



Approval Sheet

客户名称 耘趣 (Yunqu)

(Customer Name)

产品名称 EC503 Antenna

(Specification)

客户料号

(Customer P/N)

产品料号

(O/I)

送样日期 2026-01-05

Frequency band	2.4G+5.8G/WiFi		
Version	A		
RF	Peng Wei	Confirm	
Structural Engineer	Yang Xuezhong		
Customer confirmation			
Date			



Catalogue

1. Project image

2. Test fixture

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4. S11 Test electrical performance

4.1 S11 Test Method Description Specification Standards

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5. Antenna Testing

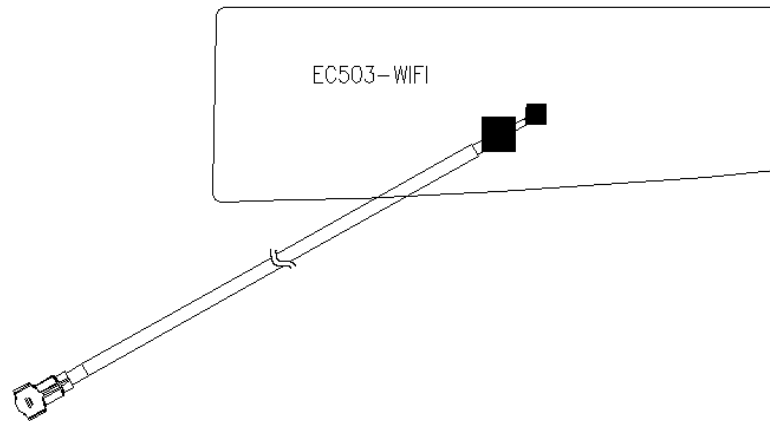
5.1 Passive Parameters

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1. Project image (for reference only)

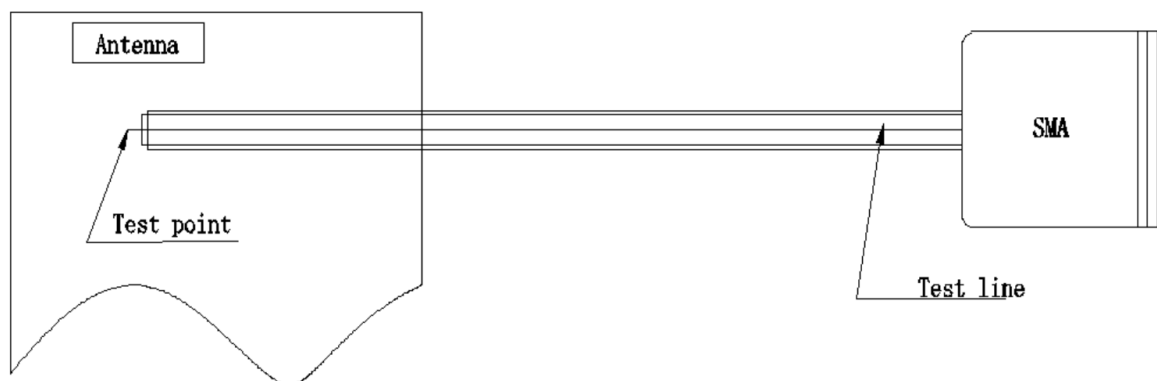


WiFi Antenna

2. Passive Test

Purpose: To test the passive parameters of the antenna as accurately as possible.

