

惠州市国恒智能电子有限公司

样品承认书

SAMPLE APPROVAL SHEET

Component information :

客户 (Customer)	国恒智能科技 (惠州) 有限公司 Concord Intelligent Technology (Huizhou) Ltd.
地址 (Address)	25,PingAn Road,ShuiKou,HuiCheng District,HuiZhou,GuangDong,China
部品名称 (Material Description)	PCB Antenna
客户料号 (Customer's Part number)	100-1140300A2
部品规格 (Specifications)	4 LAYER FR4 L43. 7*W30. 45*TH1. 0mm
送样日期 (Date)	2023-08-17

Sample signature :

承认 Accepted By	审核 Checked By	批准 Approved By
Zekui.Rao	Luke	DG.WU

Results :

- 完全接受 (Full Approval)
- 条件接受 (Conditional Approval)
- 不合格 (Unqualified)
- 其它 (Others) :

1 , Specifications

This report mainly provides the testing status of various electrical and structural performance parameters of PCB antenna's

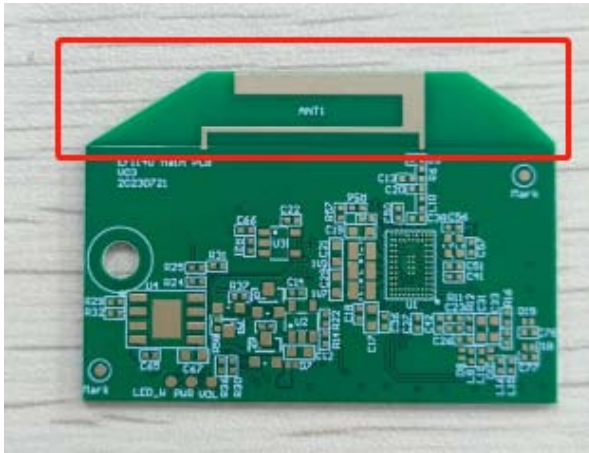


Figure 1 Antenna

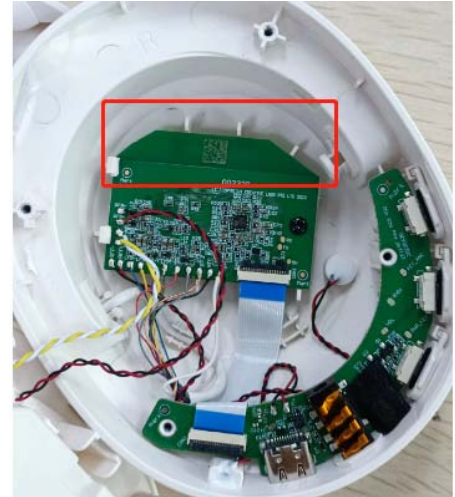
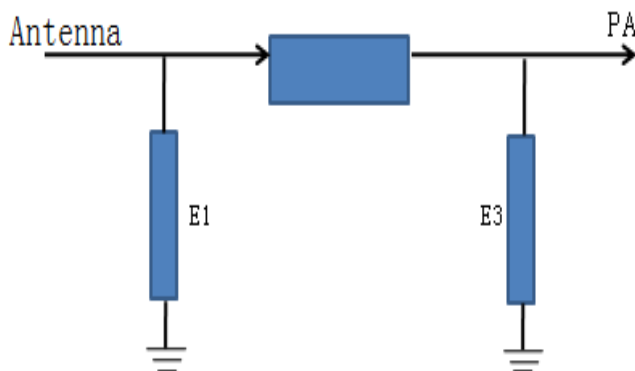


Figure 2 Antenna placement position

1.1 Electrical Specification

Antenna type	PCB Antenna
Working Frequency Range	2400-2480MHz
Efficiency	> 38%
Impedance	50 ohm
Polarization	Linear

