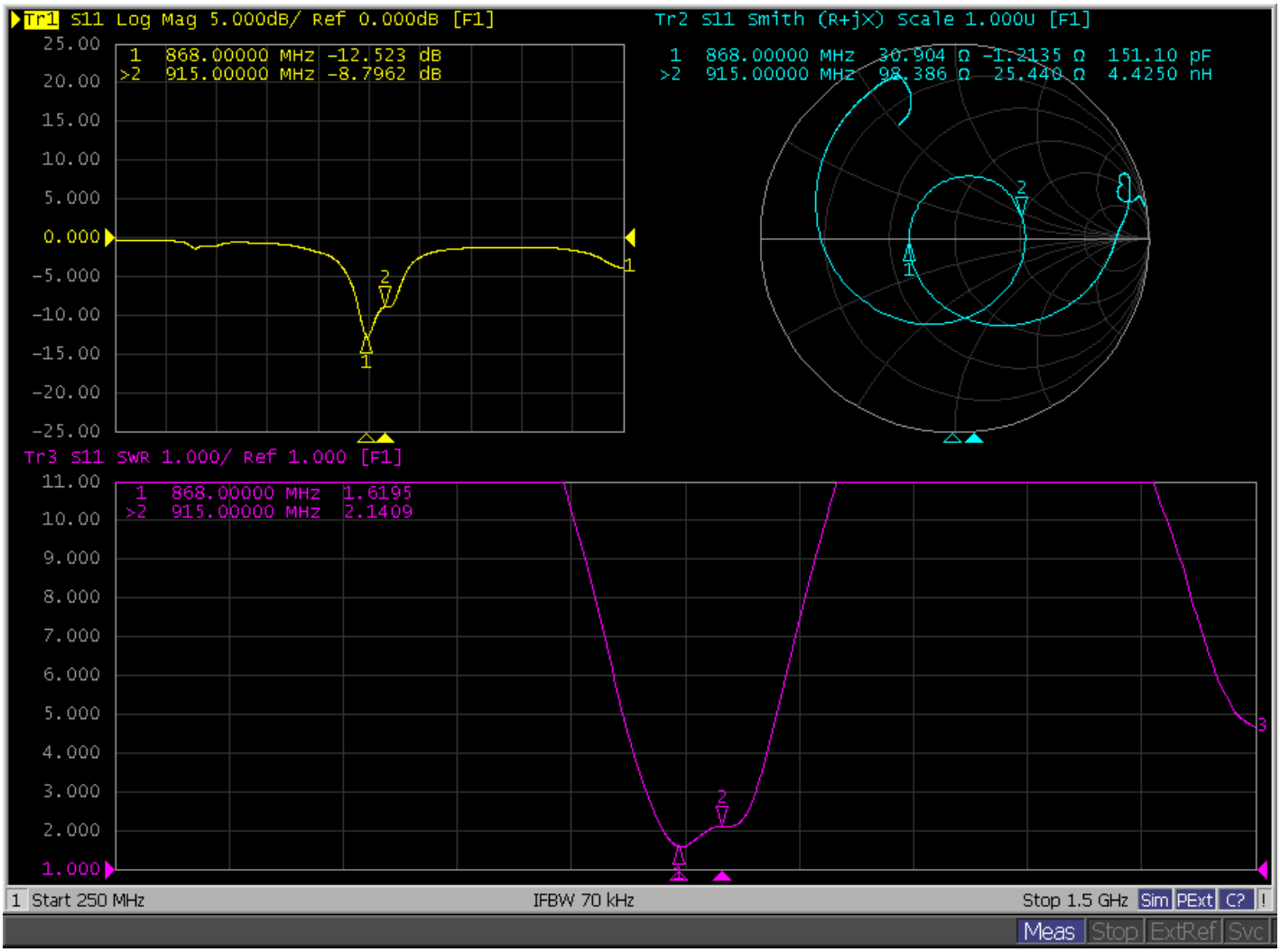
2.3 Environment Specification

Environment Specification	
Operating temperature	-40℃ ~ +80℃
Storage temperature	-40℃ ~ +80℃

