


SPECIFICATION FOR APPROVAL

CUSTOMER/PROJECT: Zhejiang Okai Vehicle Co.,Ltd.
CUSTOMER P.N: _____
PRODUCT NAME: BT ANT
MODEL NO: 24R002A
SPECIFICATION: _____
Date of Issue: 2024.03.21

SUPPLIER AUTHORIZED SIGNATURE		
PREPARED	CHECKED	APPROVED
WDH	ZTG	 ZYG

CUSTOMER AUTHORIZED SIGNATURE			
PM		QE	

Test laboratory: Shanghai Jesoncom Communication Engineering Co., Ltd

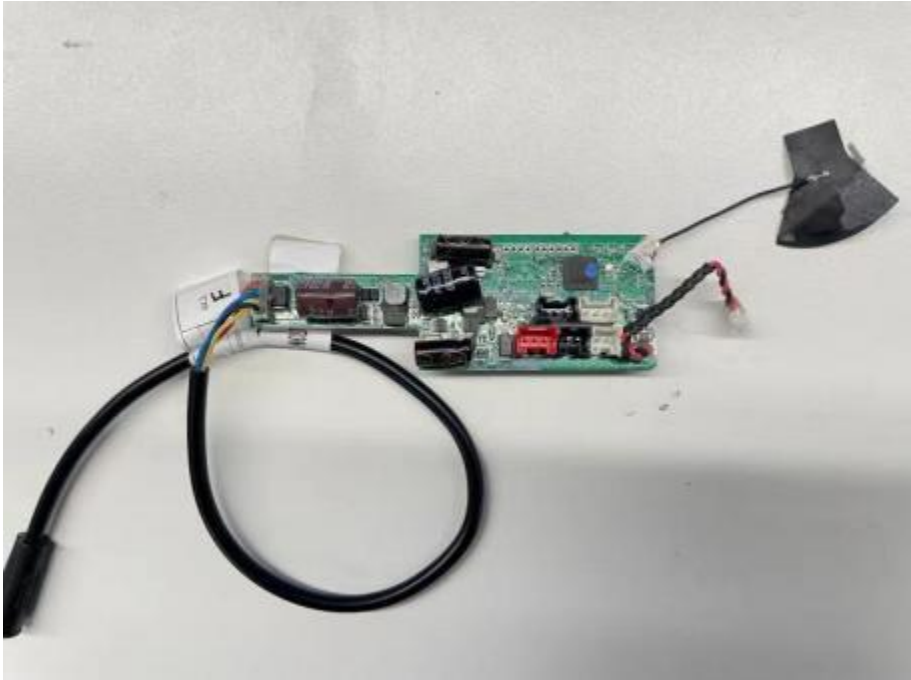
ADD: No.358 Liuyuan RD., Baoshan Urban Industrial District., Shanghai, PR. China.

