



# 2023

## 深圳祥博一科技有限公司

Shenzhen Xiangboyi Technology Co. Ltd

天线测试报告  
**Antenna report**



# TEST REPORT

**01** 客户名称/Customer：路知音

**02** 项目名称/Project: CP82

**03** 立项编号/Project NO:

**04** 工程师/Engineer: 杨小文  
电话/Phone: 15820795642

# PART 1

## 测试报告版本/Report version

| 日期<br>Date | 天线版本<br>Antenna<br>version | 主板版本<br>PCB version | 变更描述<br>Description of Change         |
|------------|----------------------------|---------------------|---------------------------------------|
| 2023-04-25 |                            |                     | 天线无源测试数据<br>Passive antenna test data |
|            |                            |                     |                                       |
|            |                            |                     |                                       |
|            |                            |                     |                                       |

## PART 2

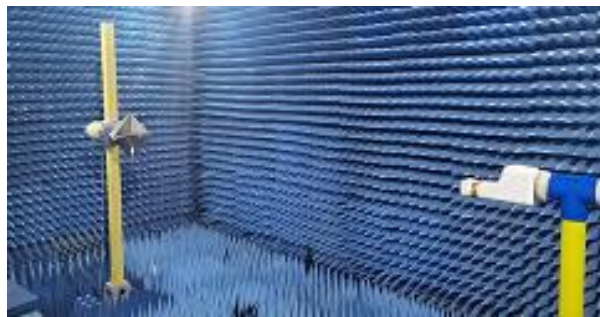
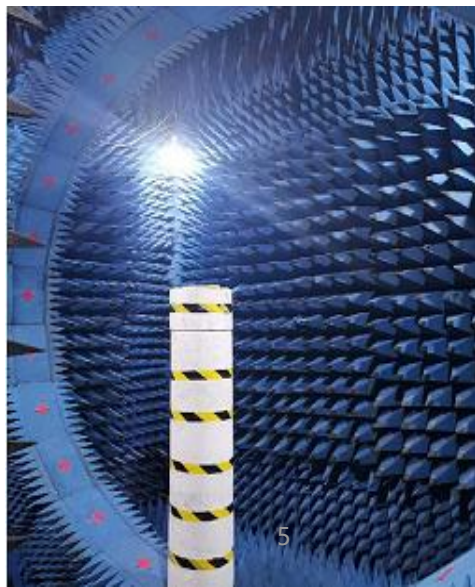
## 项目信息/Project brief

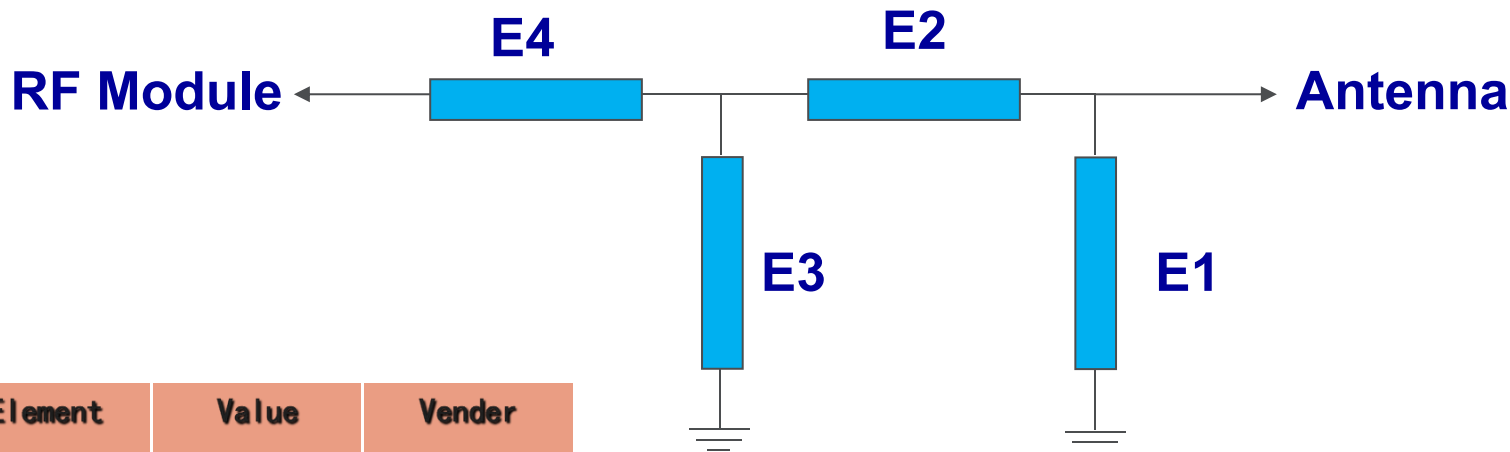
| NO | ITEMS                                                 | DETAILS                    |
|----|-------------------------------------------------------|----------------------------|
| 1  | <b>工作频段</b><br>Operating band                         | WIFI:5G<br>BT:2.4G         |
| 2  | <b>频率范围</b><br>Frequency band                         | 2400-2480Mhz ;5150-5250Mhz |
| 3  | <b>天线类型</b><br>Antenna type                           | monopole                   |
| 4  | <b>天线材质及实现形状</b><br>Material and implementation shape | 板载天线<br>On-board antenna   |

