

# Antenna specification sheet

## Supplier

Iot-antenna Technology (Kunshan) Co., Ltd

Material code: TP47-BT-C1-L60

Material name: WIFI antenna

## Customer Name

Zhejiang Ulirvision Technology Co., Ltd

Prepared by: Wang Li    Reviewed by: Xiong baoli

Date: May 27, 2022

Tianfeng Intelligent Technology (Kunshan) Co., Ltd

Address: No.18 Chunxu Road, Development Zone, Kunshan City, Jiangsu Province

Room 406, Liancai Business Building

Email: xzx@iot-antenna.com

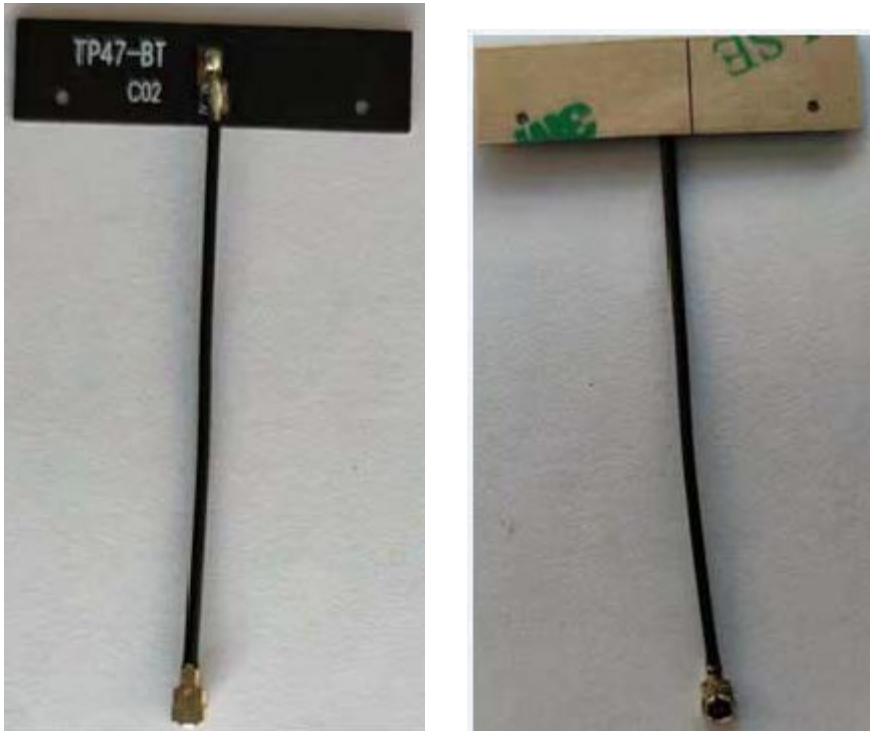
Phone: 181 1265 0090

## **Catalogue**

- 1. Both parties confirm**
- 2. General product specifications reference**
- 3. Product drawing specifications**
- 4. Product packaging method**
- 5. Environmental Declaration**
- 6. Document resume**

|                                                           |                                      |                          |
|-----------------------------------------------------------|--------------------------------------|--------------------------|
| <b>1. Both parties confirm</b>                            |                                      |                          |
| <b>1.1 Customer Confirmation Signature</b>                |                                      |                          |
| <b>Customer: Zhejiang Ulirvision Technology Co., Ltd</b>  |                                      |                          |
| <b>Customer<br/>department/position</b>                   | <b>confirmation person signature</b> | <b>confirmation date</b> |
| <b>Hardware/RF</b>                                        |                                      |                          |
| <b>Structure</b>                                          |                                      |                          |
| <b>Business/Procurement</b>                               |                                      |                          |
| <b>Review</b>                                             |                                      |                          |
| <b>Supplier:lot-antenna Technology (Kunshan) Co., Ltd</b> |                                      |                          |
| <b>department/position</b>                                | <b>confirmation person signature</b> | <b>confirmation date</b> |
| <b>Antenna Engineer</b>                                   |                                      |                          |
| <b>Structural Engineer</b>                                |                                      |                          |
| <b>QA</b>                                                 |                                      |                          |
| <b>Review</b>                                             |                                      |                          |

