

Antenna specification for approval

Customer name: 普天

Model : M188

Antenna type : WIFI antenna

Antenna frequency band: 2.4G/5.8G

Material : FPC

Color : Black

Material Number: F1478A-1L24B-265-A F1478A-1R24G-190-A

Production date: 2025-03-18

Version: **A**

Admit that signature			
Confirmation Signature		Customer Approved	
Responsible		Responsible	
QC		Engineer	
Approve		Approve	
Date		Date	

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This approval sheet supports for MID project. FPC antennas include in this project. This report is for the performance of WIFI antenna.

- Antenna shape size: Meet the requirement of MID project
- Antenna band: 2400MHz~2500MHz
- Antenna material: Antenna material meet the requirement of MID
- Adhesive performance: Adhesive performance meet the requirement of MID

Antenna performance SPEC overview

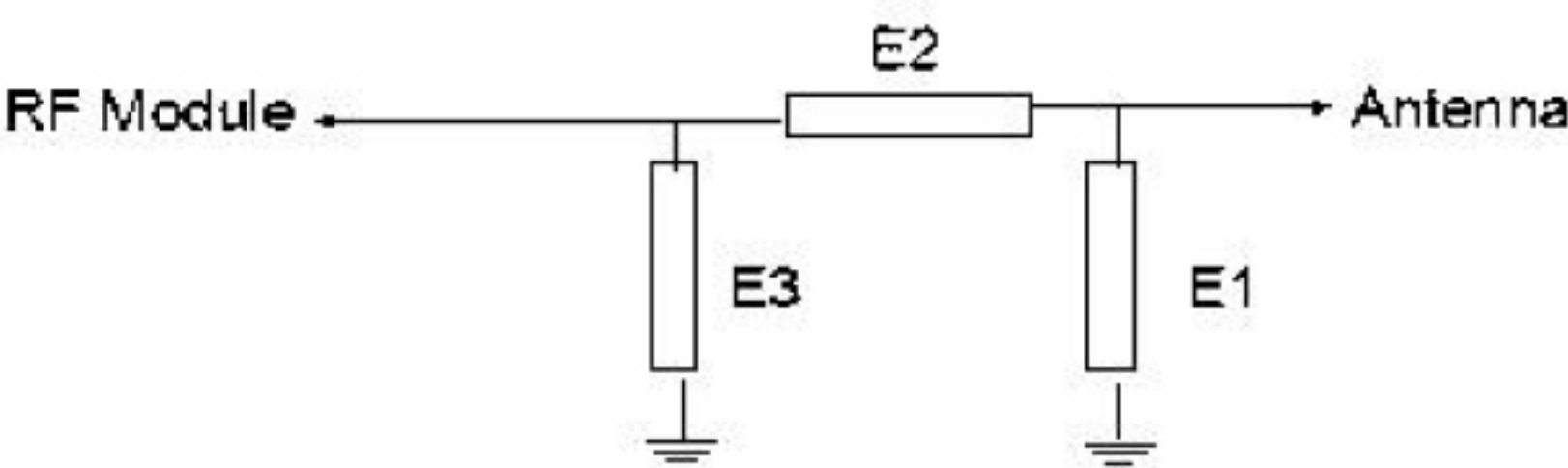
Description	2.4GHz~2.5GHz	Units
VSWR	≤2.0	dB
Average Antenna Gain	≥1.0	
Antenna Efficiency	≥40	
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

● Mechanical Information

Mechanical Dimension	
Cable Length	265/190mm/Black/Gray
Description	WIFI antenna
Material	FPC
Coaxial Cable	50Ohm/O.D.0.81mm
Environmental	
Operation Temperature	-40 to +85 deg C
Storage Temperature	-40 to +85 deg C

