

深圳升业科技有限公司

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2.4G-Antenna Test Report

Client Name	深圳益邦阳光有限公司	Frequency Band	2.4G
Product Name	2.4G Antenna	Version	V1.0
Customer's Part Number		Part Number	
RF Designer	Shun Wang	RF Manager	Shun Wang
Structural Designer	Hairuan Wu	Date	2025.03.26

Client confirmation:

Whether the product meets your requirements? OK NG

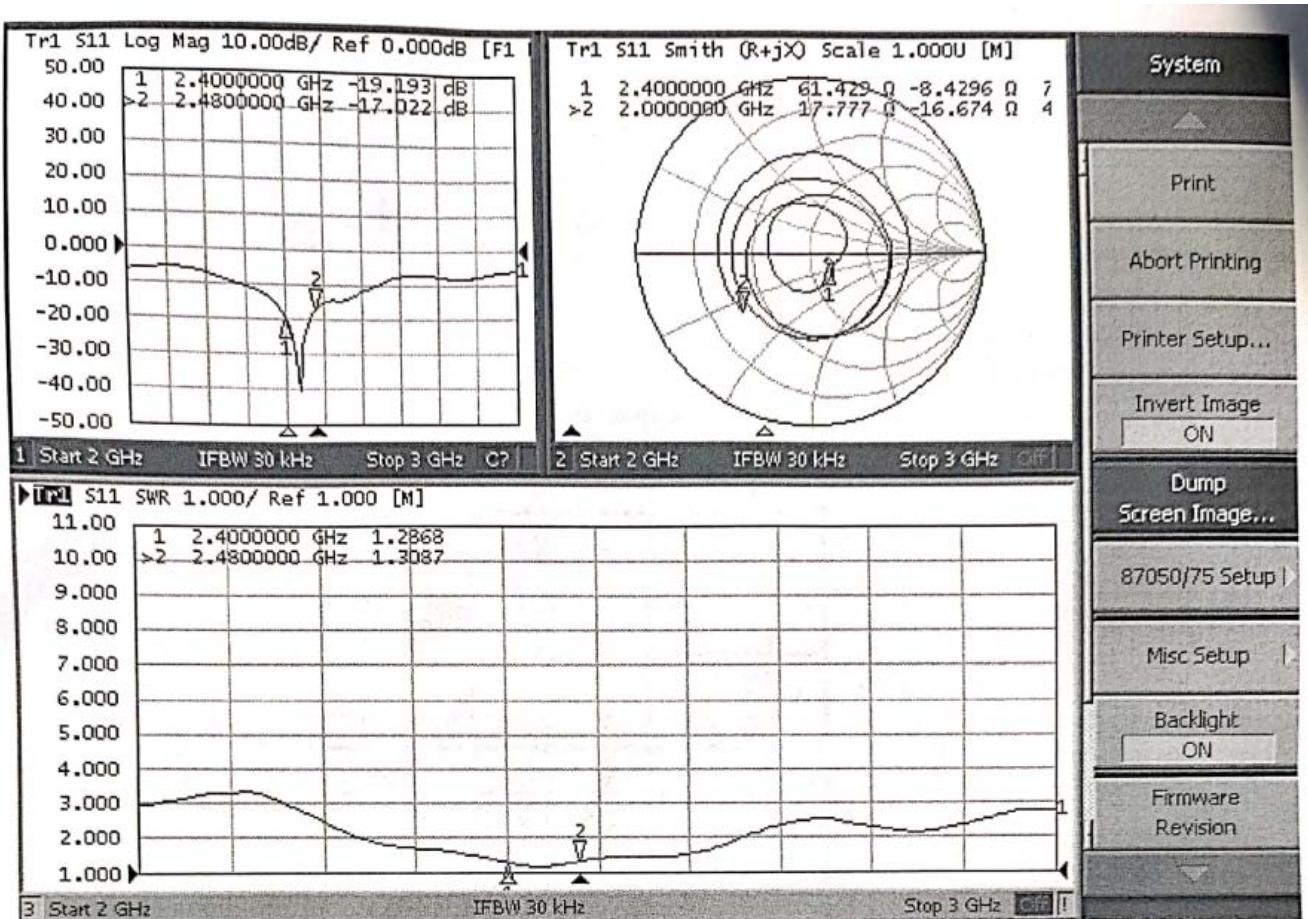
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1. Parameters

