



ShenzhenXingtongWieressTechnologyCo ., Ltd

深圳市星通无线技术有限公司

For

深圳市鑫瑞智实业有限公司

## 产品规格书

客户料号/Part No. : ANT-MT009WLDIV-XT001

产品型号:STYLE:MT009-WiFi-ANT

规格书编号/Specification No.:20230112-2

|                |  |
|----------------|--|
| 客户<br>Client   |  |
| 承认<br>Approved |  |

|                   |                  |                   |
|-------------------|------------------|-------------------|
| 核准<br>Approved by | 审核<br>Checked by | 设计<br>Designed by |
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|                                                                                                                           |           |               |                                       |
|---------------------------------------------------------------------------------------------------------------------------|-----------|---------------|---------------------------------------|
| Project:MT009-WIFI                                                                                                        |           | Author: HUANG | File Name:<br><br><b>MT009-APP-RA</b> |
| Date: 2023-01-12                                                                                                          |           |               |                                       |
| TEST:                                                                                                                     | Language: | Check: XIE    |                                       |
| A                                                                                                                         | English   |               |                                       |
|                                                                                                                           |           |               |                                       |
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## Revision History

| Date      | Revision | Description of Changes    |
|-----------|----------|---------------------------|
| 2023-1-12 | RA       | Measured with FPC sample. |

|                                          |          |
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# 1 Technical Summary

This report summarizes the electrical results of the proposed antenna to support the MT009 program. We test the antenna with the latest version handset. And it seems to be acceptable.

## 2 General Description

### 2.1 Components/Part revisions

VSWR: Voltage Standing Wave Rate.

## 3 Mechanical Description



## 4 Electrical Performance

### 4.1 Set-up

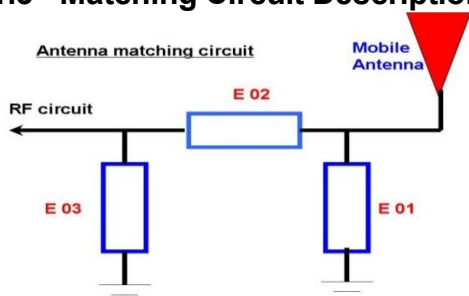
#### 4.1.1 VSWR

VSWR measurements (S21) were performed using an Agilent 8753D Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

#### 4.1.2 Gain & Radiation Patterns

The gain of the antenna was measured in the XingTong's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than -30 dB reflectivity from 2GHz through 6GHz and an 18" diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

#### 4.1.3 Matching Circuit Description



| NFC Antenna |       |
|-------------|-------|
| Element     | Value |
| E1 (0201)   |       |
| E2 (0201)   |       |
| E3 (0201)   |       |
| E4 (0201)   |       |
| 匹配无修改       |       |

整机射频天线端未做匹配修改！

|                                                                                                                           |           |               |                                       |
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## 4.2 Measurement Data

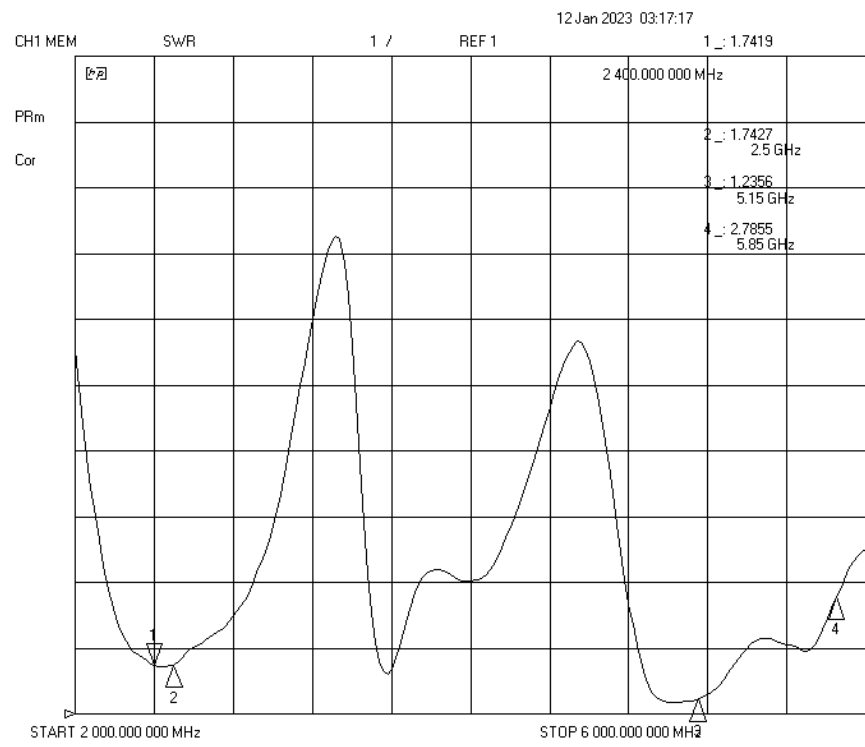
### WIFI/BLE Band 电器性能:

| Cell              | Band                     | Channel | TRP   | Cell              | Band                     | Channel | TIS    | Gain |
|-------------------|--------------------------|---------|-------|-------------------|--------------------------|---------|--------|------|
| WIFI/2.4G<br>/TRP | 802.11b<br>(11M)         | 1       | 11.6  | WIFI/2.4G<br>/TIS | 802.11b (11M)            | 1       | -83.18 | 1.25 |
|                   |                          | 6       | 11.92 |                   |                          | 6       | -80.5  | 1.26 |
|                   |                          | 11      | 12.05 |                   |                          | 11      | -80.50 | 1.47 |
|                   | 802.11g<br>(54M)         | 1       | 10.82 |                   | 802.11g (54M)            | 1       | -72.36 | 1.58 |
|                   |                          | 6       | 10.83 |                   |                          | 6       | -70.39 | 1.46 |
|                   |                          | 11      | 11.12 |                   |                          | 11      | -70.28 | 1.37 |
|                   | 802.11gn<br>(MCS7)       | 1       | 9.41  |                   | 802.11gn<br>(MCS7)       | 1       | -69.59 | 1.58 |
|                   |                          | 6       | 9.35  |                   |                          | 6       | -68.57 | 1.65 |
|                   |                          | 11      | 10.31 |                   |                          | 11      | -67.71 | 1.38 |
| WIFI/5.8G<br>/TRP | 802.11a (54M)            | 36      | 6.24  | WIFI/5.8G<br>/TIS | 802.11a (54M)            | 36      | -71.69 | 1.68 |
|                   |                          | 149     | 8.55  |                   |                          | 149     | -71.76 | 1.28 |
|                   |                          | 165     | 6.94  |                   |                          | 165     | -71.04 | 1.54 |
|                   | 802.11an<br>(MCS7, HT20) | 36      | 7.13  |                   | 802.11an<br>(MCS7, HT20) | 36      | -68.45 | 1.36 |
|                   |                          | 149     | 8.85  |                   |                          | 149     | -68.13 | 1.28 |
|                   |                          | 165     | 7.19  |                   |                          | 165     | -68.52 | 1.29 |

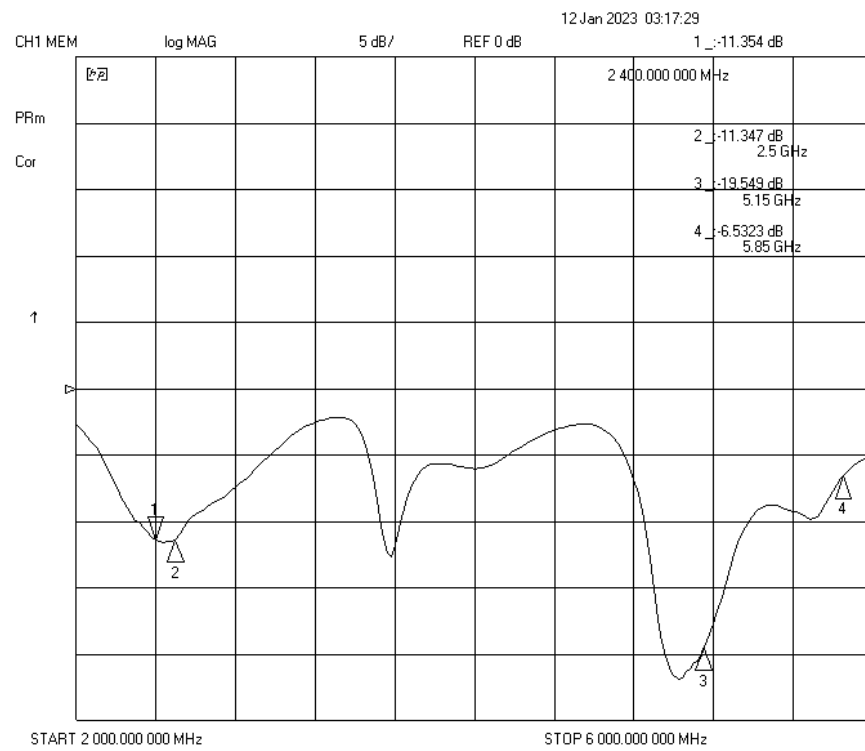
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5 Plots

