

CUSTOMER NAME	Shenzhen Aoni Electronic Co., Ltd Building 5, Honghui Industrial Park, Liuxian Er Road, Xin'an Street, Bao'an District, Shenzhen, China
CUSTOMER P/N	B410JL
PART NAME	Bluetooth Antenna
DWM NO.	
APPROVAL REV.	R:A

CONTRACTOR			DATE : 2024-06-05
QA CHECKED	ME CHECKED	RF CHECKED	MANAGER CHECKED

CUSTOMER		DATE :
Approved By	Checked By	Prepared By

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1. Product Application

Terminal of the antenna products can only be used for Bluetooth antenna.

2. The test environment, equipment

Item	Description	Test Condition	Requirement
2.1	Passive testing	The VSWR measurement devices are connected in sequence: Agilent 5071B Network Analyzer → measurement Cable → Customer-providing Devices.	VSWR: 2400-2500MHz ≤ 2
		Test equipment	
			
Item	Description	Test Condition	
2.2	Active test	The antenna is tested within the cell mainboard provided by clients. Follow picture shows the measurement condition of the antenna been put on the measurement device, which is used for all measurement of electric performances.	
2.3	Microwave Anechoic chamber (Satimo&ETS)	Test equipment	

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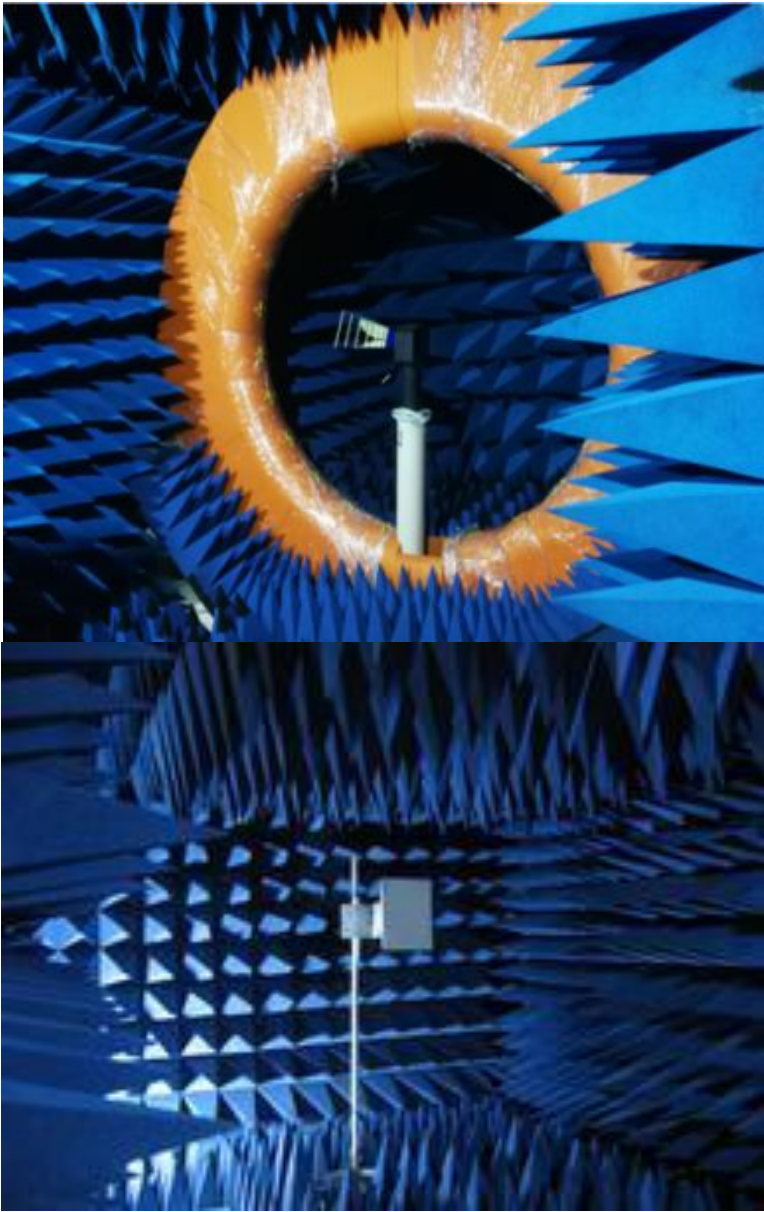
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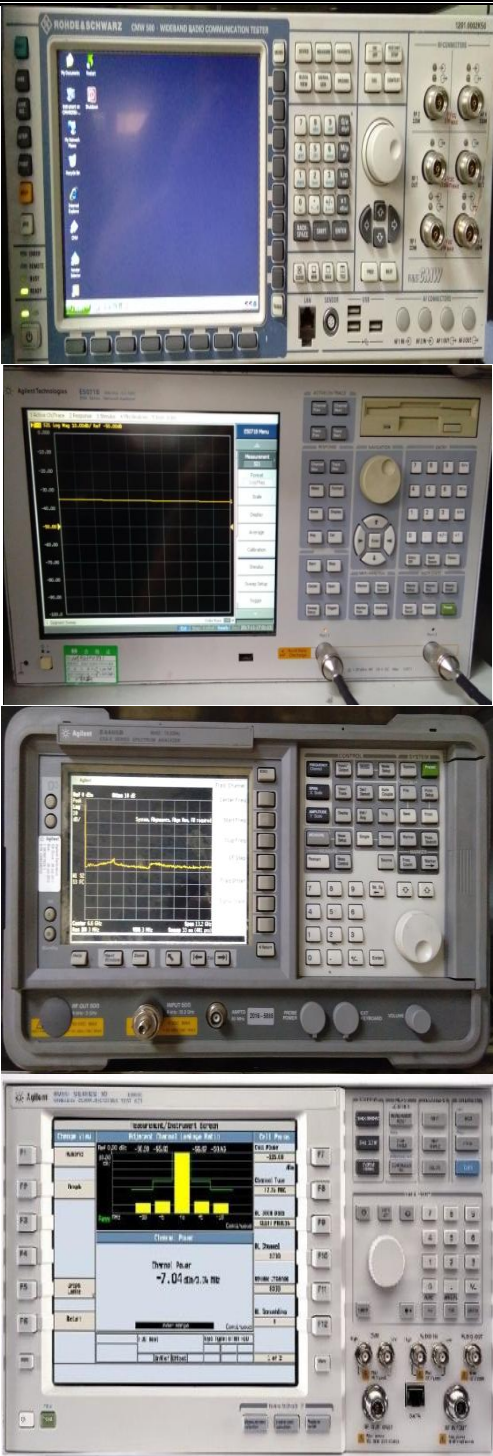
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CMW500

