



SPECIFICATIONS FOR APPROVAL

Customer Name: 深圳市艾莱卡科技有限公司

Product Name: 2.4G Antenna

Product Model: P3

Part Number: LJT02-23112508-R0A

Write By : Mingjin Li

Issued Date: 2023-11-25

CUSTOMER

ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVAL

LEJIN

R&D DEPT	ENGINEER DEPT	APPROVAL
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REV	MODIFIED DESCRIPTION	DATE	REMARK
V1.0	Initial Draft Release	2023/11/25	



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3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2525 MHz
VSWR	<2.0
Efficiency	≥40%
Impedance	50Ohm
Polarization	Linear
Gain(2.4G)	≤2.07dBi
B. Material & Mechanical Characteristics	
Material of Radiator	Copper tube
Cable Type	Φ1.13mm,L70mm,black
Connector Type	IPX1
Dimension	Φ4.4mm*24.0mm
C. Environmental	
Operation Temperature	- 20 °C ~ + 70 °C
Storage Temperature	- 30 °C ~ + 85 °C
Humidity	40%~95%

4.Test Equipment & Conditions

- 1.Network Analyzers Agilent 8753D/5071C
- 2.HSPA and LTE protocol test set R&S CMW500 -PT
- 3.Communications Test Set Agilent 8960
- 4.3D Chamber Test System