# PART 3

# Test system and equipment

|                                       | 测试项目/Test items                                              | 设备/equipment                                                                  |
|---------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------|
| 1: S参数<br>S parameter                 | 1. 回波损耗 Return loss<br>2. 驻波比 VSWR                           | 网络分析仪/Network analyzer: A338/A333                                             |
| 2: 耦合功率测试<br>Active test              | 1. 发射功率 Transmitting power<br>2. 接收灵敏度 Receiving sensitivity | 综合测试仪/Comprehensive test instrument:<br>Agilent 8960/ CMW500                  |
| 3: 辐射模式与增益<br>Radiation mode and gain | 1. 辐射模式 Radiation mode<br>2. 天线增益 Gain                       | 1. 暗室/Shielding room: 7x4x3 m (ETS-3D)<br>2. 网络分析仪/Network analyzer: HP 8753D |





| Element   | Value | Vender |
|-----------|-------|--------|
| E1 (0402) | NA    |        |
| E2 (0402) | 0 Ohm |        |
| E3 (0402) | NA    |        |
| E4 (0402) | 0 Ohm |        |

**Original match unchanged.**

BT 无源测试效率和增益  
BT Passive test efficiency and gain

| Freq<br>(MHz) | Effi<br>(%) | Gain<br>(dBi) |
|---------------|-------------|---------------|
| 2400          | 31.01       | -1.86         |
| 2440          | 37.96       | -0.61         |
| 2480          | 36.31       | -1.14         |

WiFi 无源测试效率和增益  
WiFi Passive test efficiency and gain

| Freq<br>(MHz) | Effi<br>(%) | Gain<br>(dBi) |
|---------------|-------------|---------------|
| 5150          | 36.75       | -1.05         |
| 5200          | 28.7        | -2.63         |
| 5250          | 31.79       | -1.61         |