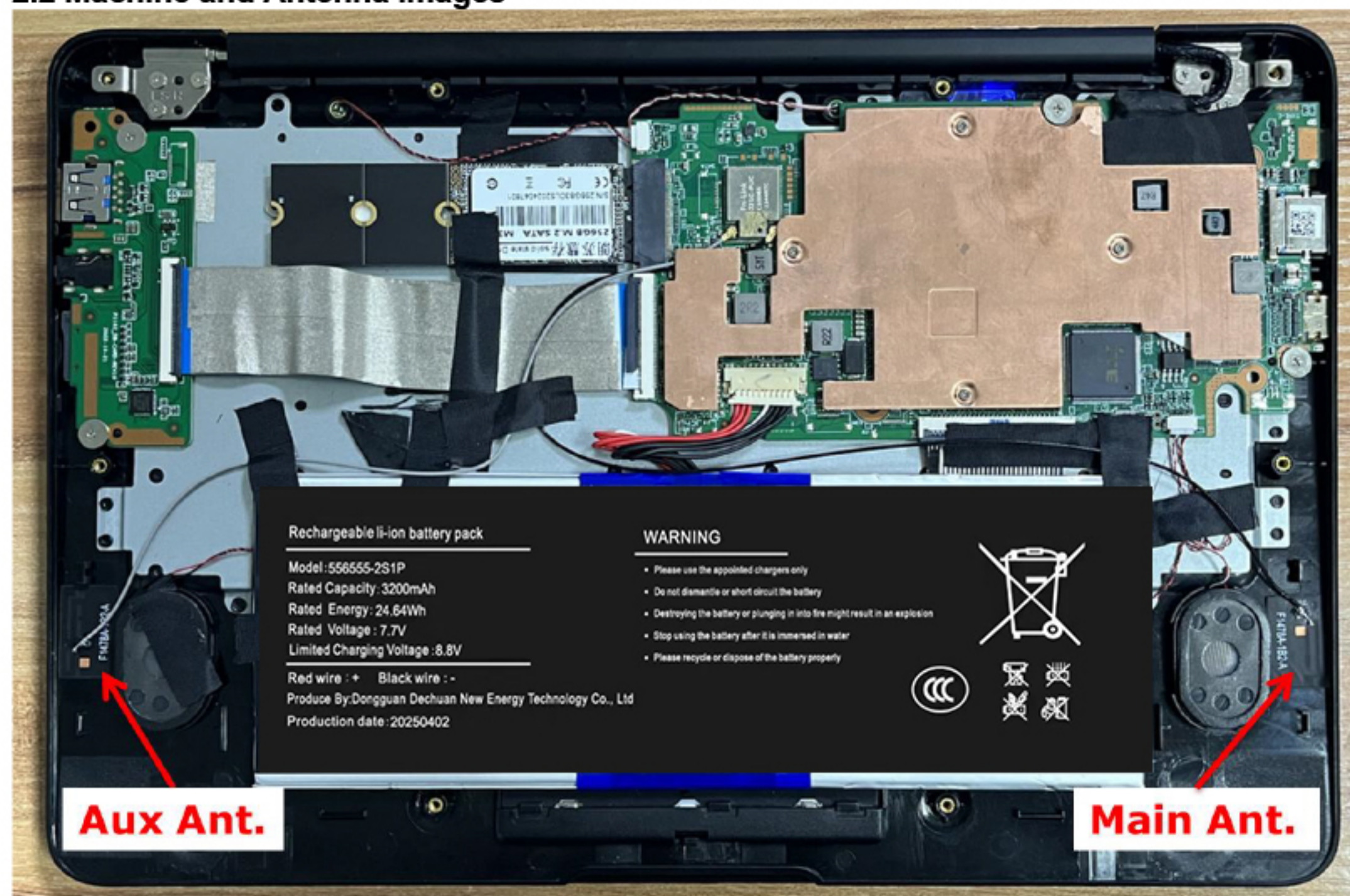
2:Match the circuit diagram, antenna images