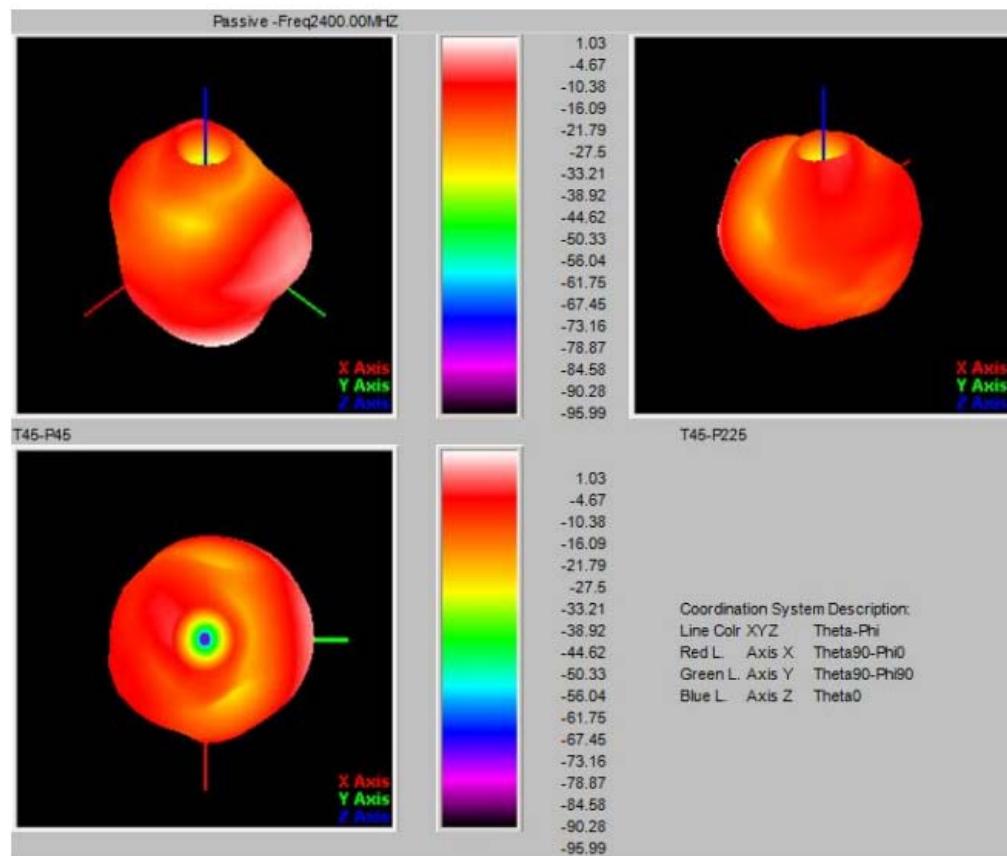
Testparameters			
Product Name	2.4G Antenna	Model Name	WIFI-2.4G
Electrical Specifications			
Frequency Range	2.4-2.48GHZ	Polarization	linear polarization
Input Impedance	50Ω	Radiation direction	Omnidirectional
VSWR	≤2.0	Power Capacity	10W
Gain	3.24 dBi	Bandwidth	80MHZ
Mechanical Specifications			
Dimensions		Radome Color	
Connector		Cable Length	
Radome Material	CU	Storage Temperature	-10°C -+70°C
Working Temperature	-30°C -+70°C	Relative Humidity	40~85%

2. Network analyzer test report

S11 DATA (VSWR, Return loss, Smith)