Agilent5071B
AgilentE4405B

Agilent8960



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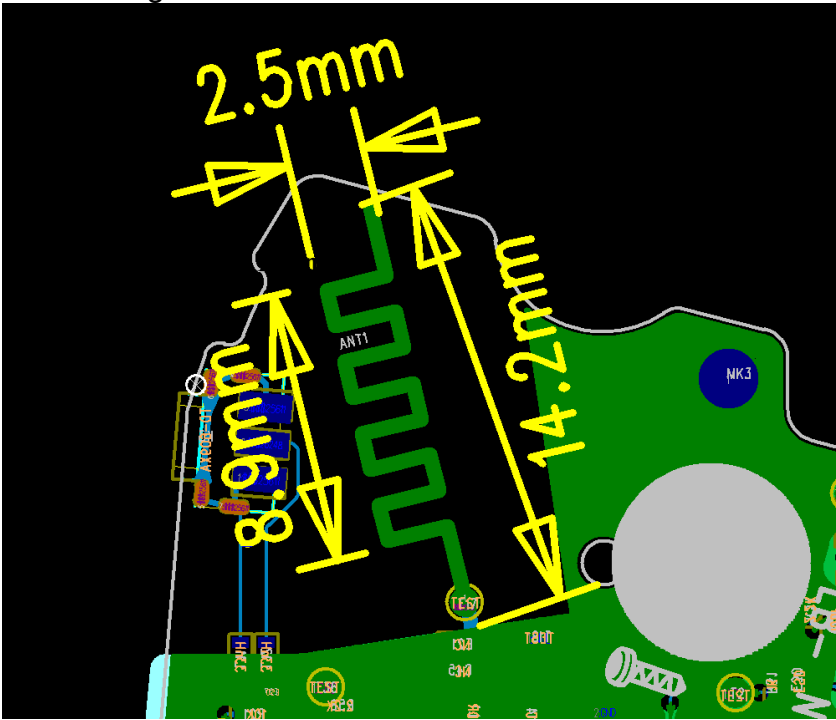
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3. Technology Parameters

