



**Shenzhen Shuodian Electronic Technology Co.,Ltd**  
**Page number 1-11**

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# **SPECIFICATION**

for

**RTFX2 antenna**

**Customer No.**

**Product No.**

**YMGD-RTFX2-2.4G FPC-275MM**

Author: XiaofengZeng      Review: Liming

Release Date: 2025.11.06

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## **Contents**

|                                                               |           |
|---------------------------------------------------------------|-----------|
| <b>SPECIFICATION .....</b>                                    | <b>1</b>  |
| <b>SHENZHEN SHUODIAN ELECTRONIC TECHNOLOGY CO., LTD .....</b> | <b>1</b>  |
| <b>CONTENTS .....</b>                                         | <b>2</b>  |
| <b>1. BILATERAL CONFIRMATION PAGE .....</b>                   | <b>3</b>  |
| <b>2. GENERAL .....</b>                                       | <b>4</b>  |
| <b>3. GENERAL PRODUCT SPECIFICATIONS .....</b>                | <b>4</b>  |
| <b>4. SPECIFICATION DETIALS .....</b>                         | <b>5</b>  |
| <b>4.1 MECHANICAL PROPERTIES .....</b>                        | <b>5</b>  |
| <b>4.2 ELECTRIC PERFORMANCE .....</b>                         | <b>7</b>  |
| <b>5. PRODUCT PACKAGING .....</b>                             | <b>11</b> |
| <b>6. DOCUMENT RESUME .....</b>                               | <b>11</b> |



## **1. Bilateral Confirmation page**

### **1.1 Customer signature**

**Customer:**

| Seapartment/post     | Sign | Date |
|----------------------|------|------|
| Hardware Engineer/RD |      |      |
| Mechanical/MD        |      |      |
| Project Manager/PM   |      |      |
| Commercial/Puchasing |      |      |
| Checker              |      |      |

### **1.2 Signature of ShuoDian Technology company**

| Seapartment/post    | Sign | Date |
|---------------------|------|------|
| Antenna Engineer/RD |      |      |
| Mechanical/MD       |      |      |
| Project Manager/PM  |      |      |
| QA                  |      |      |
| Checker             |      |      |



## 2. General

### 2.1 Scope of application

This specification is only applicable to RTFX2 antenna

### 2.2 Operating temperature range

Temperature range of this product: -20 ~ +65 °C

### 2.3 Storage temperature range:

This product is stored at - 30 ~ + 75 °C

## 3. General product specifications

| NO. | ITEMS                    | DETAILS             |
|-----|--------------------------|---------------------|
| 1   | Type                     | RTFX2               |
| 2   | Operating Frequency Band | 2400-2500MHz        |
| 3   | VSWR                     | $\leq 2.0$          |
| 4   | Gain                     | $7 \pm 1\text{dBi}$ |
| 5   | Impedance                | $50\Omega$          |
| 6   | Antenna Type             | PIFA                |
| 7   | Entity Picture           |                     |



## **4. Specification Detials**

### **4.1 Mechanical Properties**

#### **4.11 Product Composition:**

| No. | Material | Size (MM)                      |
|-----|----------|--------------------------------|
| 1   | FPC      | 40.8*16 Black                  |
| 2   | CABLE    | IPEX-1 $\phi$ 1.13 L=275 black |

#### **4.12 Apperance**

Good appearance without scars 、 dirt、 protuberances, etc.

#### **4.13 Antenna Picture and Structure Dimension**

**Productdrawings:**

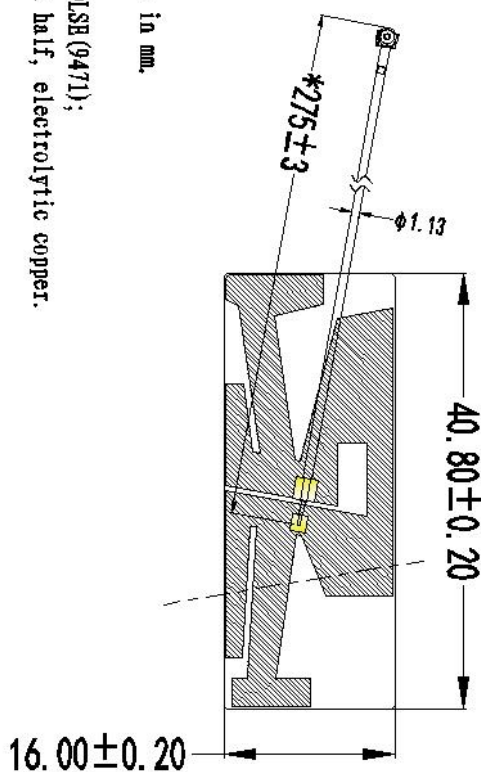
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**Page number 6-11**

| DEVIATION |      | VALUES          |
|-----------|------|-----------------|
| +         | 0.20 | $\pm 2^{\circ}$ |
| +         | 0.15 | $\pm 1^{\circ}$ |
| -         | 0.10 | $\pm 1^{\circ}$ |
| -         | 0.05 |                 |



### Technical requirements:

1. All unit dimensions are in mm.

## 2. Materials:

Adhesive backing: 3M 300LSE (9471);

Base material: One and a half, electrolytic copper.

