

# Shenzhen Yishengbang Technology Co., Ltd

## Shenzhen Yishengbang Technology Co., Ltd Antenna Test Report

Customer: Solaborate Inc

Project: HC2705T

WIFI 1: SLK-YLD-2516C3-R-470I-B

WIFI 2: SLK-YLD-2516C4-L-560I-G

Product: WIFI Antenna

Report date: 2025.08.22

Prepared by : Fan Xin Zhu

Checked by : Eason Huang

Approved by :



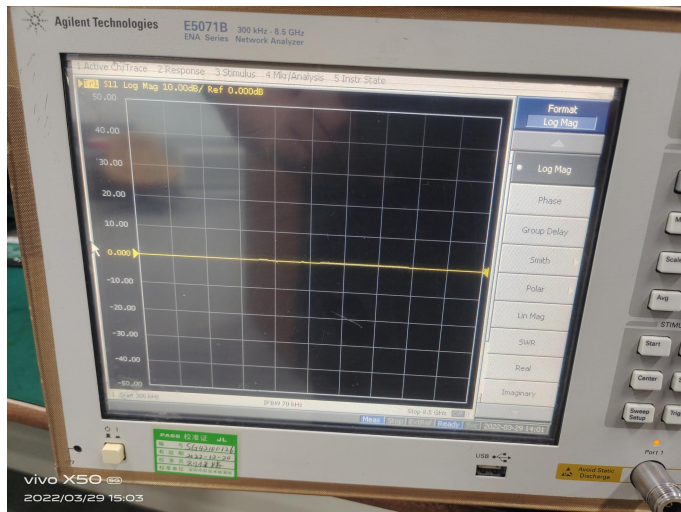
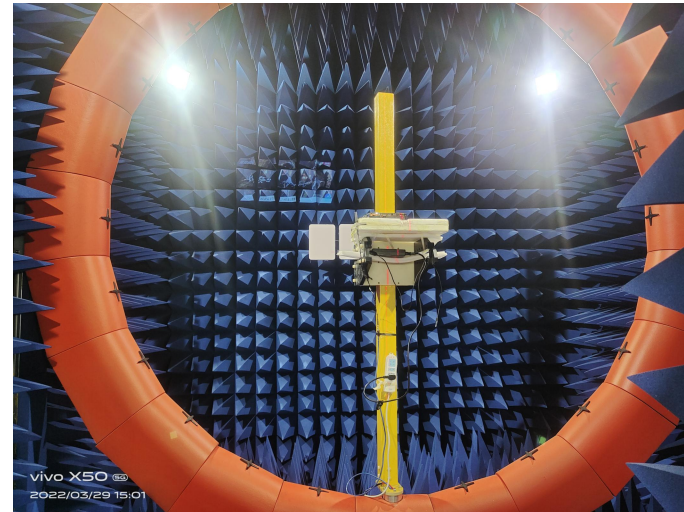
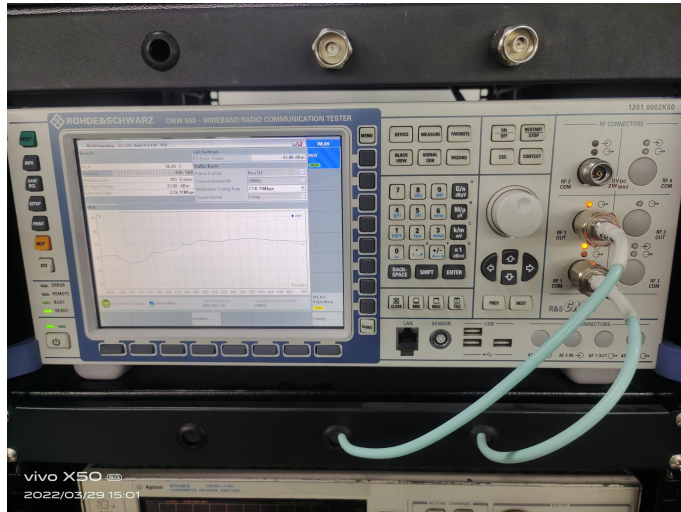
# ***Purpose***

This report is to measure the performance of SLK for Master Antenna on Solaborate Inc. All measure data are showed below.