2.1 Match the circuit diagram



Our company did not modify the antenna matching

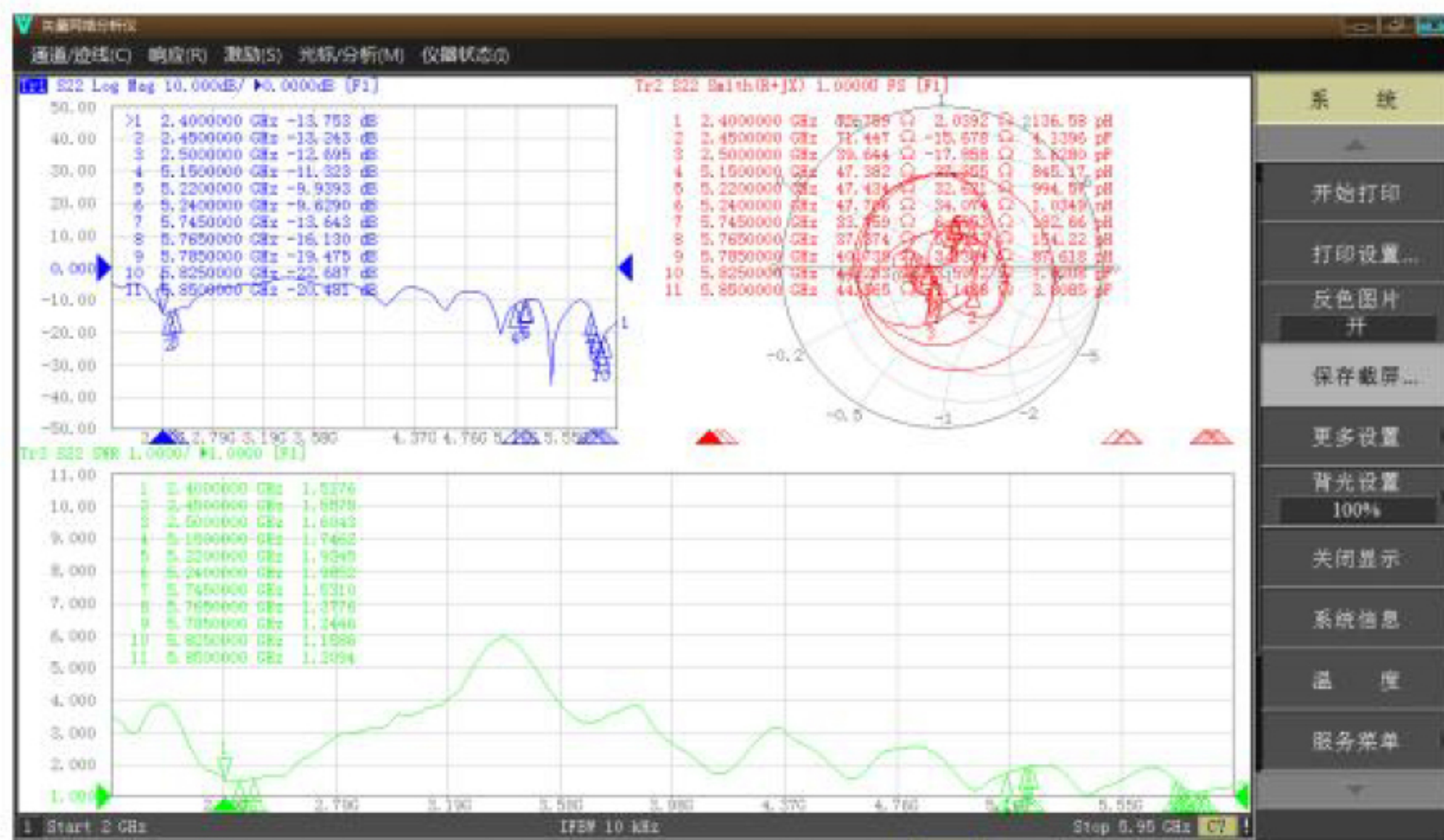
2.2 Machine and Antenna images



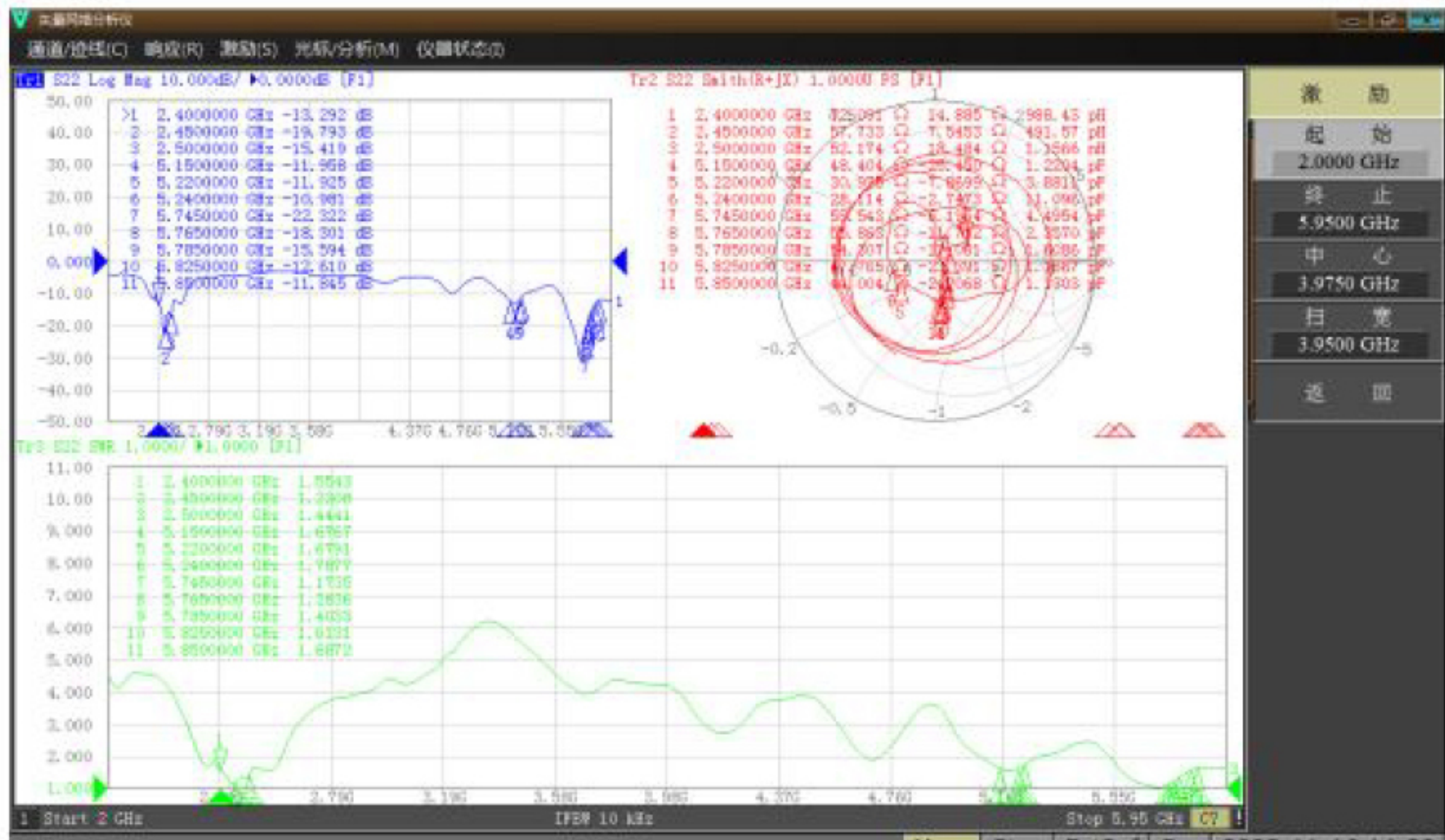
3: VSWR、Efficiency

3.1 VSWR

Main Ant.



