# Shenzhen Yishengbang Technology Co., Ltd

101, Building C, Qianwan Hard Technology Industrial Park, Xixiang Street, Bao 'an District, Shenzhen City,Guangdong,China

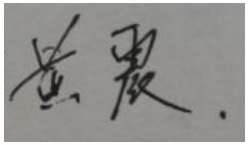
## Shenzhen Yishengbang Technology Co., Ltd
## Antenna Test Report

Customer: TPV

model: G307-002

Product: WIFI Antenna

Report date: 2025.07.05



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Checked by : Eason Huang

Approved by :

# *Purpose*

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

## *Content*

1. Test equipment
2. Test setup
3. Test site
4. Test equipment list
5. Measurement procedure
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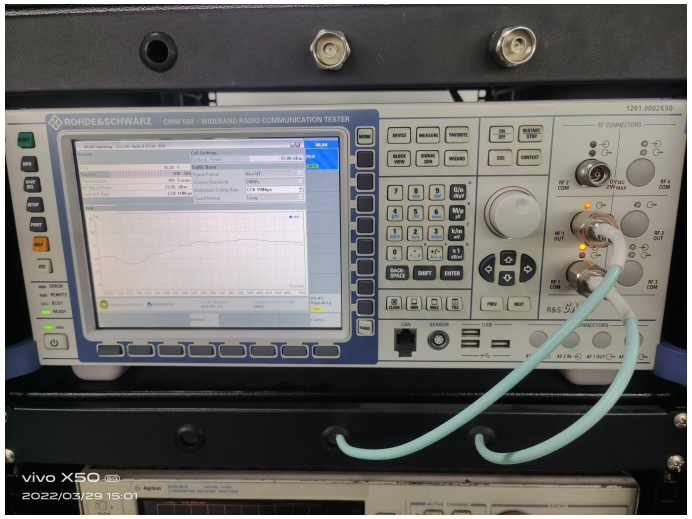
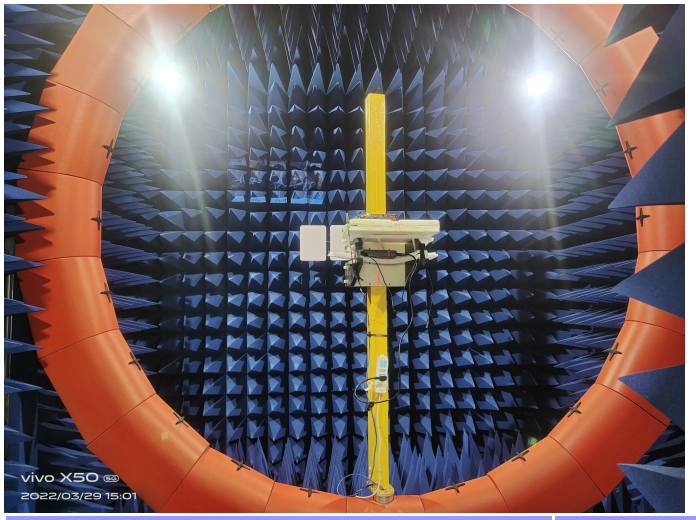
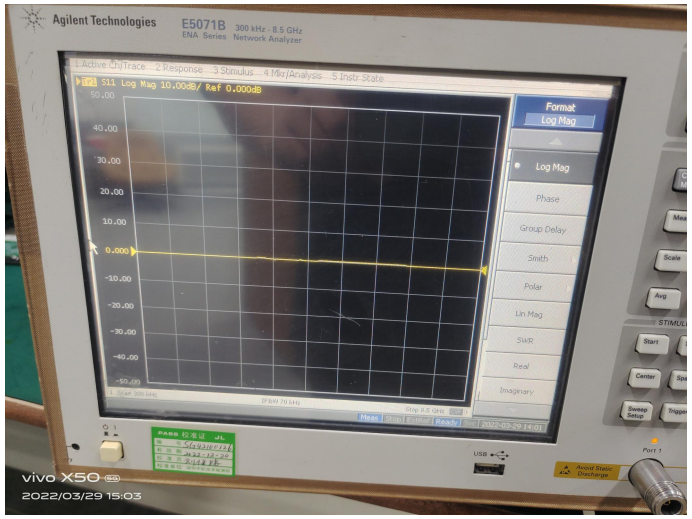
   - 8.1 VSWR/S11
   - 8.2 WIFI Antenna Gain/Efficiency/2D/3D DATA
   - 8.3 WIFI active test
   - 8.4 Engineering drawings