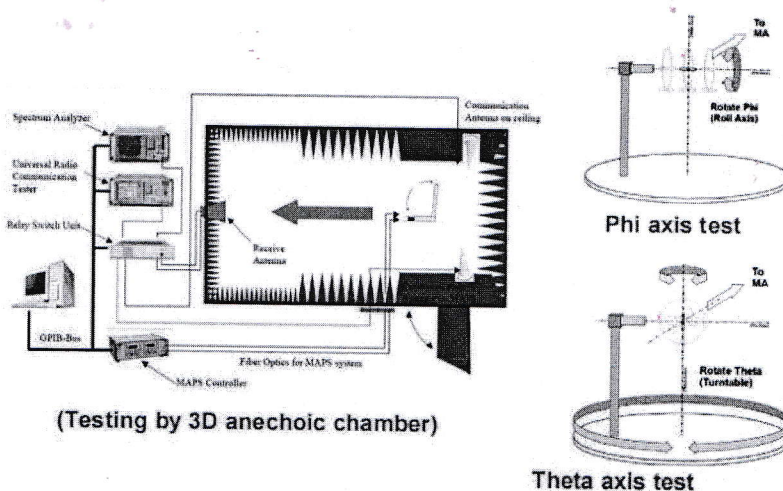


Chart 1 Test topology



5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

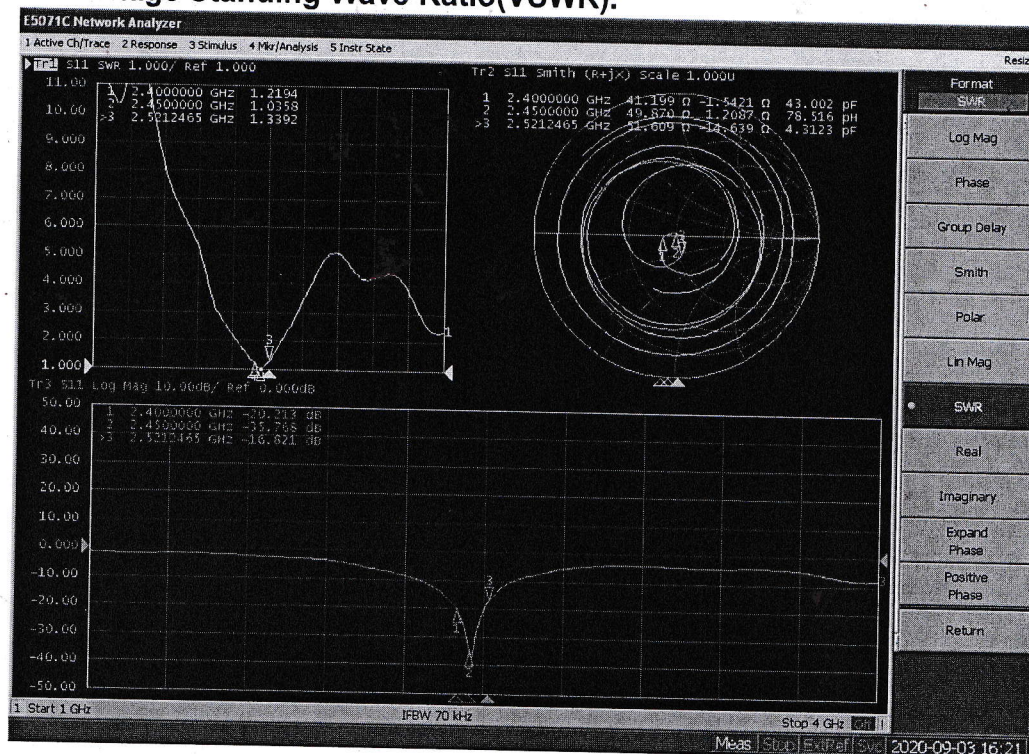
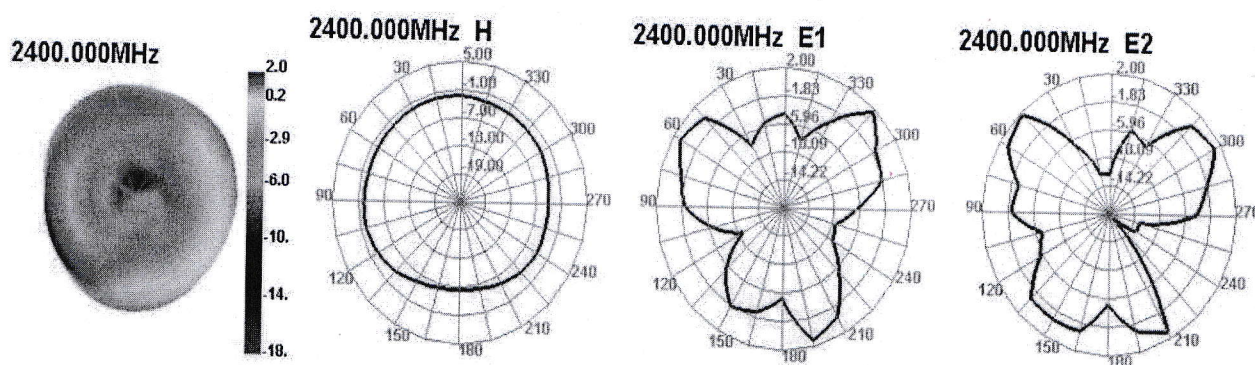