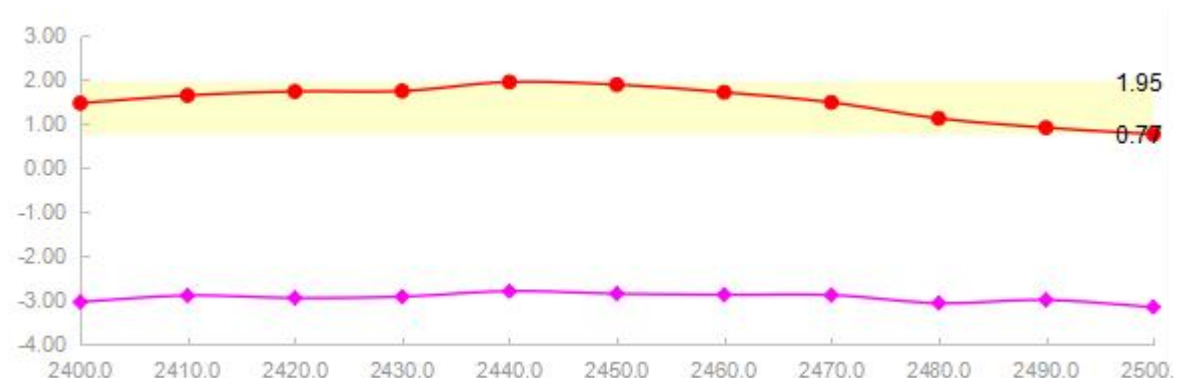
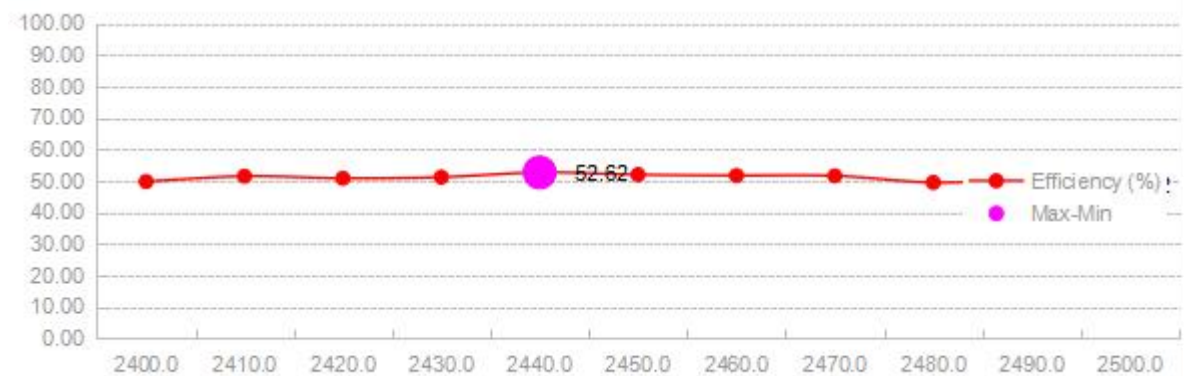
## 2. General product specifications reference

