

ANTENNA REPORT

Antenna Manufacture:

Dongguan UB Electronic Co.,Ltd (UANT)

Room 101, Building 2, No. 9 Xinfu Road, Tangxia Town, Dongguan City,

Guangdong Province

Product Name: TPP05-Z(US) Antenna

Antenna Type: IPEX

Test Date: 2024.02.28

Tested by: Xiaonian Zheng 郑晓念

Approved by: Lihuan Chen 陈利环

Content

| | |
|-------------------------------|---|
| 1.General Description | 1 |
| 2.Test Configurations | 1 |
| 2.1 Test Environment | 1 |
| 2.2 Test Equipment | 1 |
| 2.3 Test Principle | 1 |
| 3.Test Results | 2 |
| 3.1 Gain and Efficiency | 2 |
| 3.2 Radiation Pattern | 4 |
| 4.Antenna Dimensions | 6 |
| 5.EUT Photo | 7 |
| 6.Test Setup Photo | 8 |



1.General Description


| | |
|---------------------------------------|---|
| End Product Manufacturer | Ningbo Lingzhu Technology CO., Ltd. |
| End Product Manufacturer Address | No.578,Building 7,No.535 Kangqiao South Road,Jiangbei District,Ningbo,China |
| Test Location | Room 106, Building 3, Letong Science Park, No. 500, Qiuyi Road, Binjiang District, Hangzhou |
| Product Name | TPP05-Z(US) Antenna |
| End Product model | TPP05-Z(US) |
| Antenna Type | IPEX Antenna |
| Wi-Fi Antenna Model/supplier/PK Gain | UB01C48P1D3700A / (UANT) / -0.75 dbi@2.4G wifi; 1.75dbi@5G wifi |
| BLE Antenna Model/supplier/PK Gain | UB01C79P1D3701A / (UANT)/ -2.07dbi |
| Zigbee Antenna Model/supplier/PK Gain | UB01C38P1D3702A / (UANT) /-0.95 dbi |
| Test Items | Gain; Efficiency; Radiation Pattern |
| Test Frequency | 2.4G Wifi & BLE & Zigbee2400-2500MHz; 5G Wifi: 5150-5875MHz |
| Test Standard | ANSI/IEEE Std 149-1979 |

2.Test Configurations

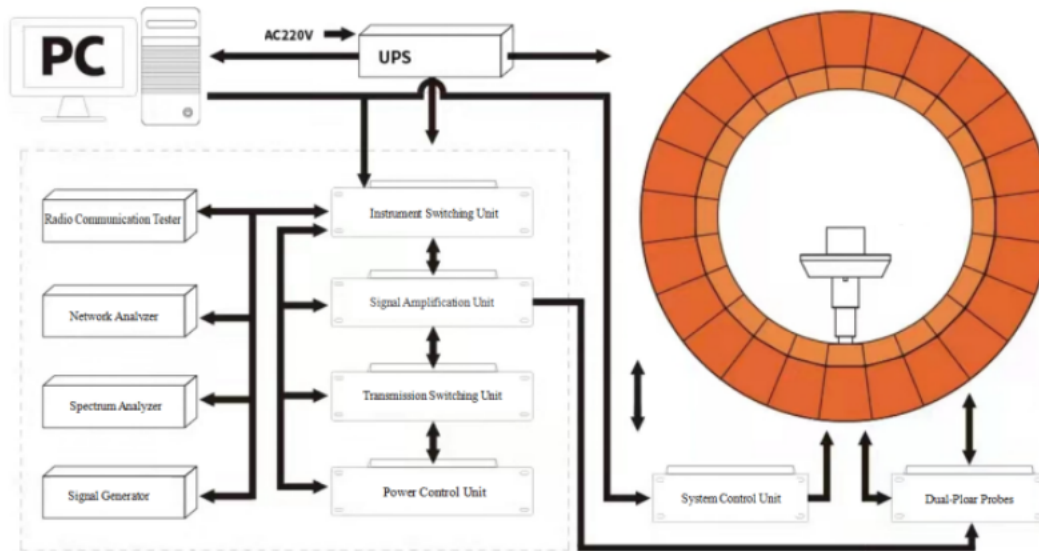
2.1 Test Environment

| | |
|----------------------------|-------|
| Temperature (°C) | 26 |
| Humidity (%RH) | 55 |
| Atmospheric Pressure (kPa) | 100.4 |