Frequency Range: 2400MHz-2500MHz
Operating Humidity: 85%R.H.MAX
Temperature Rating: -40°C~+85°C

The antenna images:



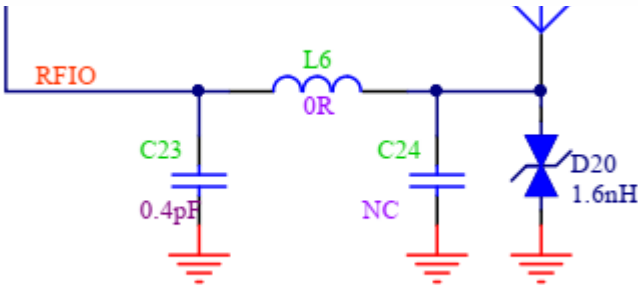
Design Specifications	Typical	Units
Antenna type	PCB onboard	
Wprking Frequency	2400~2500	MHz
Gain	-2.27	dBi
Antenna efficiency	45.14~50.50	%
VSER	<4	
Ploriaztion	Linear polarization	
Radiation	Omnidirectional	
impedance	50	ohm
Overall dimensions	11.7 * 6.7	mm
Operatin Temp	-30 ~ 70	° C
Storing Temp	-30 ~ 70	° C

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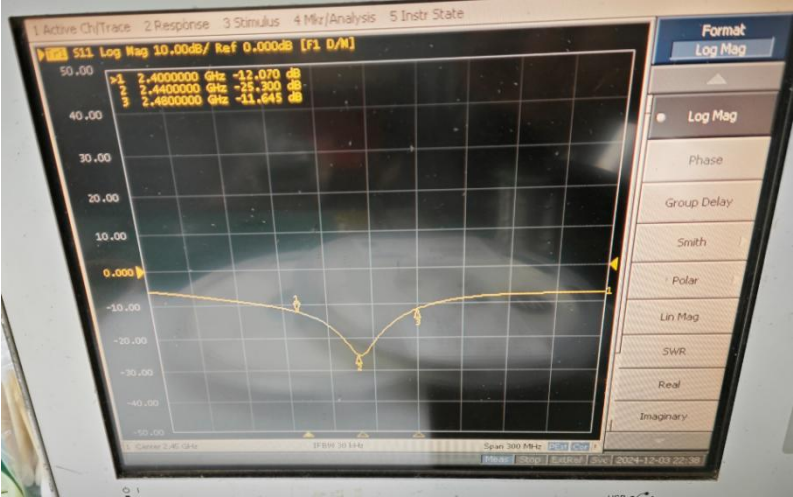
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The matching test value

Element	Value
D20(0402)	1.6nH
L6(0402)	0Ω
C23(0402)	0.4pF
E4(0402)	N/A



3.2
Log Mag:



Smith

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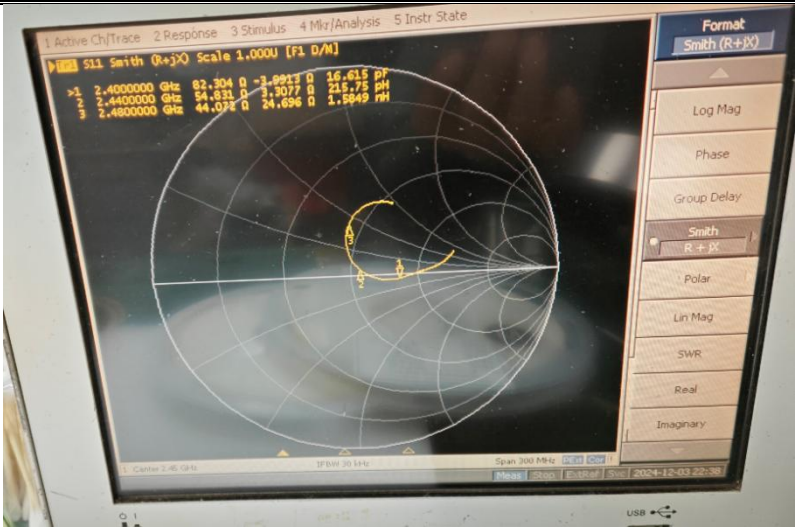
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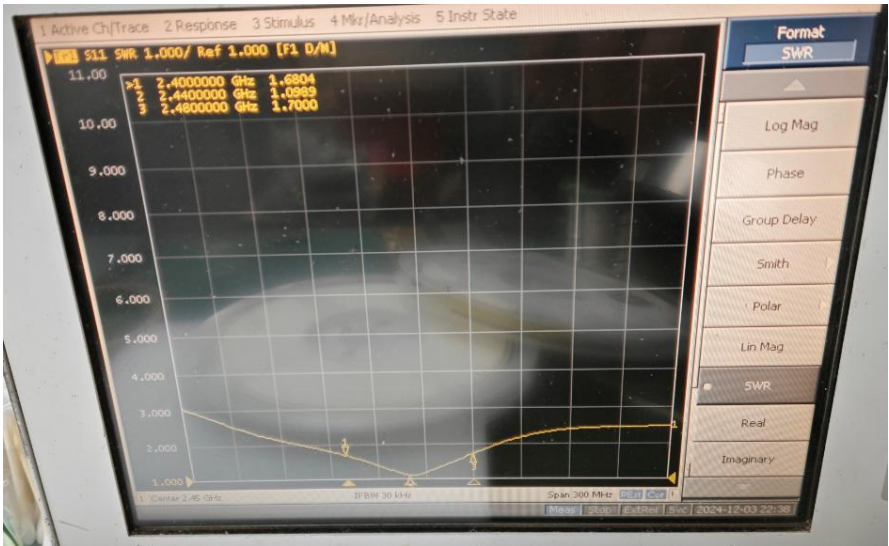
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SWR