# 1. Test equipment

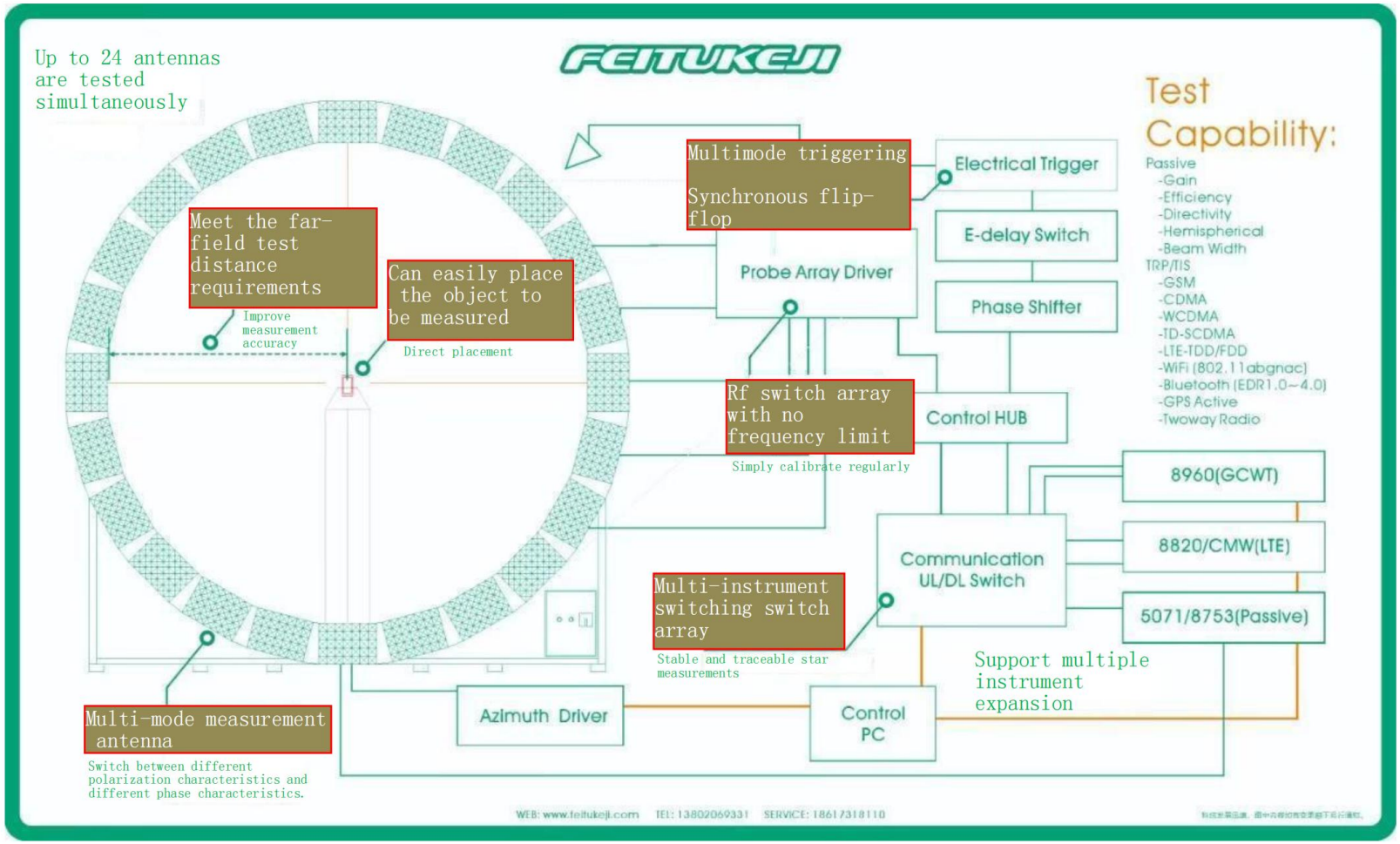



| Test equipment | Test content |
|---|---|
| network analyzer：5071B | 1.VSWR<br>2.Return loss<br>3.Smith |
| network analyzer：5071B<br>chamber：4*4*4M24 probe anechoic chamber | 1.Antenna efficiency<br>2.Antenna gain<br>3.3D field pattern of antenna |
| Comprehensive measuring instrument：CMW500<br>chamber：4*4*4M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

# 2. Test setup


Up to 24 antennas are tested simultaneously
FEITUKEJI
Test Capability:
Passive
-Gain
-Efficiency
-Directivity
-Hemispherical
-Beam Width
TRP/TIS
-GSM
-CDMA
-WCDMA
-TD-SCDMA
-LTE-TDD/FDD
-WiFi (802.11abgnac)
-Bluetooth (EDR1.0~4.0)
-GPS Active
-Twoway Radio
Meet the far-field test distance requirements
Improve measurement accuracy
Can easily place the object to be measured
Direct placement
Multimode triggering
Synchronous flip-flop
Electrical Trigger
E-delay Switch
Probe Array Driver
Phase Shifter
Rf switch array with no frequency limit
Simply calibrate regularly
Control HUB
8960(GCWT)
8820/CMW(LTE)
5071/8753(Passive)
Communication UL/DL Switch
Multi-instrument switching switch array
Stable and traceable star measurements
Support multiple instrument expansion
Azimuth Driver
Control PC
Multi-mode measurement antenna
Switch between different polarization characteristics and different phase characteristics.
WEB: www.feitukeji.com TEL: 13802069331 SERVICE: 18617318110

