

Zhejiang Haitong communications  
electronic Limited by Share Ltd.  
(Shenzhen Haitong)

Customer: TCL Communication Ltd.

Project name: T522A

Product name: Bamboo- 4in1 Antenna

Date: 2025.11.24

1. Antenna specification and test location

Antenna:4in1 Antenna

Material: FPC

Manufacturer: Zhejiang Haitong communications electronic Limited by Share Ltd.

Manufacturer Address: Southern District, Phoenix Tower, 15 Nanshan District science and Technology North Road, Shenzhen, Guangdong.

Antenna gain and radiation pattern measured in SATIMO anechoic chamber.

Test engineer: youqiang zheng



Test Date: 2025.10.17

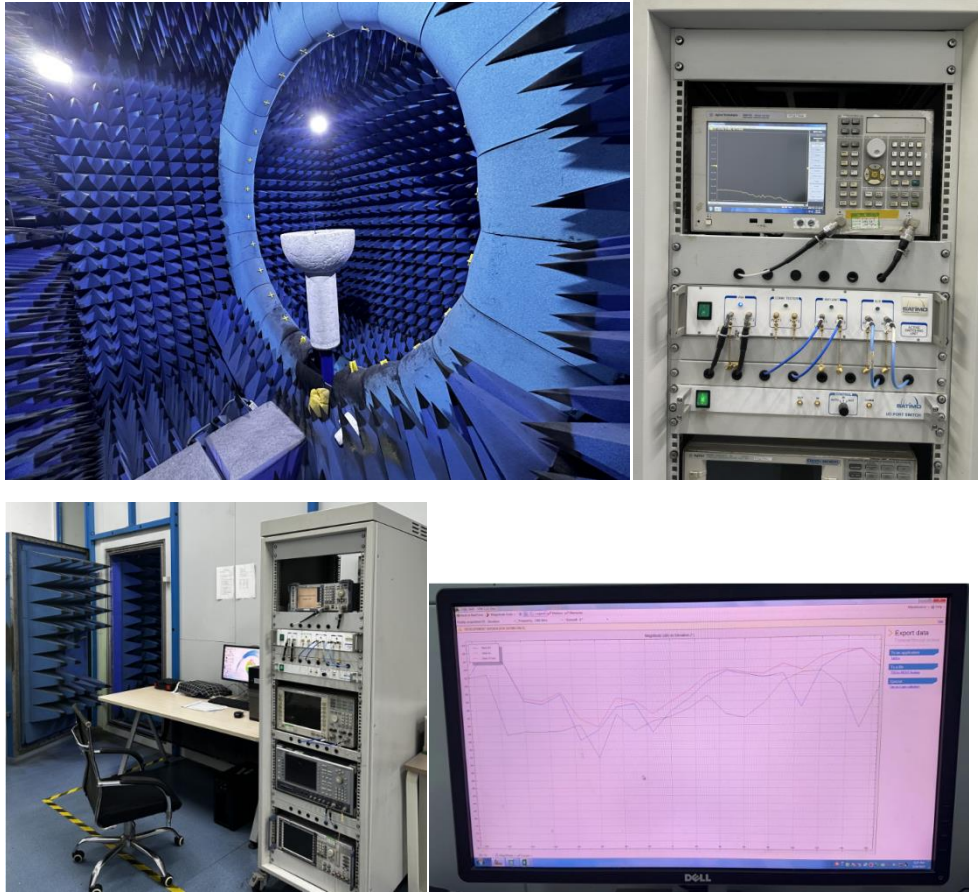
## Test Equipment list

| Description             | Test Equipment | Model  | Equipment Calibration Time |
|-------------------------|----------------|--------|----------------------------|
| Vector Network Analyzer | KEYSIGHT       | E5071C | 2025.3.20-2026.3.19        |
| Anechoic Chamber        | SATIMO         | SG24   | 2025.5.13-2026.5.12        |

