



# **Specification**

## **Dimmer antenna**

### **Shenzhen Topband Co.,Ltd.**

**The company's part number**

TB-TGQ-2. 4G-60-20220908

Dated: 2022. 09. 08

**Shenzhen Shuodian Electronic Technology Co., Ltd.**  
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## 1.Both parties confirm

### 1.1 Customer confirms signature

Customer: Shenzhen Topband Co.,Ltd.

| Customer<br>Department/Position | Confirmation person's<br>signature | Confirmation date |
|---------------------------------|------------------------------------|-------------------|
| Hardware/RF                     |                                    |                   |
| Structure                       |                                    |                   |
| project manager                 |                                    |                   |
| Business/Purchasing             |                                    |                   |
| Approve                         |                                    |                   |

### 1.2Shuodian Technology confirms the signature

| Department / Occupation | Confirmation person's<br>signature | Confirmation date |
|-------------------------|------------------------------------|-------------------|
| Antenna Engineer        |                                    |                   |
| structural engineer     |                                    |                   |
| project manager         |                                    |                   |
| QA                      |                                    |                   |
| Approve                 |                                    |                   |



## 2. General matters

### 2.1 Scope of application

This specification is only applicable to Shenzhen Topbond Co., Ltd.  
dimmer antenna

### 2.2 Operating temperature range

The operating temperature range of this product is  $-20 \sim +65^{\circ}\text{C}$

### 2.3 Storage temperature range

This product is stored at  $-30 \sim +75^{\circ}\text{C}$

## 3. Product general specifications

| NO. | ITEMS                     | DETAILS                              |
|-----|---------------------------|--------------------------------------|
| 1   | model                     | Light modulator                      |
| 2   | frequency band            | 2.4-2.5GHz                           |
| 3   | VSWR                      | $\leq 2.0$                           |
| 4   | Gain                      | 3.6dBi                               |
| 5   | Radiation Efficiency      | $\geq 50\%$                          |
| 6   | impedance                 | $50\Omega$                           |
| 7   | Antenna type              | Dipole                               |
| 8   | Antenna<br>implementation | PCB+1.13Coaxial/Generation Terminals |



|   |                  |                                                                                    |
|---|------------------|------------------------------------------------------------------------------------|
| 9 | Antenna pictures |  |
|---|------------------|------------------------------------------------------------------------------------|

## 4.Product Specifications

### 4.1 Product structure parameters

#### 4.11Product material composition:

| serial number | Material         | Specification (MM)          |
|---------------|------------------|-----------------------------|
| 1             | PCB              | 39.88*8.1mm green           |
| 2             | Coaxial/Terminal | Ø1.13 60MM black/generation |
|               |                  |                             |