TEL: +86-21-66276925(26/29/35) - 615

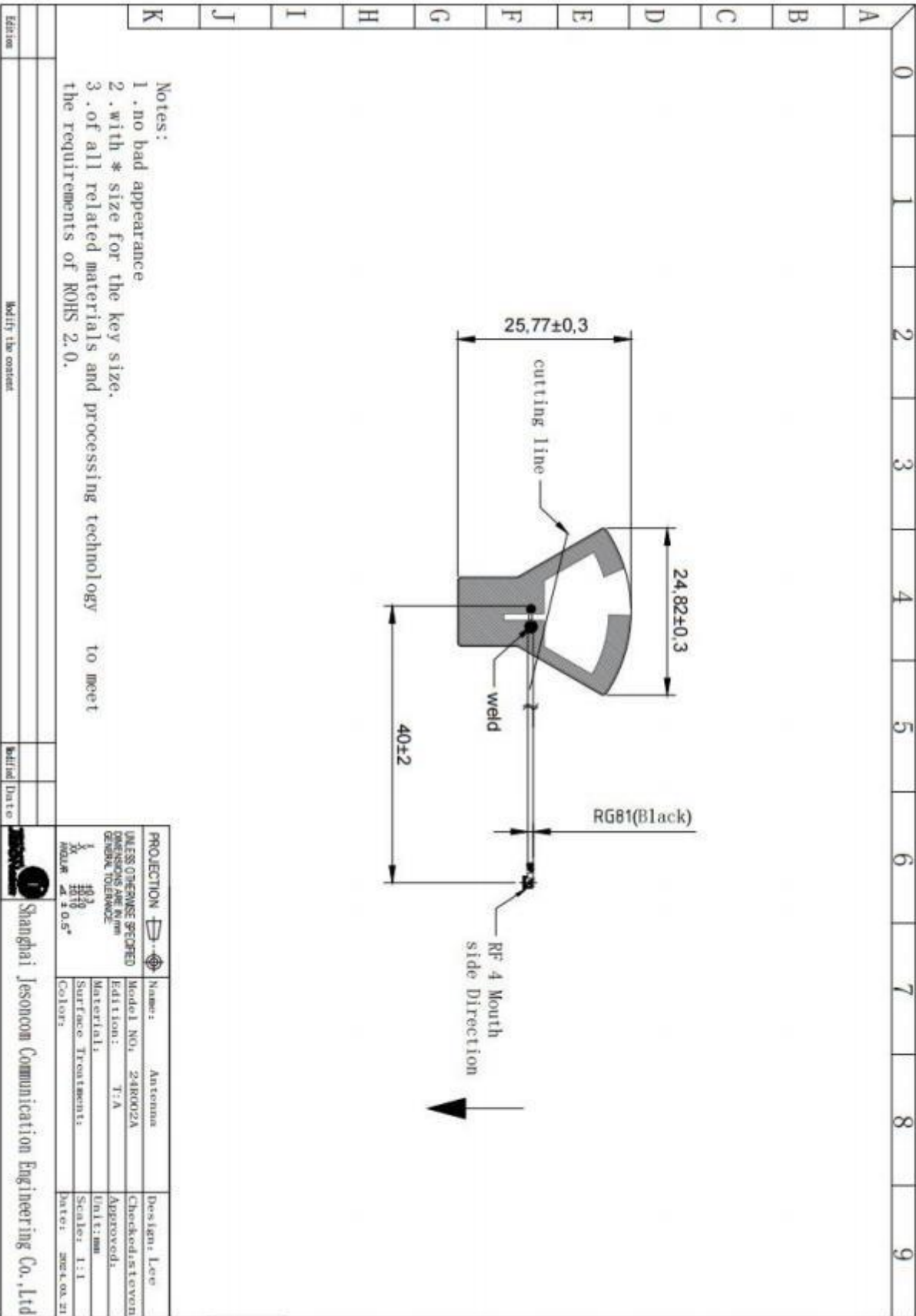
(1) Sample antenna description

Sample antenna description	
Manufacturer's Internal ID	EX: 24R002A
category	EX: BT
Band	EX: 2400-2500M
morphology	EX: FPC Built-in antenna
polarization	EX: Line polarization
Vswr	EX: ≤ 4 @2400-2500M
Efficiency	EX: $\geq 28\%$ @2400-2500M
Gain	EX: ≤ 2 dbi@2400-2500M
Radiation pattern	EX: Please find attached
connector type	EX: IPEX
Connector properties	EX: IPEX four generation
Active/qualifiedive	EX: /
Color and material	EX: black /PI
Antenna size	EX: 24.82*25.77 (mm)
Cable type and size	EX: RG81 / 40MM
Cable loss	EX: 无
Work temperature	EX: -40~85℃
Storage temperature	EX: 22~55℃
Power capacity	EX: /
waterproofing grade	EX: /
Salt spray grade	EX: Please find attached
High and low temperature	EX: Please find attached
Vibration、fall	EX: /
Suction test	EX:/
Characteristic impedance	EX: 50 Ω
Contact impedance	EX: 0 Ω
Medium pressure	EX:500V
radiation direction	EX:Vertical and horizontal
version	T:A (new)

(2) Sample pictures



(3) Product drawings



- Notes:
1. no bad appearance
 2. with * size for the key size.
 3. of all related materials and processing technology to meet the requirements of ROHS 2.0.