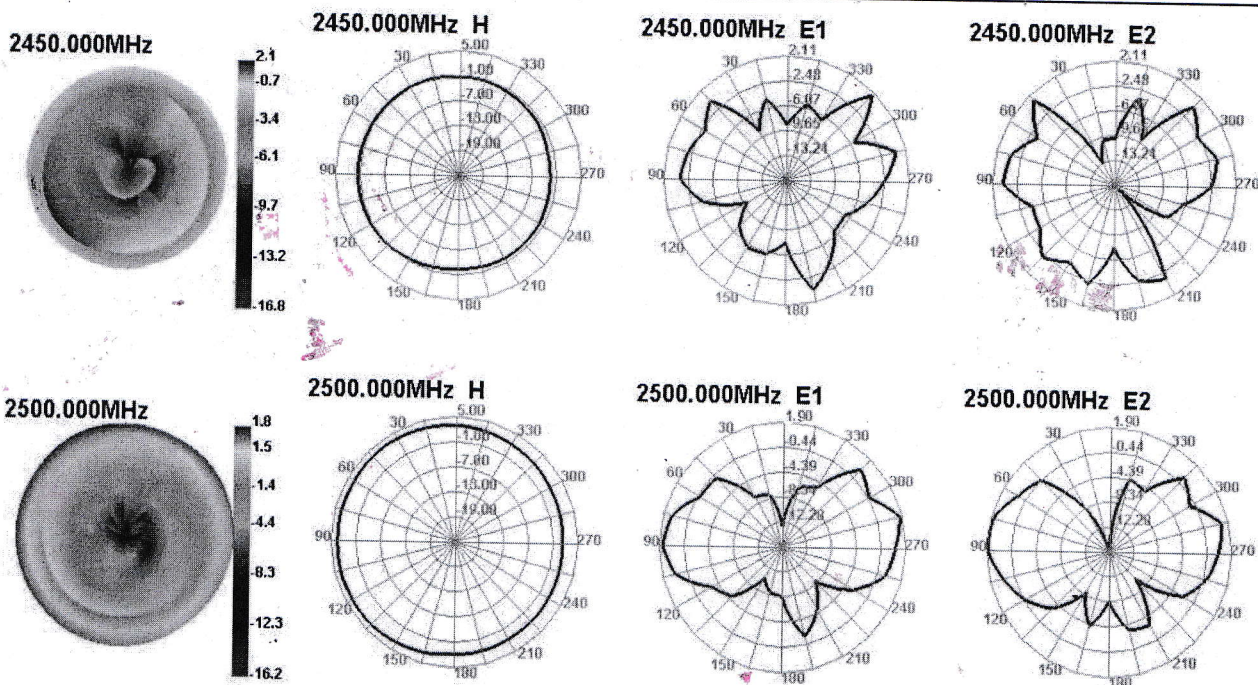
Chart 2 VSWR

5.2 Efficient and gain.

Passive	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	2510	2520	2530
Test	Effi(%)	57.66	63.34	56.48	57.02	59.82	59.12	55.64	60.81	55.18	50.44	51.01	49.47	53.37	51.65
	Gain(dBi)	1.93	1.96	1.86	2.02	2.07	2.02	1.91	1.83	1.85	1.85	1.87	1.85	1.79	1.88
	2.4GHz														

5.3 Radiation pattern.



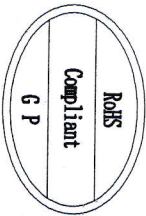


6. Reliability Test

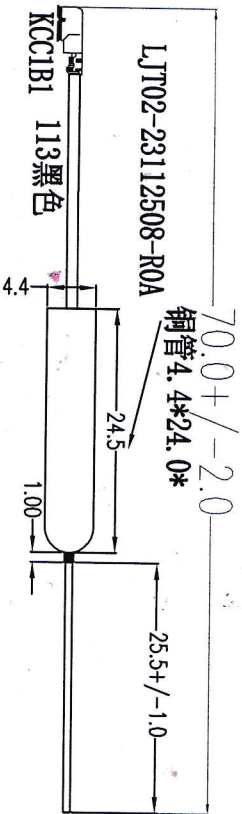
Test Item		Test condition	Equipment	Specification	Result
1	Low Temp. Storage Test	Temperature: -30℃, Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-down the temp. to -30℃ in one hour, store antenna for 44 hours; step-up temp to 25℃, test antenna after 2 hours.	Temp.&Hum. Tester	No material deformation is allowed. Electronic Performance is ok.	PASS
2	High Temp./High Humid Storage Test	Temperature: 85℃ Humidity: 85% RH Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-up the temp. to 80℃ and the humidity up to 85% in one hour, store antenna for 44 hours; step-down temp to 25℃, test antenna after 2 hours.	Temp.&Hum. Tester	No material deformation is allowed. Electronic Performance is ok.	PASS
3	Salt-Spray Test	Placing antenna in the Salt-Spray Tester, set the test condition, Temp: 35±2℃ Humidity: 85% NaCl salt spray :5±1%.PH value :6.5~7.2 Testtime:24hours	Salt-Spray Tester	No color change No appear rusting	PASS

7. Assemble type

8. Product Drawing



线材焊铜管图



Rev	Description	Date	Remark
1			
2			
3			
4			
A	New drawing		

Third Angle				Project		ALK		Date		2023-11-25	
0~10	±0.05	0.02	○	Part Name				Designed by			
10~18	±0.10	0.03	◎	Part No.				Checked by			
18~30	±0.12	0.02	⊥	Material				MD			
30~40	±0.15	0.04	∇	DWG No.				RF			
40~	±0.20	±0.5°		Approved by				Unit mm			
Location				Scale		1:1		Rev		A	
				5		6		7		8	

深圳市乐进射频科技有限公司