



Shenzhen XINHENG YANG Technology Co., Ltd

SPECIFICATION

Customer Name: ZHILING TECHNOLOGY

Product Model: V8S21

Customer P/N :

XINHENG YANG P/N: NZ. 01. 0000406

SPECIFICATIONS: WiFi/2400MHZ-2500MHZ/FPC

Production date: 2026. 01. 08

Sample Version: R4

XINHENG YANG		
FICTION	DQE	R&D
Customer		
PUR	QC	R&D

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R & D, production and sales of professional wireless terminal antenna



Directory Index

1、	Cover	1
2、	Index	2
3、	Change history	3
4、	The basic parameters	4
5、	TestEquipment & Conditions	5
6、	Performance testing	6-11
7、	Product Drawing	12
8、	RoHS	13
9、	Product packaging instructions	13



3、Change history

Number	Effective date	Change record
R1	2025.07.31	Initial release
R2	2025.08.20	Update the drawing
R3	2025.11.17	Update the drawing
R4	2026.01.08	Update data



4、The basic parameters

A. Electrical Characteristics	
Frequency	2400MHZ-2500MHZ
VSWR	< 2.0
Avg Efficiency	>55%
Impedance	50 Ohm
Polarization	Linear
Peak Gain	5.25dBi
B. Material & Mechanical	
Material of Radiator	FPC Black
Cable Type	/
Connector Type	pogopin
Dimension	12.80MM*19.72MM±0.15MM
C. Environmental	
Operation Temperature	- 20 °C ~ + 60 °C
Storage Temperature	- 20 °C ~ + 60 °C

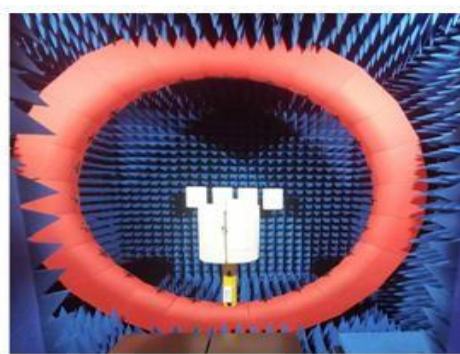
5、 Introduction:

Microwave darkroom and no reflection chamber, absorbing short wave darkroom dark room. Microwave darkroom by electromagnetic shielding room, filtering and isolation, grounding device, the ventilation duct, indoor distribution system, monitoring system, ceiling wave material part. It is based on the wave absorbing material as the lining of the shield room, it can absorb the most of the electromagnetic energy into the six wall is a better simulation of the free space conditions.

The main working principle of microwave anechoic chamber is according to the electromagnetic wave in the medium from the low magnetic guide magnetic direction of propagation rules, absorbing materials to guide the electromagnetic wave using high permeability, through resonance, a substantial absorption of electromagnetic wave radiation energy, by coupling the electromagnetic energy into heat energy.

main performance:

Frequency range:400MHz ~ 6GHz ceiling reflected wave loss materials: 400MHz ~ 6GHz is equal to or more than 15dB (microwave absorbing material by composite wave absorbing materials, namely tapered containing carbon sponge suction wave material paste in ferrite).



6、Performance Test report

Those specifications were specially defined for V8S21 model.

6.1、Prototype position:



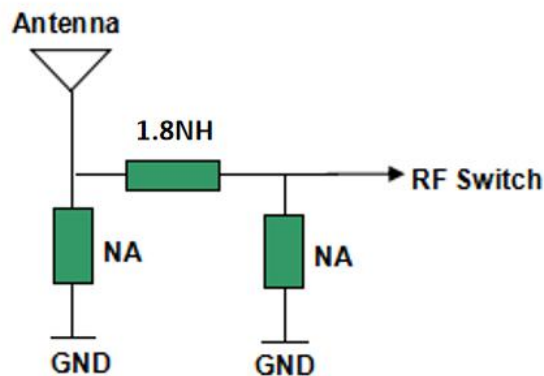
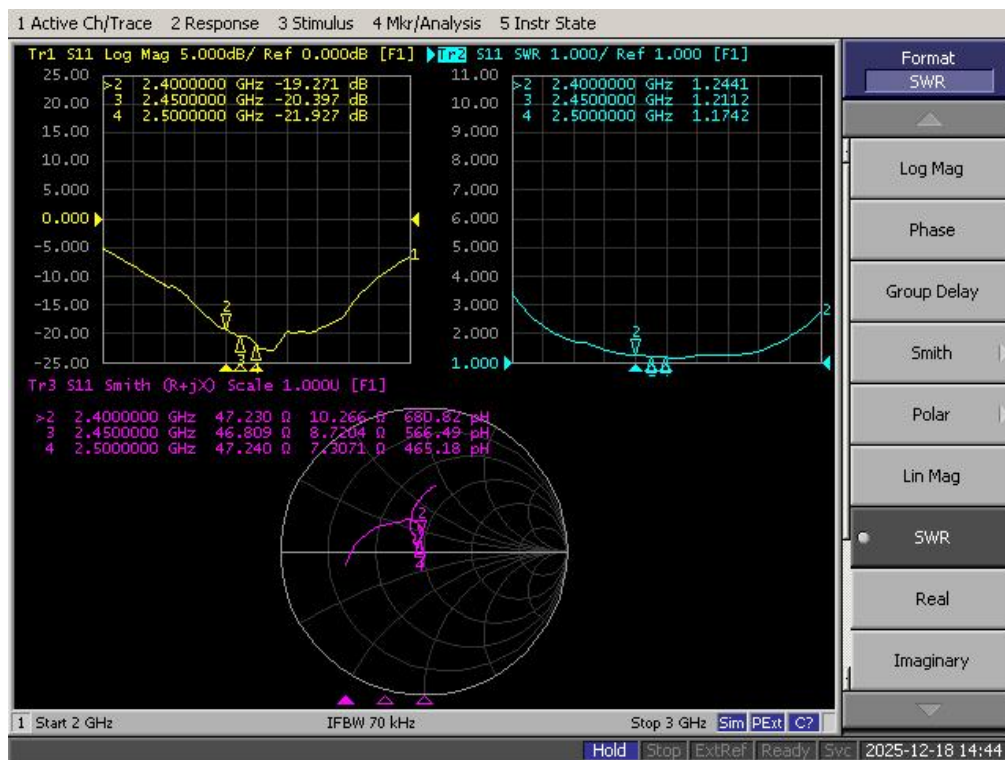
6.2、VSWR

1. Measuring Method

A 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR.

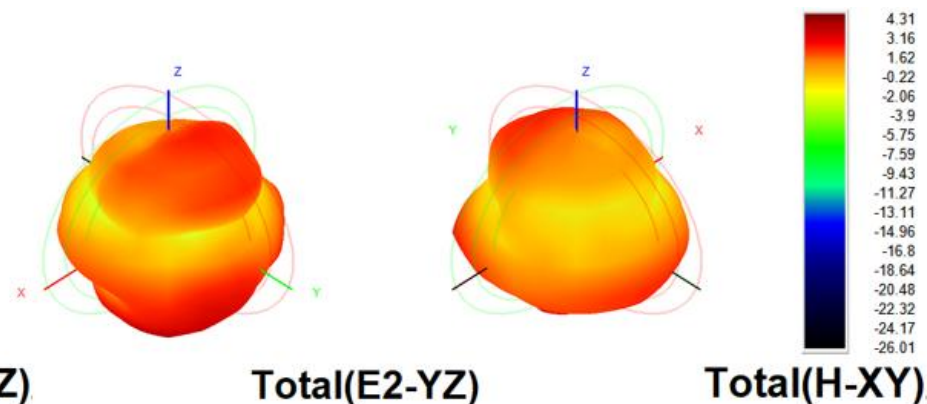
Keeping this jig away from metal at least 20cm