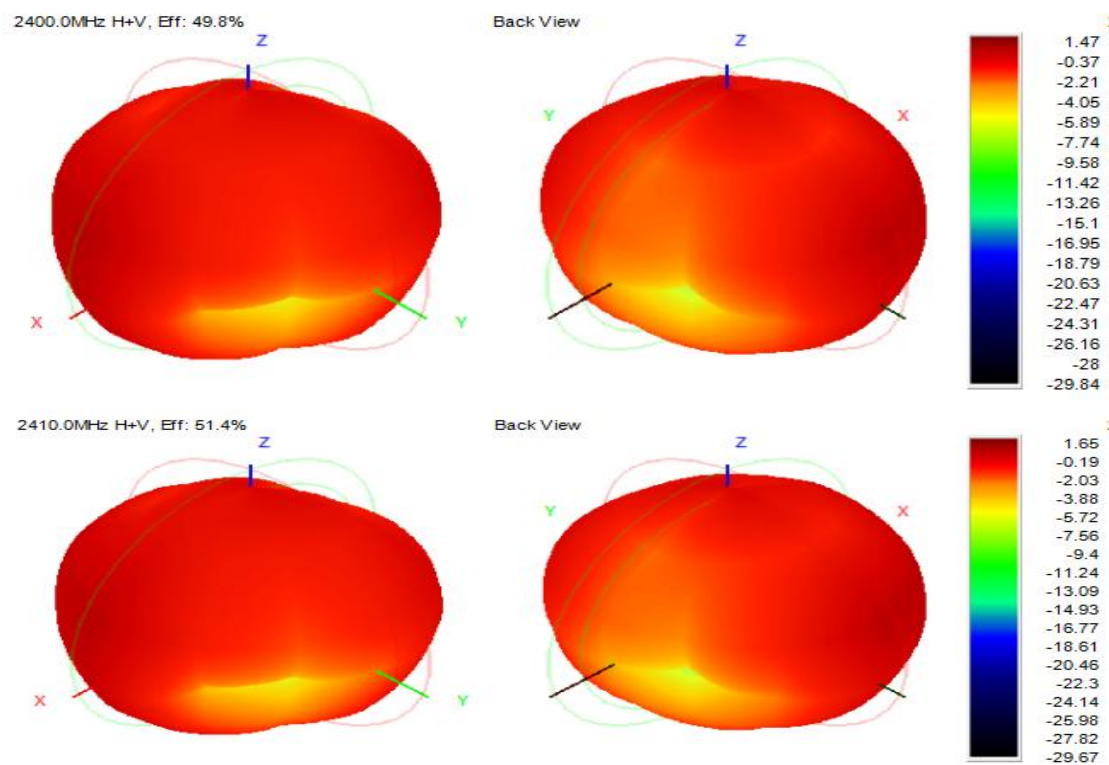
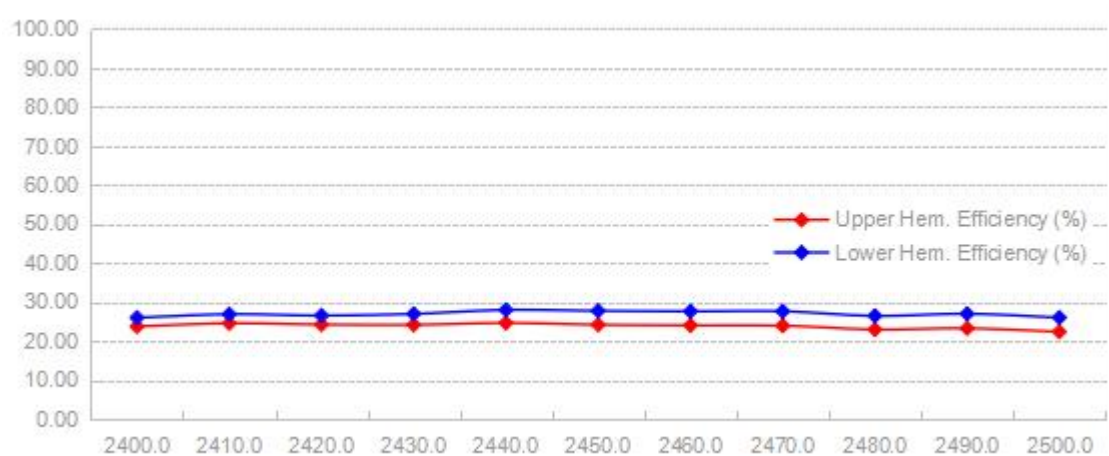
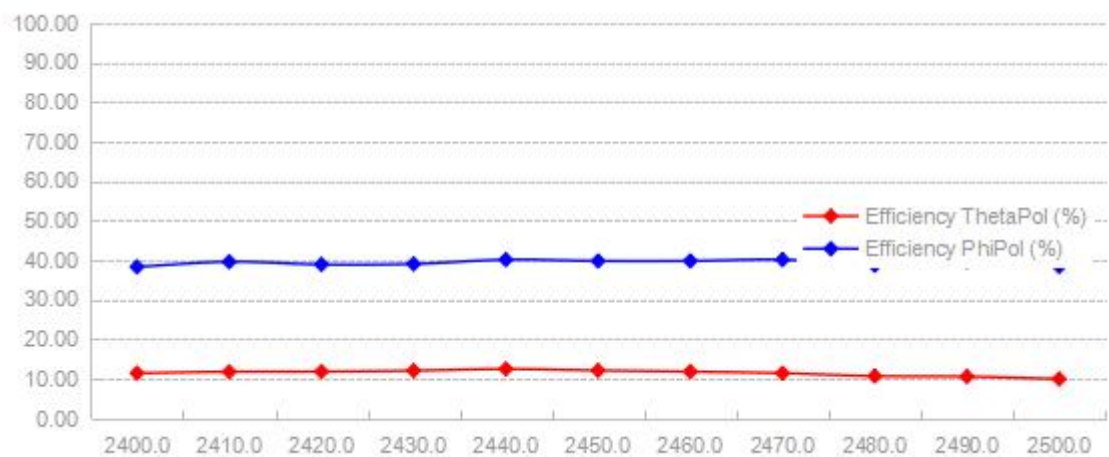
| NO. | ITEMS                         | DETAILS                                                                              |
|-----|-------------------------------|--------------------------------------------------------------------------------------|
| 1   | Applicable frequency band     | 2400---2500MHZ                                                                       |
| 2   | Antenna VSWR                  | < 2:1                                                                                |
| 3   | Antenna impedance             | 50Ω                                                                                  |
| 4   | Antenna polarization          | Vertical polarization                                                                |
| 5   | Antenna gain                  | 1.95dBi                                                                              |
| 6   | Antenna efficiency            | >60%                                                                                 |
| 7   | Antenna area                  | 34.5mm*9.5mm*0.25mm                                                                  |
| 8   | Antenna connector             | IPEX—MHF1                                                                            |
| 9   | Antenna extension cable       | Black 1.1RF wire with a length of 60mm                                               |
| 10  | Antenna installation          | Comes with adhesive backing                                                          |
| 11  | Antenna operating temperature | -30--- 80°                                                                           |
| 12  | Physical reference pictures   |  |

