

# 深圳市艾汇科技有限公司

Shenzhen Aihui Technology Co., Ltd.

## 天线规格书

### Antenna Sample Confirmation From

|   |   |                          |                 |                       |                           |
|---|---|--------------------------|-----------------|-----------------------|---------------------------|
| 供应商名称<br>Vendor Name                            | 深圳市艾汇科技有限公司<br>ShenZhen Aihui Technology Co., Ltd |                          |                 |                       |                           |
| 客户名称<br>Customer Name                           | 华一  |                          |                 |                       |                           |
| 样品名称<br>Sample Name                             | MW1047H-WIFI                                      |                          |                 |                       |                           |
| 产品型号<br>Part Number                             | 平板电脑  |                          |                 |                       |                           |
| 样品规格<br>Specification                           | WiFi: MW1047H-WIFI 线长: 90mm 4代端子                  |                          |                 |                       |                           |
| 检验项目<br>Inspection Item                         | 性能测试<br>Performance                               | 外观检查<br>Total Appearance | 结构<br>structure | 其它<br>Others          | 检验结果<br>Inspection Result |
|   |   |                          |                 |                       |                           |
| 备注<br>Remark                                    |   |                          |                 |                       |                           |
| 品质审核<br>QA Audit                                |   | 工程审核<br>Engineer Audit   |                 | 业务确认<br>Sales Confirm |                           |
| 以下由客户填写<br>The following are filled by Customer |   |                          |                 |                       |                           |
| 客户意见<br>Customer Evaluation                     |   |                          |                 |                       |                           |
| 客户签字/盖章<br>Signation/<br>Chapter<br>by Customer | 日期/date:  |                          |                 |                       |                           |

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## Antenna Test Report

|  |  |                           |             |
|--|--|---------------------------|-------------|
| 测试单位: 深圳市艾汇科技有限公司<br>Test by: ShenZhen Aihui Technology Co., Ltd   |  |                           |             |
| 材料<br>Material   | FPC  |                           |             |
| 天线类型<br>Antenna Type   | MonopoleType                                   | 极化方式<br>Polarization mode | Linear      |
| 应用场景<br>Application  |  |                           |             |
| 工作频段<br>Band   | WiFi   | VSWR                      | $\leq 2$    |
| 功率<br>Power  | Max: 2W  | 阻抗<br>Impedance           | 50 $\Omega$ |
| 增益<br>dBi  | $\geq 1$ dBi                                   |                           |             |
| 测试设备<br>Test Equipment   | HPE5071C、Shielding Room、3D automatic turntable |                           |             |
| <p><b>Antenna Description::</b></p> <p>1. Grounding processing and picture description: no</p> <p>2. Need to change the motherboard to match: no</p> <ul style="list-style-type: none"><li>● Test voltage: 3.6V, check the antenna contact is good before testing.</li><li>● The RF cable of the integrated tester is kept in a natural state and can not be curled.</li></ul> <p>Specification:test the specified power level, all indicators must conform to the specifications.</p> |  |                           |             |

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- 1、 **Project picture**
- 2、 **Test tool**
- 3、 **Antenna matching circuit**
- 4、 **S11 Test**
- 5、 **Darkroom test equipment and data**
- 6、 **Antenna position**
- 7、 **Environmental treatment**
- 8、 **Antenna mass production index**
- 9、 **Structural drawing**

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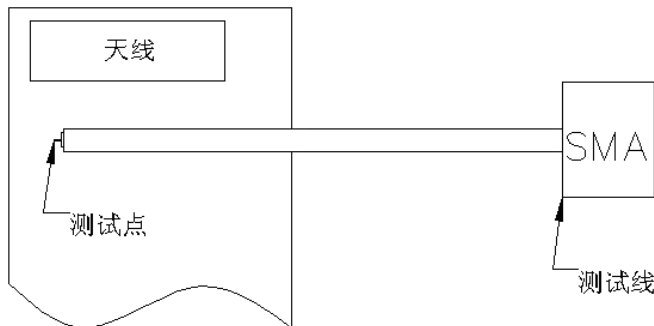
## 1、 Project picture