1.2 Antenna matching circuit



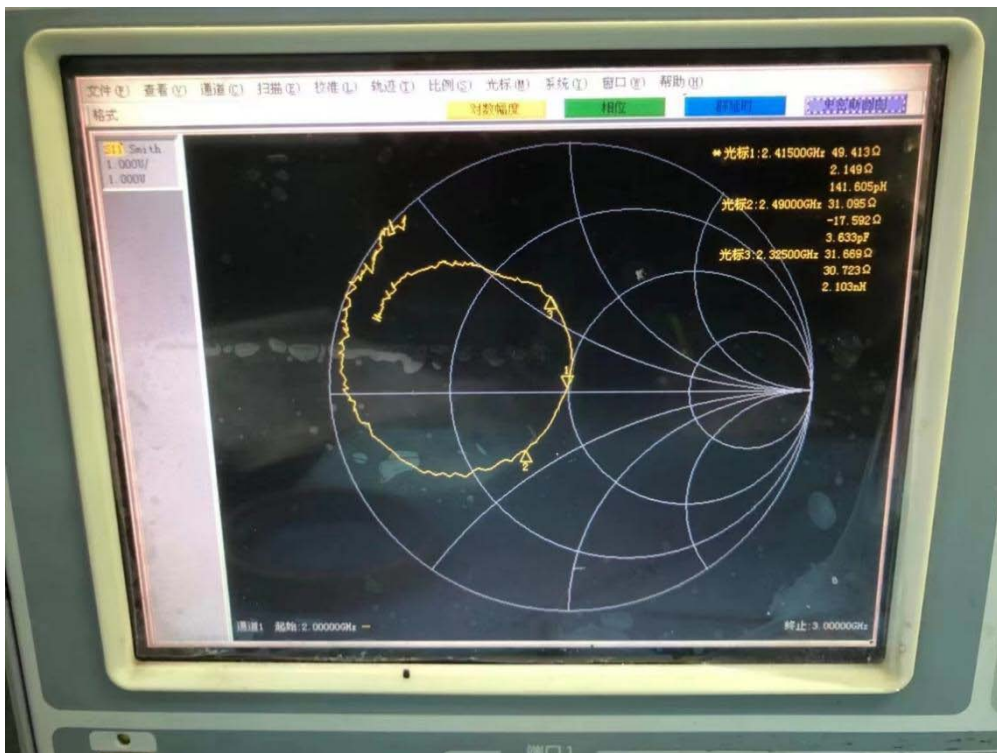
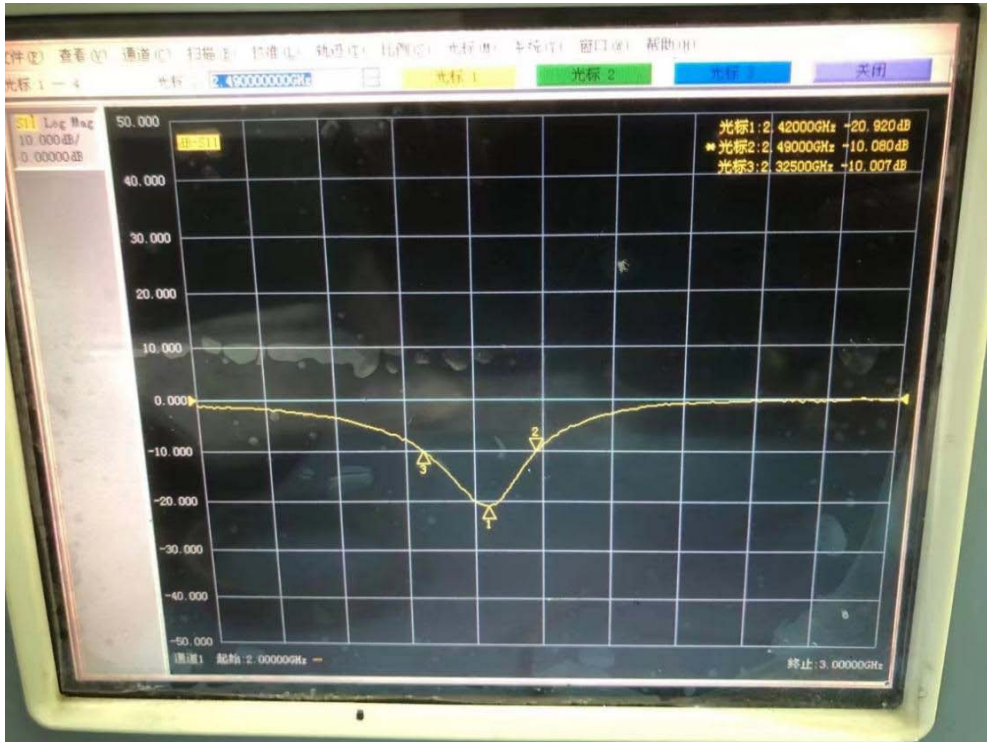
Component	Value
E1 (0402)	N/A
E2 (0402)	0Ω
E3 (0402)	N/A

2 ANT Test

2.1 Passive S11 Test

The passive S11 testing device is sequentially connected as follows:

network analyzer → testing line → testing fixture.



2.2 Gain and efficiency test

2.2.1 Testing site

Microwave anechoic chamber: testing frequency range 2400MHz—2480MHz

2.2.2 Instrument

Network analyzer, standard horn antenna, multi probe near-field antenna testing system, testing computer, etc.

2.2.3 Test Result

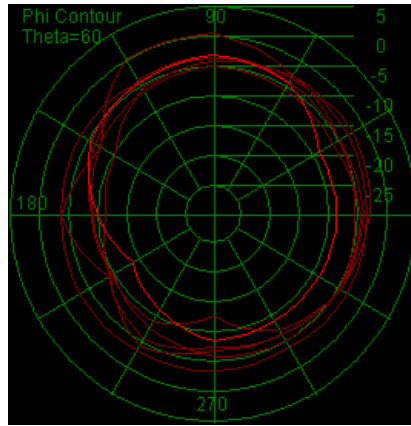
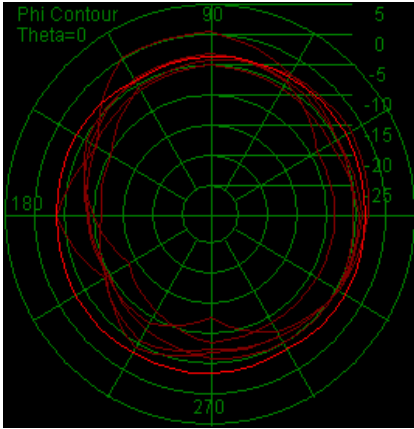
In the microwave anechoic chamber, the values related to frequency, efficiency, and gain are shown in the table below