2.2 Test Equipment

| | |
|----------------------|--|
| Test System | TEM 24 Multi-probe Microwave Chamber |
| Test Instrument | Agilent E5071B |
| Calibration Validity | 2024-11-23 |
| Test Software | Passive Test  |
| Software Version | V2.7.0 |

2.3 Test Principle



3. Test Results

3.1 Gain and Efficiency

Wi-Fi Antenna @ 2.4G

| Frequency (MHz) | Efficiency (%) | Peak Gain (dBi) |
|-----------------|----------------|-----------------|
| 2400 | 20.75 | -2.03 |
| 2410 | 21.86 | -1.55 |
| 2420 | 23.63 | -1.44 |
| 2430 | 24.03 | -1.1 |
| 2440 | 24.39 | -1.42 |
| 2450 | 24.08 | -1.08 |
| 2460 | 23.93 | -1.02 |
| 2470 | 23.04 | -0.75 |
| 2480 | 21.77 | -1.07 |
| 2490 | 21.05 | -0.81 |
| 2500 | 20.32 | -0.95 |

Wi-Fi Antenna @ 5G

| Frequency (MHz) | Efficiency (%) | Peak Gain (dBi) |
|-----------------|----------------|-----------------|
| 5150 | 26.73 | 0.26 |
| 5200 | 29.58 | 0.52 |
| 5250 | 30.34 | 0.67 |
| 5300 | 27.8 | 0.11 |
| 5350 | 29.65 | 0.37 |
| 5400 | 31.33 | 0.68 |
| 5450 | 32.06 | 0.53 |
| 5500 | 36.14 | 1.07 |
| 5550 | 34.91 | 0.89 |
| 5600 | 38.82 | 1.49 |
| 5650 | 39.54 | 1.69 |
| 5700 | 39.17 | 1.52 |
| 5750 | 38.64 | 1.75 |
| 5800 | 31.48 | 0.66 |
| 5850 | 28.71 | 0.44 |

Zigbee Antenna

| Frequency (MHz) | Efficiency (%) | Peak Gain (dBi) |
|-----------------|----------------|-----------------|
| 2400 | 14.57 | -3.77 |
| 2410 | 15.34 | -3.22 |
| 2420 | 17.67 | -2.8 |
| 2430 | 19.22 | -1.75 |
| 2440 | 20.84 | -1.79 |

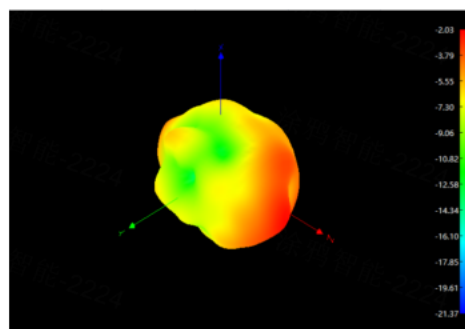
| | | |
|------|-------|-------|
| 2450 | 21.63 | -1.13 |
| 2460 | 22.32 | -1.31 |
| 2470 | 24.82 | -0.95 |
| 2480 | 21.01 | -1.5 |
| 2490 | 20.32 | -1.38 |
| 2500 | 20.11 | -1.41 |

BLE Antenna

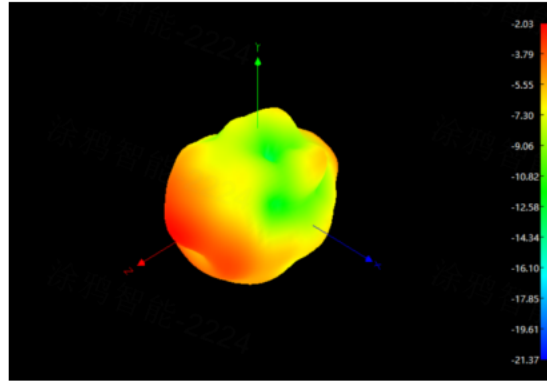
| Frequency (MHz) | Efficiency (%) | Peak Gain (dBi) |
|-----------------|----------------|-----------------|
| 2400 | 18.26 | -2.93 |
| 2410 | 19.18 | -2.49 |
| 2420 | 20.28 | -2.39 |
| 2430 | 19.91 | -2.07 |
| 2440 | 19.42 | -2.35 |
| 2450 | 18.48 | -2.12 |
| 2460 | 17.67 | -2.26 |
| 2470 | 16.22 | -2.42 |
| 2480 | 15.09 | -2.76 |
| 2490 | 14.11 | -3.03 |
| 2500 | 14.59 | -3.13 |

