



# Shenzhen Yishengbang Technology Co., Ltd

## Antenna Test Report

Project: N156EBC01 WIFI6

Product: WIFI Antenna—FPC

Report date: 2023.03.25

Prepared by : Fan Xinzhu

Checked by : Eason Huang

Approved by :



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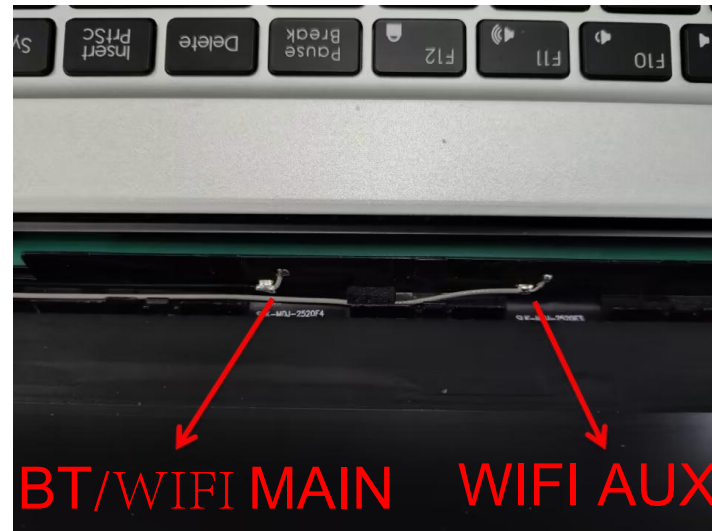
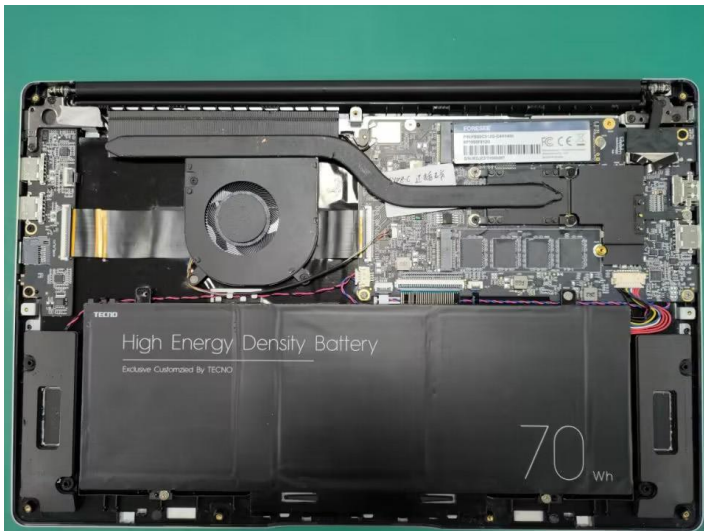
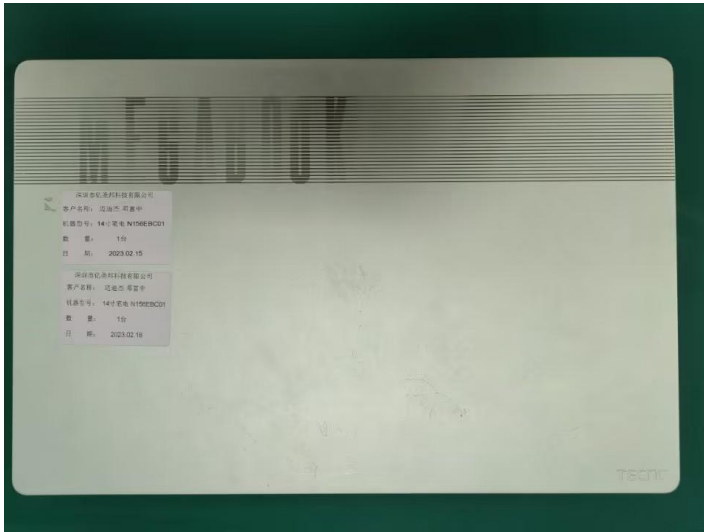
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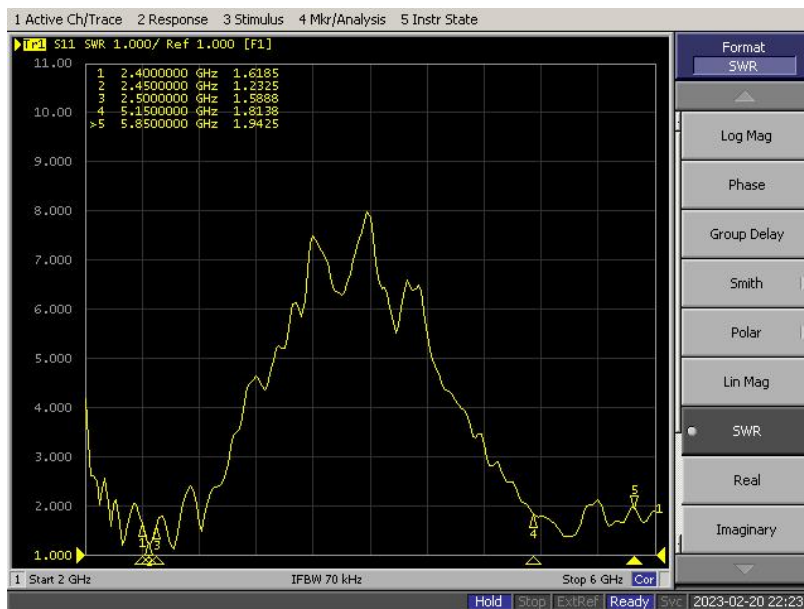
# 1. Product Overview



