



**Shenzhen Shuodian Electronic Technology Co.,Ltd**  
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# **SPECIFICATION**

**for**

**DoorBell outdoor BT antenna**

**Customer No.**

**Product No.**

**WA-DoorBell-out-Right\_BT- FPC**

**Author: XiaofengZeng      Review: Liming**

**Release Date:    2024.11.22**

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## **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 WOAN DoorBell outdoor BT 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                     | DoorBell outdoor BT antenna                                                          |
| 2   | Operating Frequency Band | 2400-2500MHz                                                                         |
| 3   | VSWR                     | $\leq 2.5$                                                                           |
| 4   | Impedance                | 50Ω                                                                                  |
| 5   | Antenna Type             | Monopole                                                                             |
| 6   | Antenna composition      | FPC                                                                                  |
| 7   | Entity Picture           |  |



## **4. Specification Detials**

### **4.1 Mechanical Properties**

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

| No. | Material | Size (MM)                         |
|-----|----------|-----------------------------------|
| 1   | FPC      | 28. 5*20. 94    Black             |
| 2   | CABLE    | IPEX-4 $\phi$ 0.81   L=85   black |

#### **4.12 Apperance**

Good appearance without scars 、 dirt、 protuberances, etc.

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

**Productdrawings:**

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## 4.2 Electric Performance

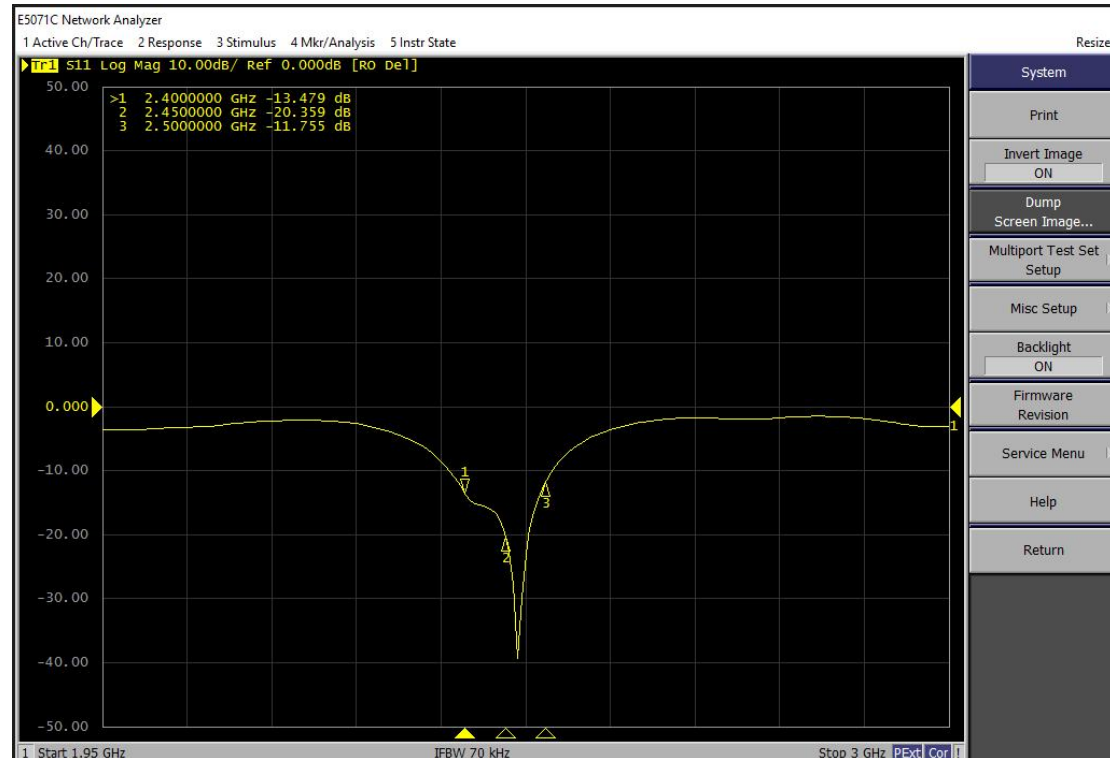
### 4.21 Test condition

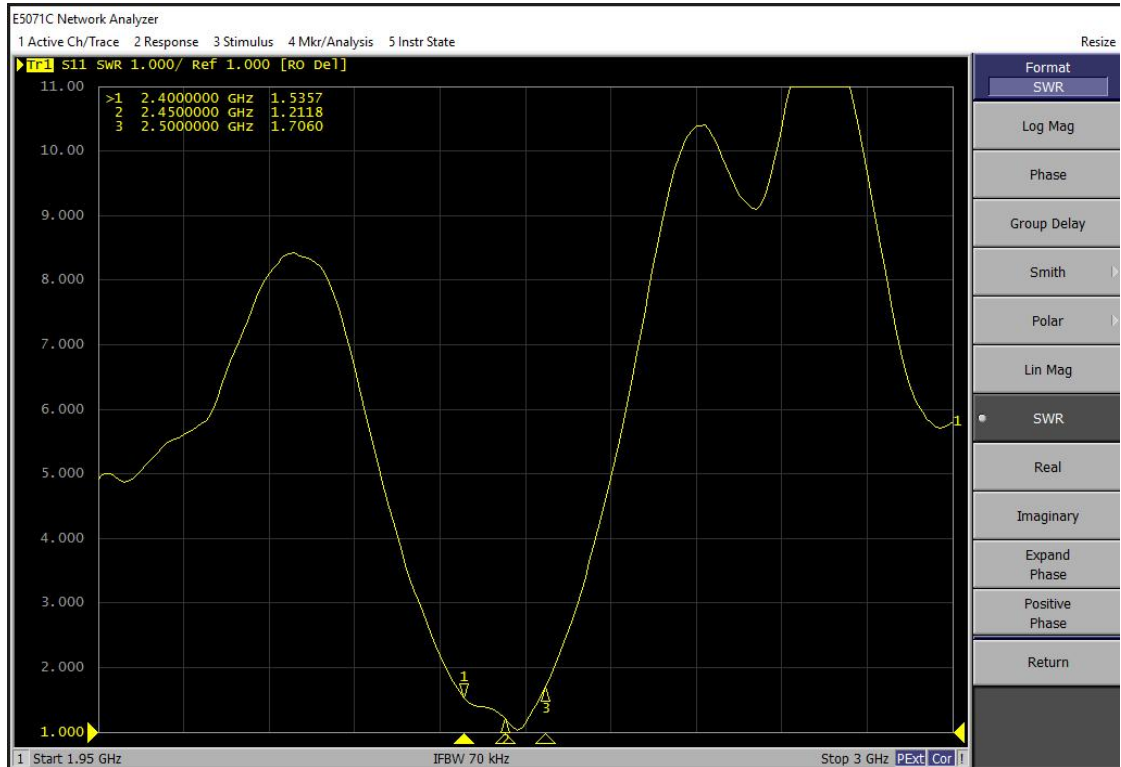
|                           |                                   |
|---------------------------|-----------------------------------|
| Environment:              | Equipment:                        |
| Temperature: 10℃——+30℃    | Network Analyzer: KEYSIGHT E5071C |
| Humidity: ≤80% (+40℃)     | Multi-probe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

### 4.22 Test Data for Electrical Performance:

#### 4.22.1 S11 of the Antenna:

| Marker     | 2400MHz | 2450MHz | 2500MHz |
|------------|---------|---------|---------|
| Returnloss | -13.48  | -20.36  | -11.75  |
| VSWR       | 1.53    | 1.21    | 1.70    |