PROJECTION		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm GENERAL TOLERANCE		NAME: Antenna		DESIGN: Lee	
1/2		1/10		Model NO.: 24R002A		Checked: steyon	
XX		10/10		Edition: T:A		Approved:	
MODULE		± 0.5°		Material:		Unit: mm	
				Surface Treatment:		Scale: 1:1	
				Color:		Date: 2024.04.21	
Edition		Modify the content		Briefing Date			

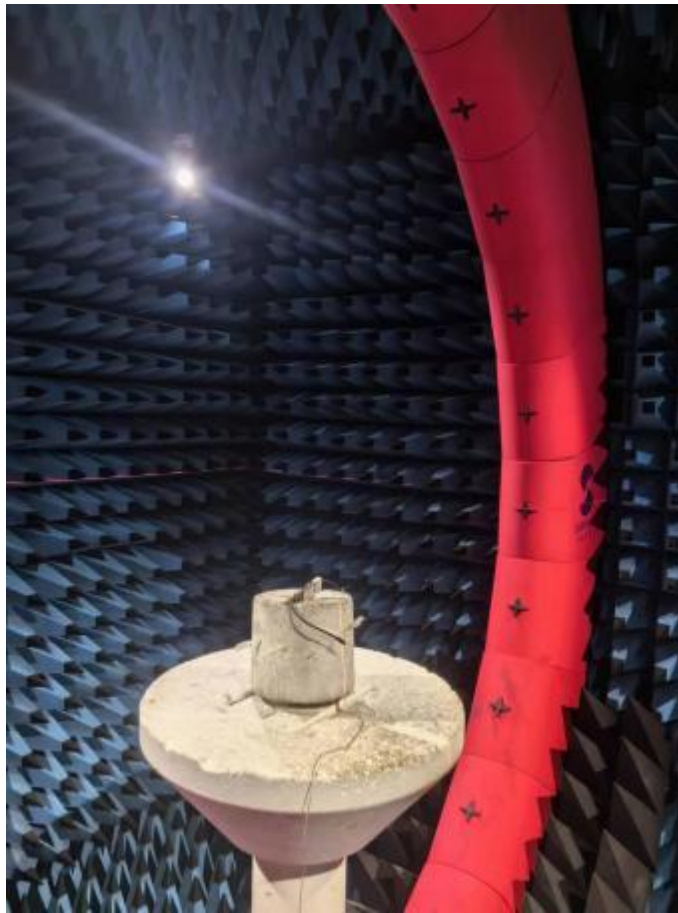
Shanghai Jeseoncom Communication Engineering Co., Ltd