## 2.1 Test data and bar graph

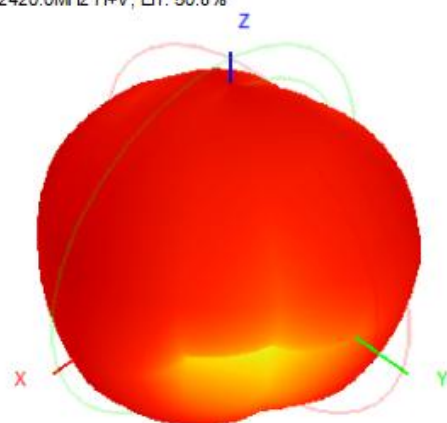
| Frequency ID               | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Frequency (MHz)            | 2400.0 | 2410.0 | 2420.0 | 2430.0 | 2440.0 | 2450.0 | 2460.0 | 2470.0 | 2480.0 | 2490.0 | 2500.0 |
| Efficiency (dBi)           | -3.03  | -2.89  | -2.94  | -2.91  | -2.79  | -2.85  | -2.87  | -2.88  | -3.06  | -2.99  | -3.15  |
| Gain (dBi)                 | 1.47   | 1.65   | 1.74   | 1.75   | 1.95   | 1.89   | 1.72   | 1.49   | 1.13   | 0.92   | 0.77   |
| Efficiency (%)             | 49.76  | 51.43  | 50.78  | 51.14  | 52.62  | 51.94  | 51.66  | 51.56  | 49.44  | 50.25  | 48.42  |
| Directivity (dB)           | 4.51   | 4.54   | 4.68   | 4.66   | 4.74   | 4.74   | 4.59   | 4.37   | 4.19   | 3.91   | 3.92   |
| Peak Gain Position (Theta) | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 |
| Peak Gain Position (Phi)   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   |
| Efficiency ThetaPol (%)    | 11.44  | 11.82  | 11.86  | 12.08  | 12.49  | 12.13  | 11.85  | 11.44  | 10.71  | 10.59  | 9.99   |
| Efficiency PhiPol (%)      | 38.32  | 39.61  | 38.92  | 39.06  | 40.13  | 39.81  | 39.81  | 40.13  | 38.73  | 39.65  | 38.43  |
| Upper Hem. Efficiency (%)  | 23.76  | 24.55  | 24.24  | 24.17  | 24.64  | 24.19  | 24.04  | 23.94  | 22.98  | 23.26  | 22.40  |
| Lower Hem. Efficiency (%)  | 25.99  | 26.88  | 26.55  | 26.97  | 27.98  | 27.75  | 27.62  | 27.63  | 26.46  | 26.99  | 26.02  |

|                  |        |        |        |        |        |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| T90(H)角度         | 17.20  | 16.56  | 16.60  | 16.06  | 15.91  | 15.56  | 15.48  | 15.58  | 15.97  | 15.82  | 15.92  |
| Gain 15deg (dBi) |        |        |        |        |        |        |        |        |        |        |        |
| E1(XZ)波瓣宽度       | 119.00 | 121.00 | 119.00 | 71.00  | 68.00  | 69.00  | 72.00  | 130.00 | 137.00 | 142.00 | 142.00 |
| E1(XZ)前后比        | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   |
| E2(YZ)波瓣宽度       | 124.00 | 127.00 | 218.00 | 211.00 | 212.00 | 212.00 | 199.00 | 201.00 | 165.00 | 161.00 | 159.00 |
| E2(YZ)前后比        | 1.67   | 1.70   | 1.48   | 1.04   | 0.42   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   |
| 最大增益处轴比(P)       | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   |
| 仰角10度最差(大)轴比(P)  | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   |
| Hc(XY)波瓣宽度       | 122.00 | 120.00 | 119.00 | 118.00 | 118.00 | 118.00 | 119.00 | 120.00 | 120.00 | 117.00 | 114.00 |
| Hc(XY)前后比        | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.05   | 0.22   | 0.52   |
| Empty            |        |        |        |        |        |        |        |        |        |        |        |

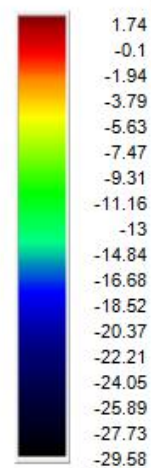
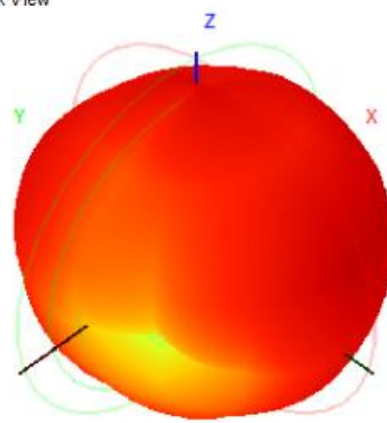




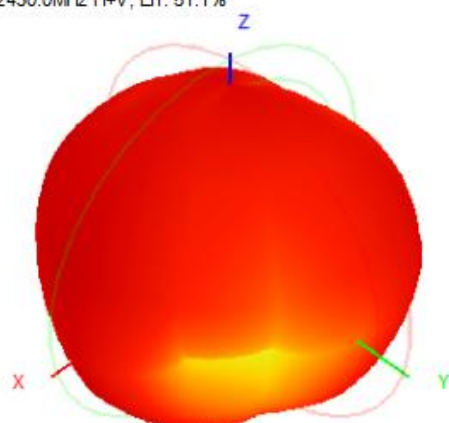
2420.0MHz H+V, Eff: 50.8%



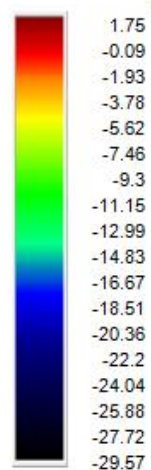
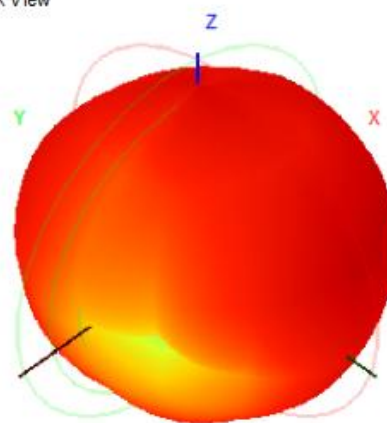
Back View