# 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.

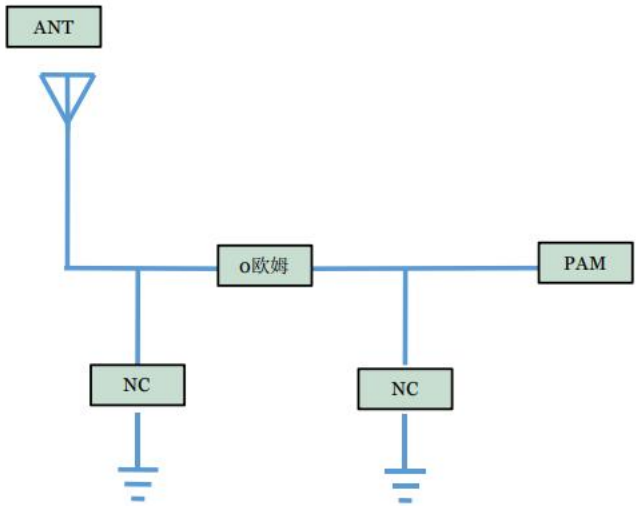
# 4. Test  equipment list

| | 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. Matching Circuit



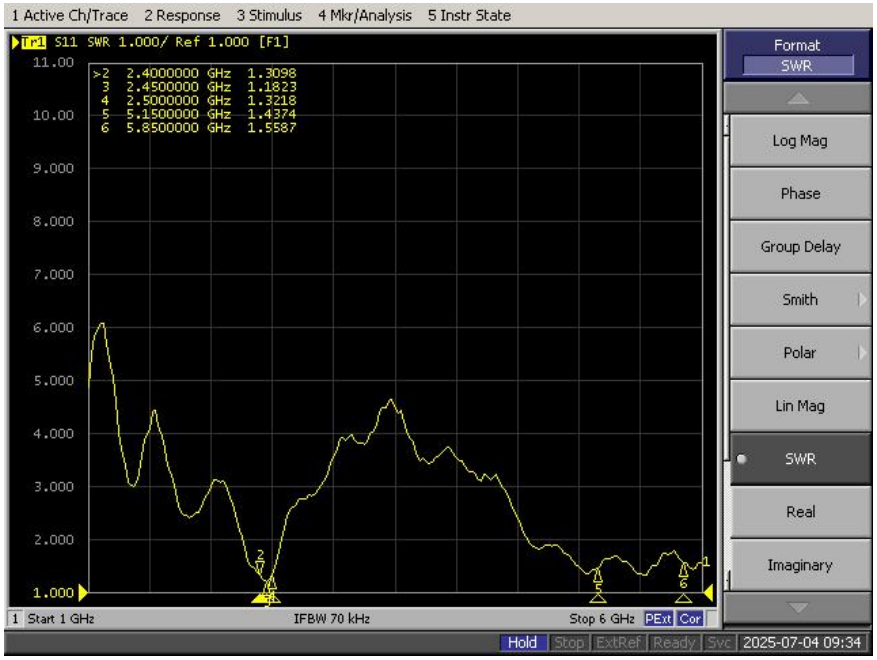

remark：

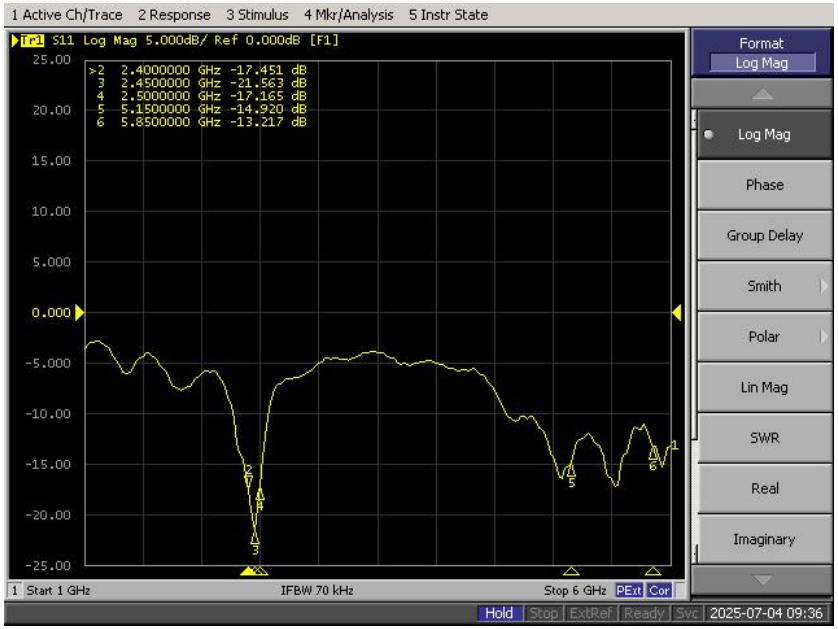
No changes have been made to the motherboard matching