none

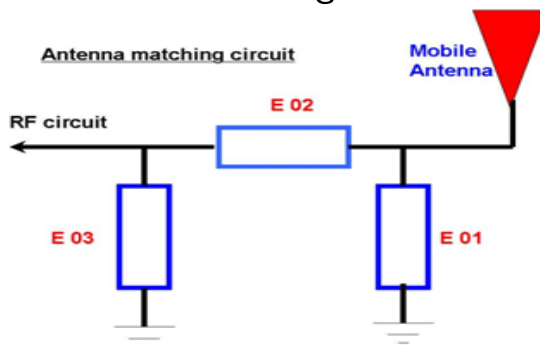
## 2、 Test tool

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

Production method: The hand mechanism is a 50 ohm coaxial cable, one end of which is connected to the test point at the back end of the matching circuit (front end of the RF test hole) of the mobile phone motherboard, and the other end is connected to the SMA connector. The diagram is as follows:



## 3、 Antenna matching circuit



### Modify

| E01 | E02 | E03 |
|-----|-----|-----|
| No  | No  | No  |

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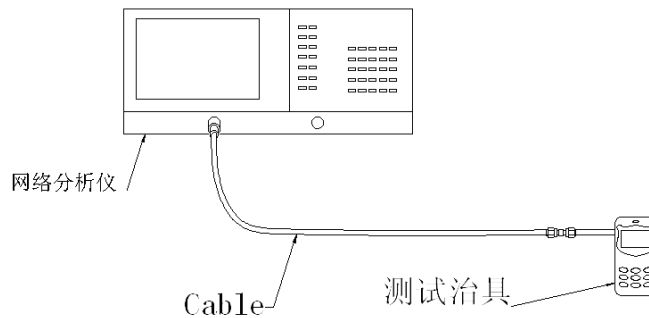
## 4. S11 Test

### 4.0 S11 Test method description

Test equipment: Network Analyzer (E5071C)

Test method: A 50 ohm CABLE is exported from the instrument test port, and the SMA connector of the hand mechanism is connected after calibration with the calibration component. The return loss and standing wave ratio corresponding to the relevant frequency points are recorded.

The test diagram is as follows:



test diagram

## 5. Darkroom test equipment and data

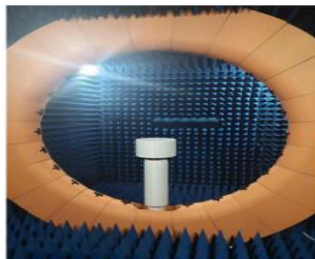
### 5.0 Test Devices

Test system: shielded darkroom

Test environment: Temperature  $22\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ , humidity  $50\% \pm 15\%$

Test equipment: When testing passive data, use the network analyzer Agilent E5071C

When testing active data, use the synthesizer CMW500



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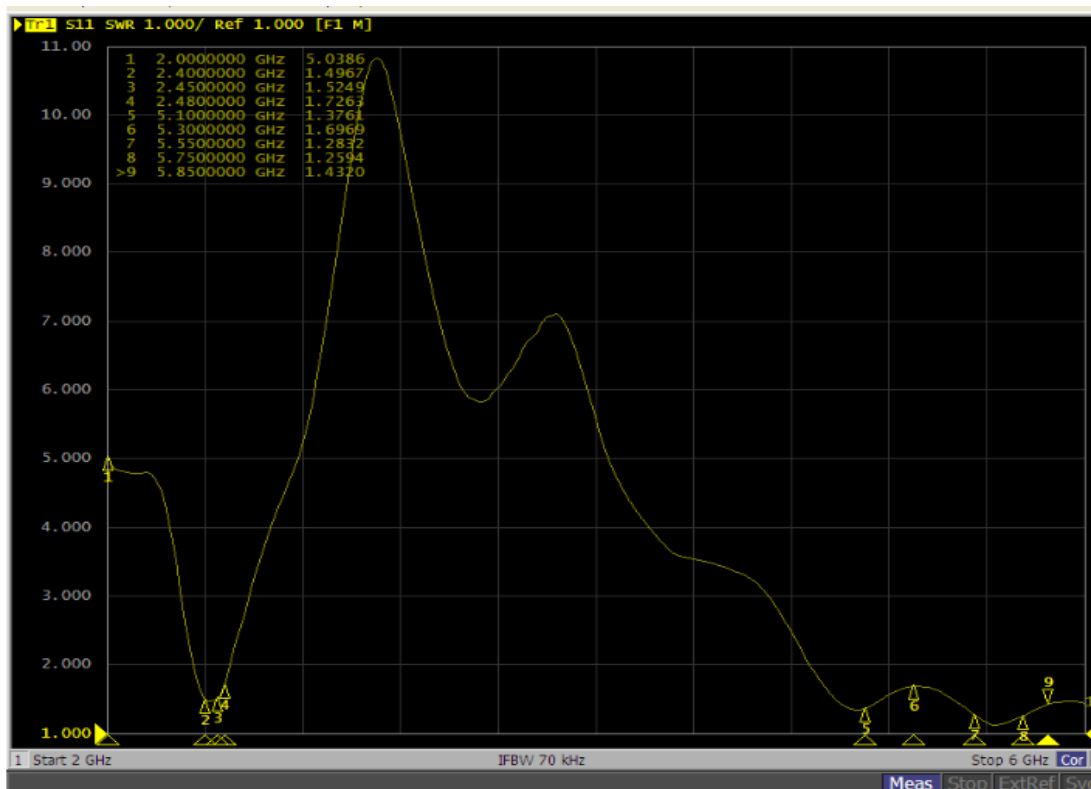
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## 5.1 Antenna active test data