#### 4.12 Appearance

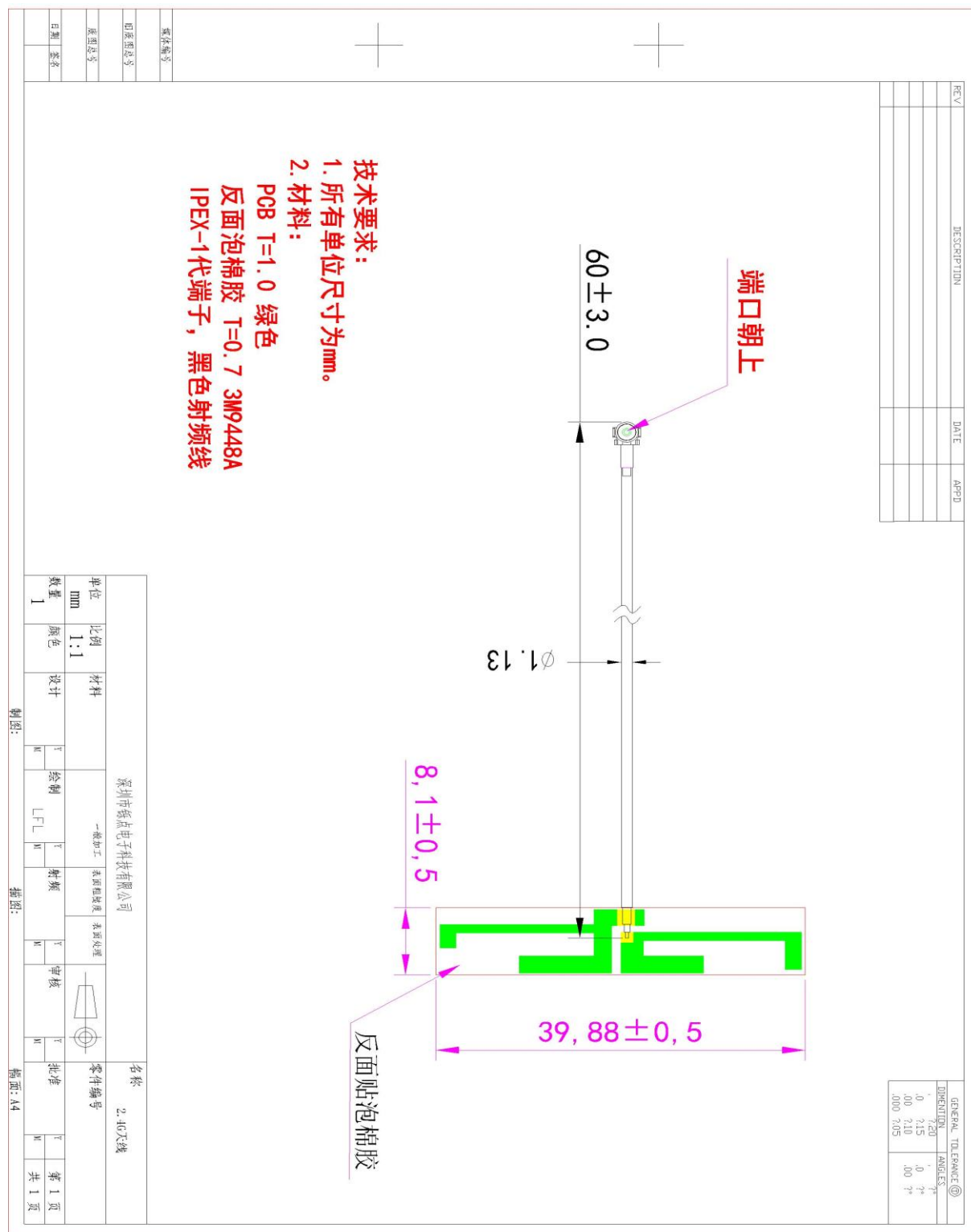
The appearance of the product is good, and there are no scars, sweat marks, protrusions and other defects that seriously affect the appearance.

#### 4.13 Structural dimensions

Refer to product drawings:



Product drawings:





## 4.2 Product electrical performance test data

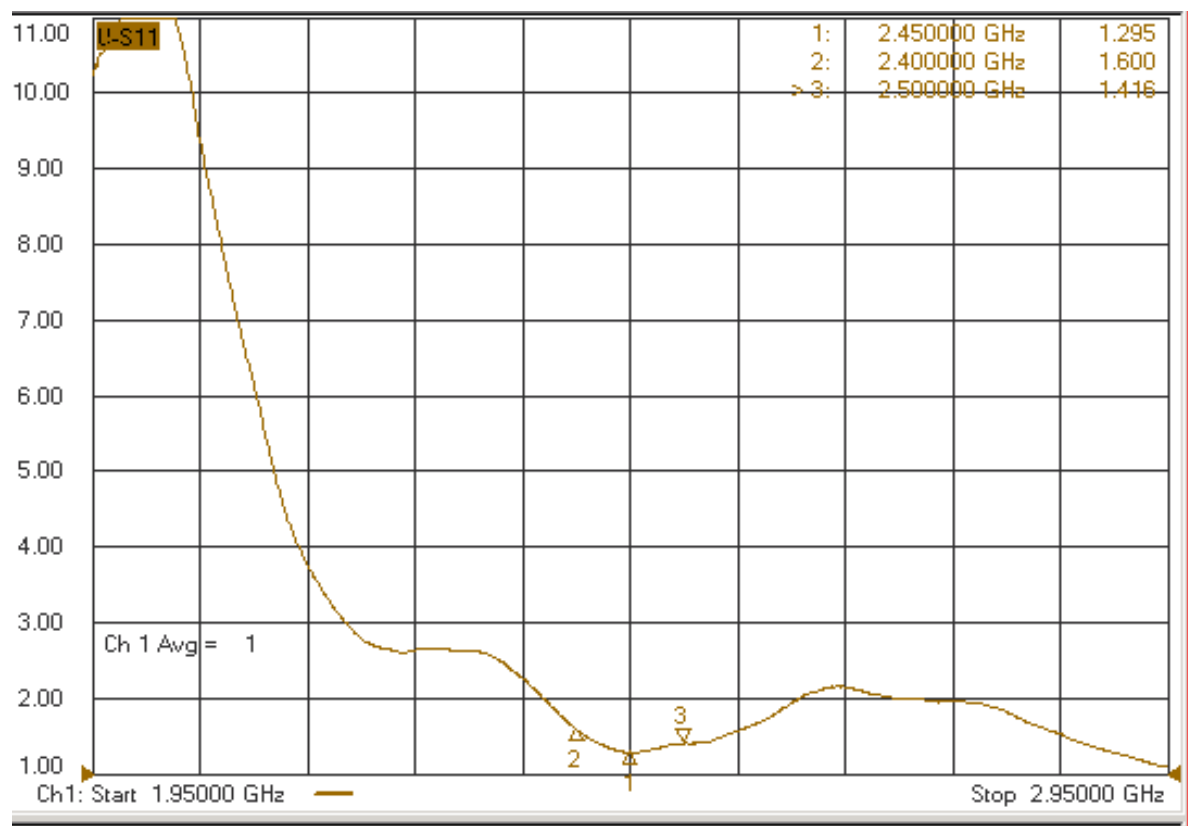
### 4.21 Test environment and equipment

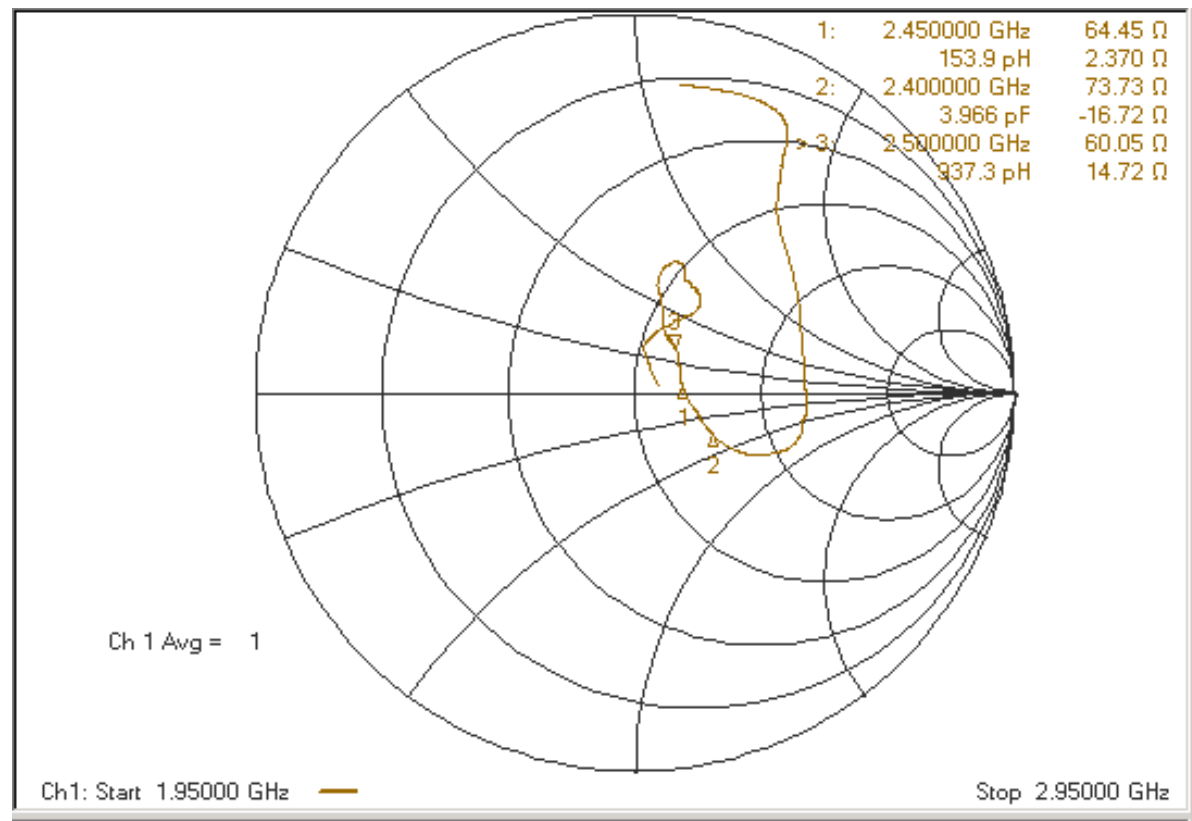
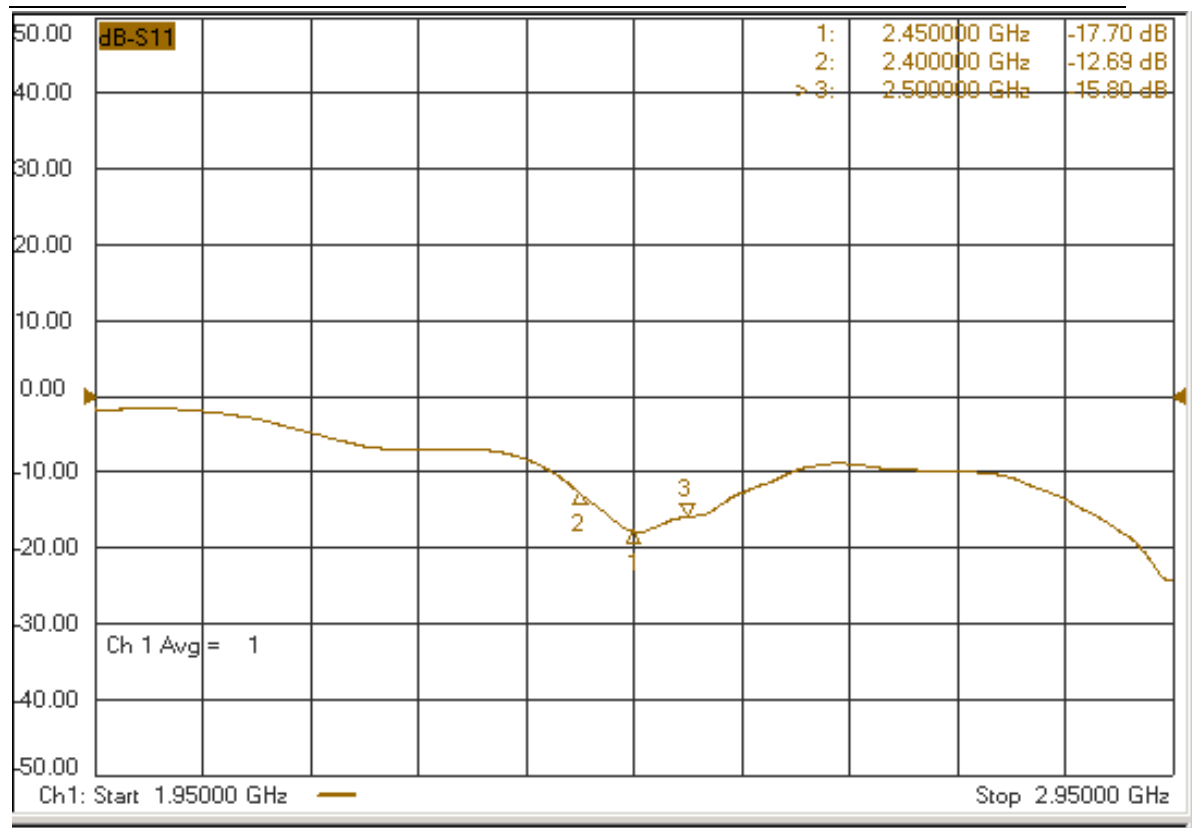
|                                      |                      |
|--------------------------------------|----------------------|
| test environment:                    | Test Equipment:      |
| Temperature: 10℃——+30℃               | Network Analyzer     |
| Relative humidity: ≤80% (+40℃)       | Agilent E8358A       |
| Atmospheric pressure: 750mmkg±30mmkg | ETS anechoic chamber |

### 4.22 Product electrical performance test data:

#### 4.22.1 S11 diagram of the product:

| Marker     | 2400MHz | 2450MHz | 2500MHz |
|------------|---------|---------|---------|
| Returnloss | -12.6   | -17.7   | -15.8   |
| VSWR       | 1.6     | 1.2     | 1.4     |