5.1 VSWR (S11) WIFI



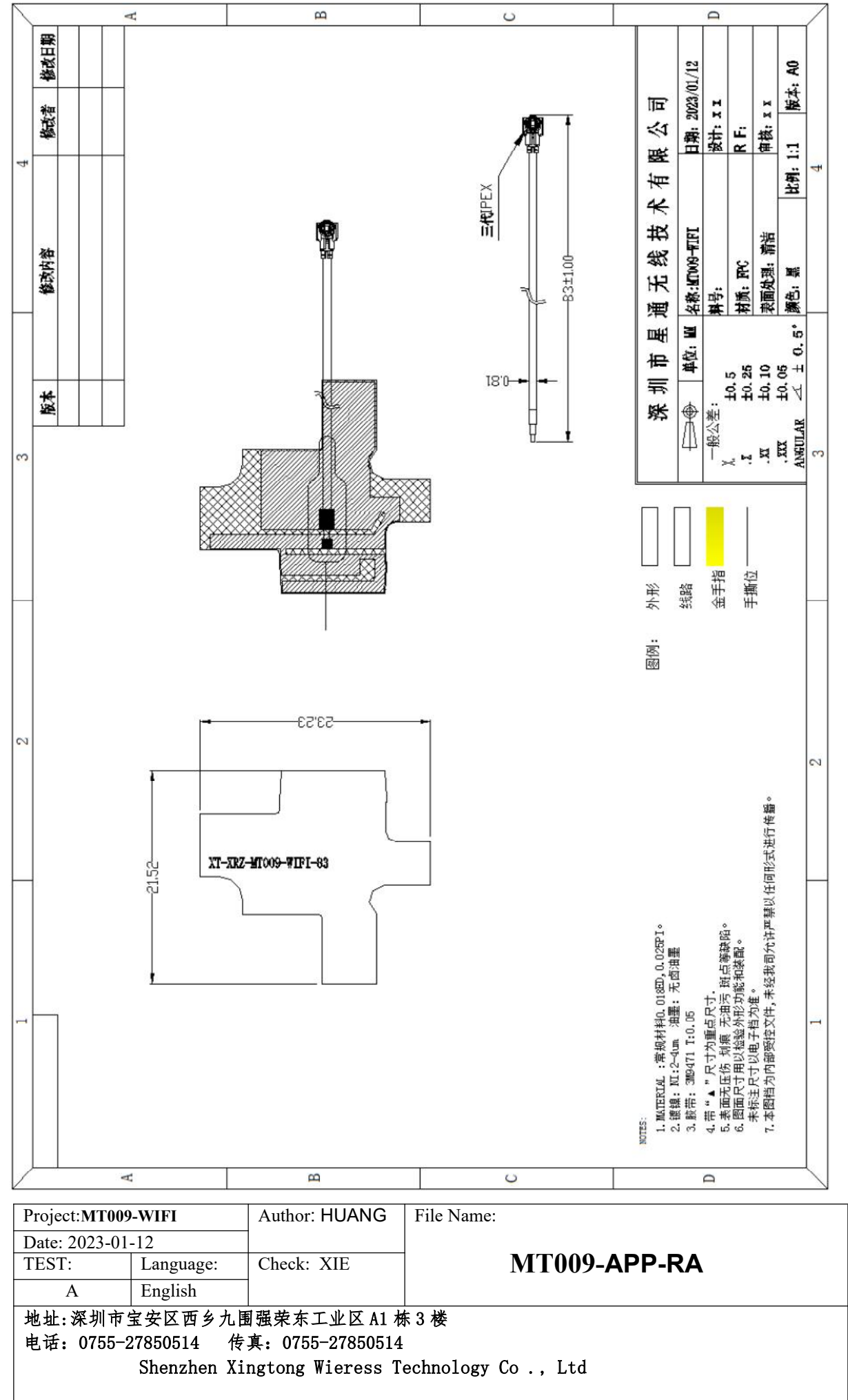
5.2 LOG MAG (S11) WIFI



|                                                                                                                          |           |               |                                       |
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6 Mechanical drawing

WIFI



## 7 Reliability tests

### 7.1 Test content

| No | 试验项目                              | 试验方法              | 判定基准                          |
|----|-----------------------------------|-------------------|-------------------------------|
| 1  | 盐水喷雾试验                            | 把盐浓度 5%的溶液喷雾 48HR | 不能有变色, 歪 (变形) 脱落等的缺点 腐蚀面积不能过大 |
| 2  | 工作温度<br>(Operational Temperature) | -40℃~+65℃         |                               |
| 3  | 储存温度 (Storage Temperature)        | -50℃~+85℃         |                               |
| 4  | 湿度 (Humidity)                     | 40%~95%           |                               |
|    |                                   |                   |                               |

### 7.2 Test results

| NO | 样品数 | 试验期间  | 实验结果 | 备注                    |
|----|-----|-------|------|-----------------------|
| 1  | 50  | 24 小时 | OK   | 技术等级为 9 级<br>腐蚀<0.4mm |
| 2  | 50  | 24 小时 | OK   | 技术等级为 9 级<br>腐蚀<0.4mm |
|    |     |       |      |                       |

## 8 Conclusion

环境处理



备注：整机环境处理以天线报告为最终。

|                                                                                                                          |           |               |                                       |
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