| Frequency Band | WIFI 2.4G/B |       |        | WIFI 2.4G/N |       |        |
|----------------|-------------|-------|--------|-------------|-------|--------|
| channel        | L           | M     | H      | L           | M     | H      |
| TRP            | 13.40       | 12.83 | 12.28  | 11.83       | 11.44 | 10.98  |
| TIS            |             |       | -82.11 |             |       | -68.74 |

| Frequency Band | WIFI 2.4G/G |       |        |  |  |  |
|----------------|-------------|-------|--------|--|--|--|
| channel        | L           | M     | H      |  |  |  |
| TRP            | 12.92       | 12.32 | 11.92  |  |  |  |
| TIS            |             |       | -69.81 |  |  |  |



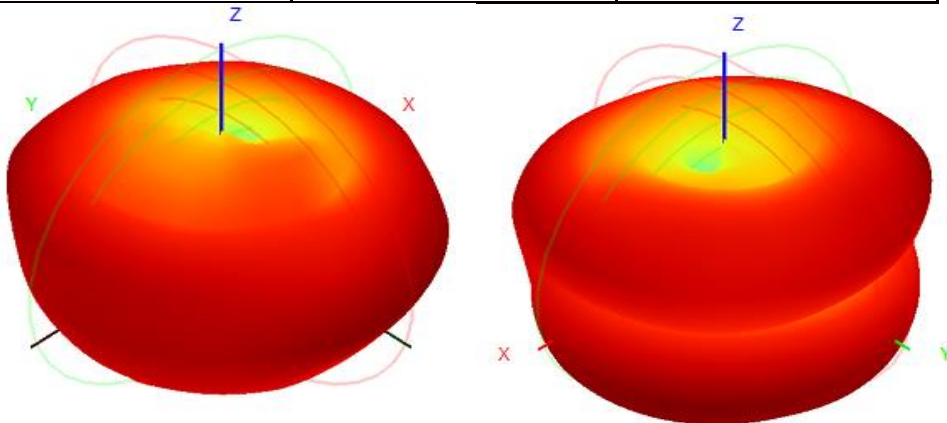
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| WIFI Test data: |                |            |
|-----------------|----------------|------------|
| WIFI: 2.4G      |                |            |
| frequency (MHZ) | efficiency (%) | Gain (dbi) |
| 2400            | 55.32          | 1.29       |
| 2410            | 55.41          | 1.15       |
| 2420            | 56.30          | 1.54       |
| 2430            | 57.25          | 1.30       |
| 2440            | 58.65          | 1.47       |
| 2450            | 59.65          | 1.25       |
| 2460            | 60.25          | 1.30       |
| 2470            | 61.41          | 1.11       |
| 2480            | 62.30          | 1.54       |
| 2490            | 59.54          | 1.74       |
| 2500            | 57.51          | 1.63       |