Matte black oil finish.

First generation terminal, black wire.

3. The pad is made of bare copper and treated with anti-oxidation treatment.

4. All dimensions marked with an \* symbol are controlled dimensions.

|                                                                      |  |                                                                                     |  |            |  |            |  |            |  |
|----------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|------------|--|------------|--|------------|--|
| 4. ALL DIMENSIONS MARKED WITH AN * SYMBOL ARE CONTROLLED DIMENSIONS. |  |                                                                                     |  |            |  |            |  |            |  |
| Shenzhen Shundian Electronic Technology Co., Ltd.                    |  |                                                                                     |  |            |  |            |  |            |  |
| Name                                                                 |  | KT952                                                                               |  |            |  |            |  |            |  |
| Part number                                                          |  |  |  |            |  |            |  |            |  |
| Drawing                                                              |  | Trace                                                                               |  | Drawing    |  | Trace      |  | Drawing    |  |
| Quantity                                                             |  | 1                                                                                   |  | 1          |  | 1          |  | 1          |  |
| Color                                                                |  | Black                                                                               |  | Black      |  | Black      |  | Black      |  |
| Material                                                             |  | Aluminum                                                                            |  | Aluminum   |  | Aluminum   |  | Aluminum   |  |
| Scale                                                                |  | 1:1                                                                                 |  | 1:1        |  | 1:1        |  | 1:1        |  |
| Date                                                                 |  | 2024.10.10                                                                          |  | 2024.10.10 |  | 2024.10.10 |  | 2024.10.10 |  |
| Version                                                              |  | 1.0                                                                                 |  | 1.0        |  | 1.0        |  | 1.0        |  |
| Author                                                               |  | Zhang San                                                                           |  | Zhang San  |  | Zhang San  |  | Zhang San  |  |
| Reviewer                                                             |  | Li Si                                                                               |  | Li Si      |  | Li Si      |  | Li Si      |  |
| Approver                                                             |  | Wang Wu                                                                             |  | Wang Wu    |  | Wang Wu    |  | Wang Wu    |  |
| Page 1                                                               |  | 1                                                                                   |  | 1          |  | 1          |  | 1          |  |
| Total in total                                                       |  | 1                                                                                   |  | 1          |  | 1          |  | 1          |  |



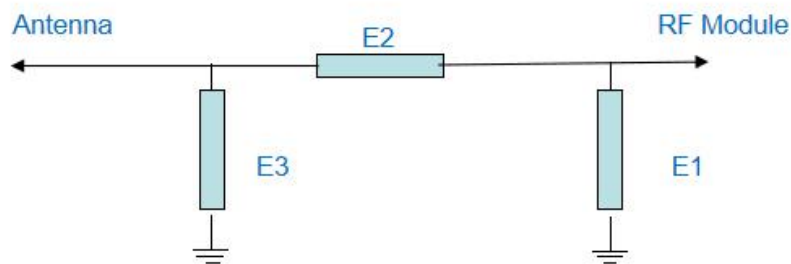
## 4.2 Electric Performance

### 4.21 Test condition

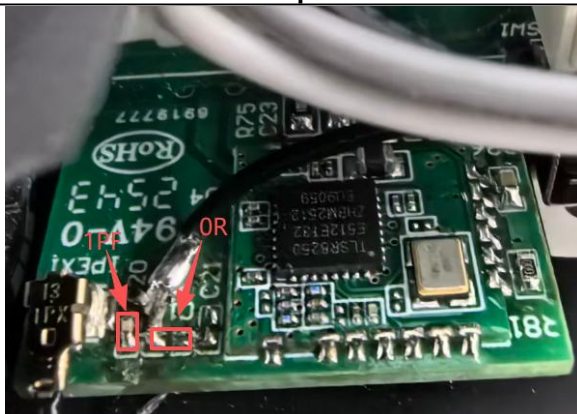
|                           |                                        |
|---------------------------|----------------------------------------|
| Environment:              | Equipment:                             |
| Temperature: 10℃——+30℃    | Network Analyzer: KEYSIGHT E5071C      |
| Humidity: ≤80% (+40℃)     | Multi-probe microwave anechoic chamber |
| Atmospher: 750mmkg±30mmkg |                                        |