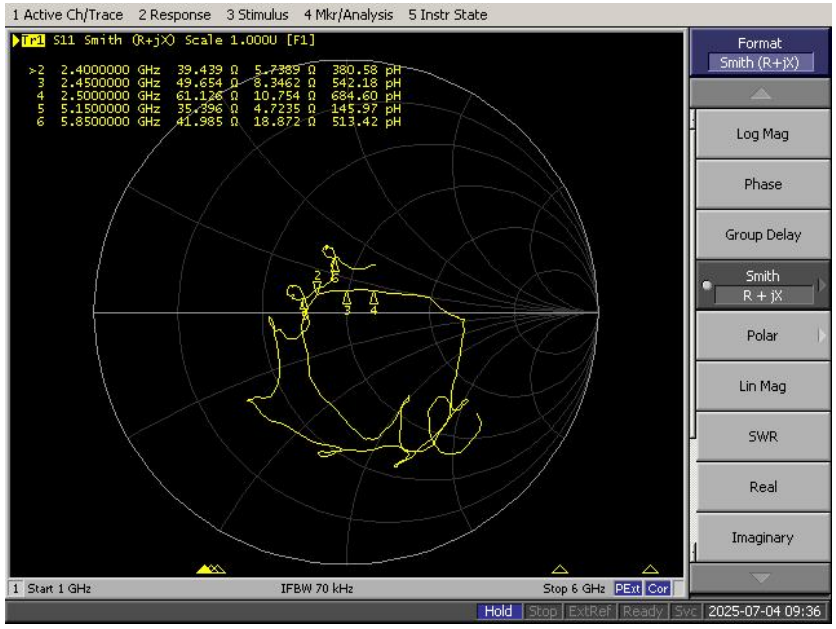
# 7. Product Overview

# 8. Test Result

## 8.1 VSWR/S11



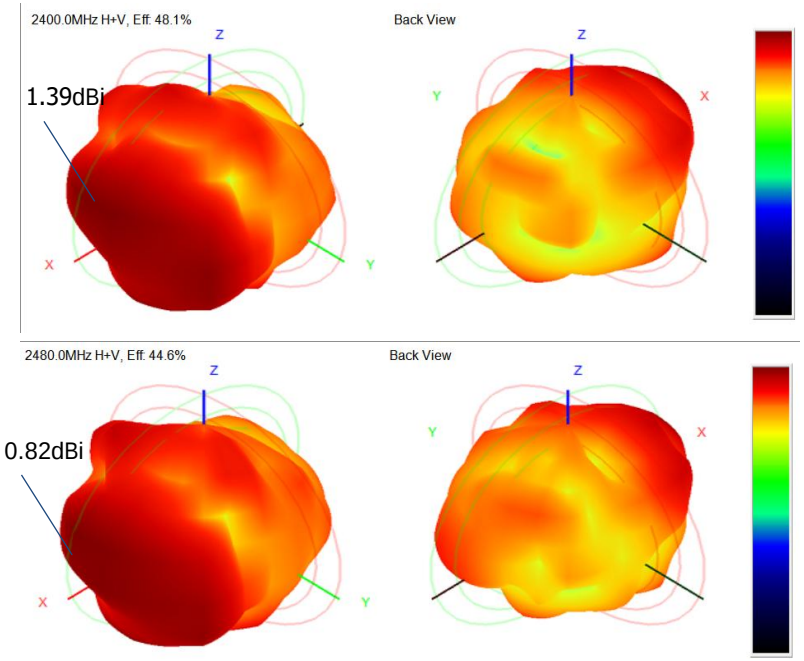




Note: Use the network analyzer E5071B to connect the connector on the antenna RF line to test the passive standing wave ratio and return loss of the antenna.

# 8. Test Result

## 8.2 Gain/Efficiency/2D/3D DATA

| Frequency (MHz) | 2400 | 2410 | 2420 | 2430 | 2440 | 2450 | 2460 | 2470 | 2480 | 2490 | 2500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Efficiency (dBi)** | **-3.18** | **-3.08** | **-3.09** | **-3.08** | **-3.25** | **-3.27** | **-3.22** | **-3.46** | **-3.50** | **-3.54** | **-3.54** |
| **Gain (dBi)** | 1.39 | 1.60 | 1.71 | 1.61 | 1.47 | 1.36 | 1.13 | 0.96 | 0.82 | 0.72 | 0.88 |
| **Efficiency (%)** | **48.10** | **49.25** | **49.03** | **49.22** | **47.34** | **47.12** | **47.64** | **45.04** | **44.64** | **44.31** | **44.26** |