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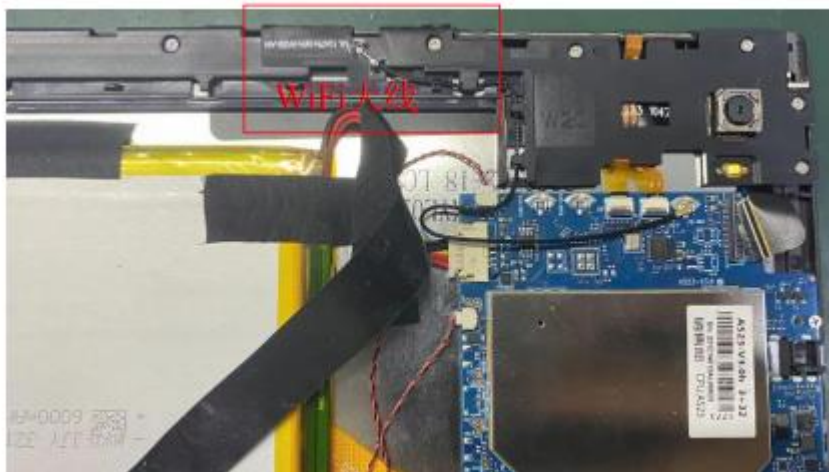
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## 5.3 WiFi Actual measurement

距离路由器  
10米，信号  
满格，上网  
正常



## 6.2 Antenna position



## 7.Environmental treatment

Keep the prototype environment treatment, no changes

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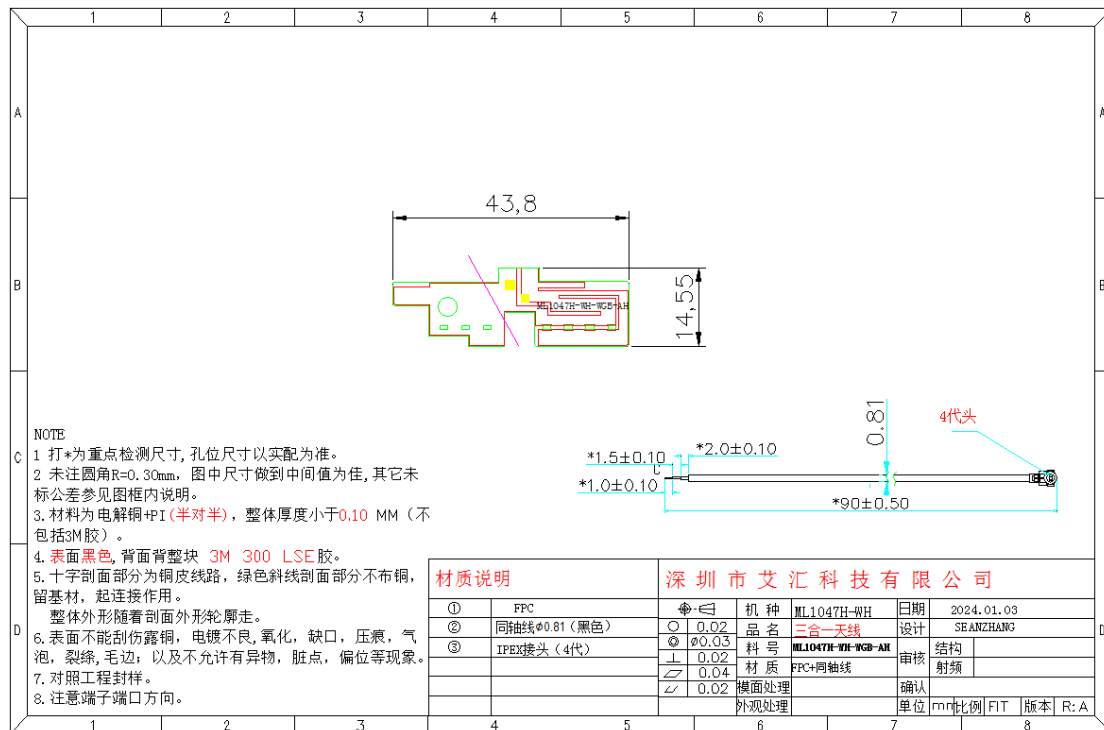
## 8. Antenna mass production index

In the mass production of antenna, the standing wave ratio is used as the test standard.

According to the differences of the project itself, the following criteria are given:

|                  |                          |
|------------------|--------------------------|
| frequency        | Mass production standard |
| 2400MHZ -2500MHZ | VSWR<VSWR+0.5            |
|                  |                          |
|                  |                          |

## 9. Structural drawing



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