3.2 Radiation Pattern

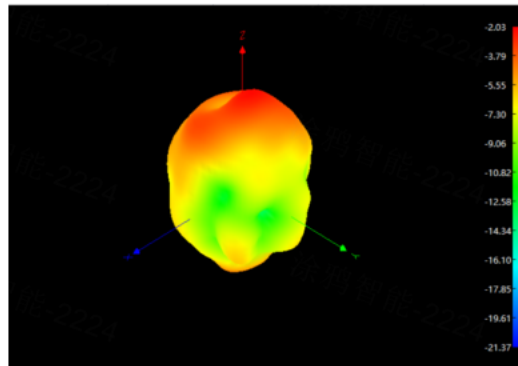
3.2.1 Wi-Fi @2.4G



2400MHz

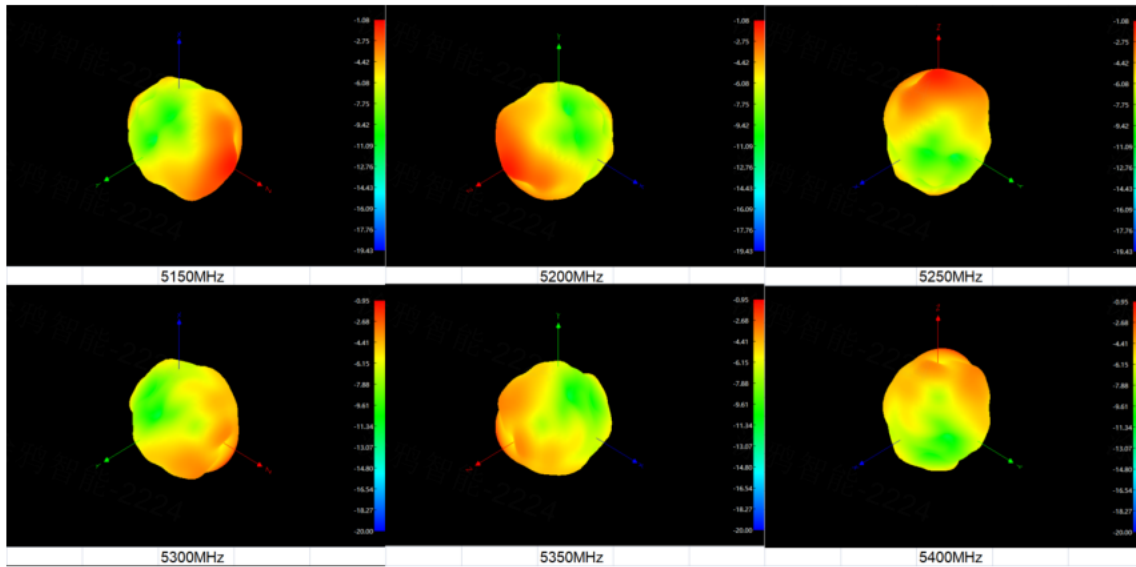


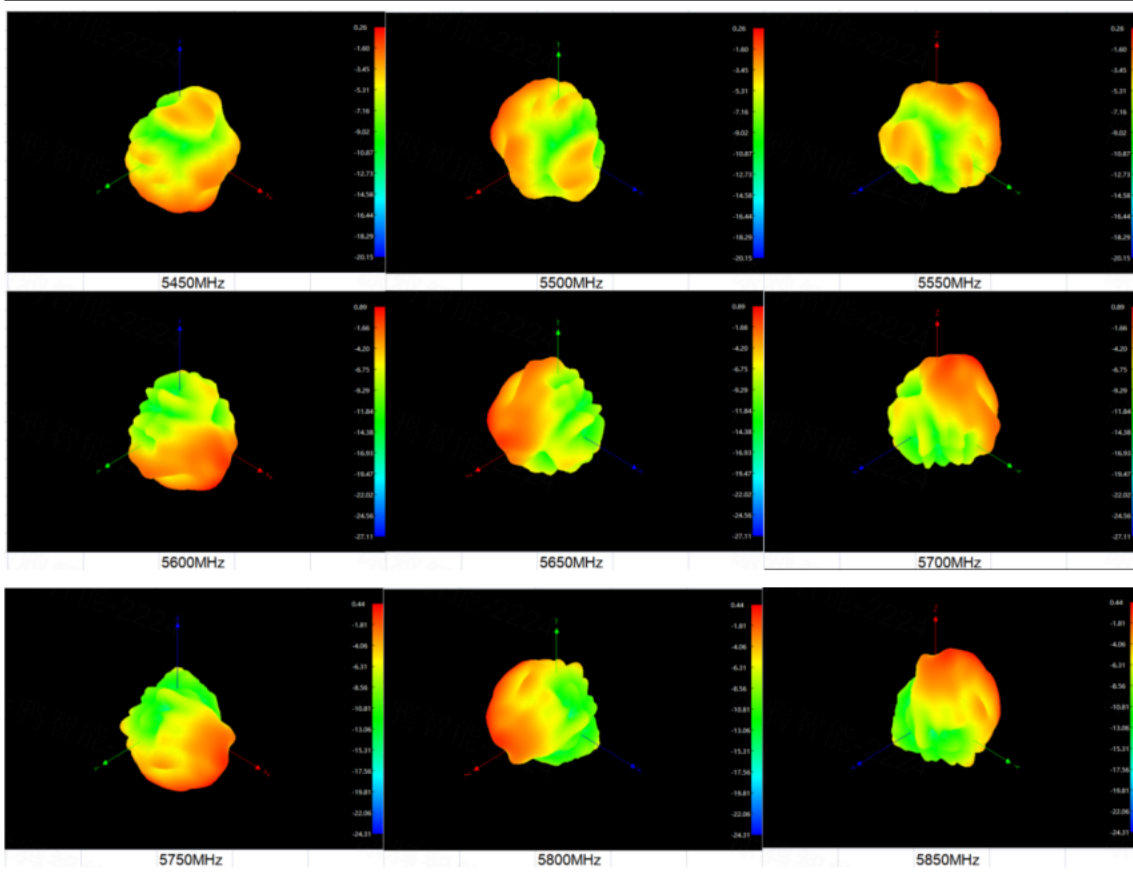
2450MHz