(4) Antenna test environment diagram

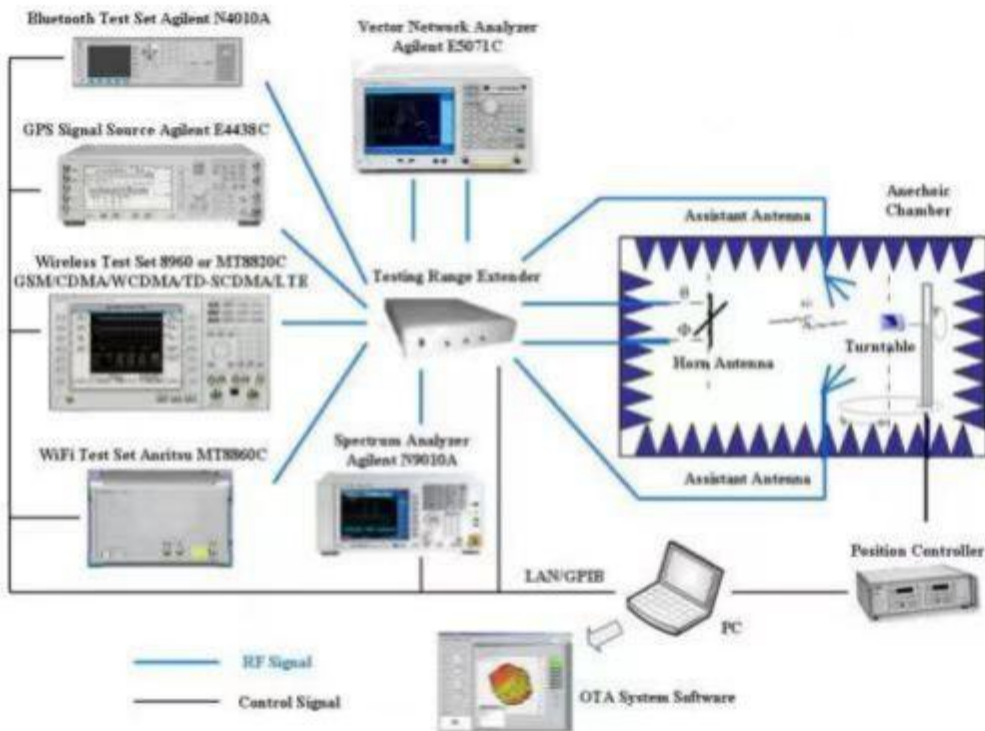
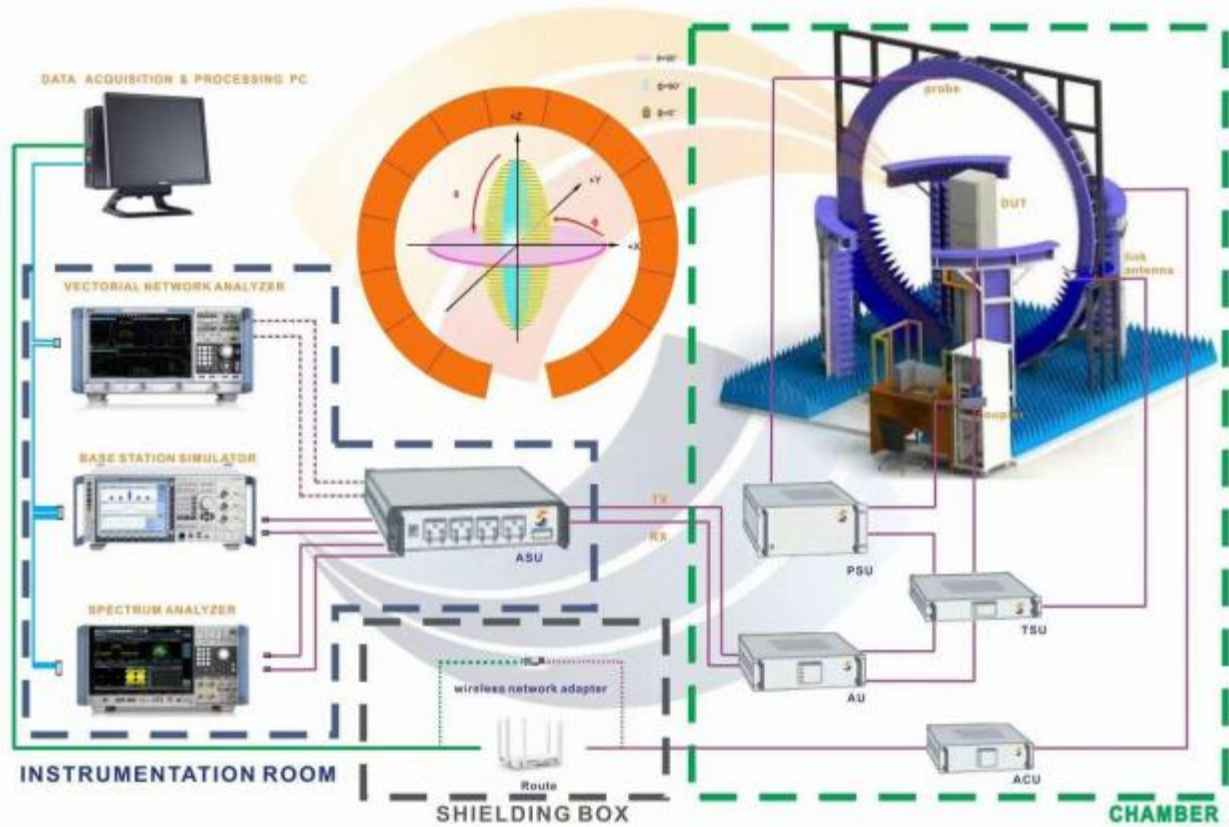
Temperature: 24.1 °C