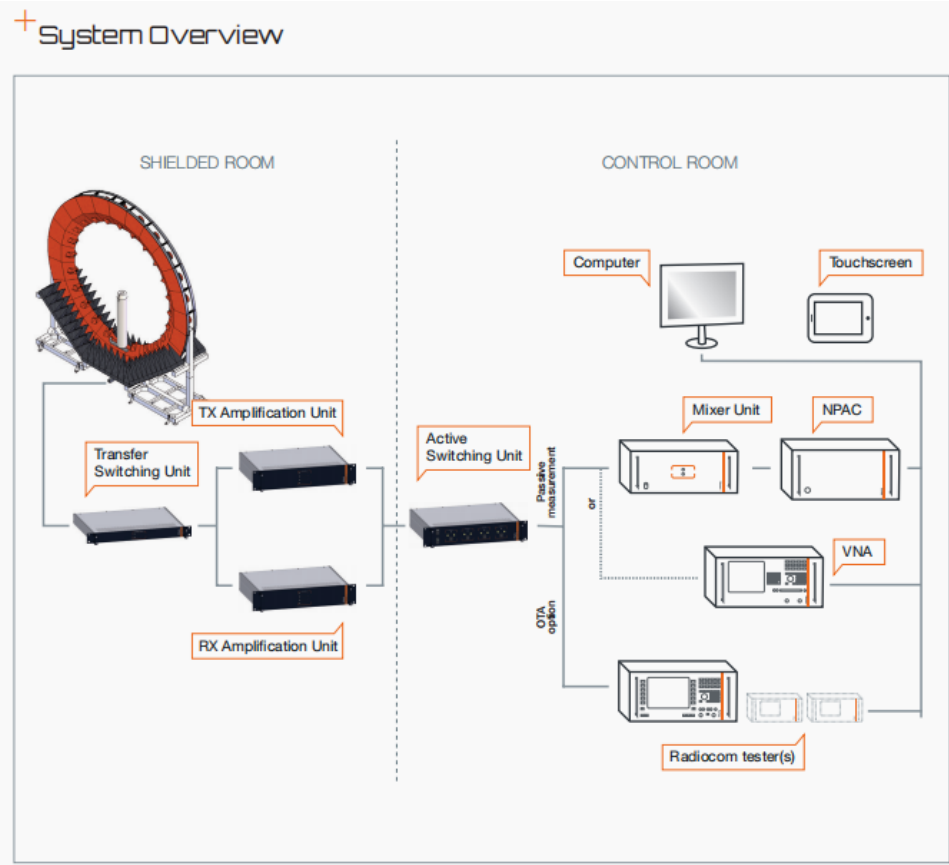
## 2. Test system introduction

### 2.1 Anechoic chamber

Our company has a number of anechoic chamber for OTA test. It is ranging from 400 MHz to 8.5 GHz, which can provide passive test and active test, including OTA overall 2G, 3G, 4G, 5G FR test, WiFi multi-mode test, GPS active test, Bluetooth active test. The test system can provide antenna gain, efficiency, radiation pattern, upper and lower hemisphere efficiency values and mutual disturbance correlation coefficient analysis.