3.2D, 3D Radiation Pattern in Darkroom



4. Gain and efficiency

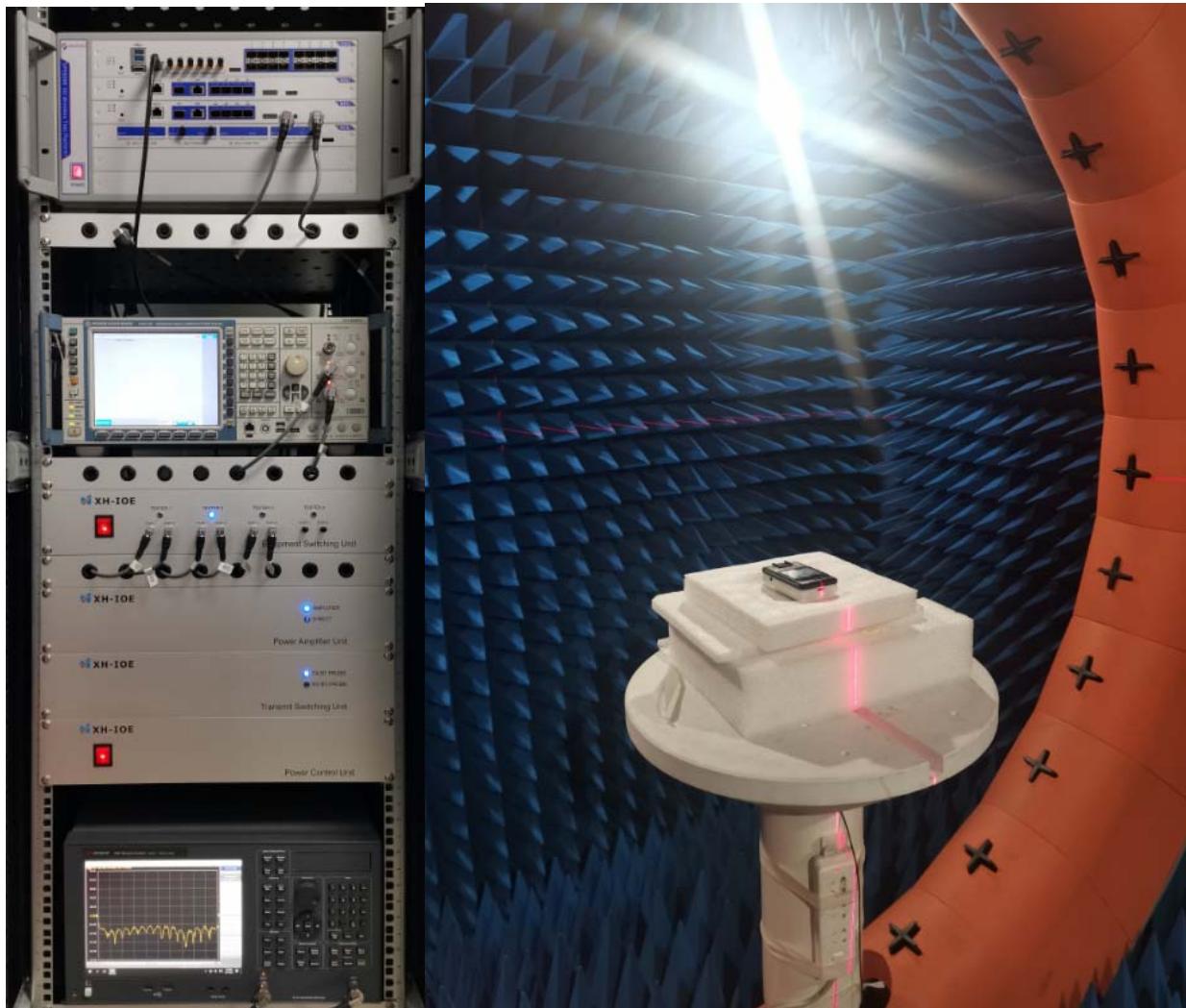
Freq (MHz)	Effi (%)	Gain (dBi)
2400	65.36	2.58
2405	62.91	2.49
2410	65.44	2.54
2415	64.3	2.55
2420	64.3	2.66
2425	65.32	2.71
2430	66.41	2.73
2435	66.57	2.6
2440	65.62	2.75
2445	68.78	2.95
2450	66.54	2.74
2455	67.53	2.94
2460	66.27	3.02
2465	65.09	3.16
2470	64.86	3.2
2475	62.28	3
2480	66.65	3.24