Relative Humidity: 52 %

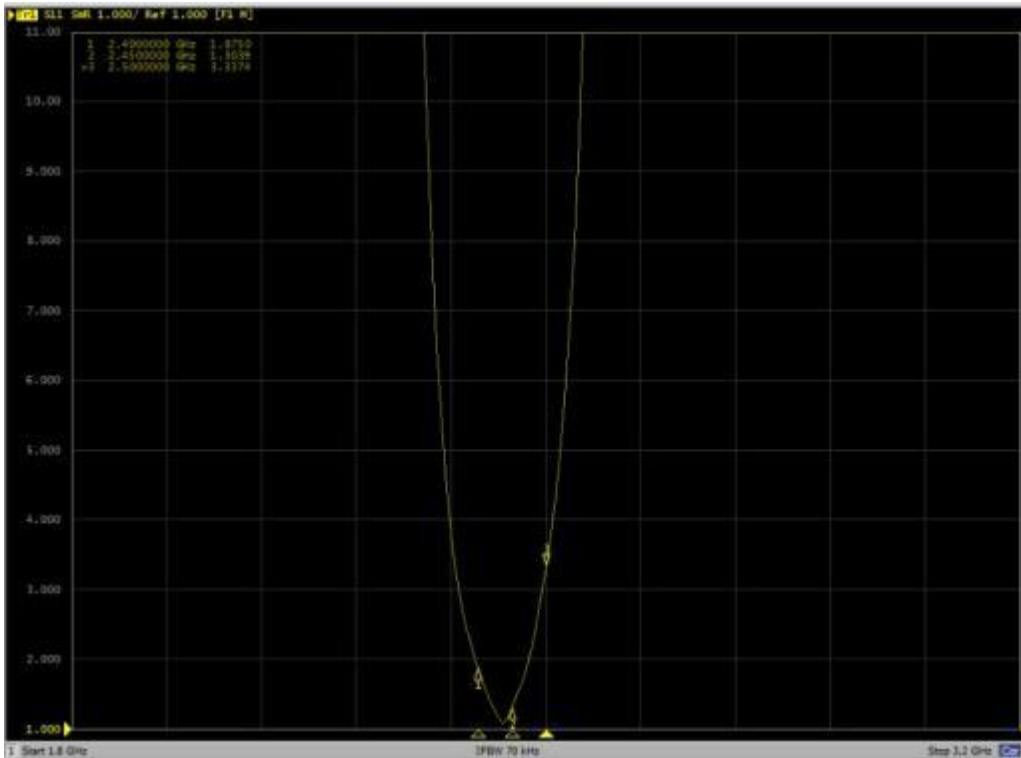
ATM Pressure: 101.0 kPa



Test system	microwave chamber SY-24	Calibration Date 2024.03.06
VNA	Agilent E5071C	Calibration Date 2024.02.25
Wireless Test	Agilent 8960	Calibration Date 2024.02.25
Wireless Test	R&S CMW500	Calibration Date 2024.02.25
Wireless Test	Anritsu MT8821C	Calibration Date 2024.02.25