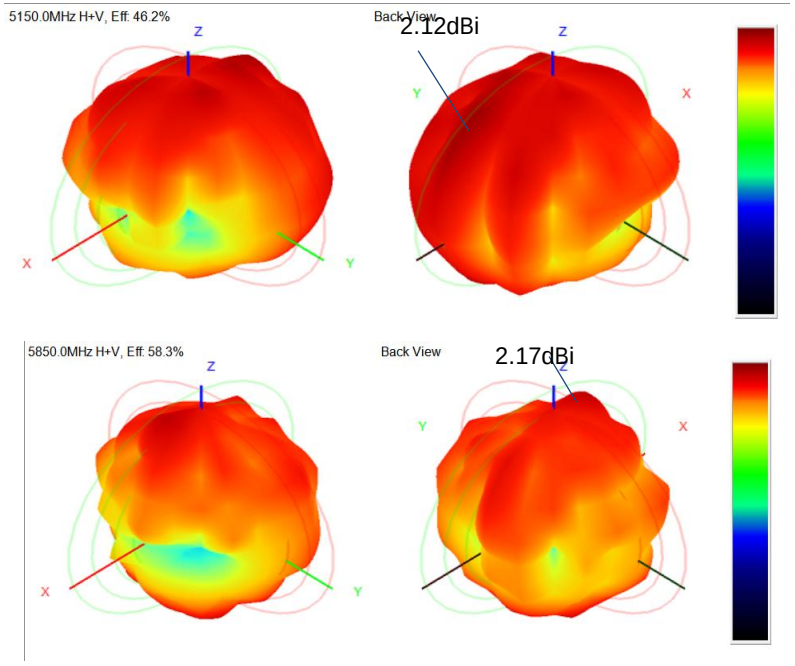



Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

# 8. Test Result

## 8.2 Gain/Efficiency/2D/3D DATA

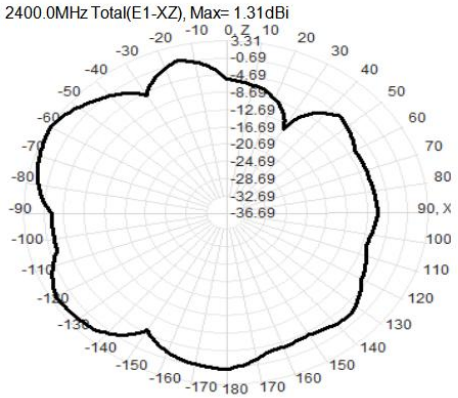
| Frequency (MHz) | 5150 | 5200 | 5250 | 5300 | 5350 | 5400 | 5450 | 5500 | 5550 | 5600 | 5650 | 5700 | 5750 | 5800 | 5850 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Efficiency (dBi) | -3.36 | -3.24 | -3.71 | -3.56 | -3.38 | -3.07 | -2.92 | -3.42 | -3.47 | -2.89 | -3.39 | -3.03 | -2.40 | -2.26 | -2.34 |
| Gain (dBi) | 2.12 | 2.14 | 1.70 | 1.83 | 2.60 | 2.79 | 2.65 | 2.24 | 1.37 | 2.22 | 1.85 | 2.27 | 2.44 | 2.27 | 2.17 |
| Efficiency (%) | 46.16 | 47.39 | 42.53 | 44.03 | 45.91 | 49.26 | 51.02 | 45.46 | 44.96 | 51.37 | 45.78 | 49.81 | 57.51 | 59.44 | 58.32 |