## PART 6

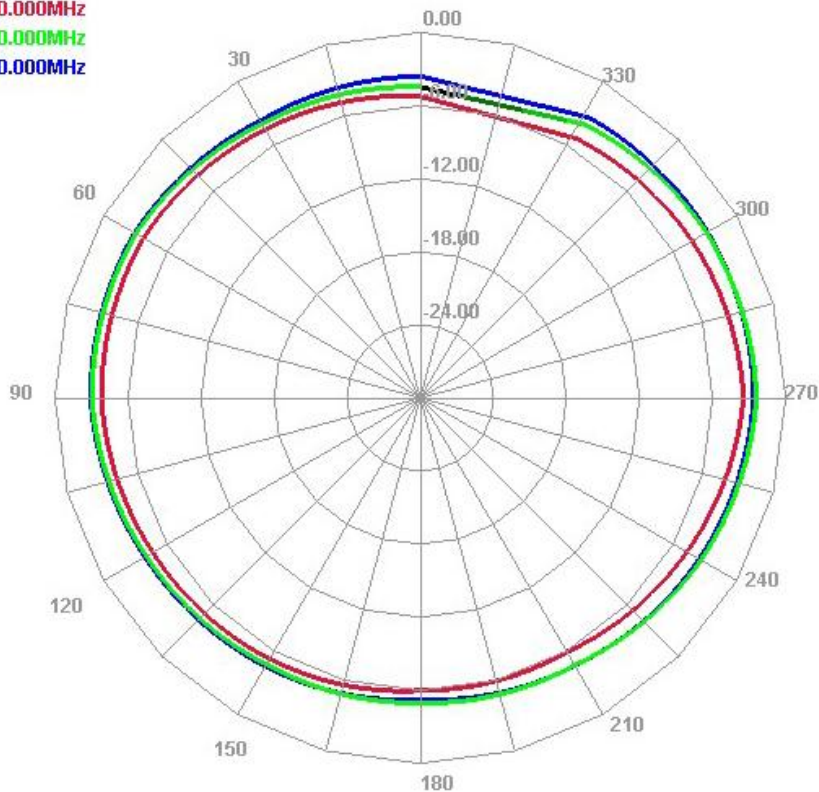
# 无源方向图/Passive directional graph

BT天线辐射方向图H面

The radiation pattern H-plane of BT antenna

Horizontal

2400.000MHz  
2440.000MHz  
2480.000MHz



## PART 6

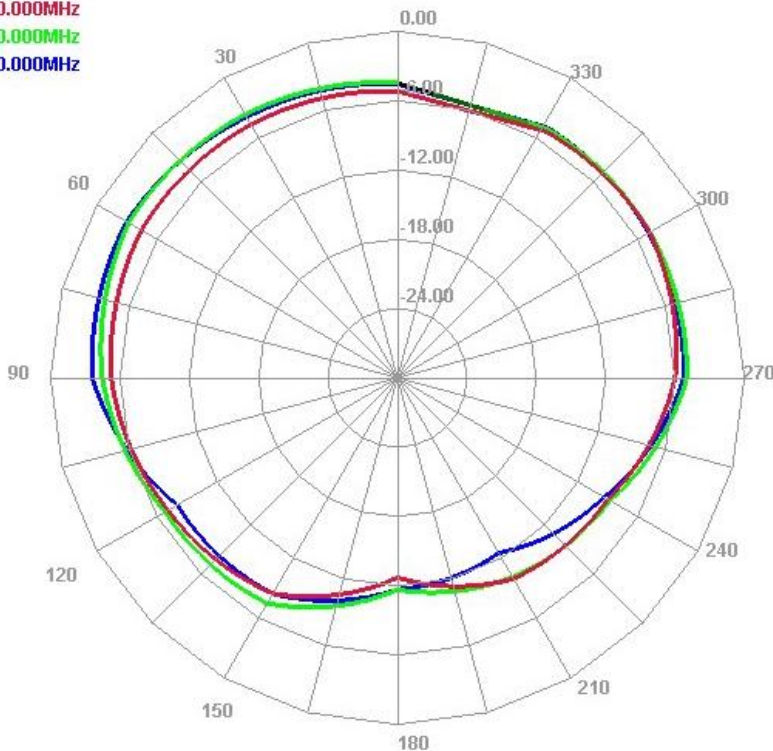
# 无源方向图/Passive directional graph

BT天线辐射方向图E1面

The radiation pattern E 1 of  
BT antenna

E1 Face

2400.000MHz  
2440.000MHz  
2480.000MHz



## PART 6

# 无源方向图/Passive directional graph

BT天线辐射方向图E2面

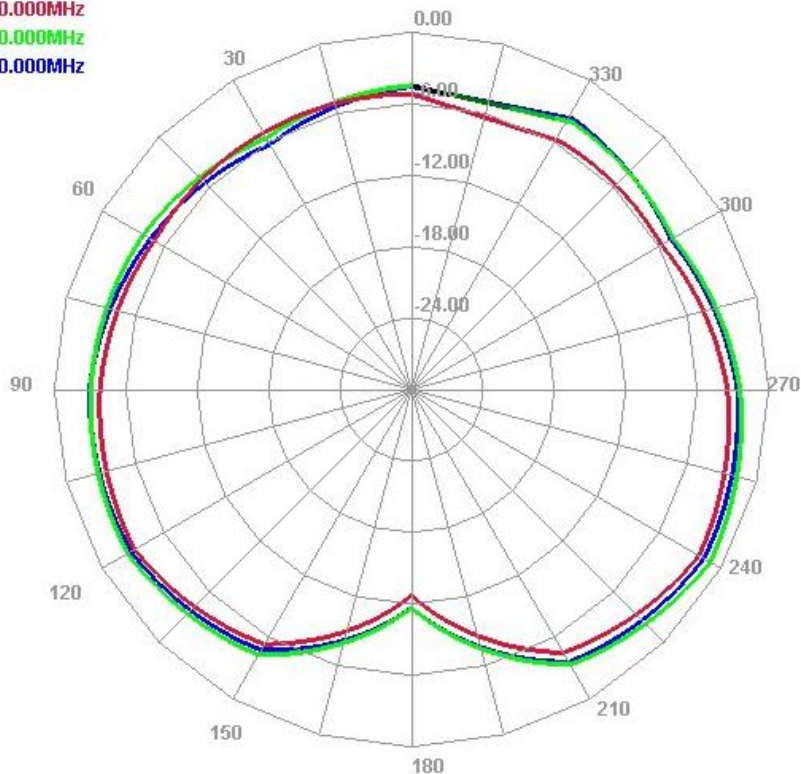
The radiation pattern E 2 of  
BT antenna