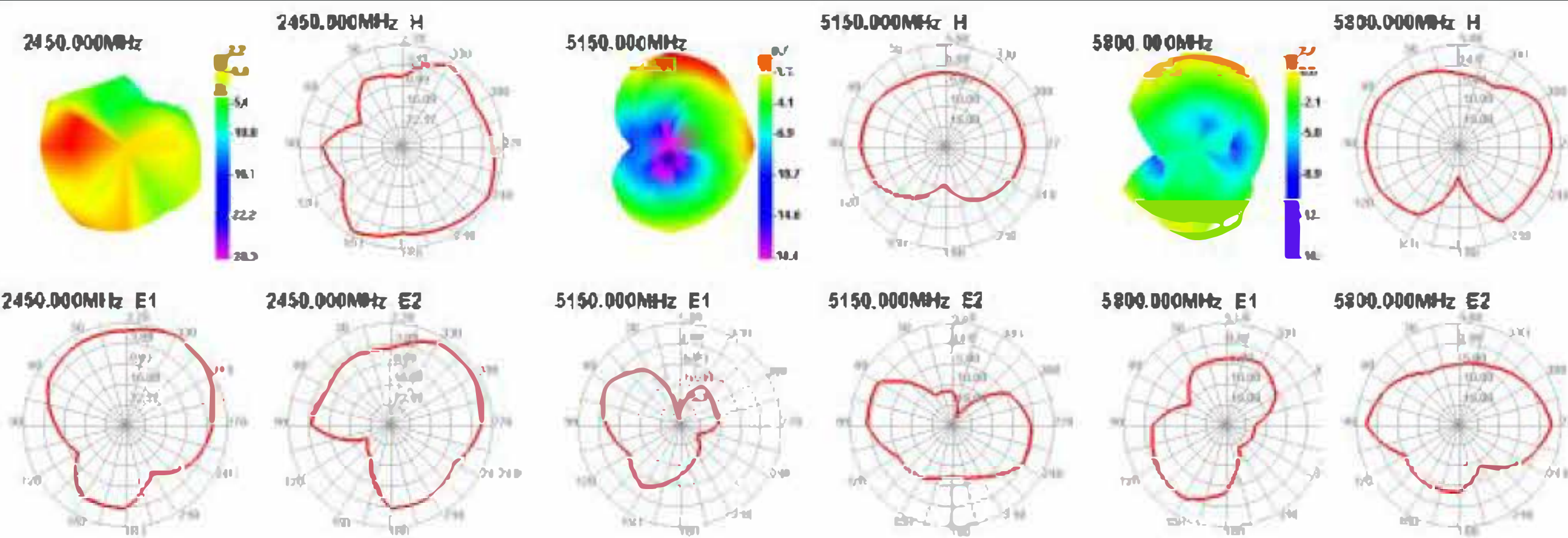
Aux Ant.