3.3 Efficiency And Gain:

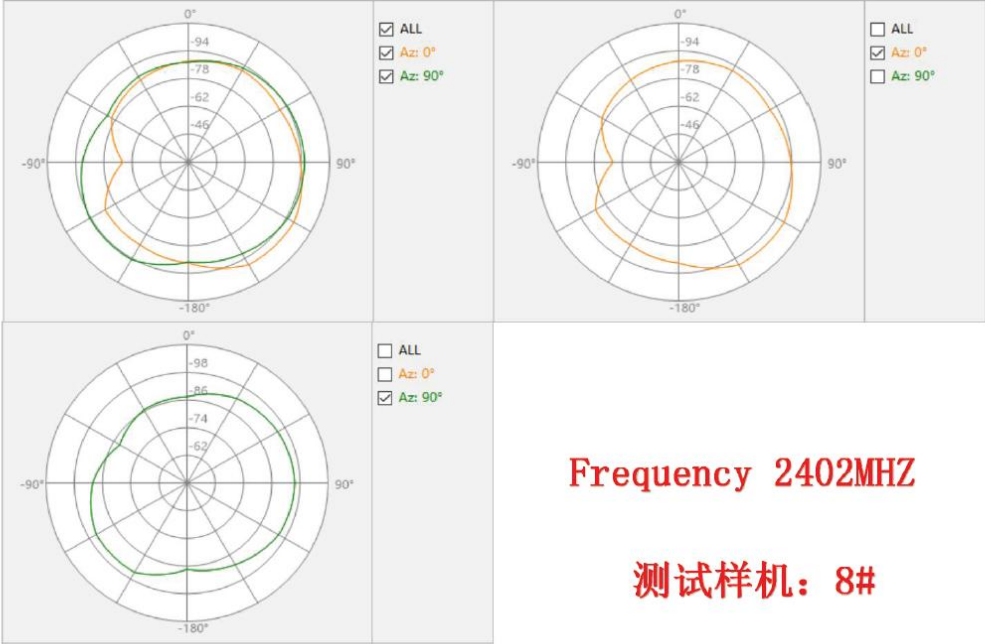
Fre	Effi	Effi . dB	Gain.dB
2400	45.14%	-3.58	-2.95
2410	46.12%	-3.51	-2.91
2420	47.49%	-3.40	-2.88
2430	48.79%	-3.31	-2.84
2440	49.37%	-3.26	-2.75
2450	50.15%	-3.21	-2.69
2460	50.50%	-3.18	-2.63
2470	50.30%	-3.20	-2.59
2480	49.88%	-3.23	-2.55

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2490	49.11%	-3.28	-2.45
2500	47.72%	-3.39	-2.27

4. Radiation pattern

4.1:2D



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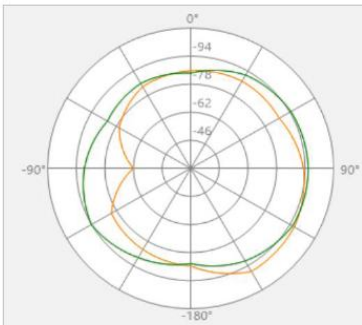
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☒ ALL
☒ Az: 0°
☒ Az: 90°



