



Dongguan Youbi Electronics Co., Ltd

## APPROVAL SHEET

CUSTOMER NAME:

PRODUCT NAME: 2.4/5.8G FPC ANT L=100mm

CUSTOMER P/N:

Youbi P/N: UB01C90F2D4468A REV: A

|              | MANUFACTURER<br>SIGNATURE | CUSTOMER<br>SIGNATURE |
|--------------|---------------------------|-----------------------|
| CHECKED BY:  | Eddy                      |                       |
| APPROVED BY: | Changxing. Liu            |                       |
| DATE:        | 2024/2/27                 |                       |



Dongguan Youbi Electronics Co.,Ltd

Modification History

| Version | Content Revision | Issued by | Date      |
|---------|------------------|-----------|-----------|
| A       | Original version | Eddy      | 2024-2-27 |
|         |                  |           |           |
|         |                  |           |           |
|         |                  |           |           |
|         |                  |           |           |
|         |                  |           |           |
|         |                  |           |           |



Dongguan Youbi Electronics Co., Ltd

## Content

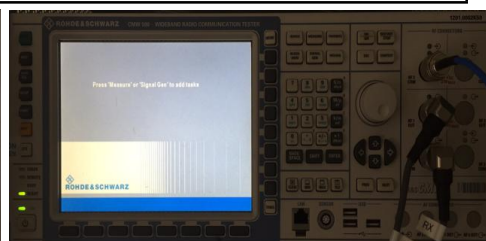
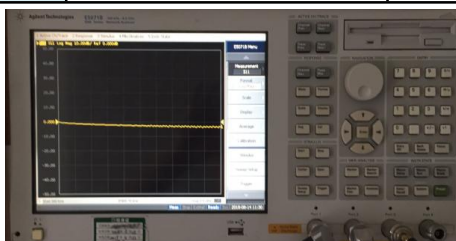
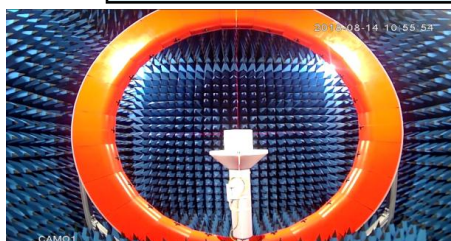
| <i>Item</i> | <i>Description</i>           |
|-------------|------------------------------|
| 1.-----     | Electrical Specification     |
| 2.-----     | Test Items and Equipment     |
| 3.-----     | S Parameter                  |
| 4.-----     | Efficiency and Gain          |
| 5.-----     | Radiation Pattern            |
| 6.-----     | Active test data             |
| 7.-----     | Antenna installation diagram |
| 8.-----     | Mechanical Specification     |
| 9.-----     | Packaging                    |

## 1. Electrical Specification

| Characteristics       | Specifications      | Unit     |
|-----------------------|---------------------|----------|
| Outline Dimensions    | 35.2x8.0,L90        | mm       |
| Frequency             | 2400-2500;5150-5850 | MHz      |
| Impedance             | 50                  | $\Omega$ |
| VSWR                  | < 2                 |          |
| Polarization          | Linear Polarization |          |
| Gain                  | 4 REF               | dBi      |
| Efficiency            | >60                 | %        |
| Connector Type        | RF 1                |          |
| Operating temperature | -20℃~+85℃           |          |
| Storage Temp          | -20℃~+50℃           |          |