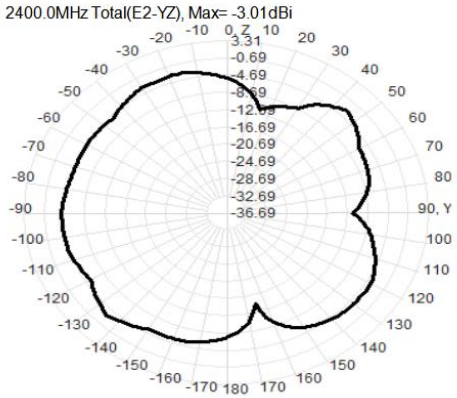


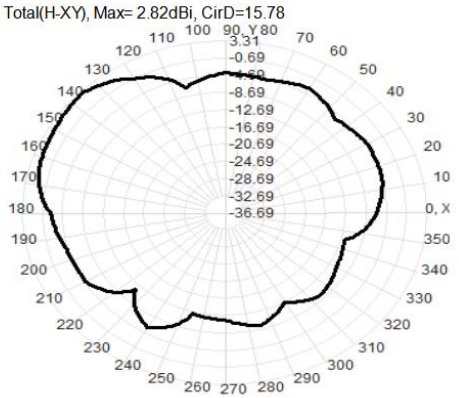

Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

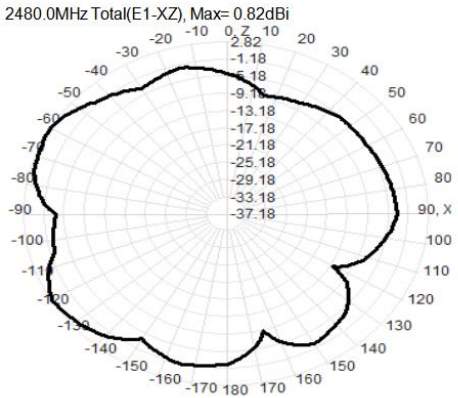
# 8. Test Result

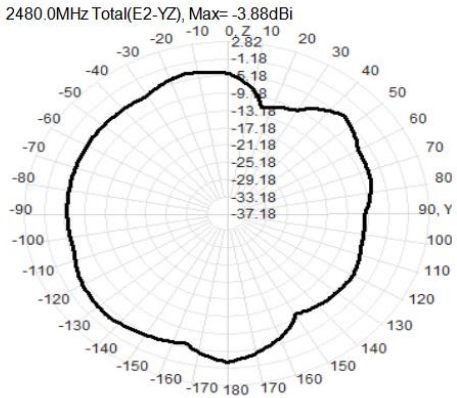
## 8.2 Gain/Efficiency/2D DATA

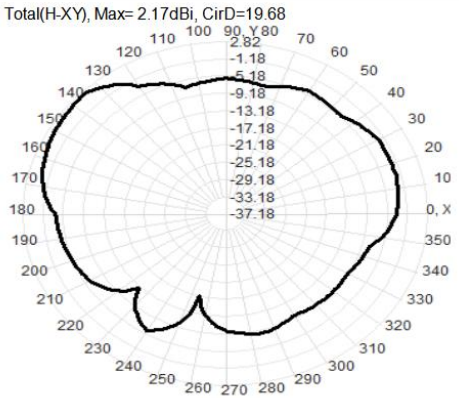


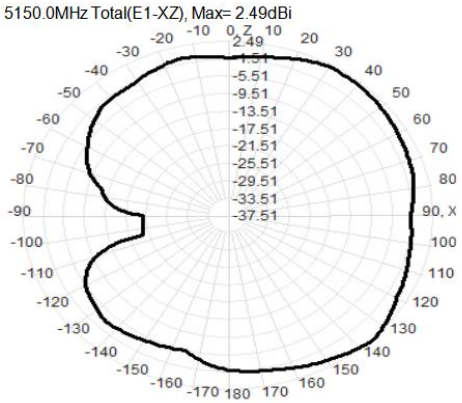



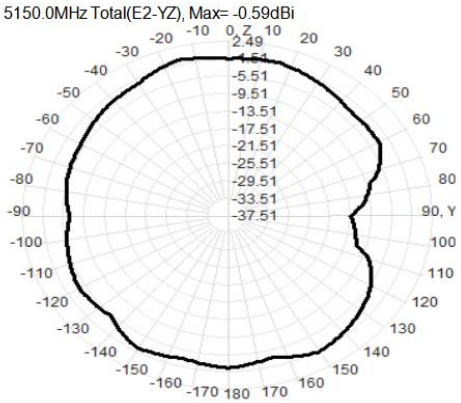



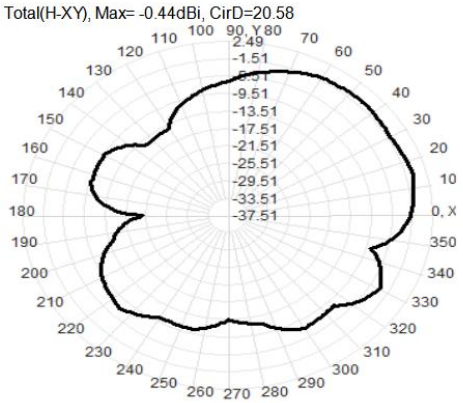



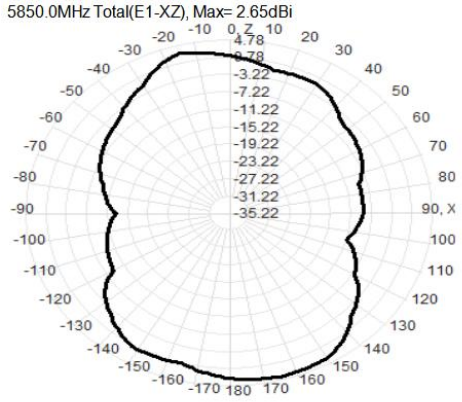
# 8. Test Result

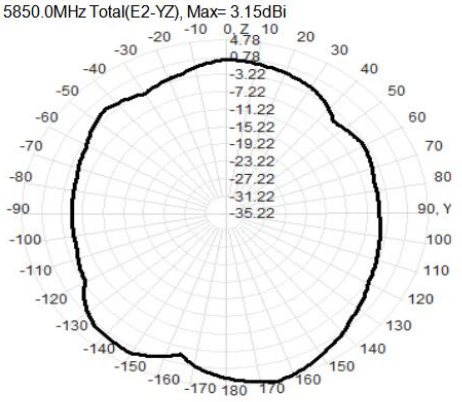
## 8.2 Gain/Efficiency/2D DATA

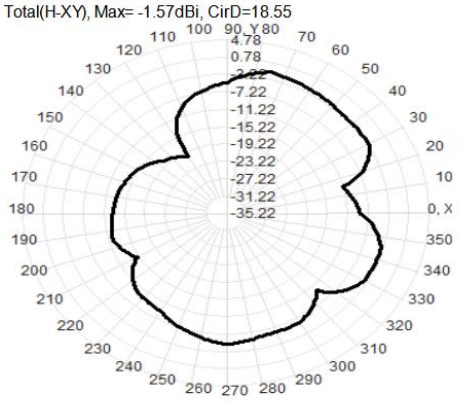


# 8. Test Result

8.3 WIFI active test

| WIFI--OTA | | | | |
|---|---|---|---|---|
| Band | 1 | 6 | 11 | |
| B-TRP-11MBps | 11.23 | 11.26 | 11.02 | |
| B-TIS-11MBps | -80.44 | -83.41 | -82.97 | |