### 4.22 Test Data for Electrical Performance:

antenna matching parameters:



| Element  | Value |
|----------|-------|
| E1(0402) | NC    |
| E2(0402) | 0R    |
| E3(0402) | 1PF   |

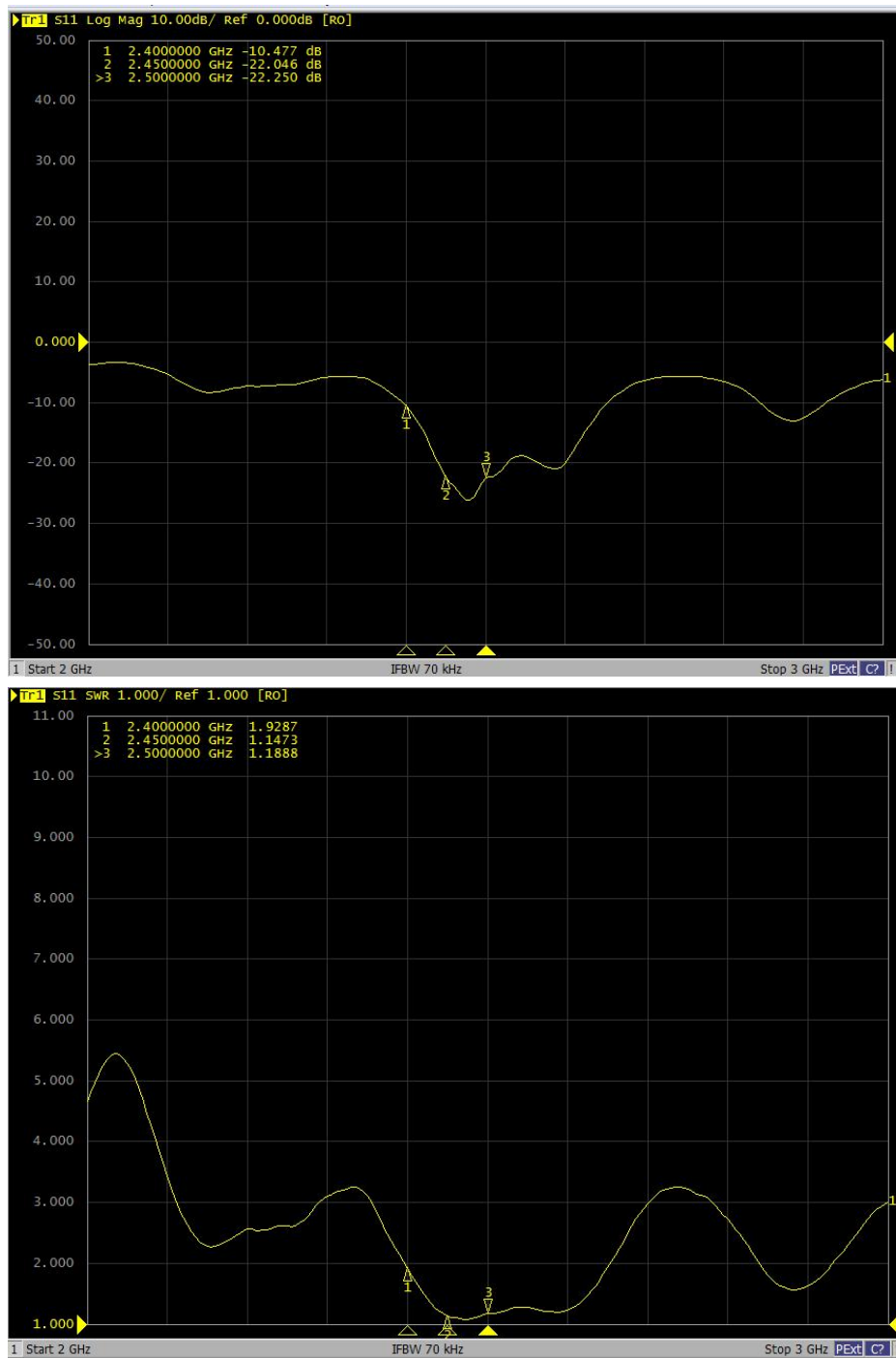




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**4.22.1 S11 of the Antenna:**

|              |        |        |        |
|--------------|--------|--------|--------|
| Marker (MHz) | 2400   | 2450   | 2500   |
| ReturnLoss   | -10.47 | -22.04 | -22.25 |
| VSWR         | 1.92   | 1.14   | 1.18   |