## 2. Test Items and Equipment

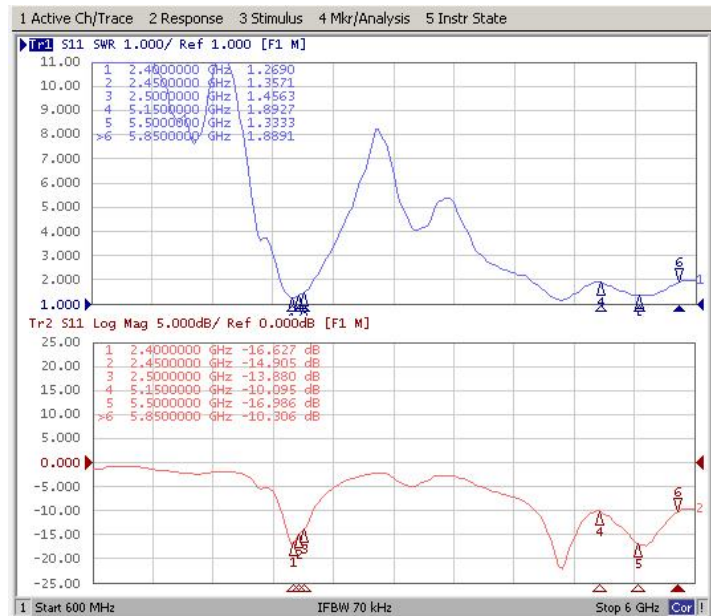
|                                            | Test items                                   | Test equipment                                                                       |
|--------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------|
| S Parameter                                | 1.Return Loss<br>2.VSWR                      | Network analyzer<br>(Agilent E5071B)                                                 |
| The whole machine of<br>Passive parameters | 1.Frequency<br>2.Gain<br>3.Radiation Pattern | 1.3D microwave darkroom<br>(5m*5m*5m)<br>2.Network analyzer<br>(Agilent E5071B)      |
| The whole machine of<br>Active parameters  | 1.TRP<br>2.TIS                               | 1.3D microwave darkroom<br>(5m*5m*5m)<br>2.Comprehensive test instrument<br>(CMW500) |



## 3. S Parameter

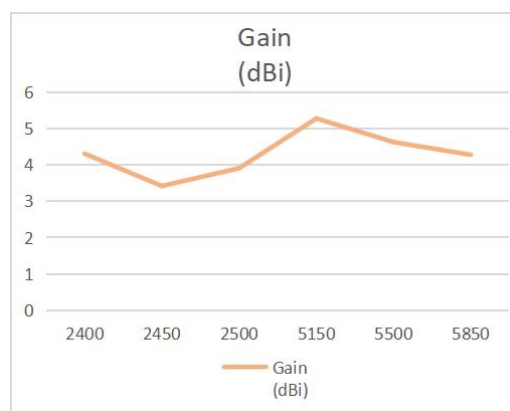
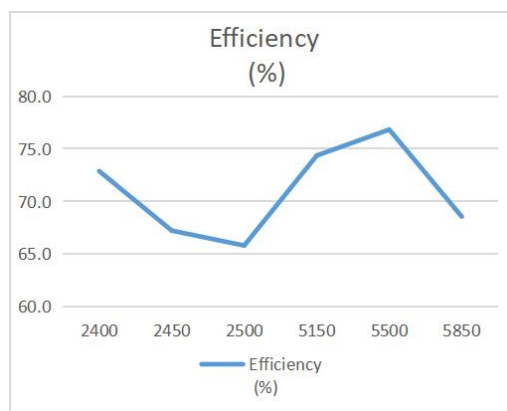
| Frequency (MHz) | Return Loss (dB) | VSWR |
|-----------------|------------------|------|
| 2400            | -16.62           | 1.26 |
| 2450            | -14.90           | 1.35 |
| 2500            | -13.88           | 1.45 |
| 5150            | -10.09           | 1.89 |
| 5500            | -16.98           | 1.33 |
| 5850            | -10.30           | 1.88 |

\* Voltage Standing Wave Ratio(VSWR)  
Return Loss(RL)  
 $RL = 20 * \log_{10}[(VSWR + 1) / (VSWR - 1)]$



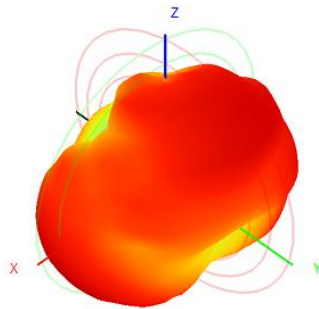
## 4. Efficiency and Gain

| Frequency (MHz) | 2400  | 2450  | 2500  | 5150  | 5500  | 5850  |
|-----------------|-------|-------|-------|-------|-------|-------|
| Efficiency (%)  | 72.88 | 67.22 | 65.80 | 74.36 | 76.83 | 68.55 |
| Gain (dBi)      | 4.31  | 3.42  | 3.91  | 5.28  | 4.63  | 4.28  |