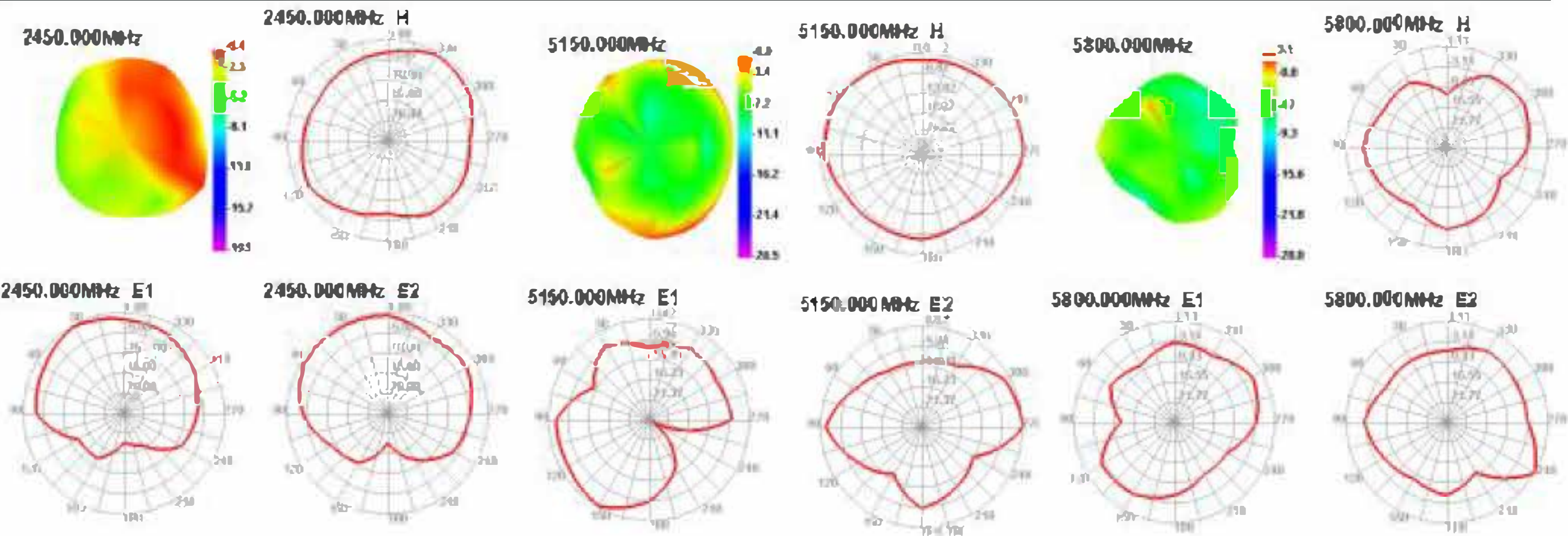
3.2 Efficiency

WIFI					
Band	Channel	Data Rate	TRP	Data Rate	TIS
WIFI2.4G 802.11b	1	11Mbps	10.2	11Mbps	-80.9
	7		11.1		
	11		9.8		
WIFI5.8G 802.11a	36	54Mbps	11.1	54Mbps	-70.5
	149		10.6		
	165		10.3		

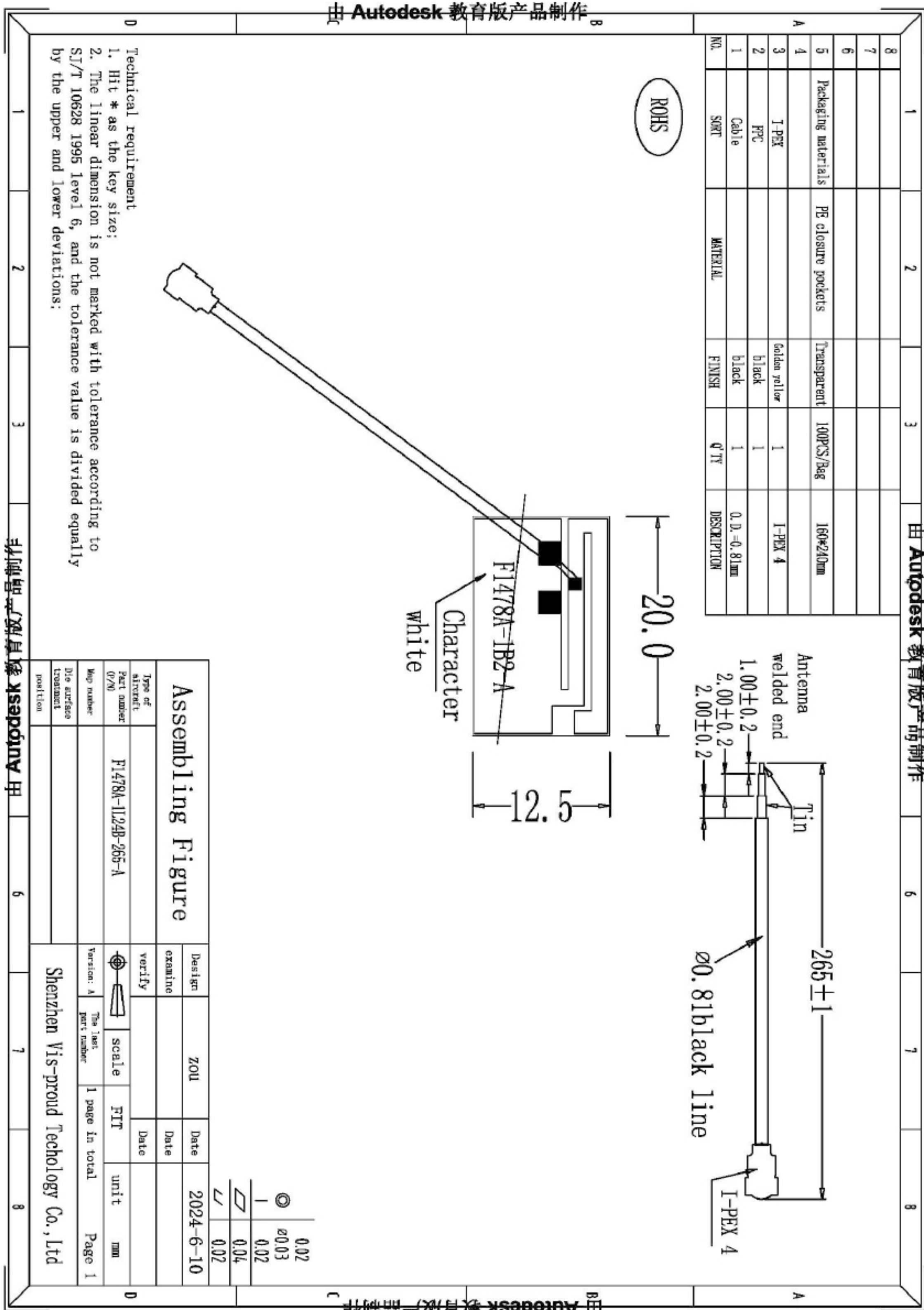
Passive Test For BT-Main Ant.			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	41.4	-3.8	0.8
2410	42.9	-3.7	1.2
2420	44.4	-3.5	1.2
2430	46.8	-3.3	1.5
2440	48.1	-3.2	2.1
2450	48.4	-3.3	2.2
2460	45.1	-3.5	1.9
2470	45.0	-3.5	2.4
2480	42.7	-3.7	2.0
2490	41.7	-3.8	2.2
2500	41.1	-3.9	2.2
5150	45.2	-3.4	0.7
5200	43.5	-3.6	0.8
5250	46.9	-3.3	1.2
5300	47.4	-3.2	1.8
5350	48.8	-3.1	1.5
5400	51.4	-2.9	1.4
5450	45.2	-3.4	0.8
5500	49.0	-3.1	2.3
5550	54.6	-2.6	3.4
5600	56.9	-2.5	3.6
5650	53.2	-2.7	3.3
5700	49.7	-3.0	3.1
5750	52.3	-2.8	2.9
5800	53.4	-2.7	2.7
5850	60.9	-2.2	3.5