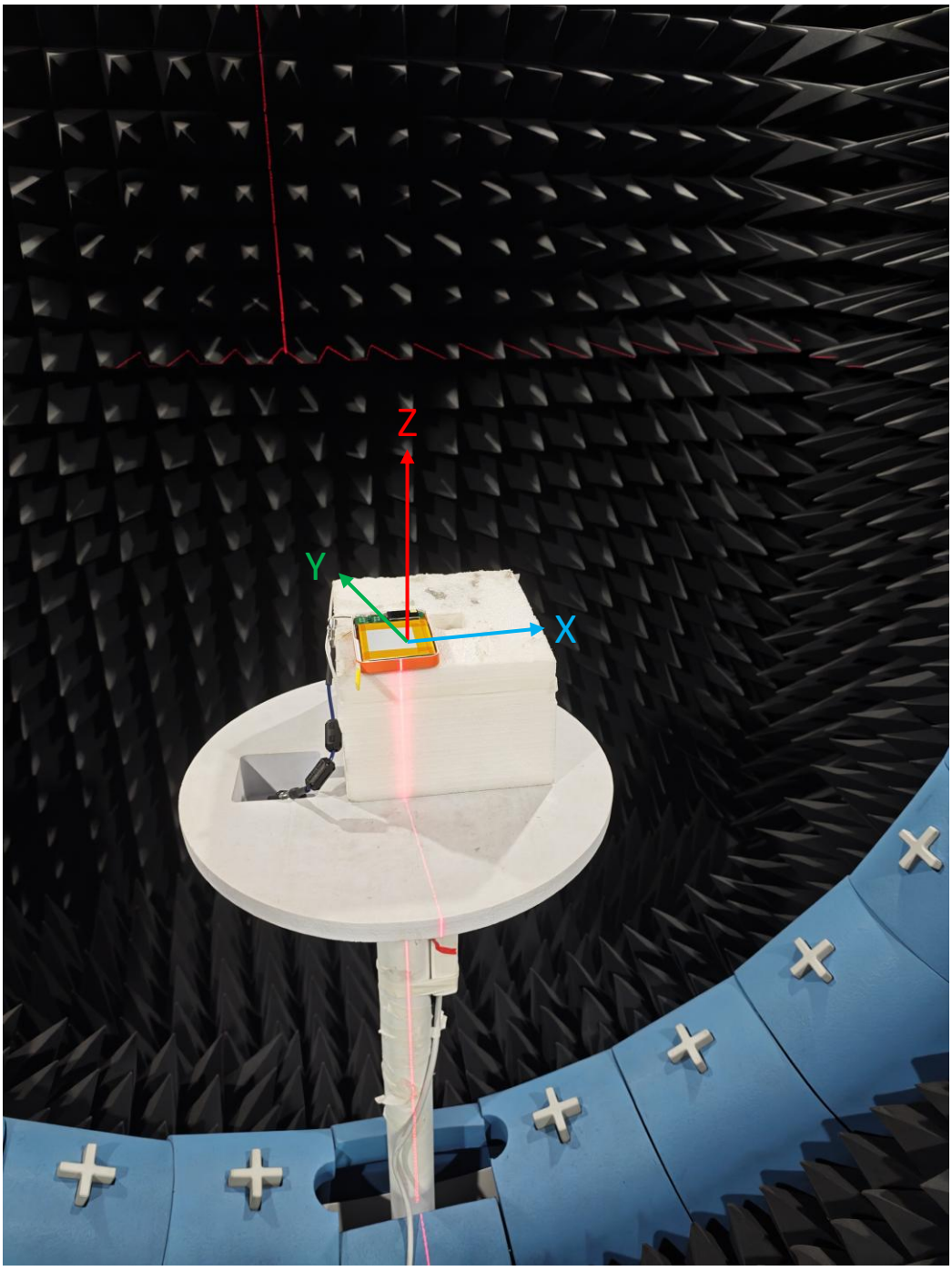
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3. Passive Test Data