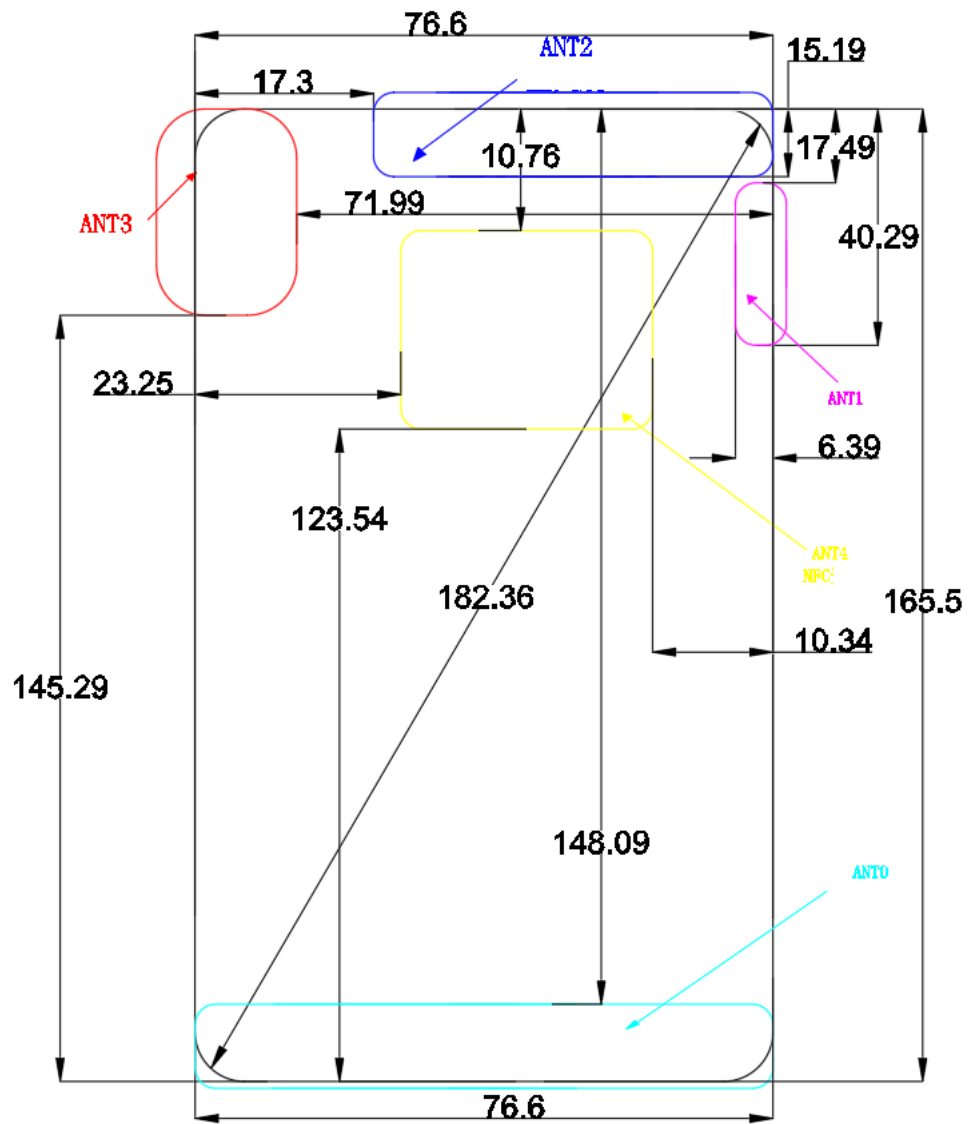


## 2.2 Test system architecture



The figure above shows the connection and control process between the anechoic chamber of our company and the testing system and computer. The testing system has the characteristics of accurate, fast and simple testing. The operation interface is simple and humanized.