E2 Face

2400.000MHz

2440.000MHz

2480.000MHz



## PART 6

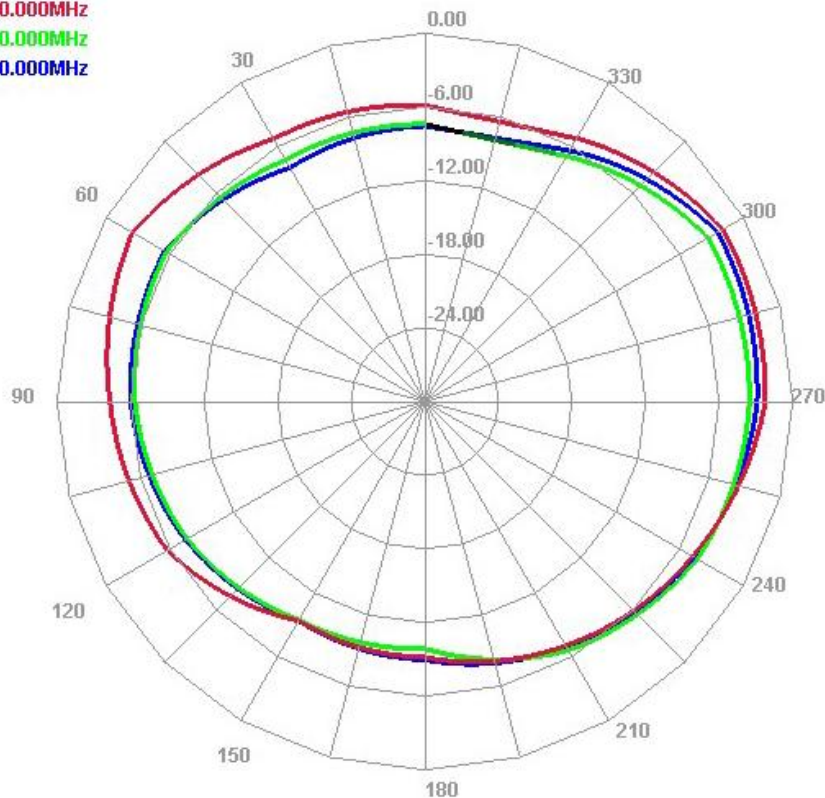
# 无源方向图/Passive directional graph

WiFi天线辐射方向图H面

H-plane of radiation pattern  
of WiFi antenna

Horizontal

5150.000MHz  
5200.000MHz  
5250.000MHz



## PART 6

# 无源方向图/Passive directional graph

WiFi 天线辐射方向图E1面