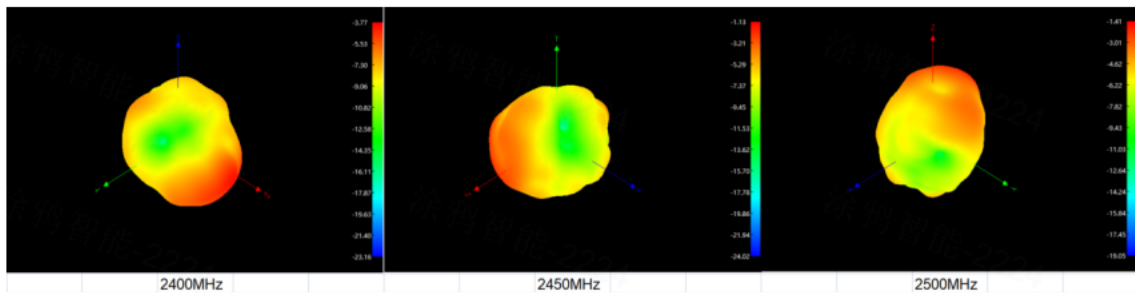
2500MHz

3.2.2 Wi-Fi @5G

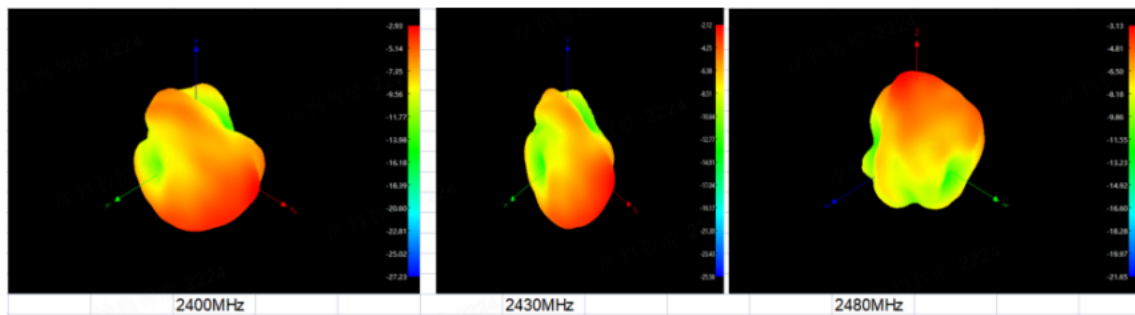




3.2.3 Zigbee Antenna



3.2.4 BLE Antenna



4. Antenna Dimensions

4.1 Wi-Fi Antenna (unit: mm)