### 3: Test result

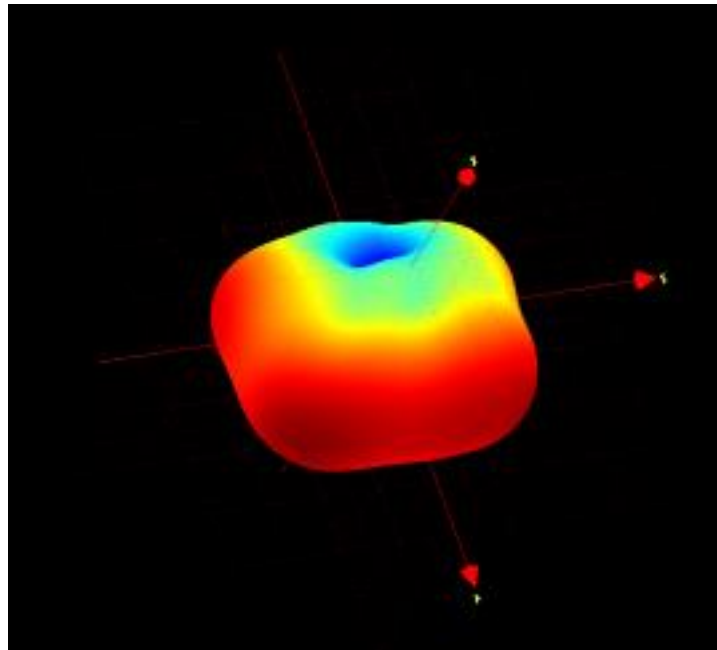


Antenna placement:

| GPS ANT3       |            |                |           |
|----------------|------------|----------------|-----------|
| Frequency(MHz) | Efficiency | Efficiency(Db) | Gain(dBi) |
| 1550-1600      | 30%        | -5.2           | -0.5      |

### 3D Pattern

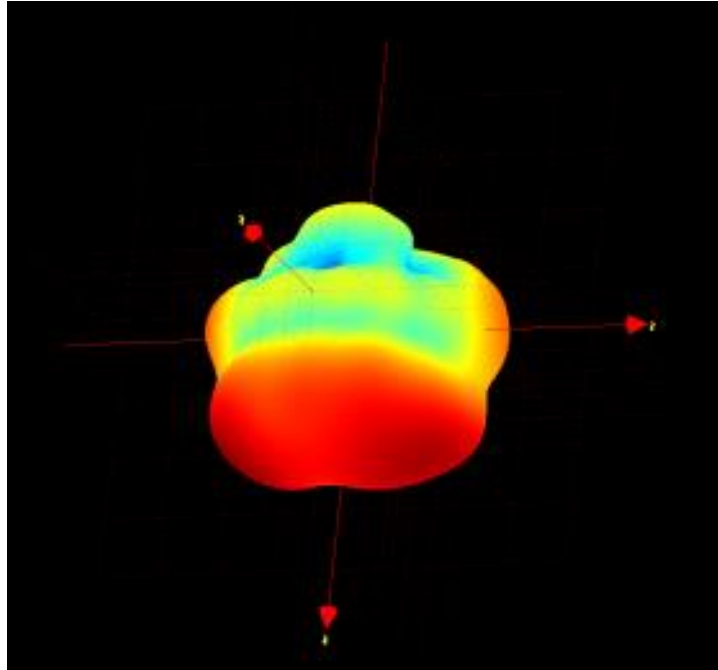
GPS\_ 1575Mhz (Frequency=1575MHz)



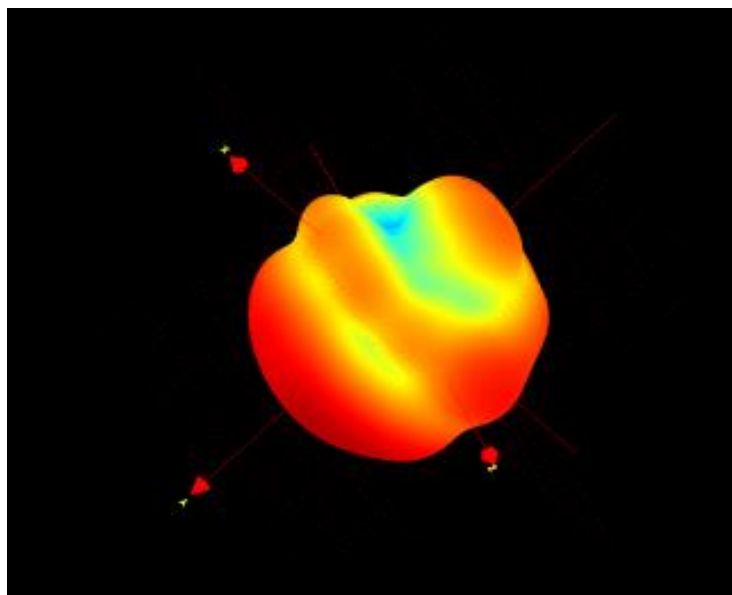
| 2.4GWIFI&BT ANT3 (ANT TYPE :PIFA) |            |                |           |
|-----------------------------------|------------|----------------|-----------|
| Frequency(MHz)                    | Efficiency | Efficiency(Db) | Gain(dBi) |
| 2400-2500                         | 30%        | -5.3           | -0.61     |