## ***Content***

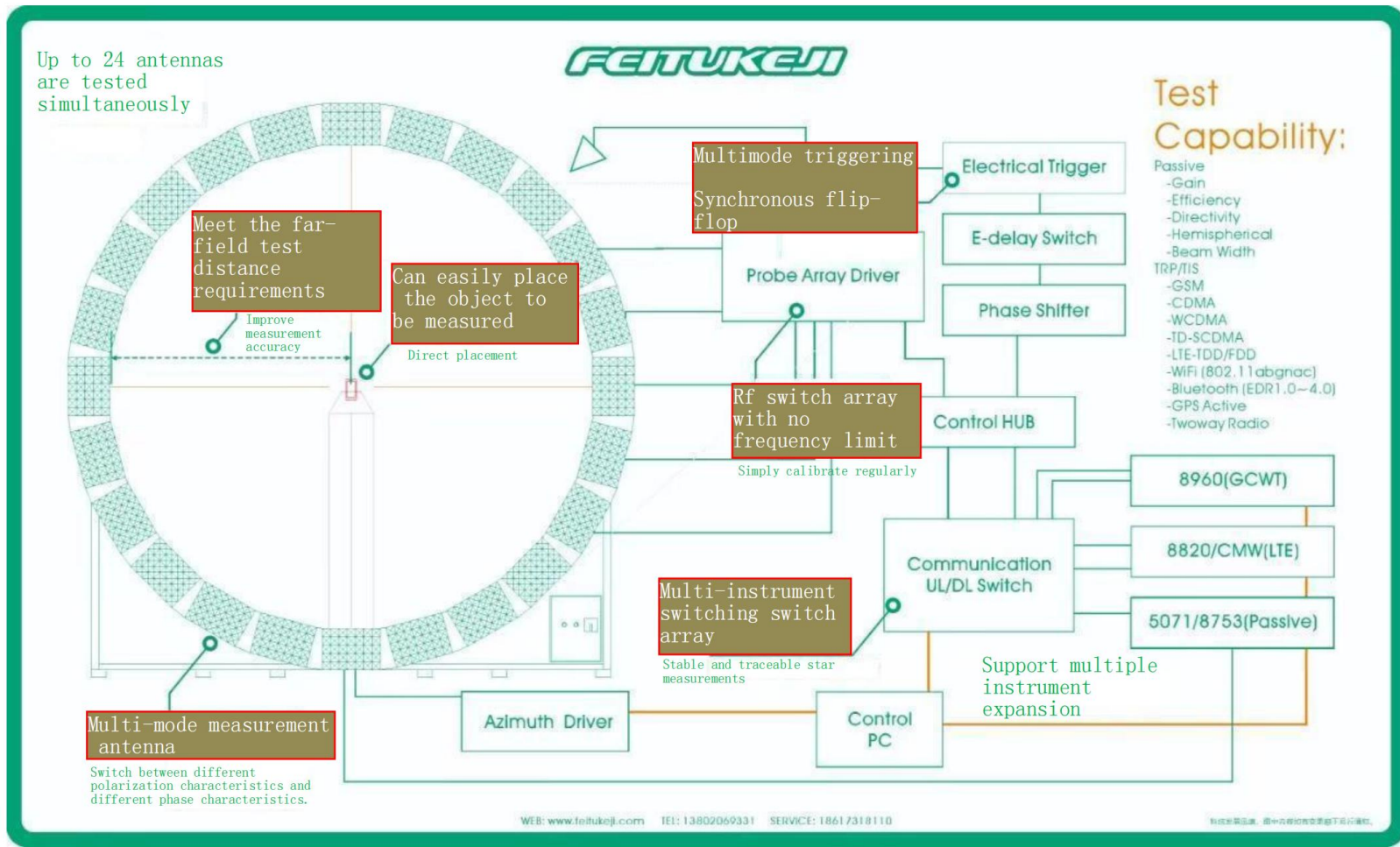
1. Test equipment
2. Test setup
3. Test site
4. Test equipment list
5. Measurement procedure
6. Product Overview
7. Test Result
  - 7.1 VSWR/S11
  - 7.2 Antenna Parameters
  - 7.3 WIFI Antenna Gain/Efficiency/3D DATA
  - 7.4 Schematic Diagram Of Antenna Size

# 1. Test equipment



| Test equipment                                                                          | Test content                                                            |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| network analyzer: 5071B                                                                 | 1.VSWR<br>2.Return loss<br>3.Smith                                      |
| network analyzer: 5071B<br>chamber: 4*4*4M24 probe anechoic chamber                     | 1.Antenna efficiency<br>2.Antenna gain<br>3.3D field pattern of antenna |
| Comprehensive measuring instrument: CMW500<br>chamber: 4*4*4M 24 probe anechoic chamber | 1.TRP<br>2.TIS                                                          |

## 2. Test setup



### 3. Test site

Test site:Shenzhen Yishengbang Technology Co., Ltd  
101, Building C, Qianwan Hard Technology Industrial Park,  
Xixiang Street, Bao'an District, Shenzhen City, Guangdong  
Province, China

24 probe anechoic chamber.