Frequency(MHz)	Efficiency (%)	Efficiency (dB)	Gain (dBi)
2400	39.1	-4.08	-0.7
2410	39.4	-4.05	-0.75
2420	41.2	-3.85	-0.53
2430	43.8	-3.58	-0.74
2440	45.1	-3.46	-0.32
2450	45.5	-3.42	-0.49
2460	44.9	-3.48	-0.54
2470	42.8	-3.68	-0.6
2480	44.1	-3.55	-0.79
Average	39.4	-3.46	-0.6

2.4 Antenna passive radiation 2D pattern

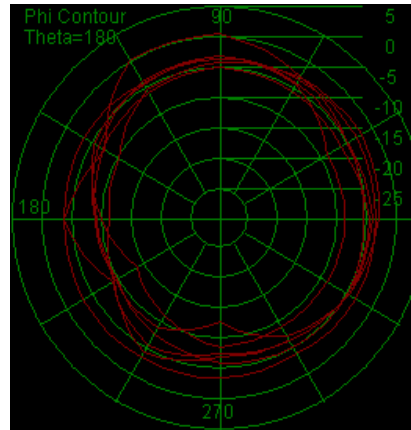
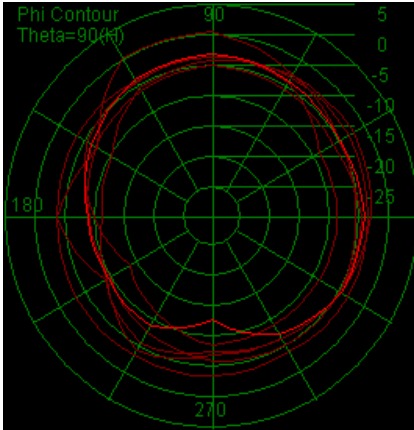
Frequency=2440MHz,Theta=0deg

Frequency=2440MHz,Theta=60deg



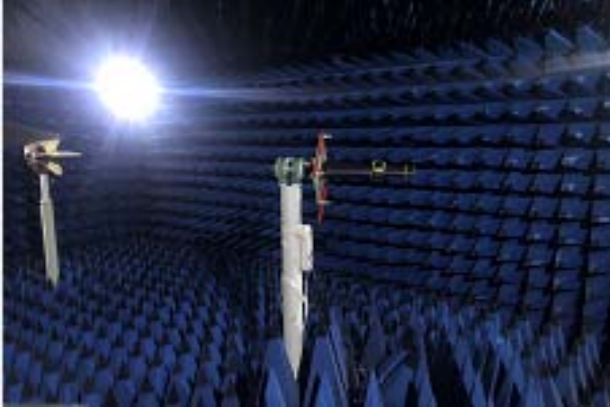
Frequency=2440MHz,Theta=90deg

Frequency=2440MHz,Theta=180deg



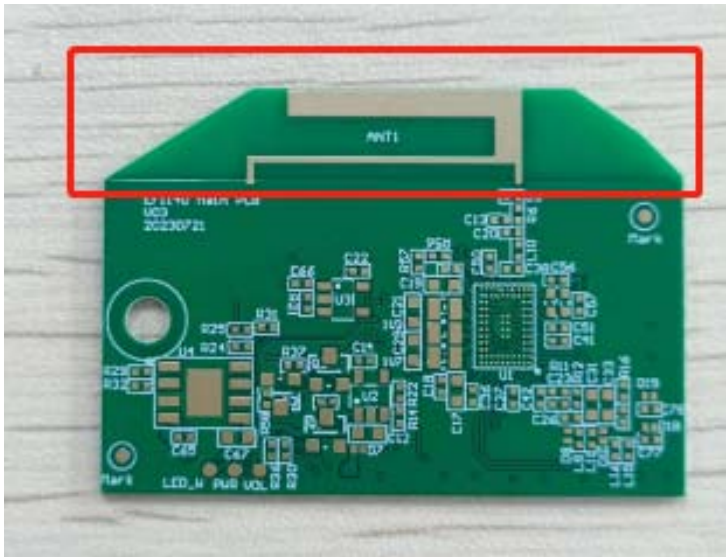
2.3 : Free space test data

Channel No.	Free space test data	
	TRP (dBm)	TIS (dBm)
0	5.96	-87.14
39	5.10	-87.21
78	4.73	-87.05



OTA Standard Chamber

3 Structural diagram



Size : L43.7*W30.45*TH1.0mm