(4) VSWR plot



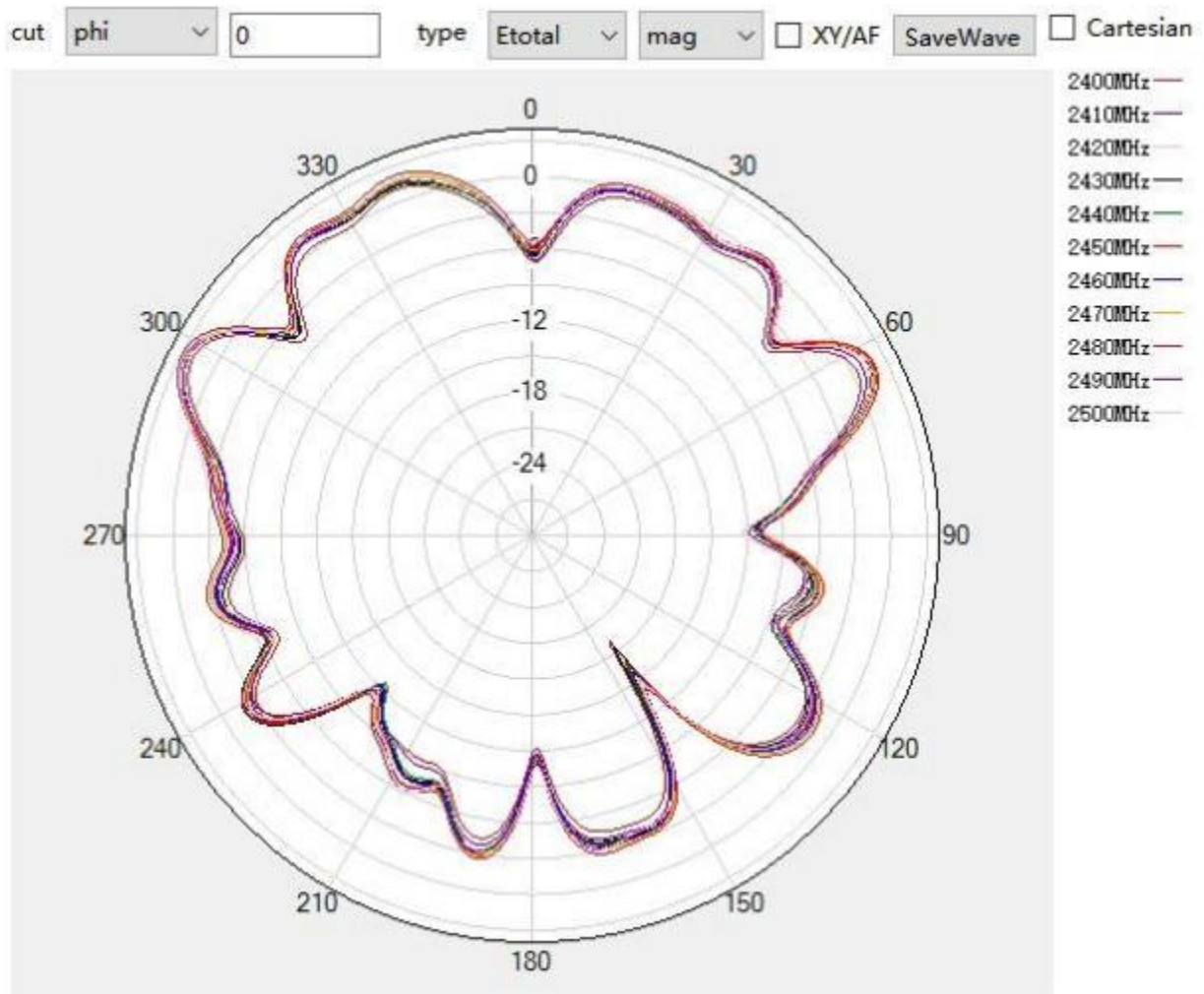
(5) Antenna gain test method

Reference IEEE149-1979, The efficiency and gain of the antenna, through the 3D microwave chamber and network analyzer, the antenna under test is placed in the center of the rotating table, and the signal strength of the whole space sphere is tested. Through the microwave chamber system calculation, the gain value of the antenna under test is obtained.