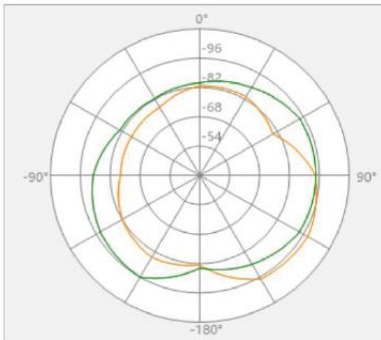
☐ ALL
☒ Az: 0°
☐ Az: 90°



☐ ALL
☐ Az: 0°
☒ Az: 90°

Frequency 2441MHZ

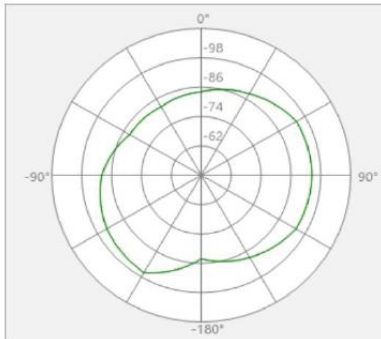
测试样机：8#



☒ ALL
☒ Az: 0°
☒ Az: 90°



☐ ALL
☒ Az: 0°
☐ Az: 90°



☐ ALL
☐ Az: 0°
☒ Az: 90°

Frequency 2480MHZ

测试样机：8#

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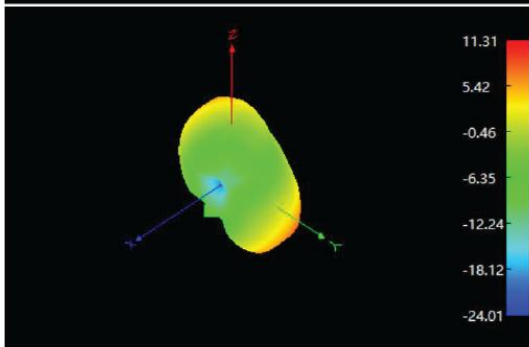
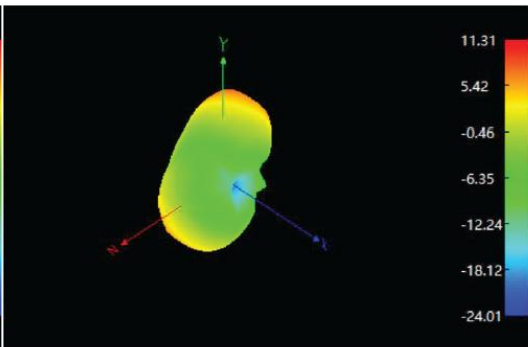
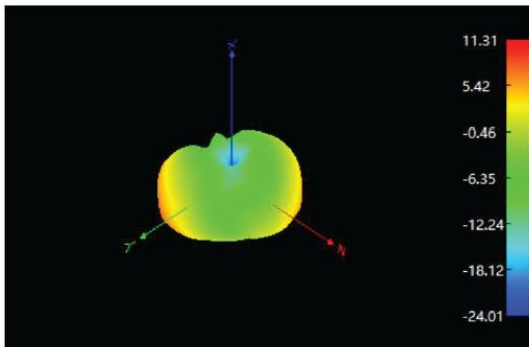
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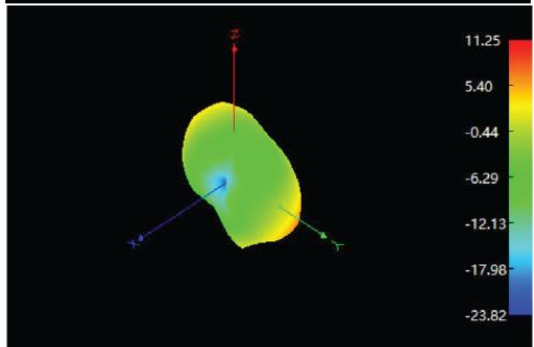
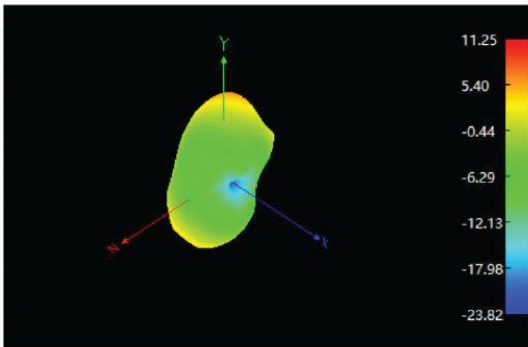
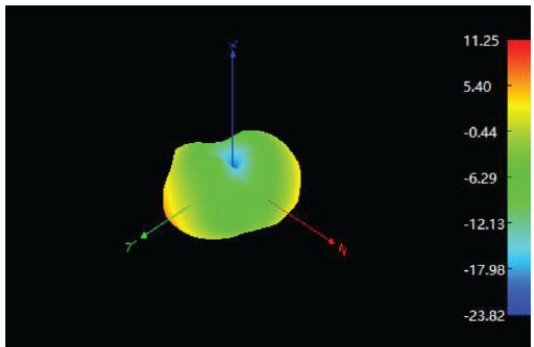
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Frequency 2402MHZ