Method: This fixture uses a 50 ohm coaxial cable, with one end connected to the test point at the back end of the matching circuit (RF test hole front section) of the mobile phone motherboard, and the other end connected to the SMA connector. As shown in the following figure:

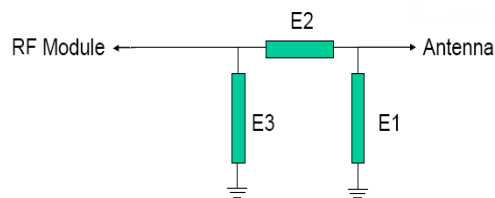




The table below presents the test metrics for the performance of the mass-produced EC503-WIFI antenna:

EC503 - Antenna				
	Frequency (MHz)	VSWR	Frequency (MHz)	VSWR
Frequency band	Transmitting end		Receiving end	
2.4G WIFI	2400-2550	≤ 1.4	2400-2550	≤ 1.0
5G WIFI	5150-5850	≤ 1.9	5150-5850	≤ 1.3

3. Matching circuit

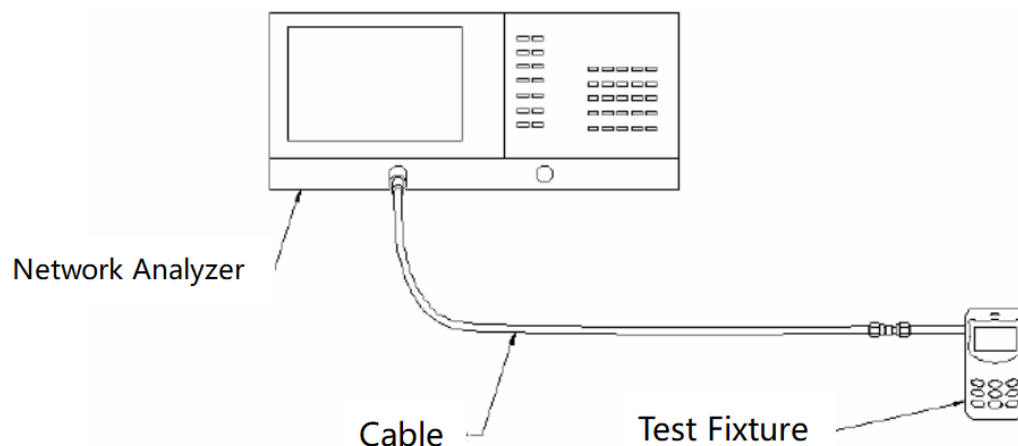


Element	Matching Value
E1	
E2	0
E3	

4. S11Test

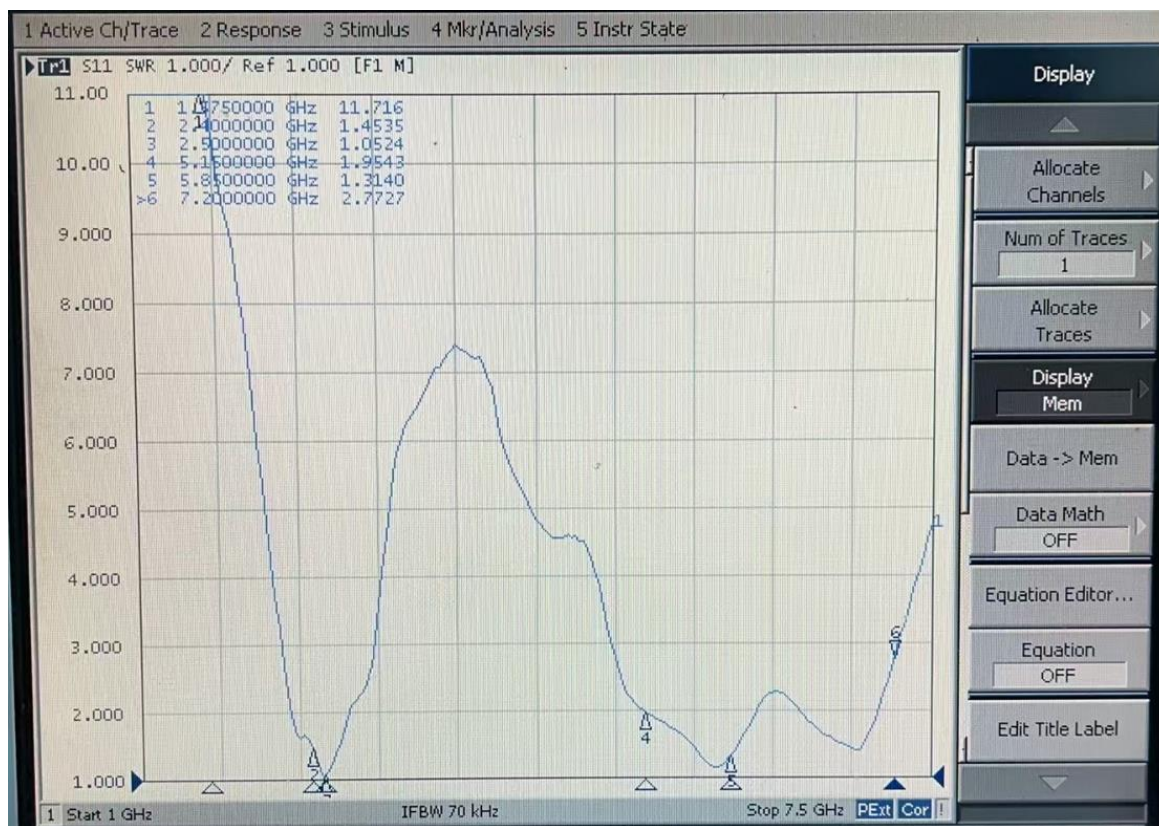
4.1 S11Test Method Description Specification Standards