3.1 Smith chart / Return loss

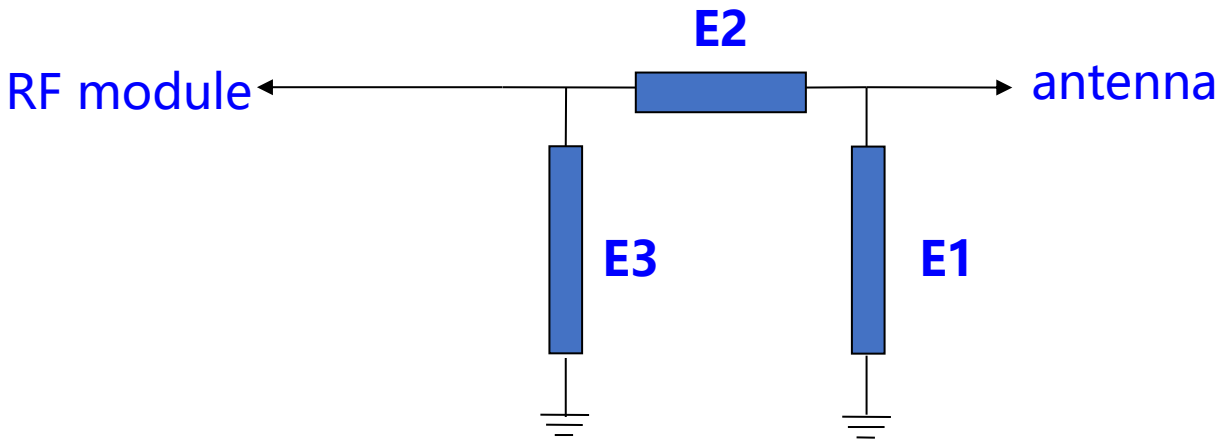


3.2 test environment



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3.3 matching circuit

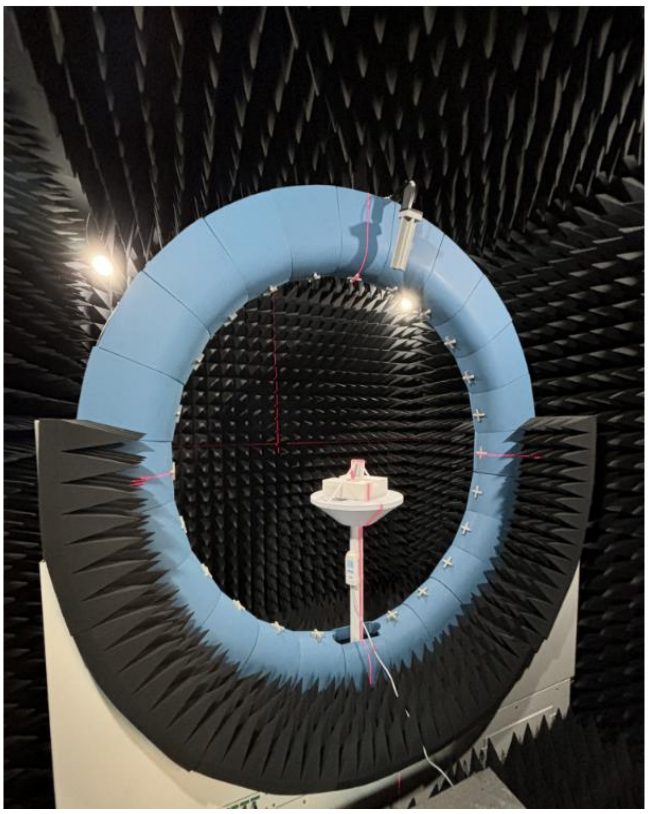


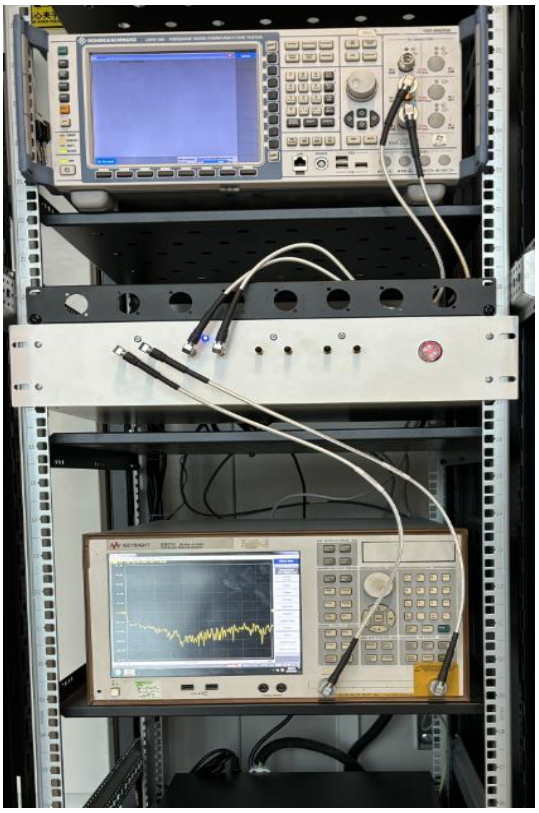
component	value
E1(0402)	100nH
E2(0402)	3pF
E3(0402)	NC