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Frequency 2441MHZ

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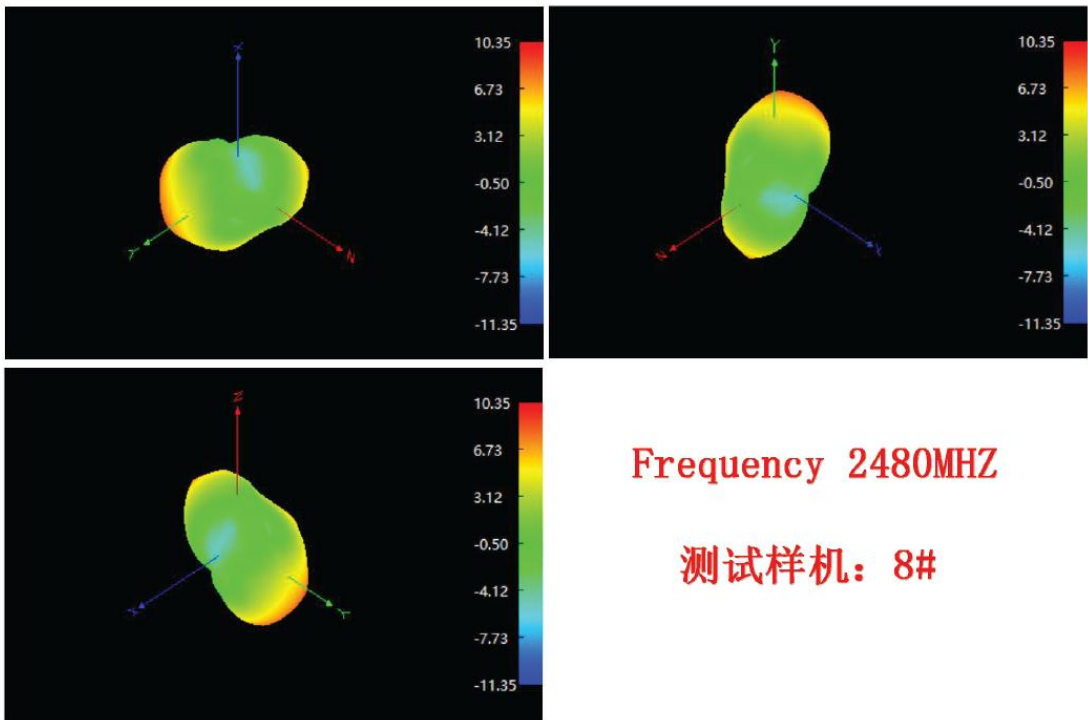
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Frequency 2480MHZ

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5. TRP&TIS

5.1

TRP&TIS parameter Summary of B410					
Head and ear (二代人头耳)	1#	Test	Bluetooth TRP&TIS		
		Result	0	39	78
		TRP (dBm)	6.08	5.14	5.36
		TIS (dBm)	-94.02	-94.37	-94
	5#	Test	Bluetooth TRP&TIS		
		Result	0	39	78
		TRP (dBm)	6.37	5.91	6.4
		TIS (dBm)	-94.59	-94.29	-94.71
	8#	Test	Bluetooth TRP&TIS		
		Result	0	39	78
		TRP (dBm)	5.49	4.88	5.1
		TIS (dBm)	-94.53	-94.15	-94.85