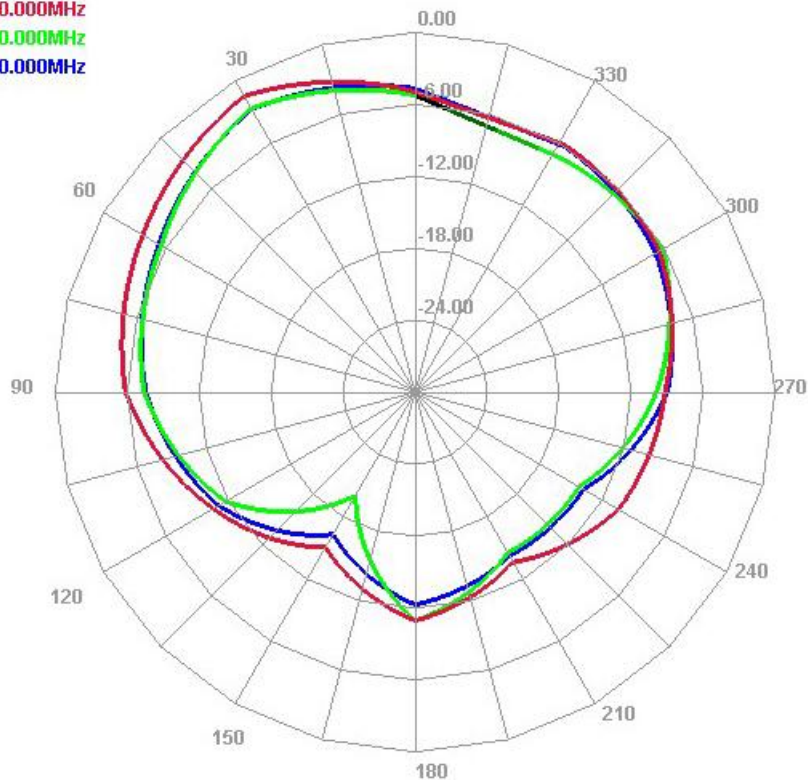
WiFi antenna radiation  
pattern e 1 side

E1 Face

5150.000MHz

5200.000MHz

5250.000MHz



## PART 6

# 无源方向图/Passive directional graph

WiFi 天线辐射方向图E2面

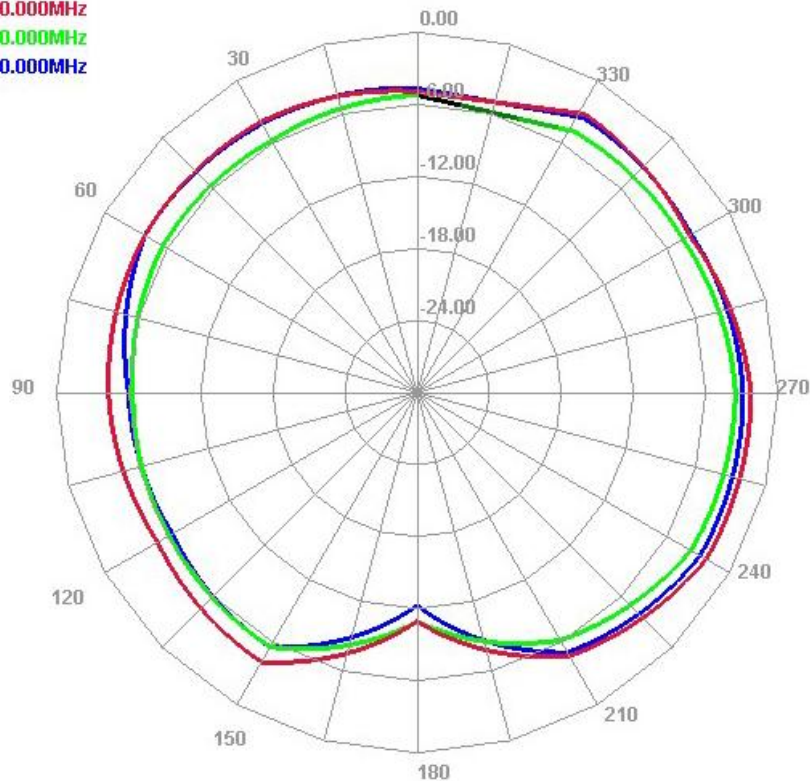
WiFi antenna radiation  
pattern e 2 side