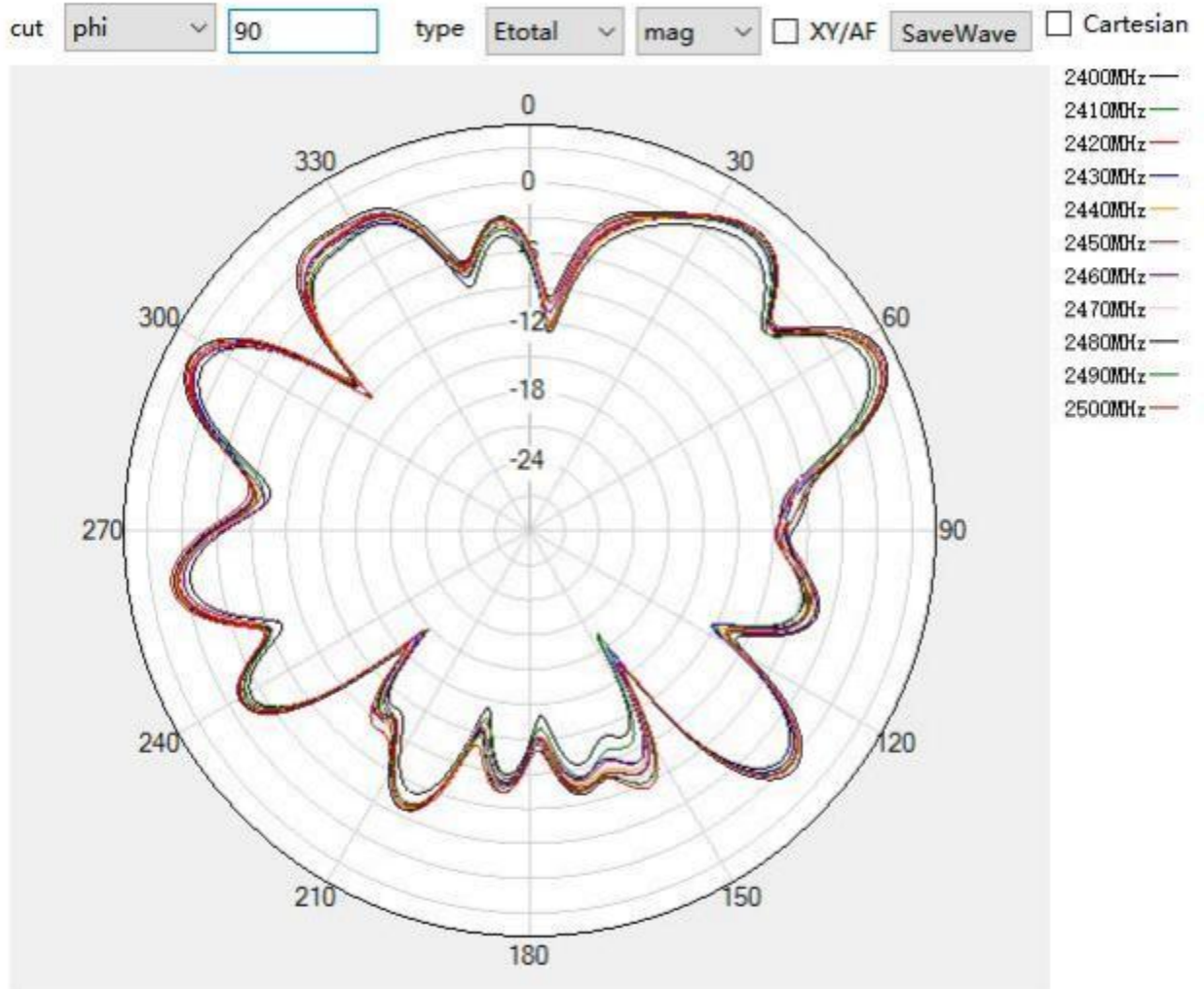
(6) Radiation pattern

E&H-plane:

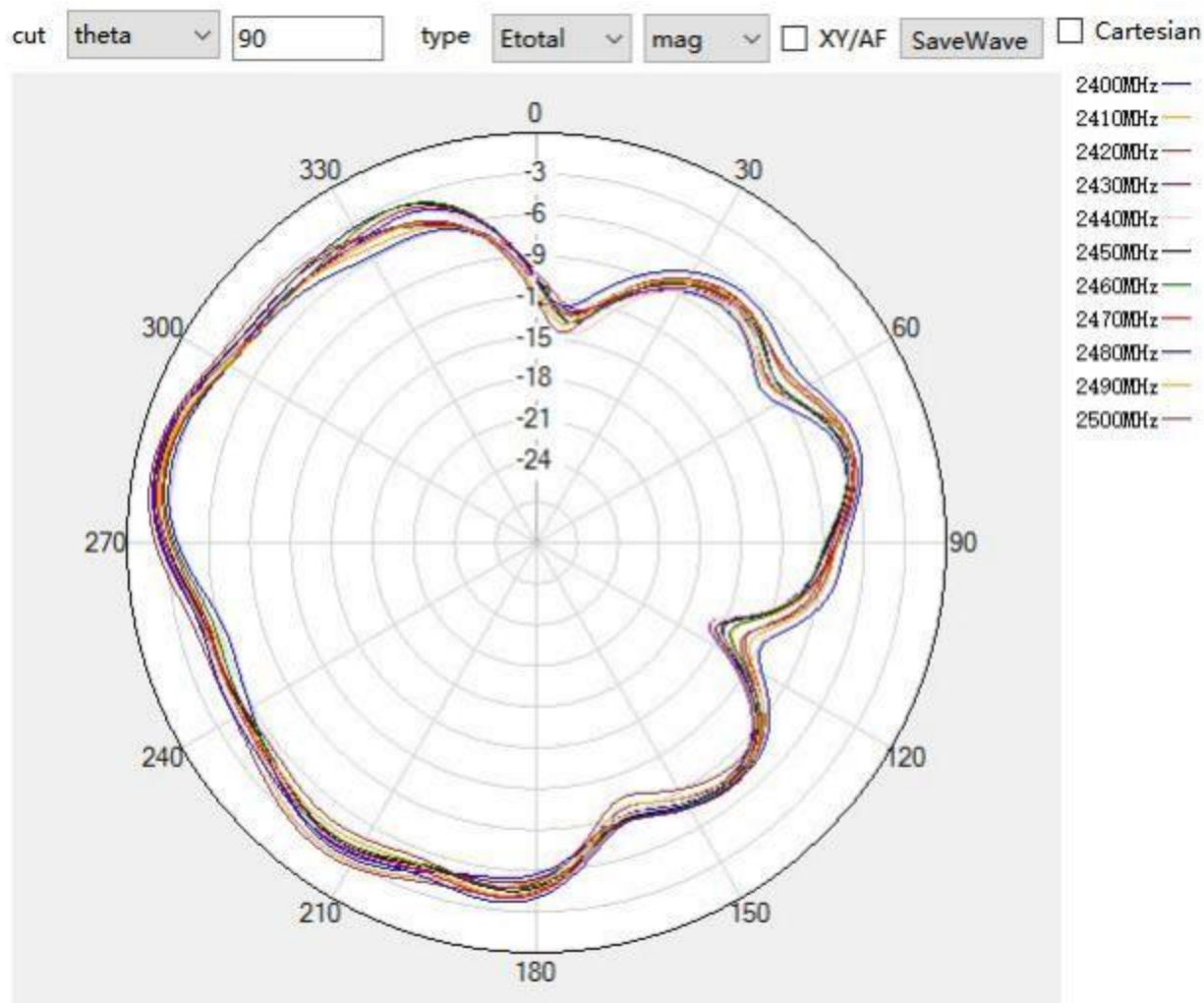
E1



E2

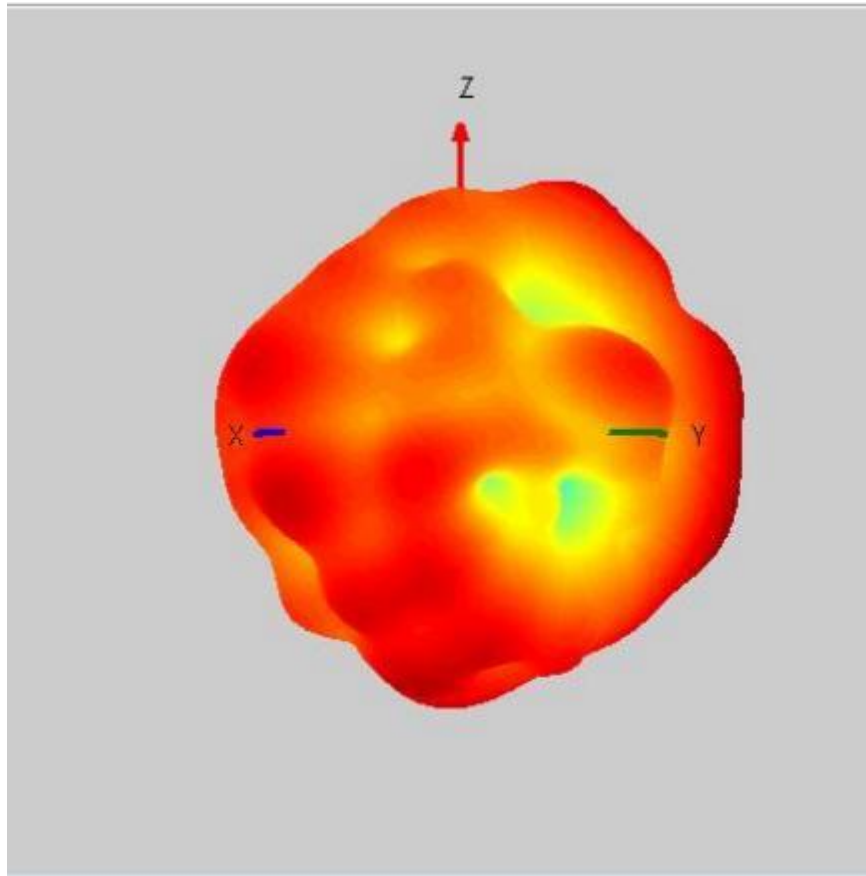


H



3D direction Image:

2430Mhz Peak gain 1.98dBi



(7) Efficiency&Gain

Gain&Efficiency		
frequency	gain (dBi)	efficiency (%)
2400	1.63	29.54
2410	1.68	30.84
2420	1.96	39.69
2430	1.98	34.89
2440	1.71	39.67
2450	1.75	32.06
2460	1.77	38.11
2470	1.81	37.85
2480	1.86	26.89
2490	1.66	27.26
2500	1.60	28.68