2. Measurement frequency points and VSWR value



6.3、2D/3D field pattern diagram

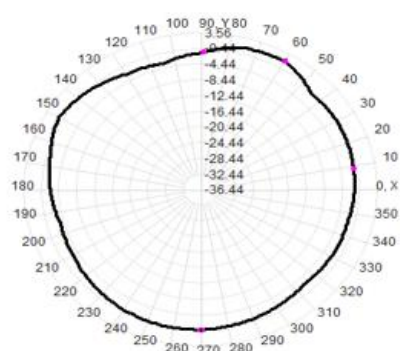
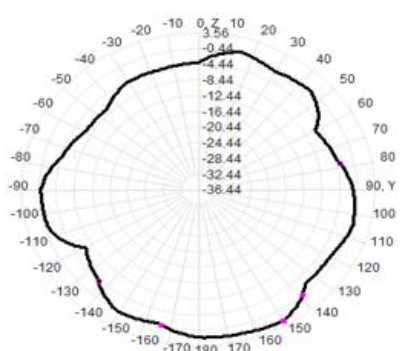
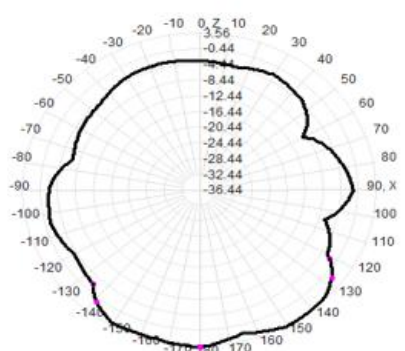
2400MHZ



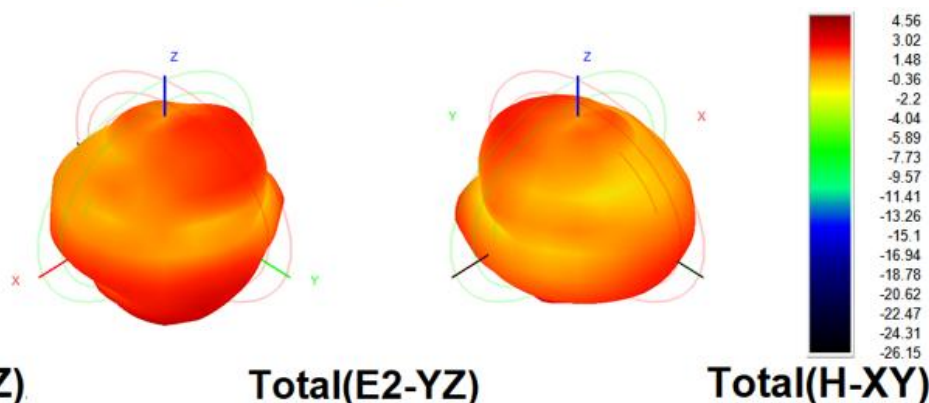
Total(E1-XZ)

Total(E2-YZ)

Total(H-XY)



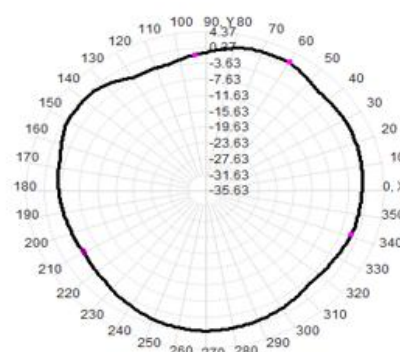
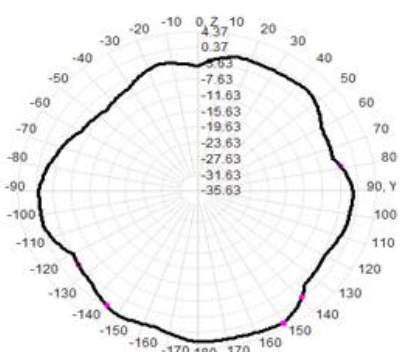
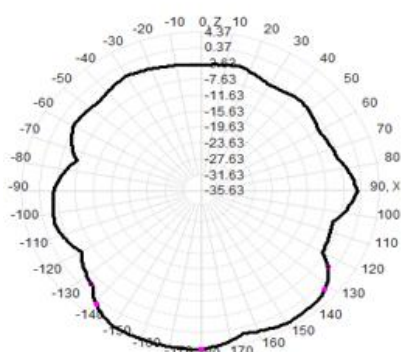
2450MHZ