## 2. Test Result

### 2.1 VSWR/S11

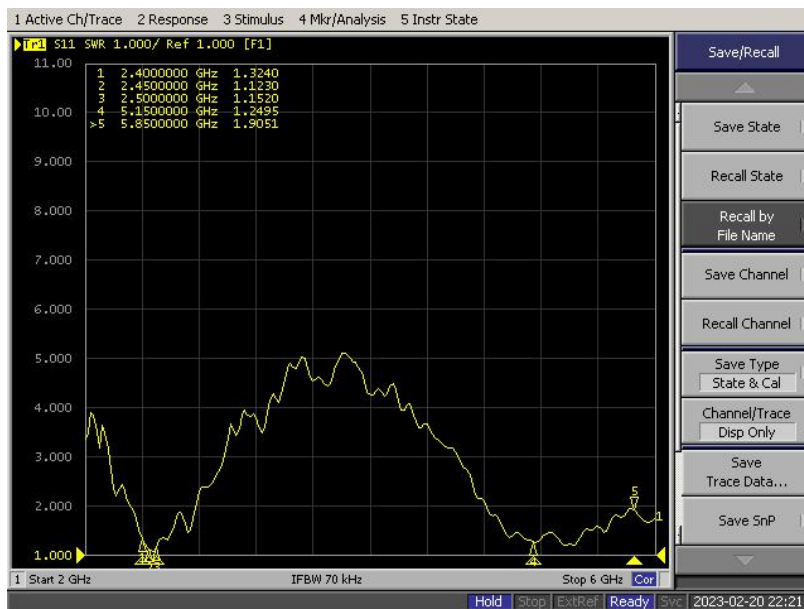
BT/WiFi MAIN



## 2. Test Result

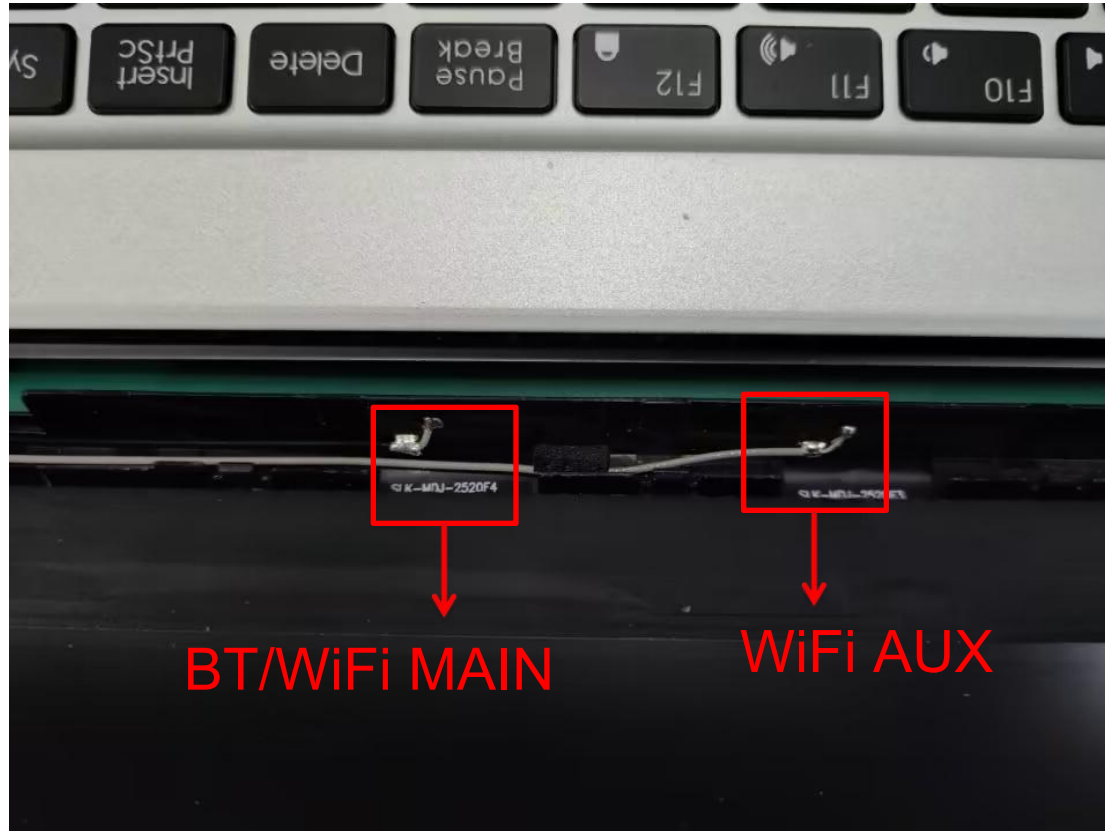
### 2.1 VSWR/S11

WiFi AUX



## 2. Test Result

### 2.2 BT/WiFi Antenna Parameters



## 2. Test Result

### 2.3 WIFI Antenna TRP/TIS

| WIFI                   | CH  | power(54M) | sensitivity<br>(54M) | WIFI                    | CH | power(54M)  | sensitivity<br>(54M)  |
|------------------------|-----|------------|----------------------|-------------------------|----|-------------|-----------------------|
| <b>802.11a<br/>54M</b> | 36  | 10.66      | -71.02               | <b>802.11g<br/>54M</b>  | 1  | 12.15       | -73.71                |
|                        | 149 | 16.04      | -72.09               |                         | 6  | 12.02       | -73.09                |
|                        | 165 | 15.7       | -72.36               |                         | 11 | 11.64       | -72.88                |
| WIFI                   | CH  | power(11M) | sensitivity<br>(11M) | WIFI                    | CH | power(MCS7) | sensitivity<br>(MCS7) |