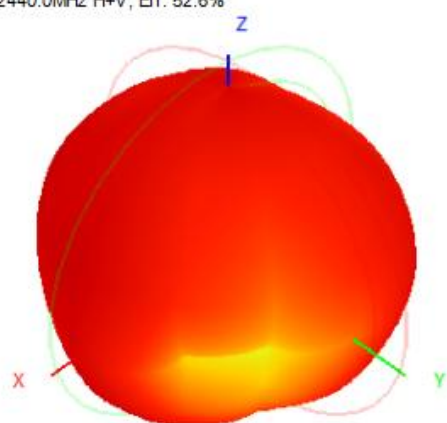
2430.0MHz H+V, Eff: 51.1%



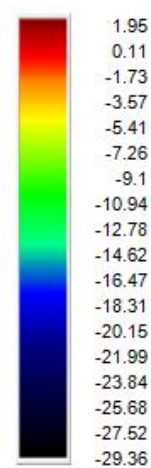
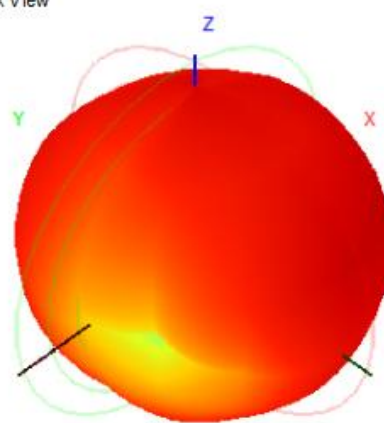
Back View



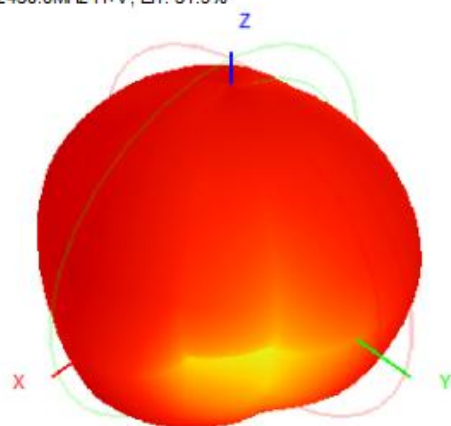
2440.0MHz H+V, Eff: 52.6%



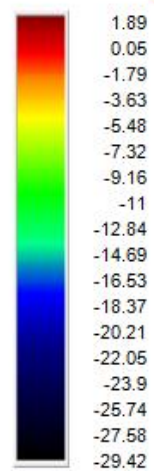
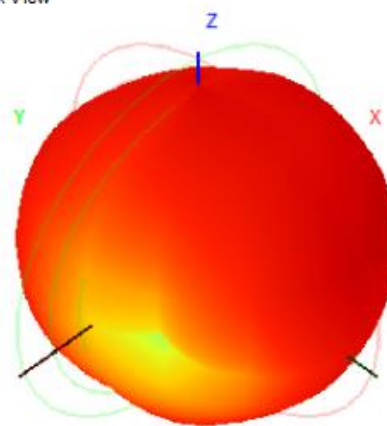
Back View



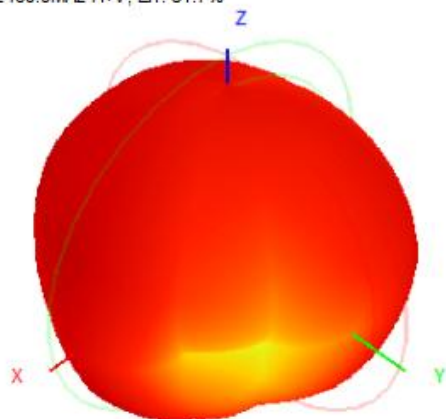
2450.0MHz H+V, Eff: 51.9%



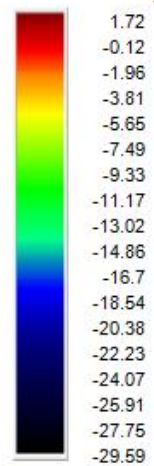
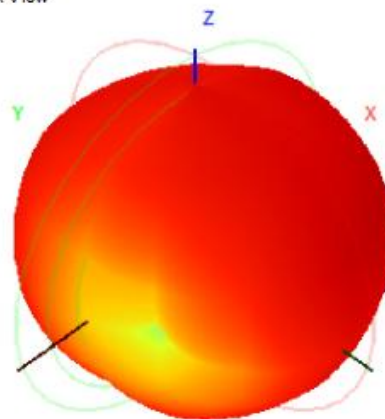
Back View