Antenna type:PIFA

Supplier:Shenzhen Yishengbang Technology Co., Ltd  
Address:101, Building C, Qianwan Hard Technology  
Industrial Park, Xixiang Street, Bao'an District, Shenzhen  
City, Guangdong Province, China

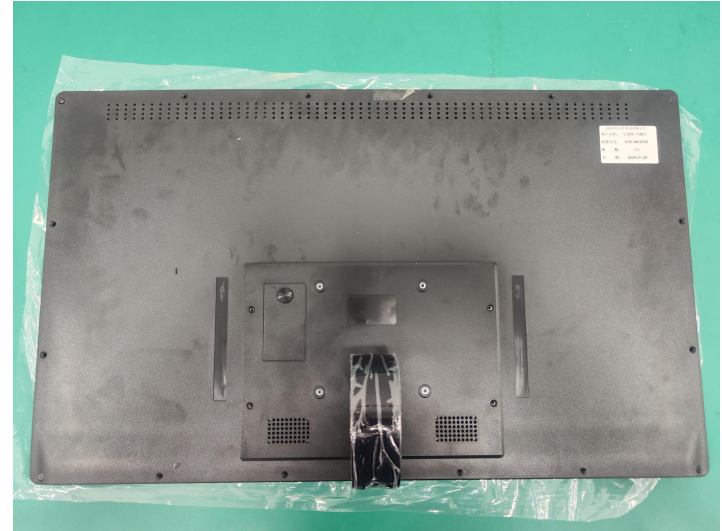
## 4. Test equipment list

|   | Test equipment   | Equipment model                        | Manufacturer | Calibration time | Remarks |
|---|------------------|----------------------------------------|--------------|------------------|---------|
| 1 | network analyzer | agilent E5071B                         | Agilent      | 2022-11-9        |         |
| 2 | anechoic chamber | 4*4*4M<br>24 probe<br>anechoic chamber | FEITUKEJI    | 2022-11-9        |         |
| 3 | computer         | Lenovo<br>desktop computer             | Lenovo       | 2022-11-9        |         |

## 5. Measurement procedure

|   | Procedure                                                                                         | Remarks |
|---|---------------------------------------------------------------------------------------------------|---------|
| 1 | Calibrate network analyzer                                                                        |         |
| 2 | Analyze the overall situation of the machine and select a suitable location for antenna debugging |         |
| 3 | Optimize antenna standing wave ratio to ensure meeting customer needs                             |         |
| 4 | Testing items such as passive efficiency and gain of antennas                                     |         |
| 5 | Provide antenna samples to customers based on debugging specifications                            |         |

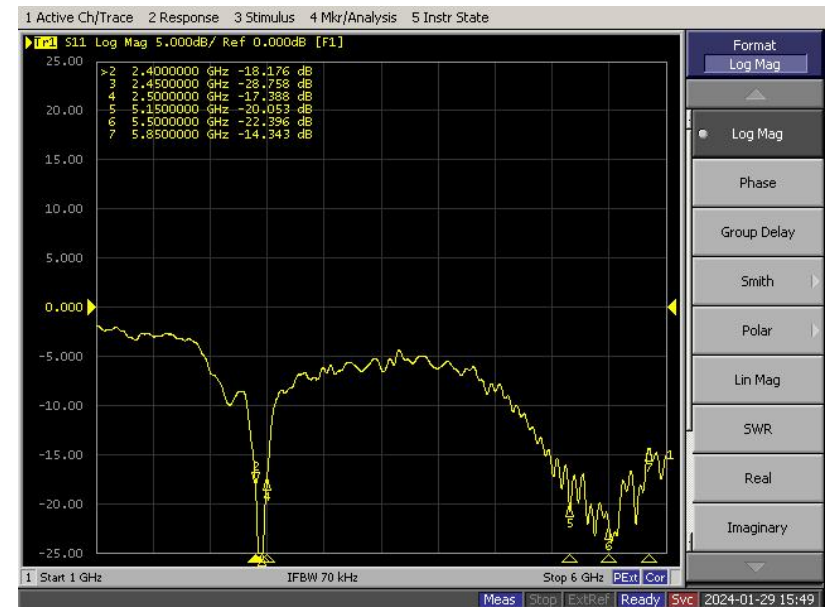
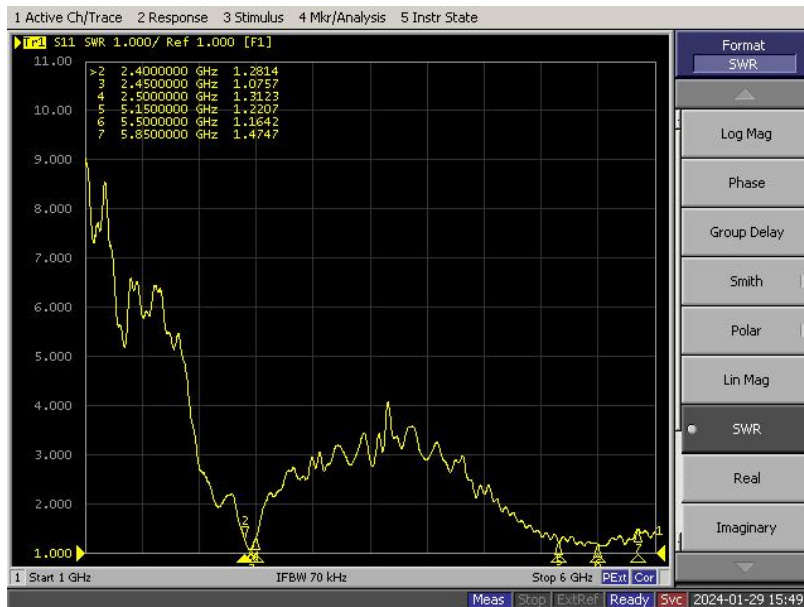
## 6. Product Overview