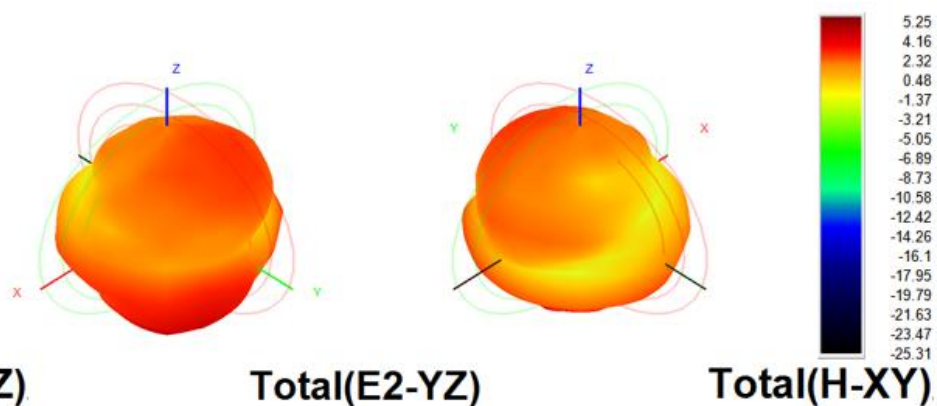
Total(E1-XZ)

Total(E2-YZ)

Total(H-XY)



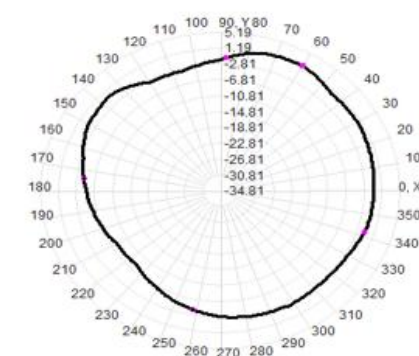
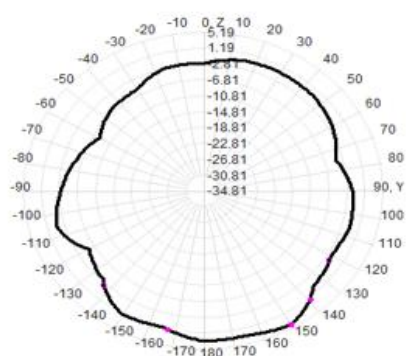
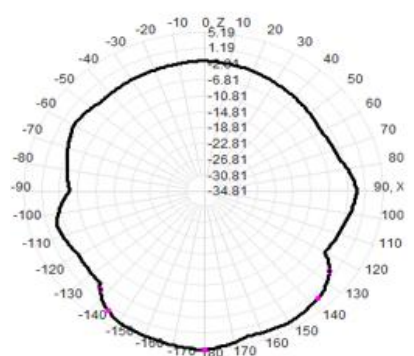
2500MHZ



Total(E1-XZ)

Total(E2-YZ)

Total(H-XY)