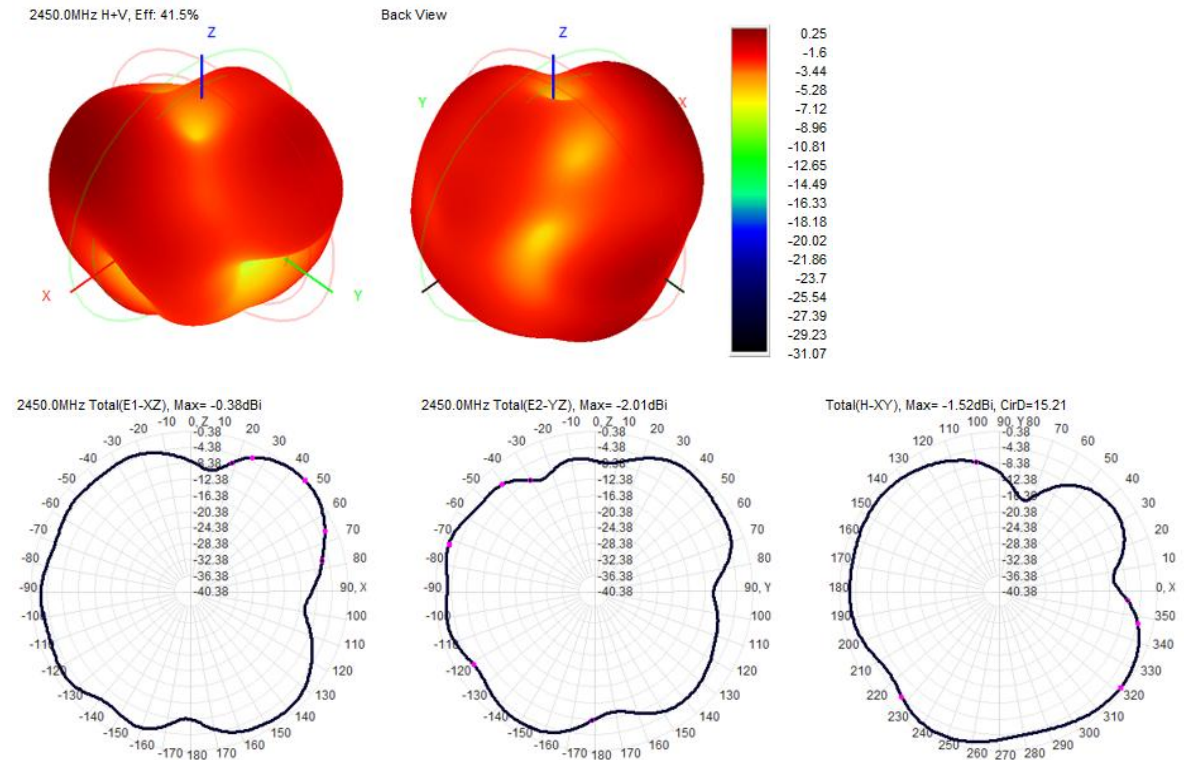
#### 4. 22. 2 Passive gain、 efficiency and Radiation Pattern:

| 频率 (MHz) | Gain (dBi) | Efficiency (%) |
|----------|------------|----------------|
| 2400.0   | 1.09       | 39.6           |
| 2410.0   | 0.59       | 39.5           |
| 2420.0   | 0.03       | 39.5           |
| 2430.0   | -0.35      | 38.9           |
| 2440.0   | -0.04      | 40.5           |
| 2450.0   | 0.25       | 41.5           |
| 2460.0   | 0.63       | 41.9           |
| 2470.0   | 0.80       | 42.1           |
| 2480.0   | 0.90       | 41.1           |
| 2490.0   | 0.95       | 40.7           |
| 2500.0   | 0.81       | 39.8           |



## 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 | 2024/11/22  |
| Author       | XiofengZeng |
| Review       | LiMing      |

## Revised History

| Date       | Version | Revised Record |
|------------|---------|----------------|
| 2024/11/22 | 1.00    | New Project    |
|            |         |                |