# 7. Test Result

## 7.1 VSWR/S11

WIFI 1

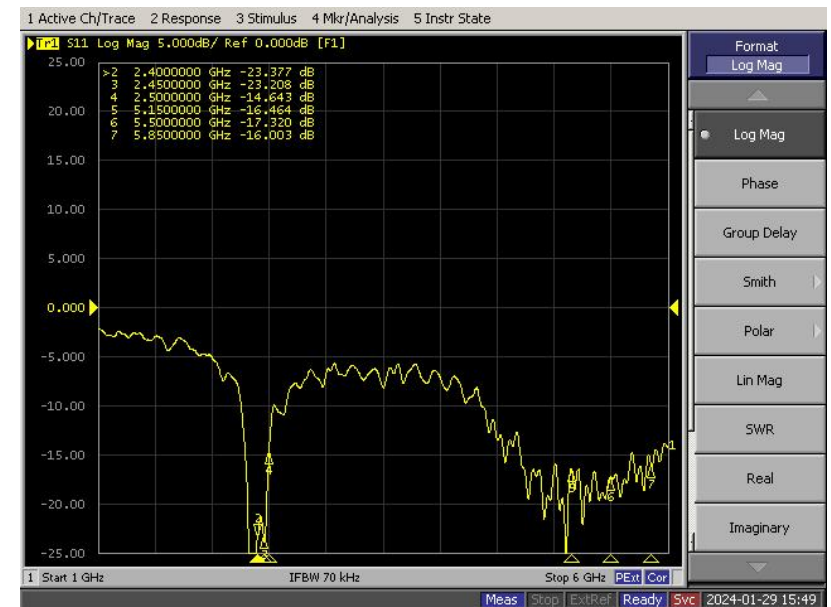
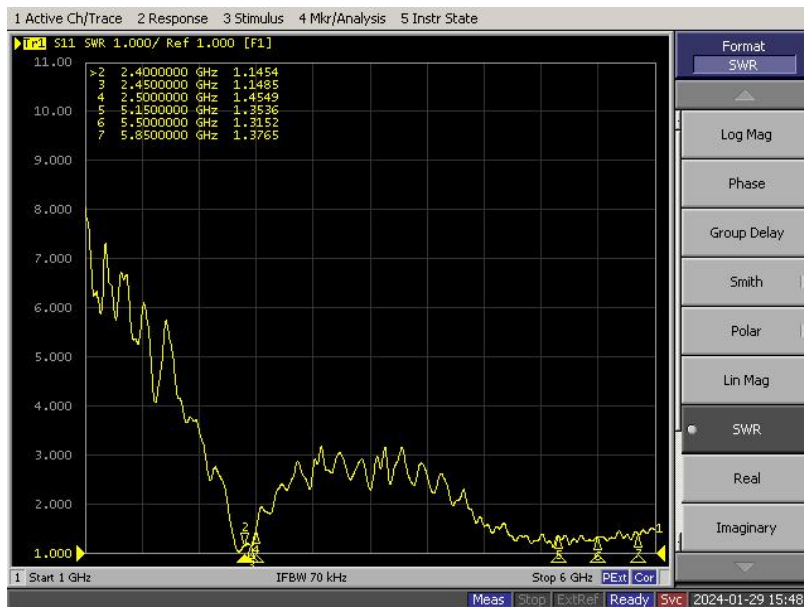


Note: Use the network analyzer E5071B to connect the connector on the antenna RF line to test the passive standing wave ratio and return loss of the antenna.