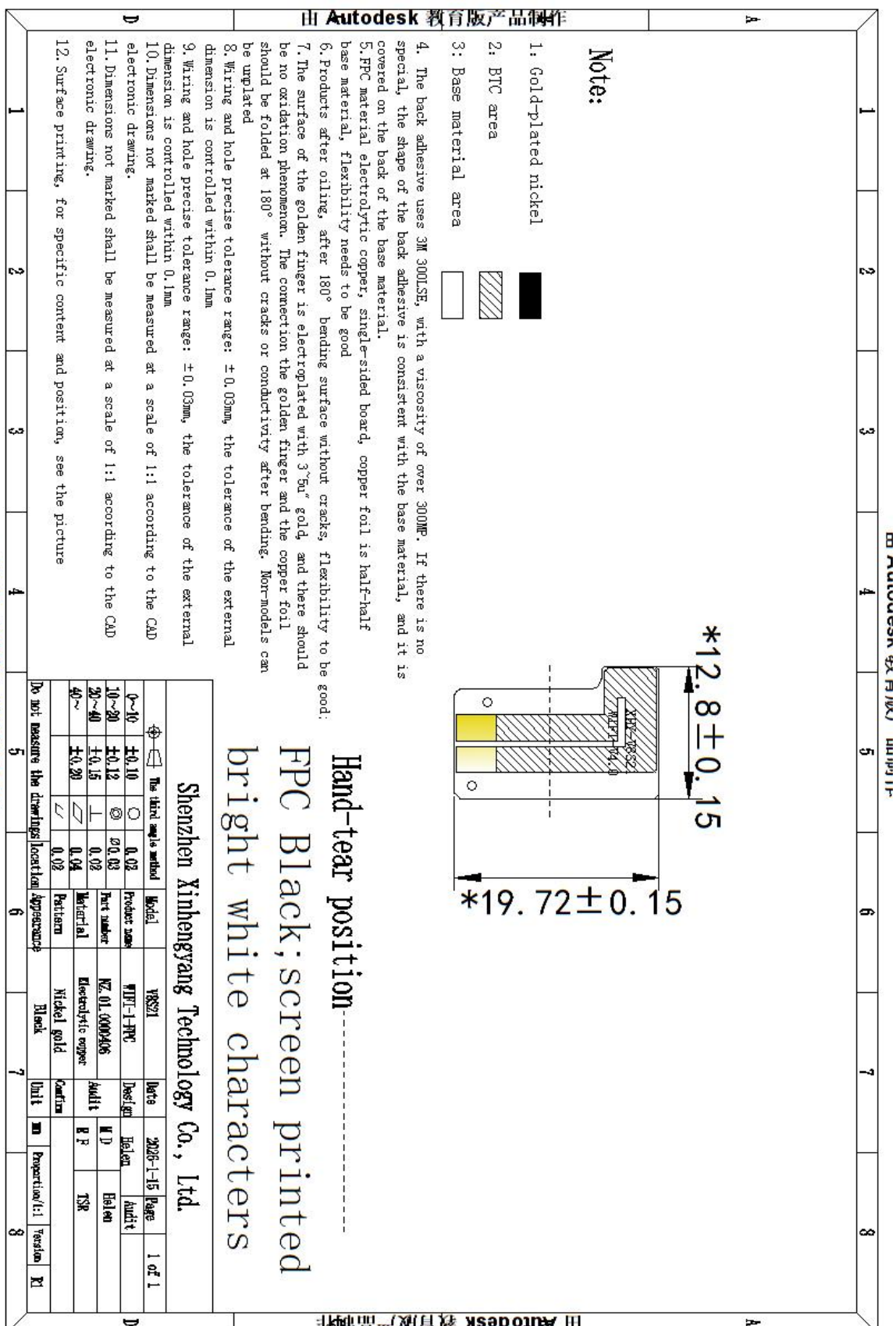
6.4、Passive efficiency & Gain

2400MHZ-2500MHZ			
Frequency (MHz)	Gain (dBi)	Efficiency (dBi)	Efficiency (%)
2400	4.31	-1.88	64.81
2410	4.22	-1.90	64.52
2420	4.08	-1.83	65.58
2430	4.13	-1.76	66.72
2440	3.91	-1.86	65.16
2450	4.56	-1.69	67.70
2460	4.33	-1.72	67.23
2470	4.40	-1.65	68.32
2480	4.75	-1.61	68.96
2490	5.05	-1.59	69.39
2500	5.25	-1.73	67.18

6.5、OTA active

Test Condition		OTA	
band	Channel	TRP (dBm)	TIS (dBm)
802.11B.11M	1	21.73	-86.58
	6	20.61	-87.13
	11	21.87	-87.23
802.11G.54M	1	18.62	-74.24
	6	18.09	-75.21
	11	18.97	-75.4
802.11N.MCS7	1	18.06	-69.41
	6	17.88	-71.43
	11	18.86	-71.18

7、Product Drawing





8、RoHS

Antenna NZ. 01. 0000406 meets RoHS requirements See electronic file for details.

9、Product packaging instructions

A. packing should meet the moistureproof, vibration, pressure and mildew proof, etc.

B. the smallest packing unit logo must have the manufacturer trademarks, product model, name, code and quantity.

C. in the attached packing list, certificate of approval, and the factory inspection report.

*****END*****