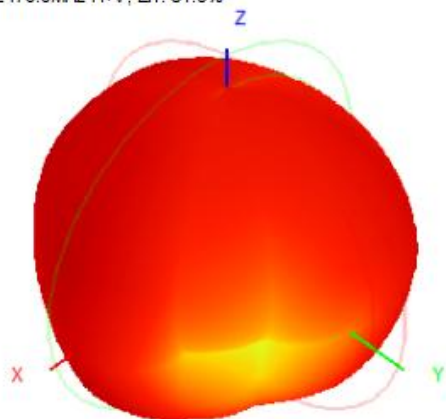
2460.0MHz H+V, Eff: 51.7%



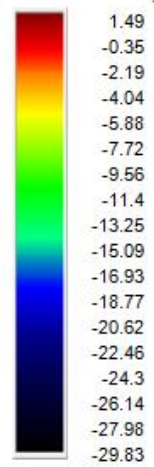
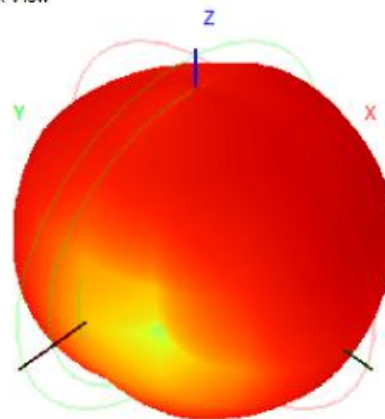
Back View



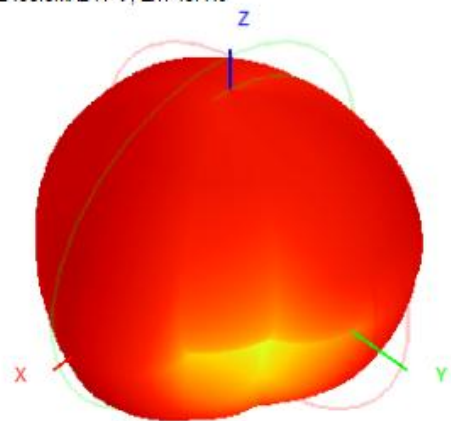
2470.0MHz H+V, Eff: 51.6%



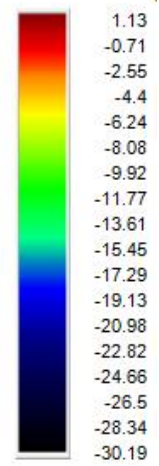
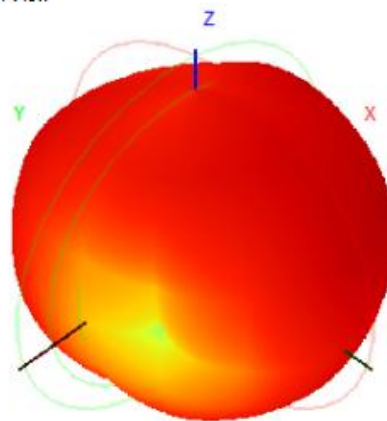
Back View



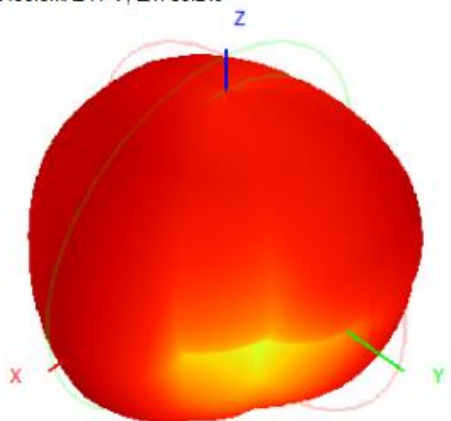
2480.0MHz H+V, Eff: 49.4%



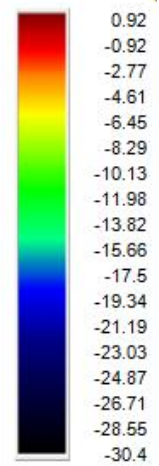
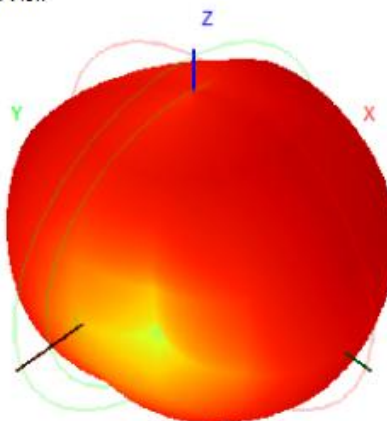
Back View



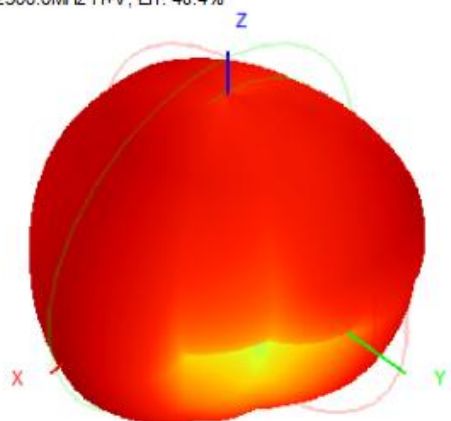
2490.0MHz H+V, Eff: 50.2%



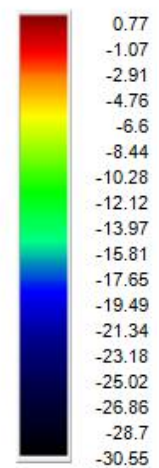
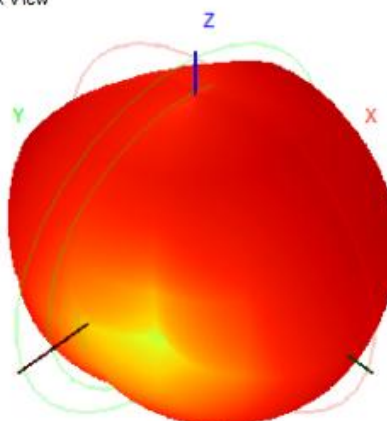
Back View