# 7. Test Result

## 7.1 VSWR/S11

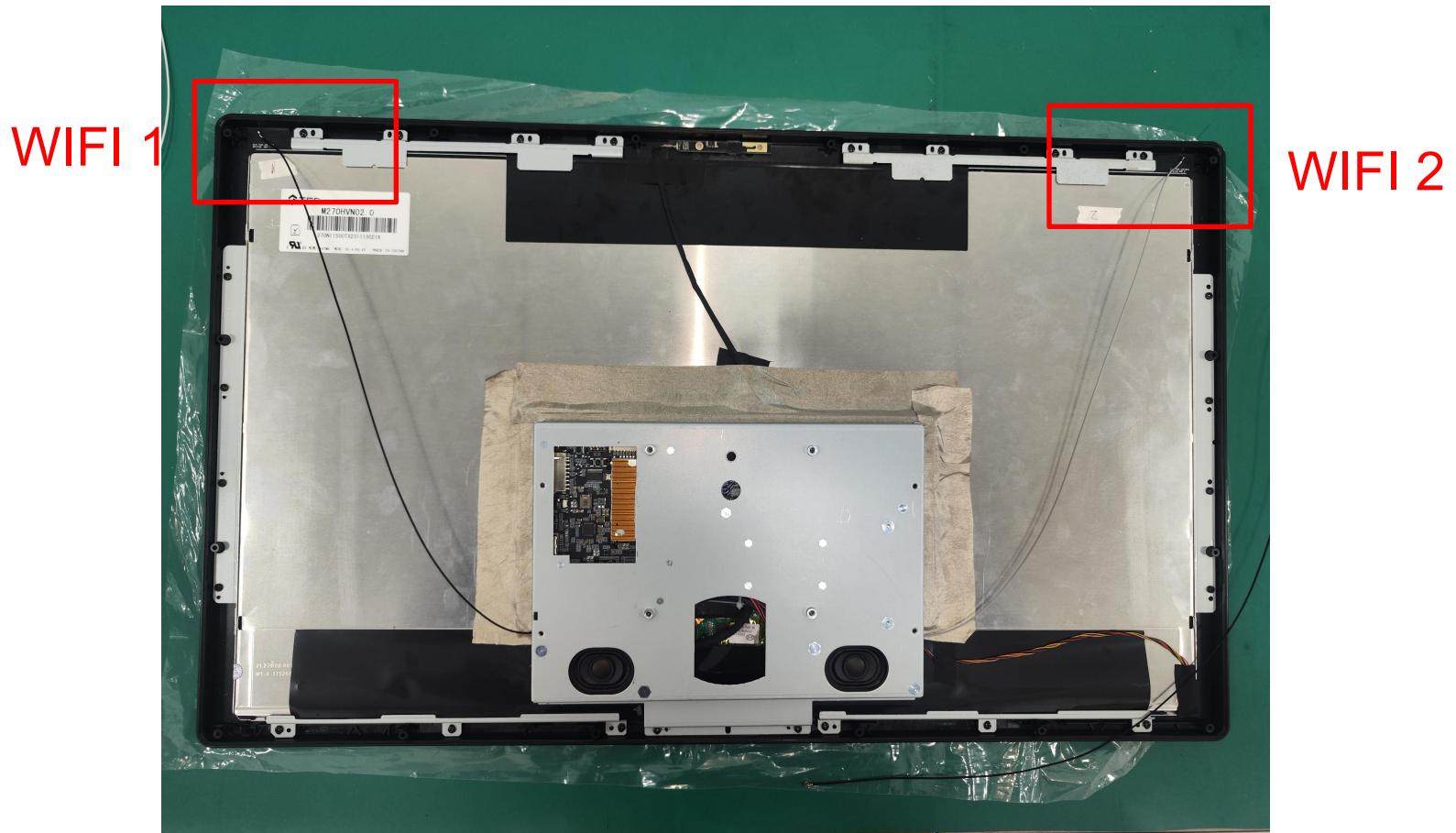
WIFI 2



Note: Use the network analyzer E5071B to connect the connector on the antenna RF line to test the passive standing wave ratio and return loss of the antenna.