| <b>802.11b<br/>11M</b> | 1   | 10.95      | -83.15               | <b>802.11n<br/>MCX7</b> | 1  | 9.83        | -67.97                |
|                        | 6   | 11.42      | -83.42               |                         | 6  | 9.35        | -68.92                |
|                        | 11  | 11.83      | -84.06               |                         | 11 | 9.33        | -68.26                |

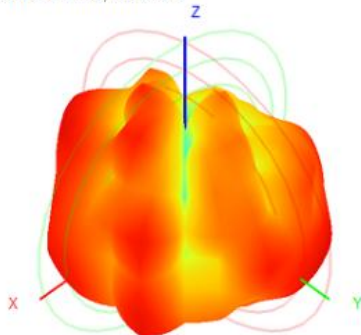
## 2. Test Result

### 2.4 BT/WIFI Antenna Gain/Efficiency/3D DATA

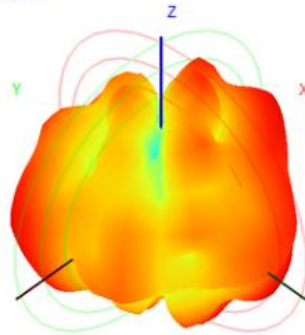
MAIN

| Frequency (MHz)  | 2400.0 | 2410.0 | 2420.0 | 2430.0 | 2440.0 | 2450.0 | 2460.0 | 2470.0 | 2480.0 | 2490.0 | 2500.0 | 5150.0 | 5250.0 | 5750.0 | 5850.0 |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Efficiency (dBi) | -3.55  | -3.64  | -3.66  | -3.44  | -3.13  | -3.14  | -3.19  | -3.43  | -3.46  | -3.53  | -3.91  | -3.90  | -3.63  | -3.88  | -3.69  |
| Gain (dBi)       | 3.42   | 3.36   | 3.29   | 3.34   | 3.86   | 3.76   | 3.67   | 3.70   | 3.58   | 3.13   | 3.02   | 2.90   | 3.99   | 3.14   | 3.18   |
| Efficiency (%)   | 44.12  | 43.29  | 43.01  | 45.25  | 48.62  | 48.51  | 47.97  | 45.35  | 45.07  | 44.36  | 40.63  | 40.75  | 43.36  | 40.93  | 42.80  |