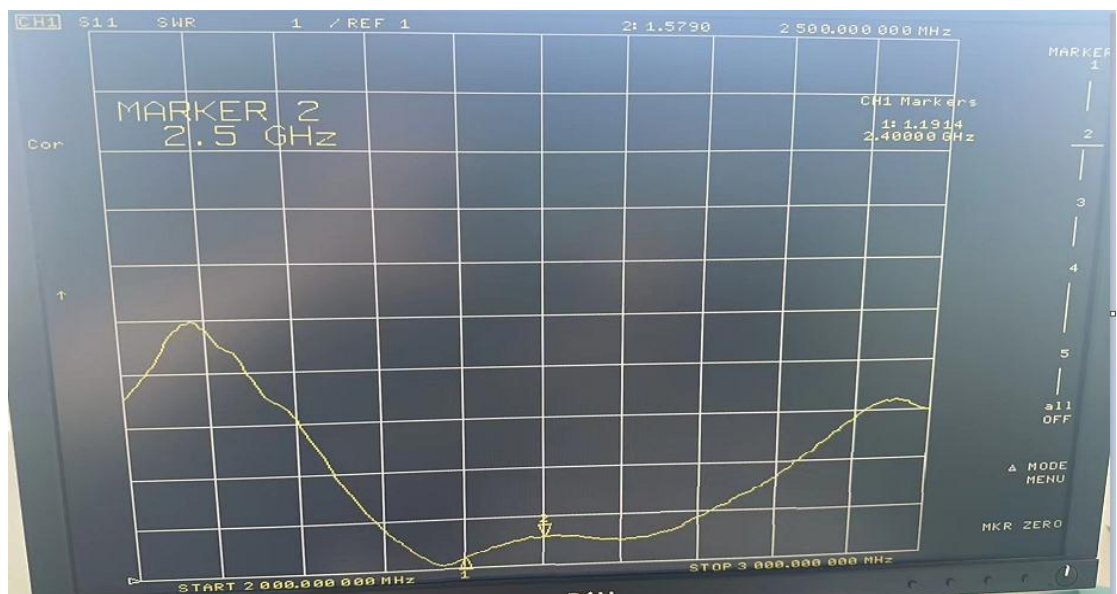
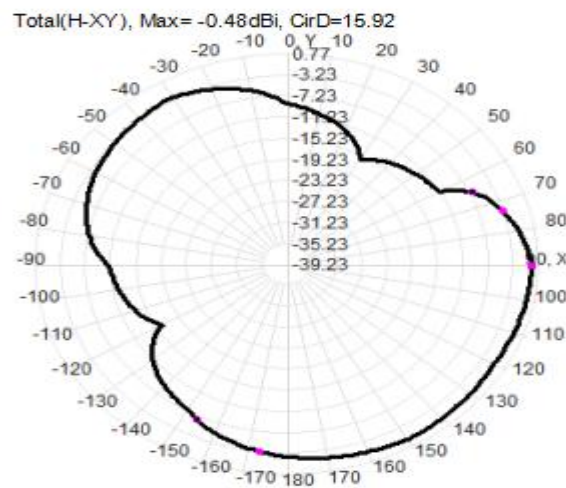
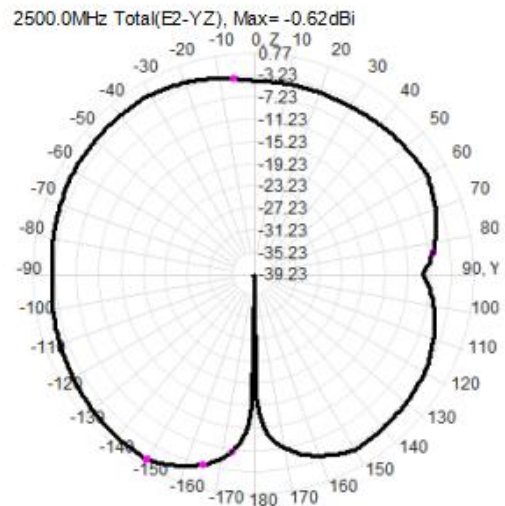
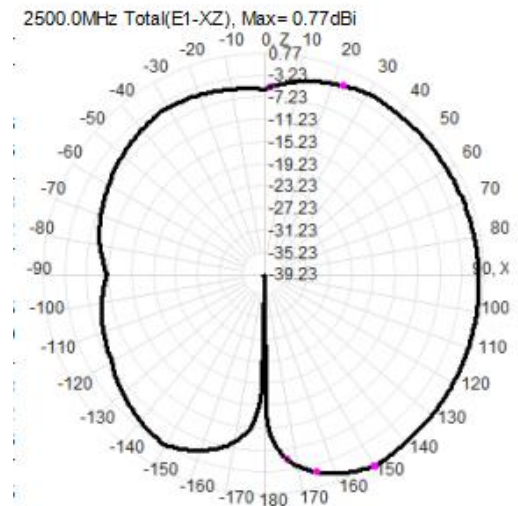