# 7. Test Result

## 7.2 Antenna Parameters

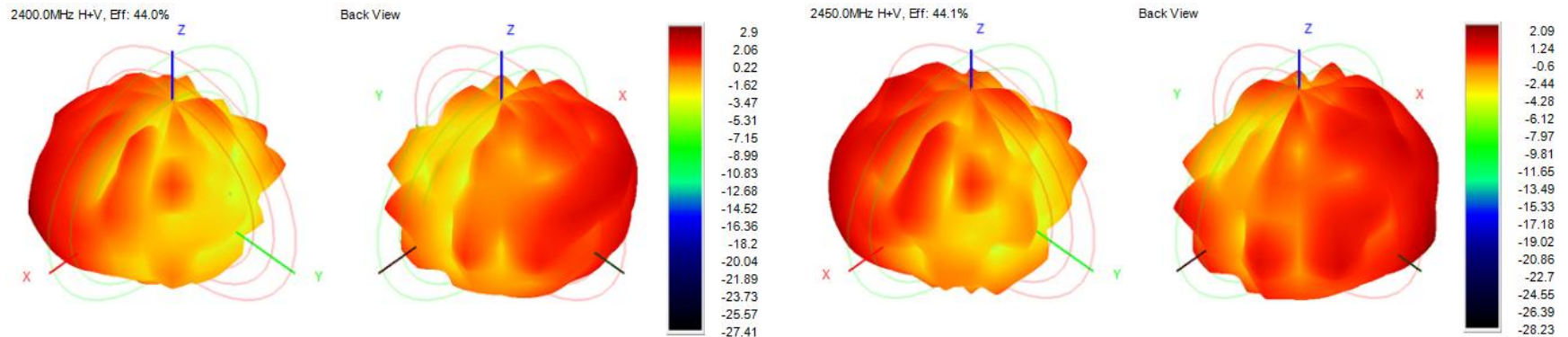


# 7. Test Result

## 7.3 Gain/Efficiency/3D DATA

## WIFI 1

| Frequency (MHz)  | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  | 5150  | 5350  | 5500  | 5650  | 5850  |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Efficiency (dBi) | -3.56 | -3.43 | -3.32 | -3.32 | -3.47 | -3.56 | -3.50 | -3.79 | -3.97 | -4.12 | -4.43 | -4.73 | -4.69 | -4.56 | -4.82 | -4.66 |
| Gain (dBi)       | 2.90  | 2.95  | 2.93  | 2.77  | 2.32  | 2.09  | 2.03  | 1.46  | 0.94  | 0.80  | 0.97  | 0.70  | 2.71  | 2.63  | 1.23  | 2.83  |
| Efficiency (%)   | 44.01 | 45.41 | 46.59 | 46.51 | 44.93 | 44.09 | 44.67 | 41.82 | 40.09 | 38.76 | 36.09 | 33.63 | 33.90 | 34.96 | 32.93 | 34.16 |