5. OTA Test Data

Band	Channel	TRP(dBm)	TIS(dBm)	
802.11b : 11MBps	1	17.3	-85.7	
	6	17.5	-86.3	
	11	17.1	-85.8	
802.11g : 54MBps	1	16.3	-72.3	1#
	6	16.9	-72.1	
	11	17.3	-71.8	
802.11n : MCS7	1	16.5	-71.3	
	6	16.4	-71.5	
	11	16.2	-70.9	

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802.11b : 11MBps	1	17.5	-84.9	
	6	17.8	-85.1	
	11	17.2	-84.6	
802.11g : 54MBps	1	16.3	-72.5	
	6	16.2	-73.4	2#
	11	16.5	-72.1	
802.11n : MCS7	1	16.1	-72.5	
	6	16.0	-71.7	
	11	16.4	-71.4	

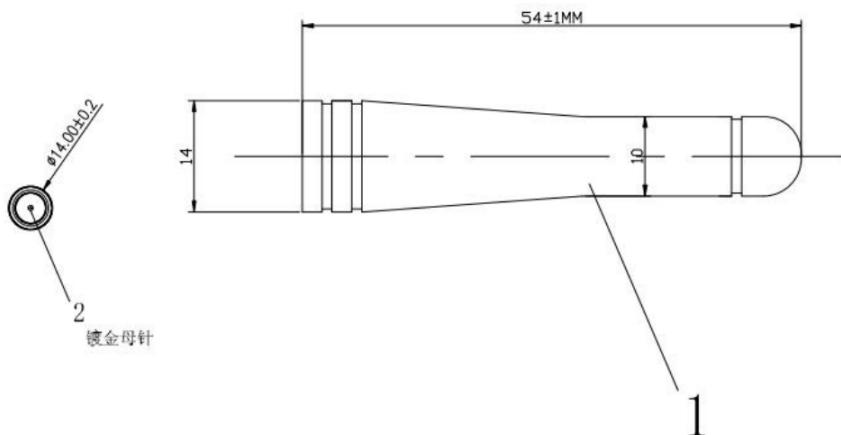
6. Test Equipment



7. Product structure drawing

材料规格:

- 1 套管 塑胶素材 黑色
- 2 母针



8. Environmental reliability experiment report

Item	Test condition	Specification
Storage environment	Tested temperature, humidity and air pressure as following without specifying: 1. The temperature is -30 °C ~ + 80 °C 2. Relative humidity is 45% -85% 3. The air pressure is 86kpa-106kpa	The electrical mechanical performance is normal
High and low temperature test	Perform 5 cycles between 70 °C and 40 °C, then check the appearance quality, under normal conditions 1-2H	The size should meet the requirements for mechanical and electrical performance
Resistant to constant heat and humidity	Test Relative humidity: 95 ± 3%, Test temperature: 40 °C. After continuous 2H running, take out the sample, and measure its electrical properties within 5 minutes, put the sample in a normal condition for another 1-2H, check the appearance quality	The size should meet the standard, and meet for mechanical and electrical performance
Vibration test	Vibration frequency range 10-55HZ, displacement amplitude: 0.35MM, acceleration amplitude: 50.0M / S, frequency of sweeping cycle: 30 times	Normal electrical and mechanical performance
Drop test	1M high-altitude free fall 3 times, in the direction of mutually perpendicular axes	Normal electrical and mechanical performance