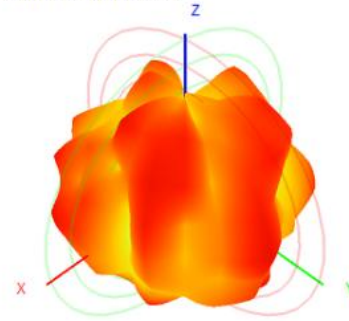
2450.0MHz H+V, Eff: 48.5%



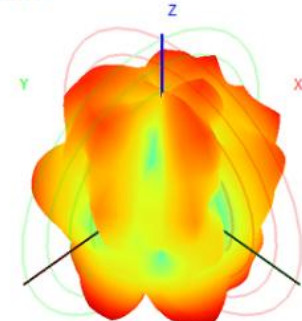
Back View



5850.0MHz H+V, Eff: 42.8%



Back View



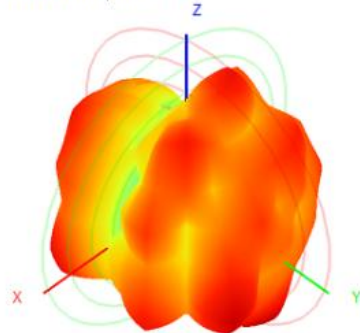
## 2. Test Result

### 2.4 WIFI Antenna Gain/Efficiency/3D DATA

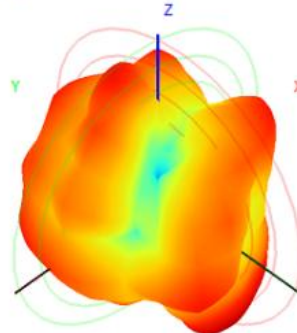
AUX

| Frequency (MHz)  | 2400.0 | 2410.0 | 2420.0 | 2430.0 | 2440.0 | 2450.0 | 2460.0 | 2470.0 | 2480.0 | 2490.0 | 2500.0 | 5150.0 | 5250.0 | 5750.0 | 5850.0 |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Efficiency (dBi) | -3.71  | -3.78  | -3.88  | -3.60  | -3.58  | -3.67  | -3.66  | -3.85  | -3.84  | -3.91  | -4.23  | -4.16  | -4.32  | -4.34  | -3.47  |
| Gain (dBi)       | 3.91   | 3.62   | 3.70   | 4.05   | 4.17   | 3.78   | 4.00   | 3.79   | 3.83   | 3.52   | 3.47   | 2.53   | 2.28   | 3.43   | 3.22   |
| Efficiency (%)   | 42.52  | 41.91  | 40.92  | 43.64  | 43.87  | 42.98  | 43.03  | 41.22  | 41.32  | 40.69  | 37.75  | 38.40  | 37.00  | 36.84  | 44.97  |