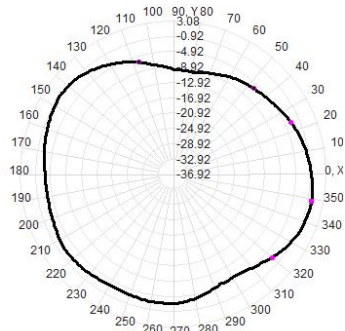


## 5. Radiation Pattern

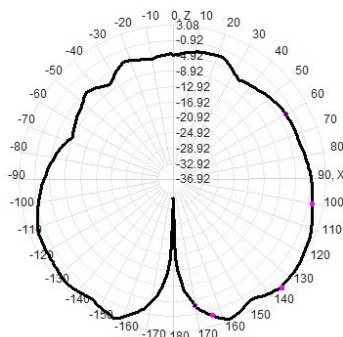
### 5-1 Antenna 3D Radiation Pattern



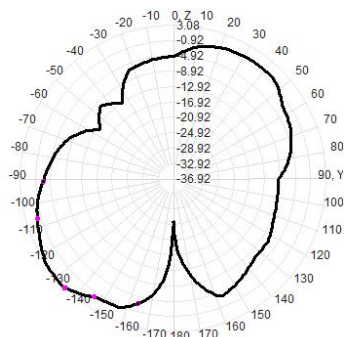
2450MHz



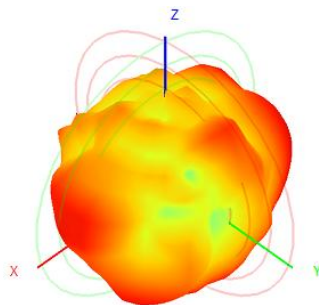
H-XY



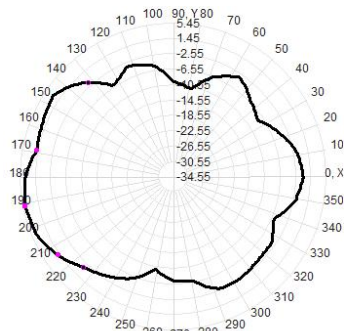
E1-XZ



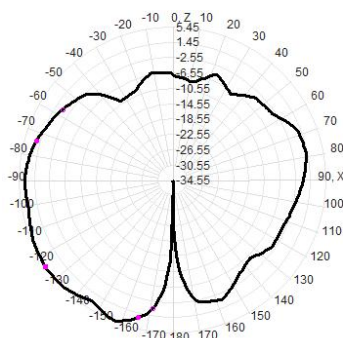
E2-YZ



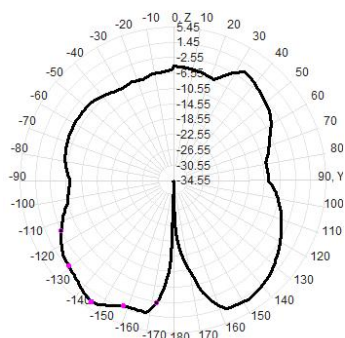
5850MHz



H-XY



E1-XZ



E2-YZ

## 6.Active test data

| Mode         | Test Case | Channel | Date Rate (Mbps) | Test Results (dBm) | Max (dbm) | Min (dbm) |
|--------------|-----------|---------|------------------|--------------------|-----------|-----------|
| IEEE 802.11b | TRP       | 1       | 11               | 16.38              | 20.97     | 6.03      |
|              |           | 6       |                  | 15.79              | 20.58     | 5.49      |
|              |           | 11      |                  | 15.20              | 20.11     | 5.08      |
|              | TIS       | 1       | 11               | -82.28             | -71.33    | -86.27    |
|              |           | 6       |                  | -83.36             | -72.56    | -87.65    |
|              |           | 11      |                  | -82.53             | -70.44    | -86.94    |

| Mode         | Test Case | Channel | Date Rate (Mbps) | Test Results (dBm) | Max (dbm) | Min (dbm) |
|--------------|-----------|---------|------------------|--------------------|-----------|-----------|
| IEEE 802.11a | TRP       | 36      | 54               | 15.28              | 21.13     | 2.41      |
|              |           | 149     |                  | 14.24              | 21.74     | 5.15      |
|              |           | 165     |                  | 13.33              | 20.55     | 1.58      |
|              | TIS       | 36      | 54               | -70.56             | -54.88    | -77.42    |
|              |           | 149     |                  | -72.40             | -58.97    | -78.86    |
|              |           | 165     |                  | -71.76             | -56.05    | -76.68    |

## 7.Antenna installation diagram





## 8. Mechanical Specification