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3.4 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 Bnad	**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)...**

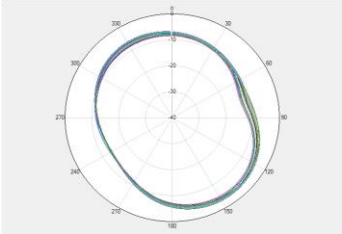
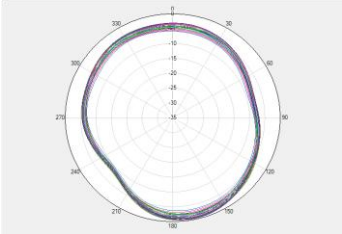
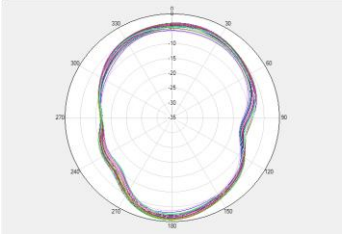
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3.5. Efficiency & Gain

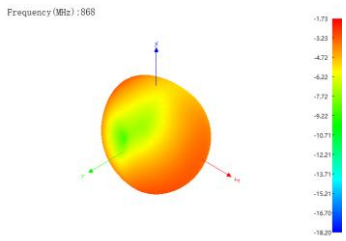
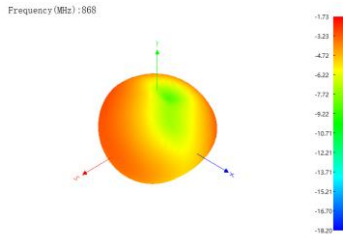
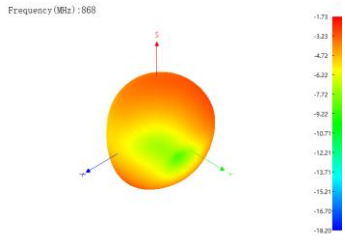
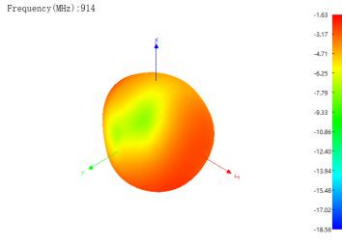
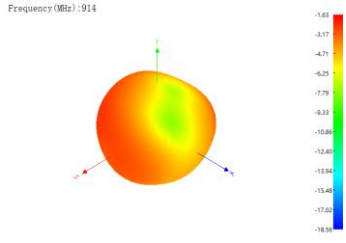
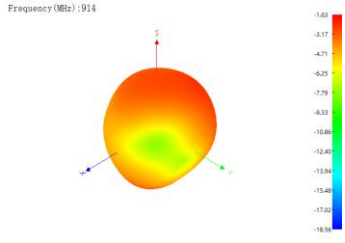
Frequency (MHz)	Gain(dBi)	Efficiency (%)
860	-3.26	17.62
862	-2.8	18.79
864	-2.33	19.82
866	-1.96	20.7
868	-1.73	21.43
870	-1.64	21.63
872	-1.41	22.49
874	-1.25	23.12
876	-1.03	23.93
878	-0.69	25.06
880	-0.31	26.55
882	-0.39	26.24
884	-0.46	25.76
886	-0.45	25.59
888	-0.41	25.82
890	-0.48	25.7
892	-0.33	26.12
894	-0.3	26.12
896	-0.34	26.06
898	-0.36	26.42
900	-0.25	27.61
902	-0.39	27.61
904	-0.59	27.1
906	-0.73	26.73
908	-0.85	26.42
910	-1.11	25.59
912	-1.35	24.72
914	-1.63	23.66
916	-1.87	22.7
918	-2.04	22.13
920	-2.21	21.73

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3.6. 2D Ridiation Model

Frequency(MHz)	XOY-plane	XOZ-plane	YOZ-plane
860-920			

3.7. 3D Ridiation Model

Frequency(MHz)	XOY-plane	XOZ-plane	YOZ-plane
868			
914			

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