### 3D Pattern

2.4G WiFi&BT \_2400Mhz(Frequency=2400MHz)



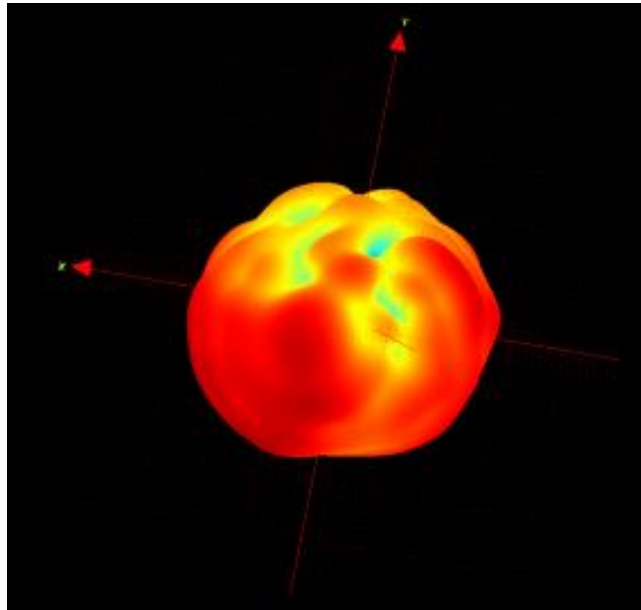
2.4G WiFi&BT \_2483Mhz(Frequency=2483MHz)



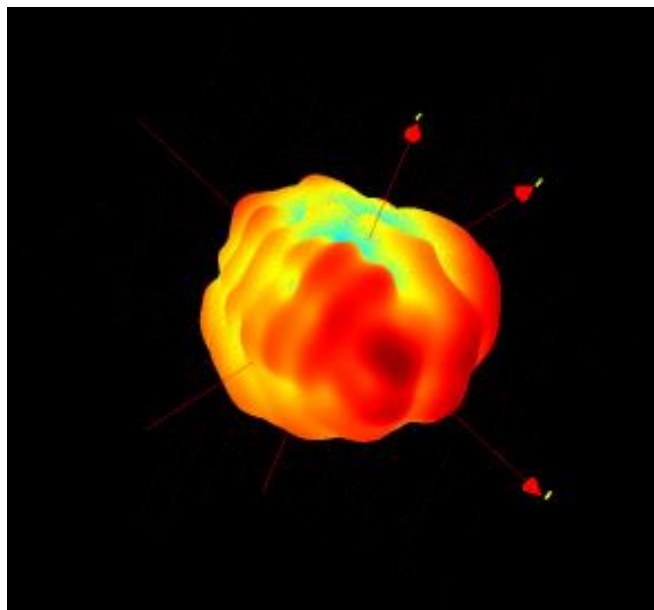
| 5G WiFi ANT3 (ANT TYPE :PIFA) |            |                |           |
|-------------------------------|------------|----------------|-----------|
| Frequency(MHz)                | Efficiency | Efficiency(Db) | Gain(dBi) |
| 5150-5850                     | 25%        | -6.0           | -0.8      |

3D Pattern

5G WiFi \_5GMhz(Frequency=5150MHz)



5G WiFi \_5GMhz(Frequency=5825MHz)



NFC Antenna type: LOOP

FPC coil Ferrite sheet with dimension 34.18mm\*31.45mm\*0.25mm