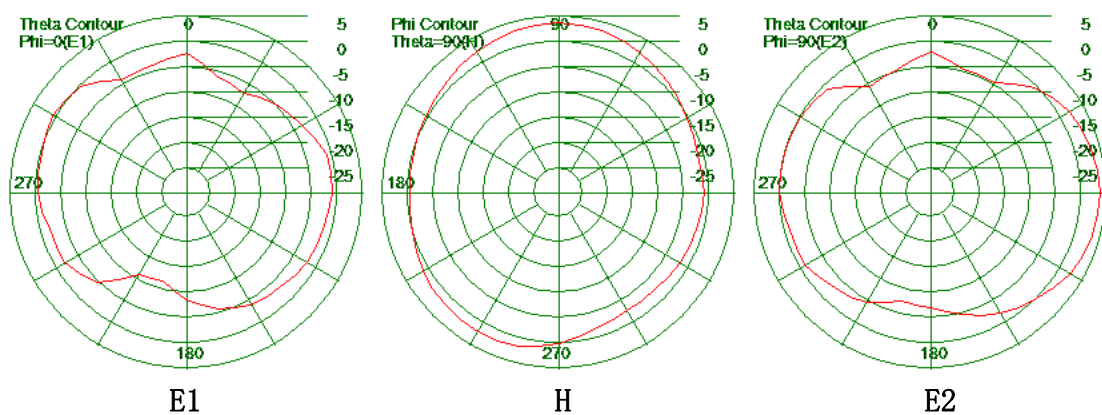
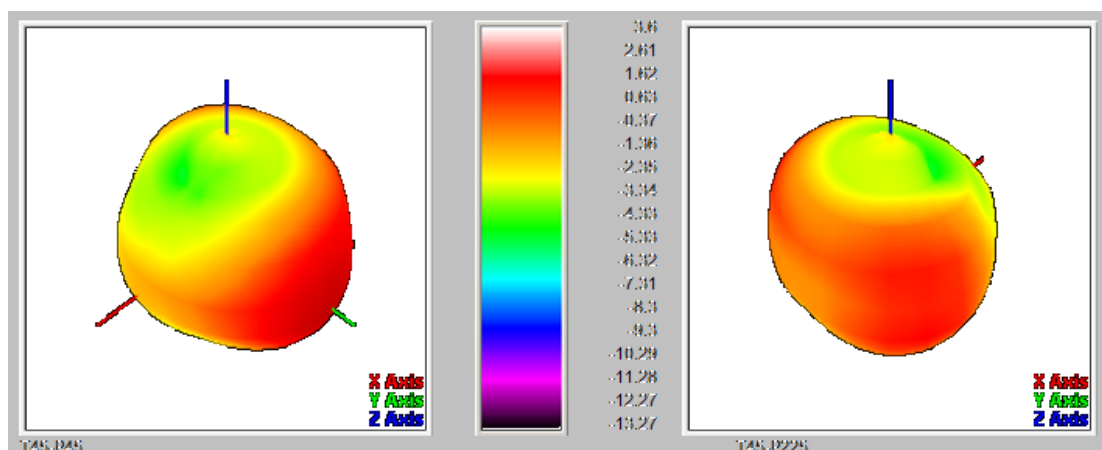


#### 4.22.2 Antenna efficiency/gain

| Freq. (MHz)    | 2400 | 2410 | 2420 | 2430 | 2440 | 2450 | 2460 | 2470 | 2480 | 2490 | 2500 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|
| Gain (dBi)     | 3.42 | 3.37 | 3.35 | 3.43 | 3.59 | 3.60 | 3.54 | 3.36 | 3.40 | 3.31 | 3.15 |
| Efficiency (%) | 75.0 | 69.7 | 69.0 | 69.5 | 71.5 | 71.0 | 69.1 | 65.5 | 66.1 | 63.9 | 61.3 |

#### 4.22.3 Radiation pattern

Frequency: 2450MHz





## 5.Product packaging

Packing:

Ziplock bag packaging, 200PCS per bag.

## 6. Document history

|              |            |
|--------------|------------|
| Document No. |            |
| Release Date | 2022/09/08 |
| Author       | Hungjie    |
| Review       | WH         |

### Revised History

| Date       | Version | Revised Record |
|------------|---------|----------------|
| 2022/09/08 | 1.00    | New Project    |
|            |         |                |