VSWR The testing devices are sequentially connected as follows :
E5071B Network analyzer → 50Ω Coaxial line → 120mm Copper tube → Test fixture.
Treatment of testing fixture: Use a hard cable to lead out the SMA-J connector from the 50 ohm test point of the antenna on the mobile phone PCB, connect it to a copper pipe with a choke ring, and then connect other devices in sequence.





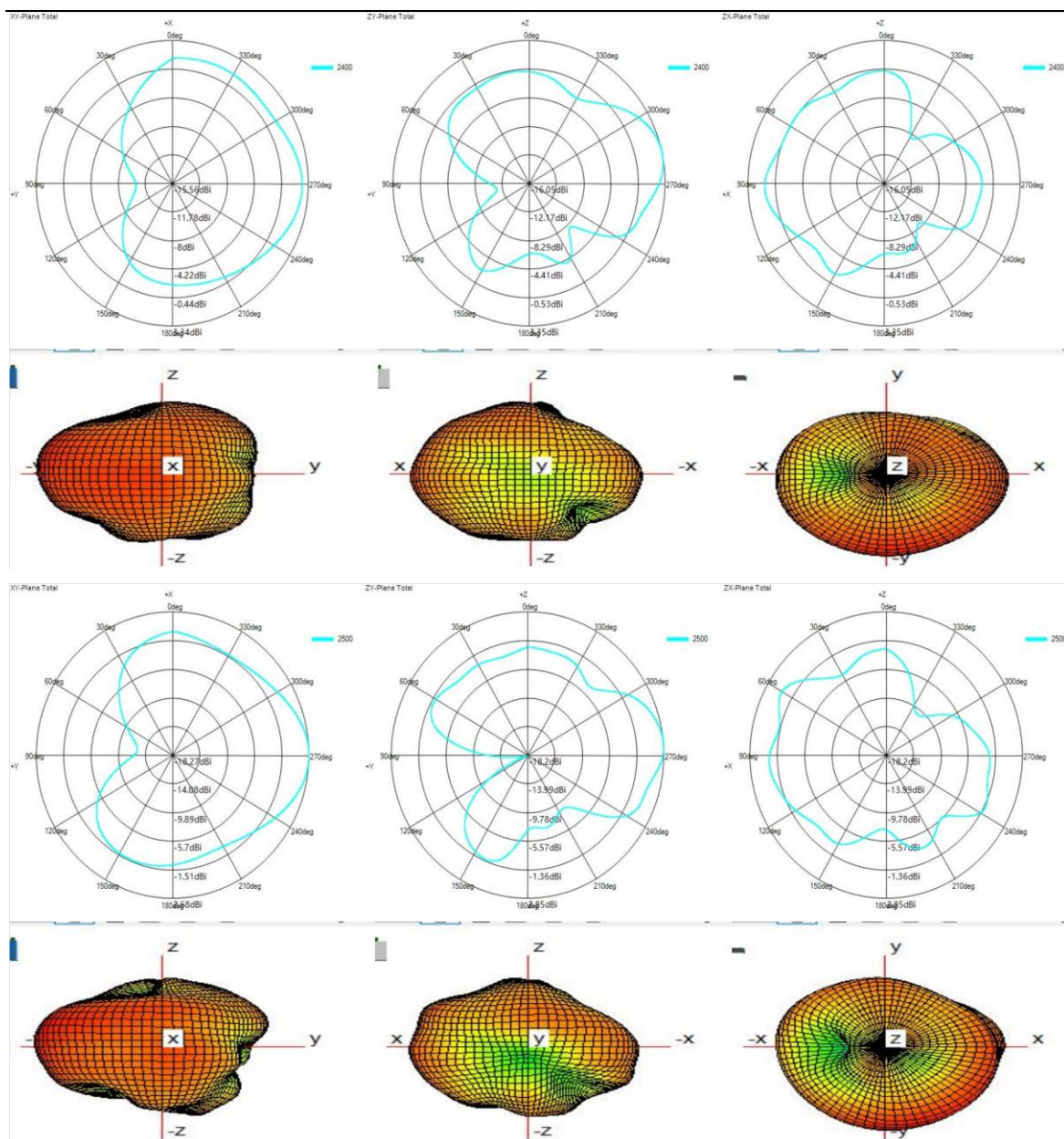
4.2 S11 Parameter image



5. Antenna Testing

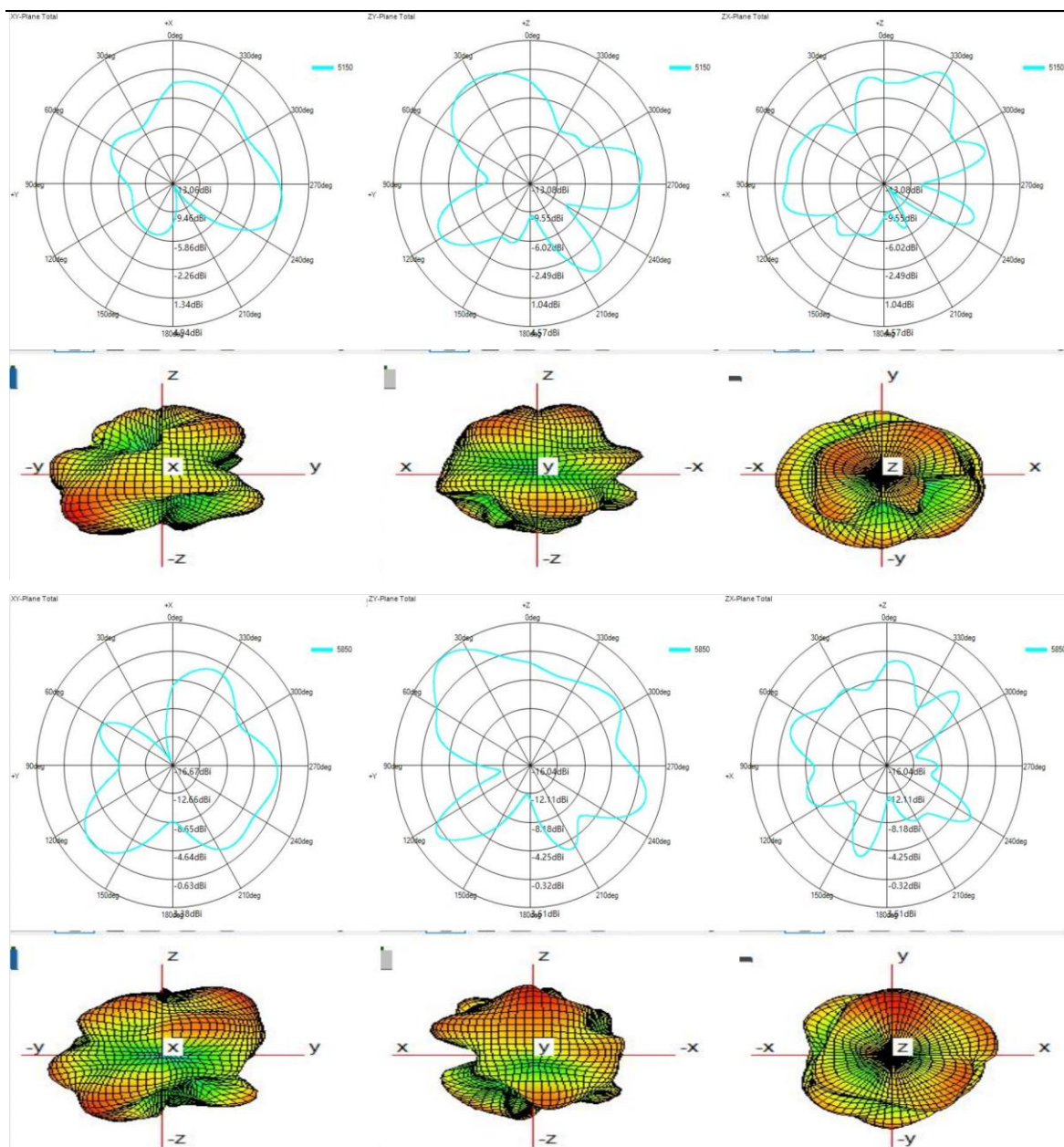
5.1 Passive Parameters