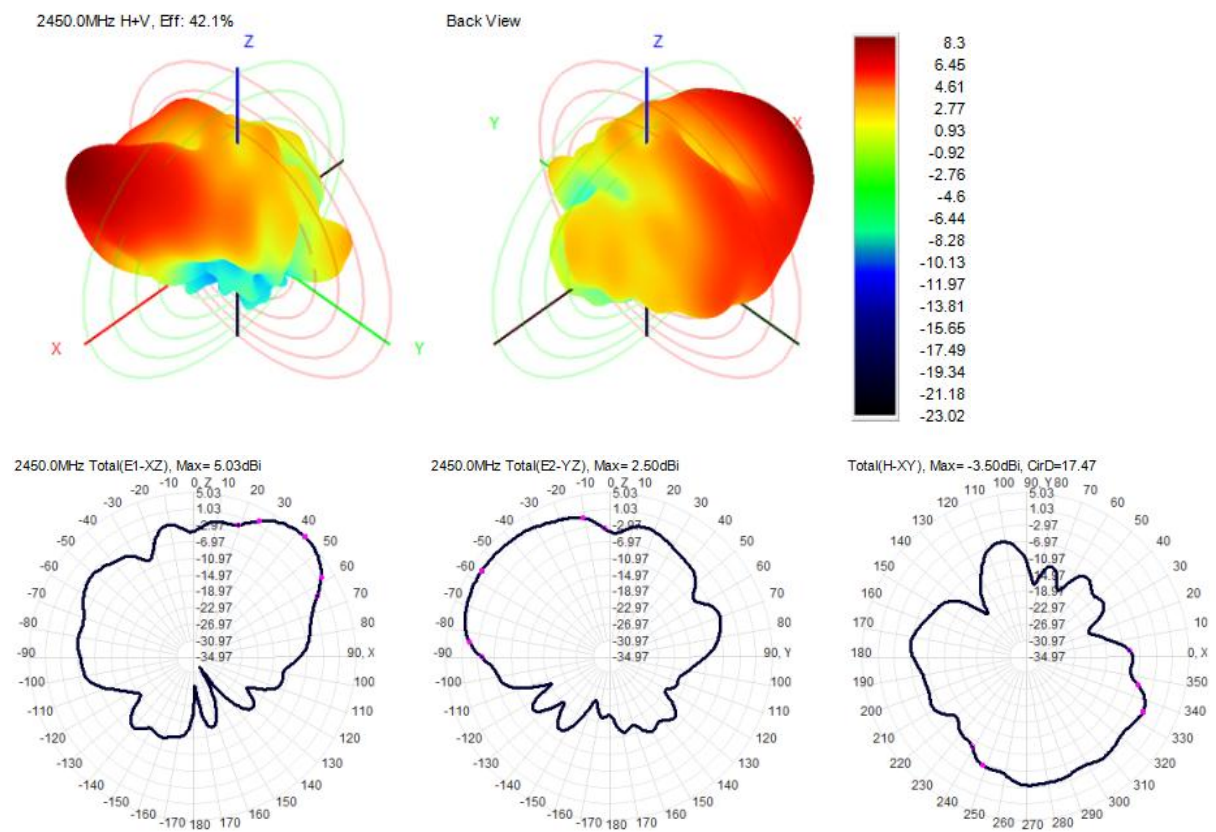


#### 4. 22. 2 Passive gain、 efficiency and Radiation Pattern:

| Frequency (MHz) | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gain (dBi)      | 7.78  | 8.06  | 8.19  | 8.37  | 8.41  | 8.30  | 8.05  | 7.76  | 7.30  | 7.05  | 6.82  |
| Efficiency (%)  | 30.62 | 33.45 | 35.60 | 38.62 | 40.91 | 42.13 | 42.30 | 42.21 | 40.79 | 41.41 | 42.00 |

#### Radiation Pattern 2450MHz

@2450MHz





## 5. Product Packaging

Manner of packing:

Packed in self sealed bags, 200 pcs each.

## 6. Document Resume

|              |             |
|--------------|-------------|
| Document No. |             |
| Release Date | 2025/11/06  |
| Author       | XiofengZeng |
| Review       | LiMing      |

### Revised History

| Date       | Version | Revised Record |
|------------|---------|----------------|
| 2025/11/06 | 1.00    | New Project    |
|            |         |                |