Passive Test For WIFI-Aux Ant.			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	38.4	-4.2	0.2
2410	39.8	-4.0	-0.1
2420	49.6	-3.0	0.8
2430	39.3	-4.1	0.0
2440	41.8	-3.8	-0.5
2450	42.2	-3.7	-0.4
2460	40.5	-3.9	-0.5
2470	39.7	-4.0	-0.3
2480	38.4	-4.2	-0.4
2490	36.6	-4.4	-0.4
2500	35.0	-4.6	-0.8
5150	37.8	-4.2	-0.8
5200	35.8	-4.5	-0.2
5250	36.2	-4.4	-0.1
5300	36.6	-4.4	0.7
5350	39.5	-4.0	2.1
5400	42.9	-3.7	2.5
5450	35.5	-4.5	1.0
5500	36.2	-4.4	0.7
5550	39.8	-4.0	0.6
5600	40.6	-3.9	1.5
5650	42.0	-3.8	1.3
5700	45.1	-3.5	2.1
5750	45.2	-3.2	3.1
5800	45.1	-3.5	3.1
5850	44.2	-3.5	2.8



4:Structural drawings



Technical drawing of the antenna assembly. The main body is a long tube with a total length of 190 ± 1 . The antenna is attached to the right end. The antenna assembly includes a "welded end" and a "Tin" component. The distance from the right end of the tube to the start of the antenna is 1.00 ± 0.2 . The distance from the start of the antenna to the "Tin" component is 1.50 ± 0.2 . The distance from the "Tin" component to the end of the antenna is 2.00 ± 0.2 . The tube is labeled "ø0.81 grey line". The antenna is labeled "I-PEX 4".

-20.0

Character
white

~~F1478A-1B2-A~~

-12.5

Assembling Figure

Assembling Figure			Design	ZOU	Date	2024-6-10
Type of aircraft	Part number (P/N)	F1478A-1R24C-190-A	examine		Date	
			verify		Date	
Map number				scale	FIT	unit
Die surface treatment			Version: A	The last part number	1 page in total	mm
position			Shenzhen Vis-proud Technology Co., Ltd			

Technical requirement

1. Hit * as the key size;
2. The linear dimension is not marked with tolerance according to SJ/T 10628 1995 level 6, and the tolerance value is divided equally by the upper and lower deviations;