| G-TRP-54MBps | 11.19 | 11.24 | 11.90 | |
| G-TIS-54MBps | -69.79 | -71.50 | -70.66 | |
| N-TRP-MCS7 | 11.65 | 11.08 | 10.96 | |
| N-TIS-MCS7 | -67.08 | -68.43 | -68.56 | |
| Band | 36 | 48 | 149 | 165 |
| A-TRP-54MBps | 9.13 | 10.31 | 10.36 | 11.51 |
| A-TIS-54MBps | -72.46 | -72.49 | -72.68 | -70.79 |
| AN-TRP-MCS7 | 8.07 | 9.15 | 9.00 | 10.16 |
| AN-TIS-MCS7 | -69.93 | -69.34 | -68.21 | -69.09 |
| AN40-TRP-MCS0 | 8.22 | 9.00 | 9.17 | 10.66 |
| AN40-TIS-MCS0 | -65.37 | -64.82 | -65.79 | -65.10 |
| AC20-TRP-MCS0 | 8.19 | 8.86 | 9.27 | 10.02 |
| AC20-TIS-MCS0 | -67.58 | -67.83 | -66.97 | -66.28 |
| AC40-TRP-MCS0 | 8.54 | 8.96 | 9.73 | 10.02 |
| AC40-TIS-MCS0 | -65.34 | -65.05 | -65.07 | -64.74 |
| AC80-TRP-MCS0 | 7.46 | 8.19 | 8.06 | 8.66 |
| AC80-TIS-MCS0 | -58.97 | -58.72 | -60.39 | -60.23 |

# 8. Test Result

## 8.4 Engineering drawings