E2 Face

5150.000MHz

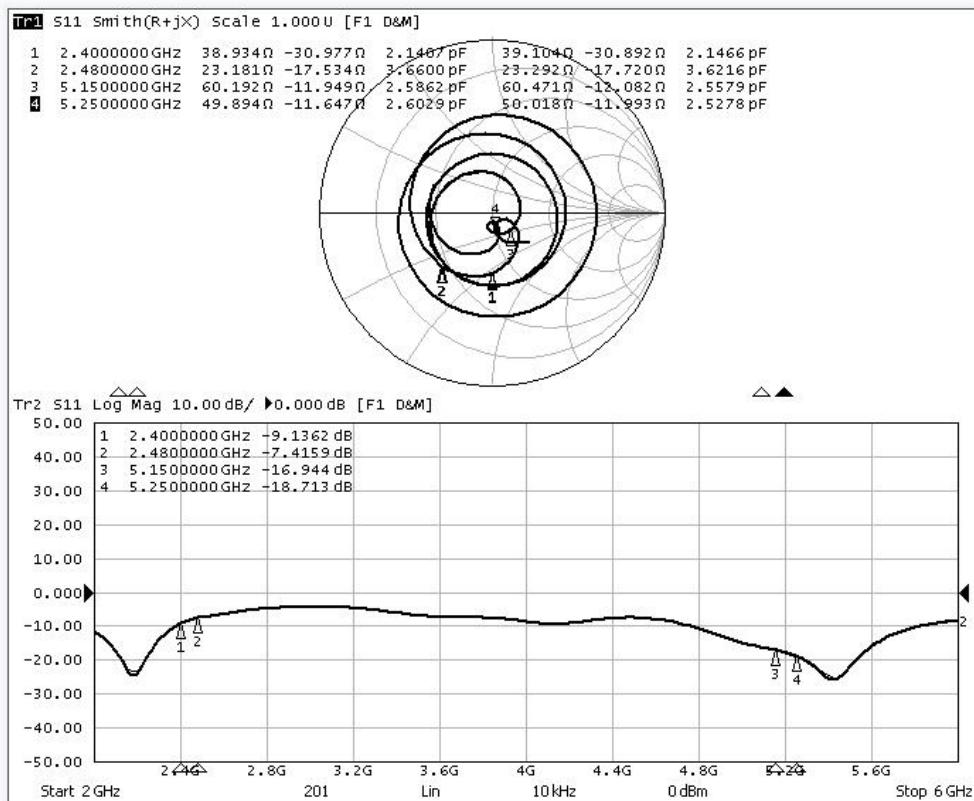
5200.000MHz

5250.000MHz



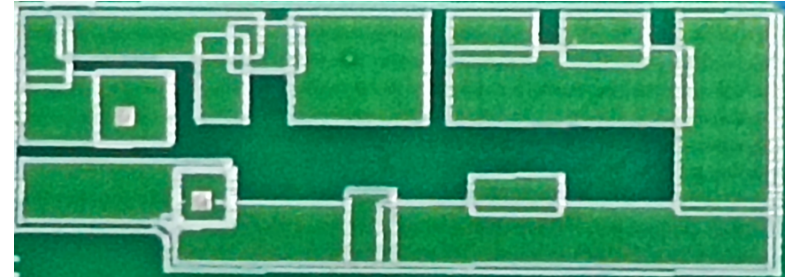
# PART 7

# 无源驻波图/Passive Standing Wave Diagram



## PART 8

# wifi/BT-ANT Picture of complete machine





# 2023

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