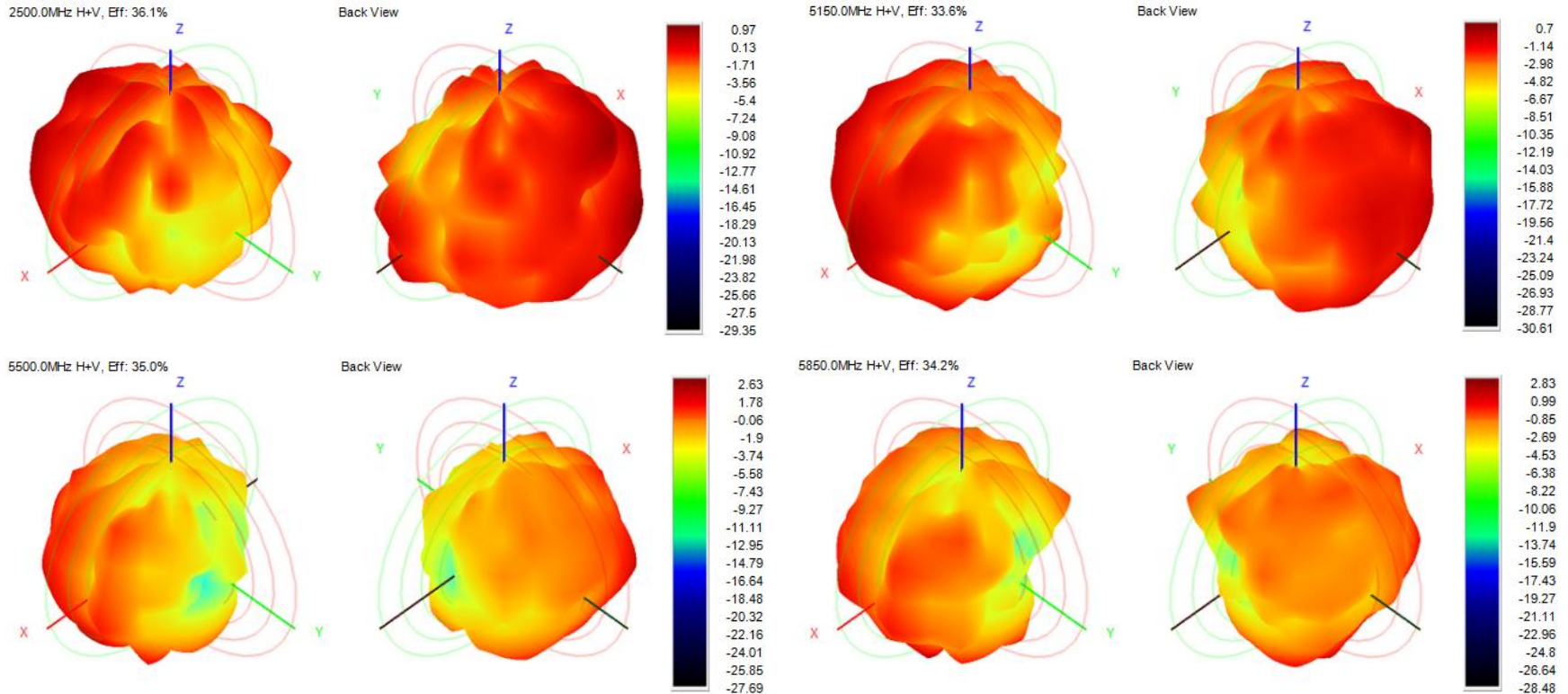


Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

# 7. Test Result

## 7.3 Gain/Efficiency/3D DATA

### WIFI 1



Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

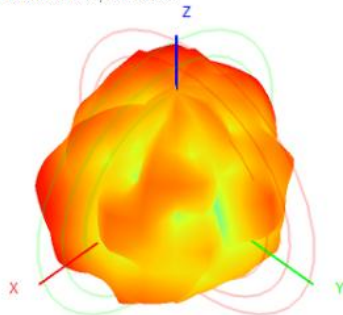
# 7. Test Result

## 7.3 Gain/Efficiency/3D DATA

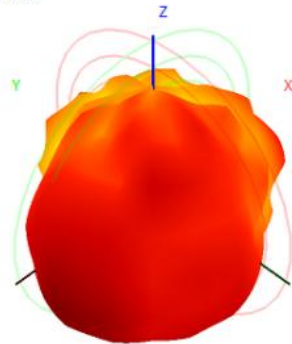
## WIFI 2

| Frequency (MHz)  | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  | 5150  | 5350  | 5500  | 5650  | 5850  |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Efficiency (dBi) | -4.09 | -3.91 | -3.77 | -3.73 | -3.85 | -3.90 | -3.83 | -4.02 | -4.08 | -4.16 | -4.36 | -4.82 | -4.93 | -4.90 | -5.02 | -4.90 |
| Gain (dBi)       | 2.63  | 2.53  | 2.52  | 2.66  | 2.39  | 2.38  | 2.29  | 1.91  | 1.64  | 1.35  | 1.18  | 0.71  | 0.80  | 0.99  | 1.59  | 2.54  |
| Efficiency (%)   | 39.01 | 40.63 | 41.94 | 42.38 | 41.17 | 40.75 | 41.41 | 39.64 | 39.11 | 38.40 | 36.63 | 32.94 | 32.07 | 32.35 | 31.42 | 32.31 |

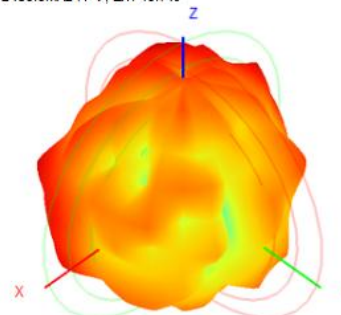
2400.0MHz H+V, Eff: 39.0%



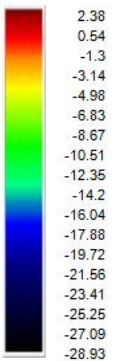
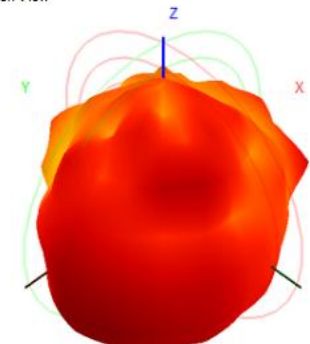
Back View