Passive Test For 2400-2500				Passive Test For 5150-5850			
Freq	Effi	Effi	Gain	Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)	(MHz)	(%)	(dB)	(dBi)
2400	57.86	-2.33	2.33	5150	63.74	-1.96	3.56
2420	60.38	-2.12	2.37	5250	64.72	-1.72	3.65
2440	59.03	-2.22	2.23	5350	63.75	-1.95	3.57
2460	57.41	-2.41	1.93	5450	64.44	-1.78	3.58
2480	54.05	-2.67	1.65	5550	61.54	-2.11	3.62
2500	53.52	-2.71	1.68	5650	60.82	-2.18	3.12
				5750	60.15	-2.21	3.05
				5850	52.57	-2.76	2.82





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5.2 Active parameters

2.4G	11B (11M)			11G (54M)		
WIFI	CH1	CH6	CH11	CH1	CH6	CH11
TRP	14.19	13.81	13.79	10.84	10.70	10.92
TIS	-81.87	-82.25	-81.91	-67.32	-68.08	-68.09
2.4G	11N (MCS7)			11AX (MCS11)		
WIFI	CH1	CH6	CH11	CH1	CH6	CH11
TRP	10.97	10.28	10.85	9.54	9.15	9.87
TIS	-64.25	-64.91	-64.22	-61.31	-61.54	-61.20
5G	11A (54M)			11AN (MCS7)		
WIFI	CH36	CH60	CH165	CH36	CH60	CH165
TRP	15.46	15.20	15.18	14.60	14.17	14.29
TIS	-71.78	-72.12	-71.91	-68.64	-68.58	-68.44
5G	11AX (MCS11)					
WIFI	CH36	CH60	CH165			
TRP	12.46	12.48	12.52			
TIS	-61.15	-60.37	-61.03			

6. Structural drawings