2500.0MHz H+V, Eff: 48.4%

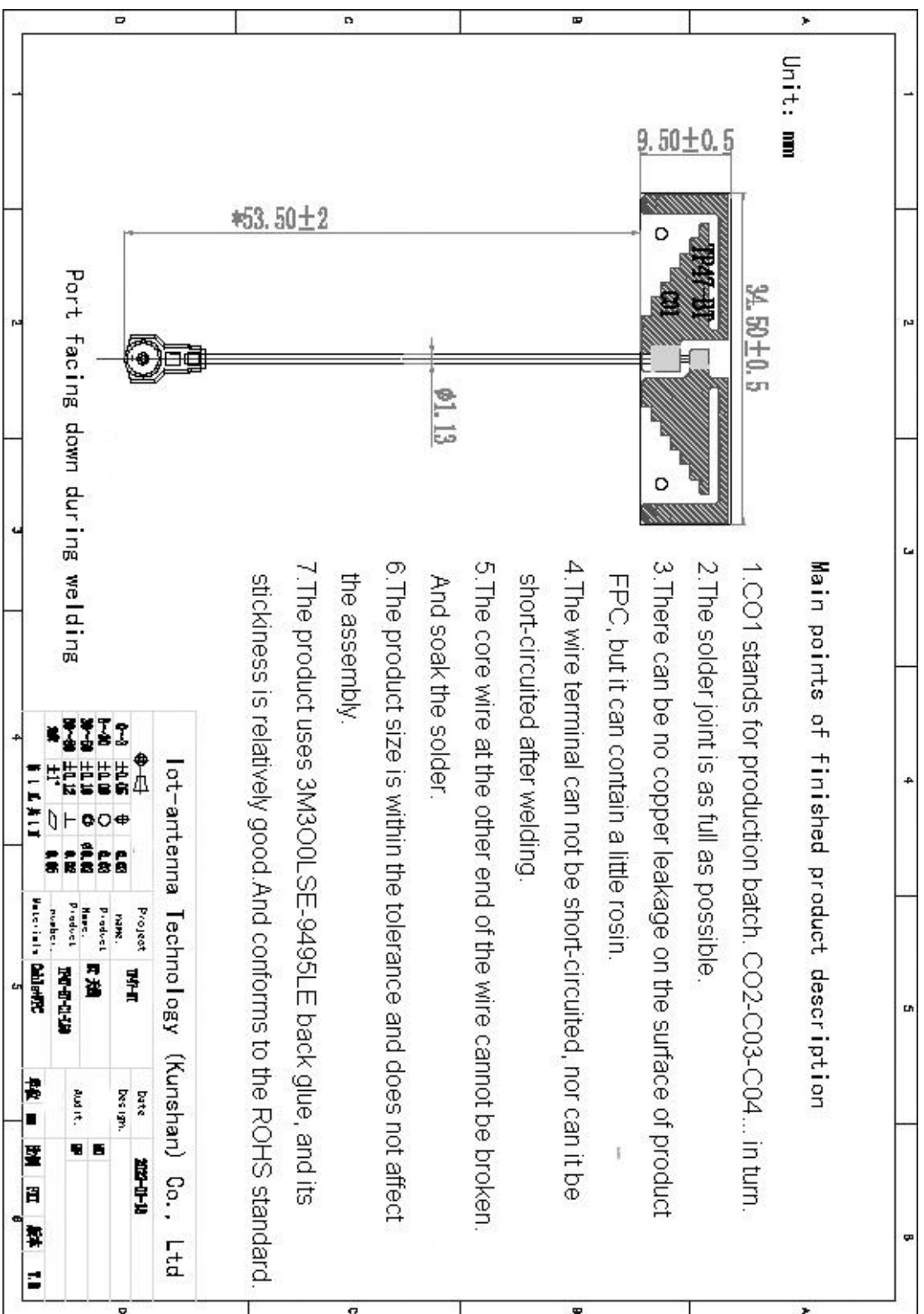


Back View





### 3.Product drawing specifications



#### 4. Product packaging method

Self sealing bag+cardboard box, all outer boxes are labeled with material information codes. The shipping packaging meets the express transportation needs and arrives at the customer's designated location without any damage or abnormal situations.

#### 5. Environmental Declaration

All materials of the product meet the requirements of ROHs, please refer to the corresponding information for details

#### 6. Document resume

|              |                                       |
|--------------|---------------------------------------|
| Document No. | TP-QF-GGS- TP47-BT-C1-L60<br>NO: V1.0 |
| Release Date | 2022/05/27                            |
| Author       | Wang li                               |
| Review       | Xiong baoli                           |