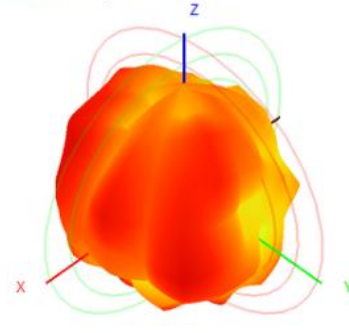
2450.0MHz H+V, Eff: 43.0%



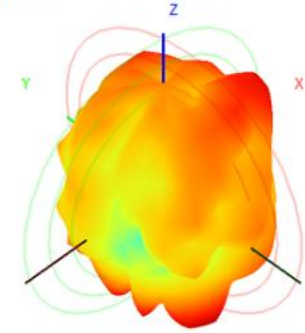
Back View



5850.0MHz H+V, Eff: 45.0%



Back View



## 2. Test Result

### 2.5 WIFI Antenna Throughput

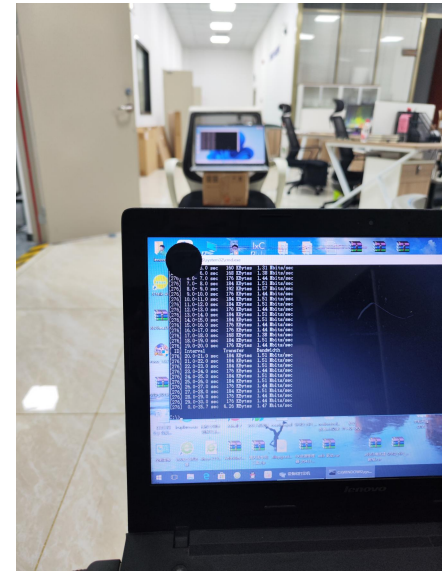
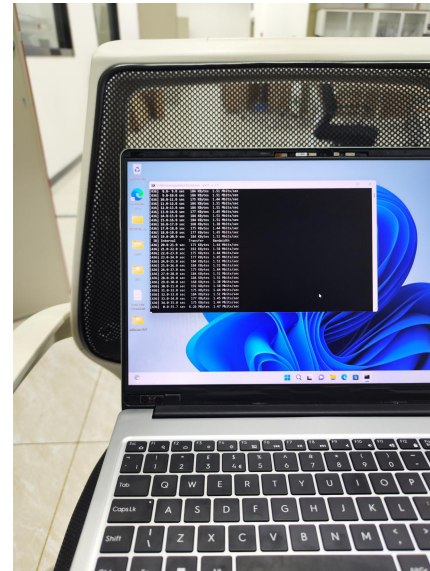
|      | 2.4G<br>upload | 2.4G<br>download |  |      | 5.8G<br>upload | 5.8G<br>download |
|------|----------------|------------------|--|------|----------------|------------------|
| VIEW | TP-Tx          | TP-Rx            |  | VIEW | TP-Tx          | TP-Rx            |
| 0    | 413            | 457              |  | 0    | 932            | 941              |
| 90   | 406            | 454              |  | 90   | 927            | 952              |
| 180  | 420            | 450              |  | 180  | 925            | 935              |
| 270  | 383            | 451              |  | 270  | 933            | 940              |

## 2. Test Result

### 2.6 BT Throughput



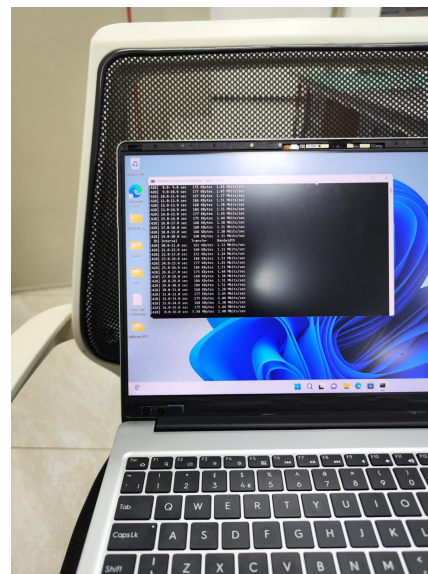
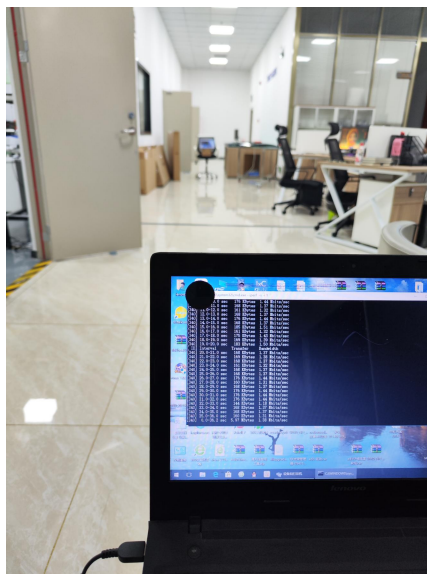
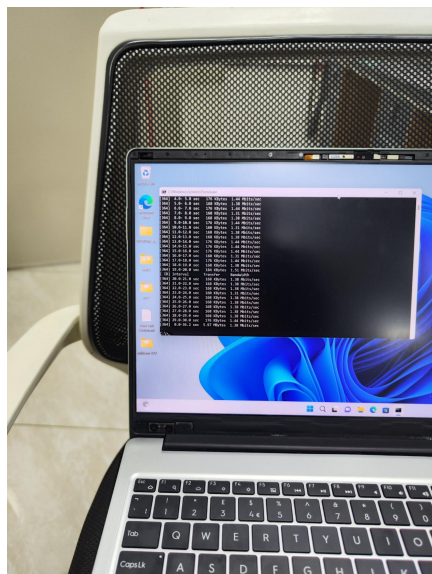
**1M Upload 1.37M**



**1M download 1.47M**

## 2. Test Result

### 2.6 BT Throughput



**10M上传1.38M**

**测试环境：室内10M。**

**10M下载1.40M**



Thank you