2450.0MHz H+V, Eff: 40.7%



Back View

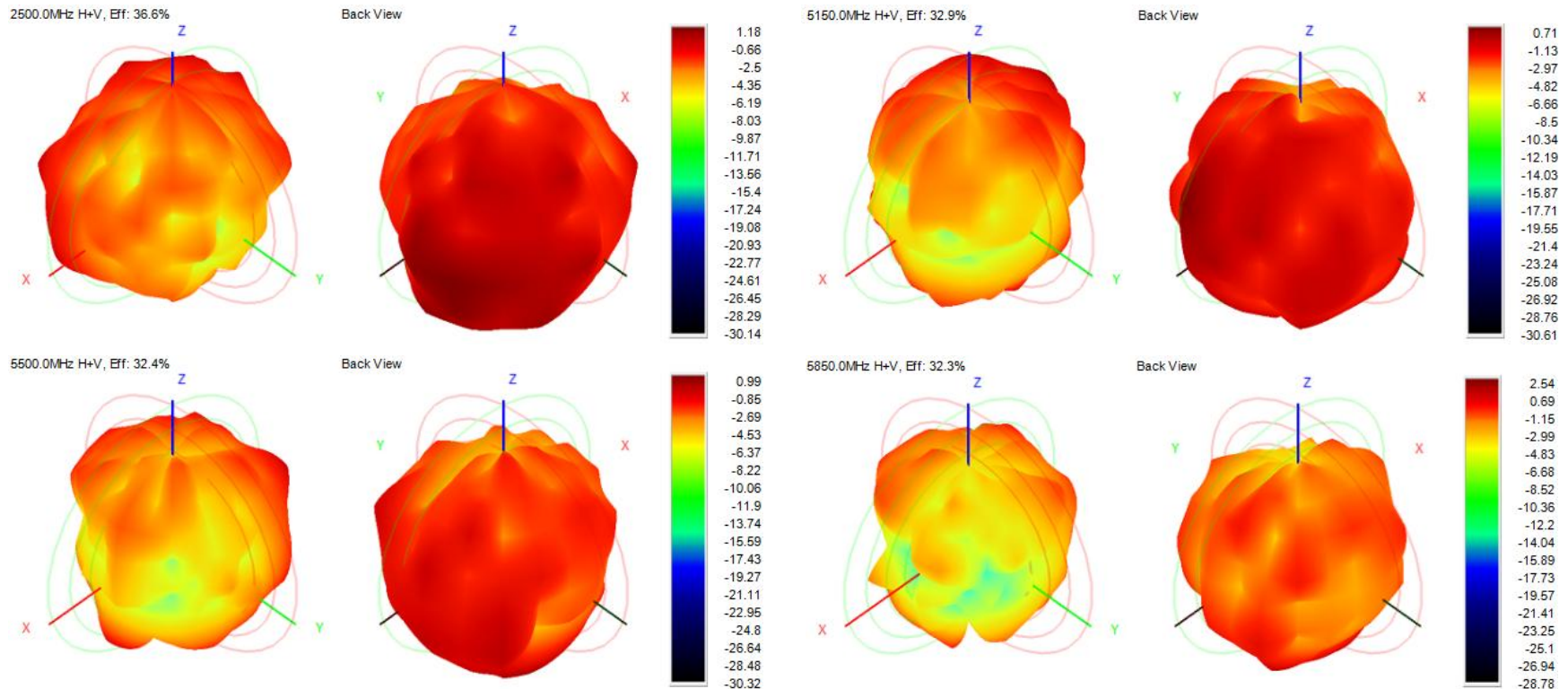


Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

# 7. Test Result

## 7.3 Gain/Efficiency/3D DATA

### WIFI 2

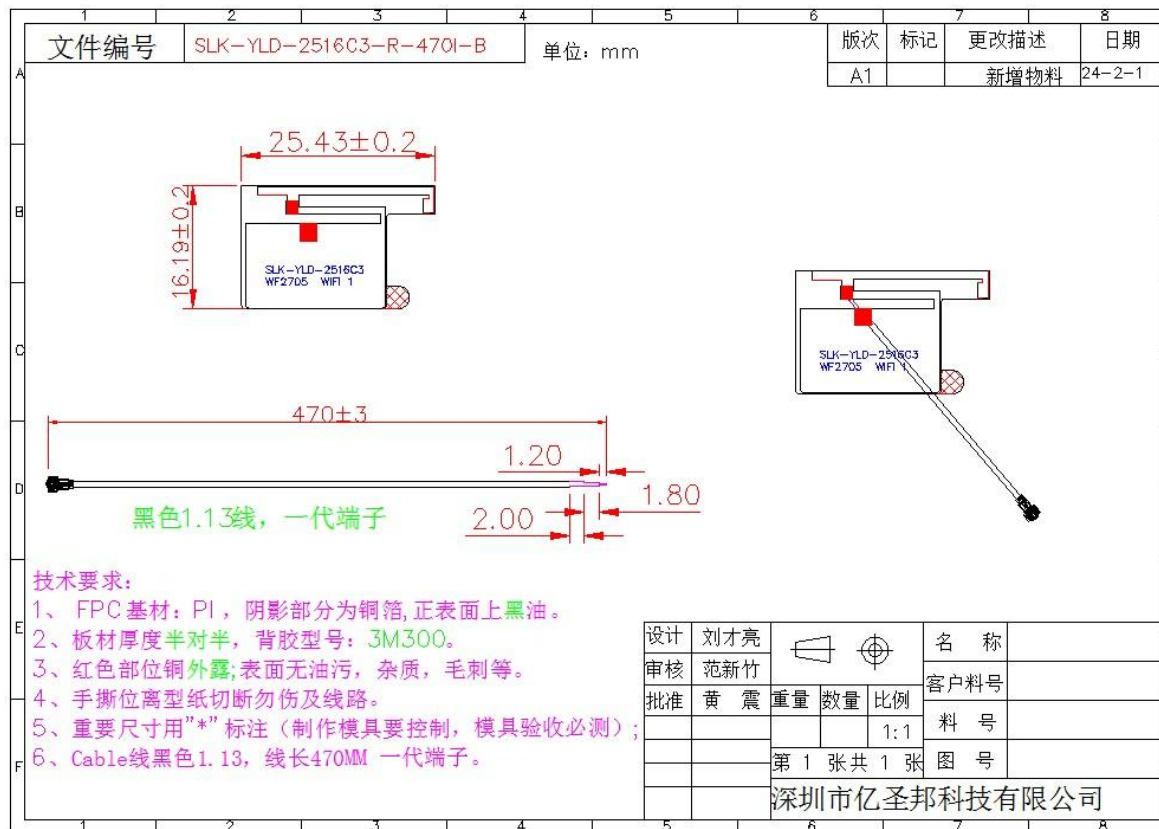


Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

# 7. Test Result

## 7.4 Schematic Diagram Of Antenna Size

### WIFI 1



# 7. Test Result

## 7.4 Schematic Diagram Of Antenna Size

### WIFI 2

