

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

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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

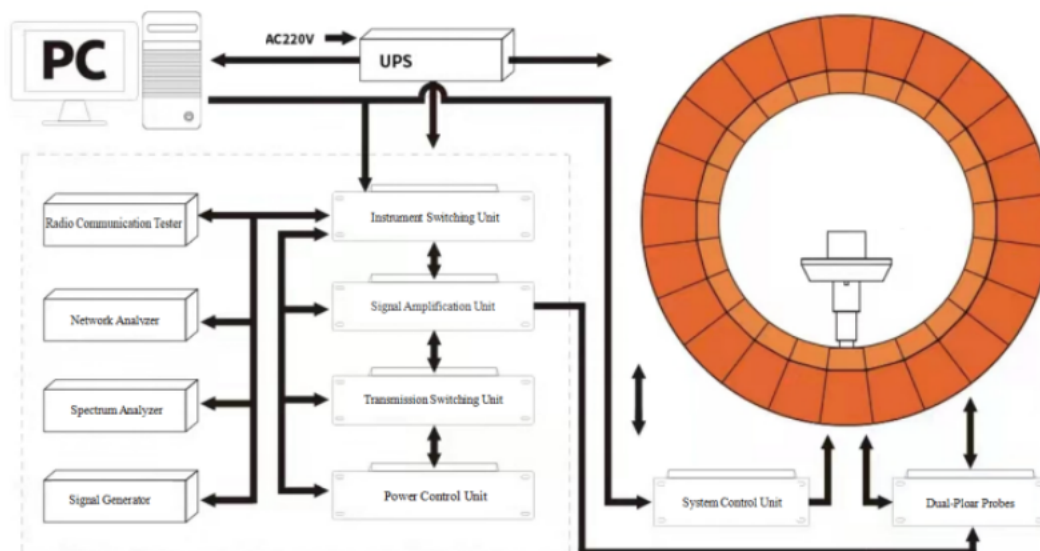
2.1 Test Environment

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

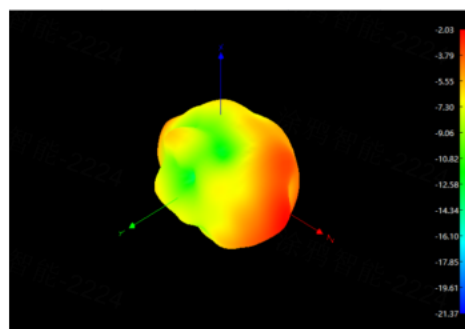
2450	21.63	-1.13
2460	22.32	-1.31
2470	24.82	-0.95
2480	21.01	-1.5
2490	20.32	-1.38
2500	20.11	-1.41

BLE Antenna

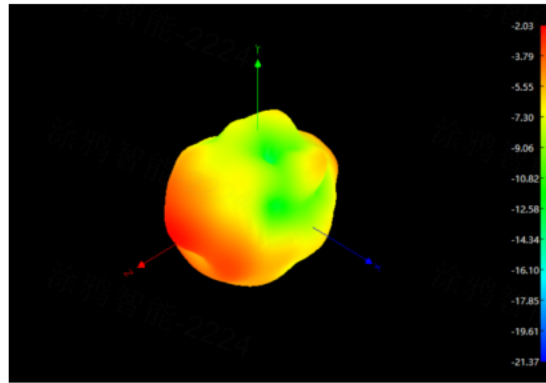
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	18.26	-2.93
2410	19.18	-2.49
2420	20.28	-2.39
2430	19.91	-2.07
2440	19.42	-2.35
2450	18.48	-2.12
2460	17.67	-2.26
2470	16.22	-2.42
2480	15.09	-2.76
2490	14.11	-3.03
2500	14.59	-3.13

3.2 Radiation Pattern

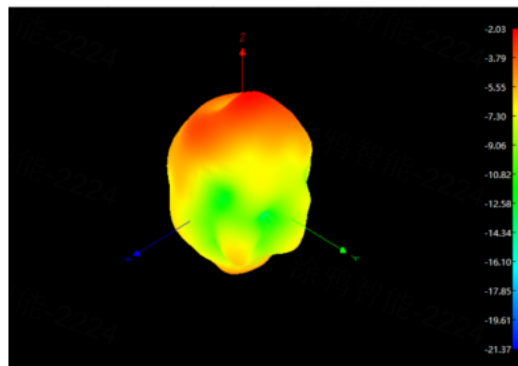
3.2.1 Wi-Fi @2.4G



2400MHz

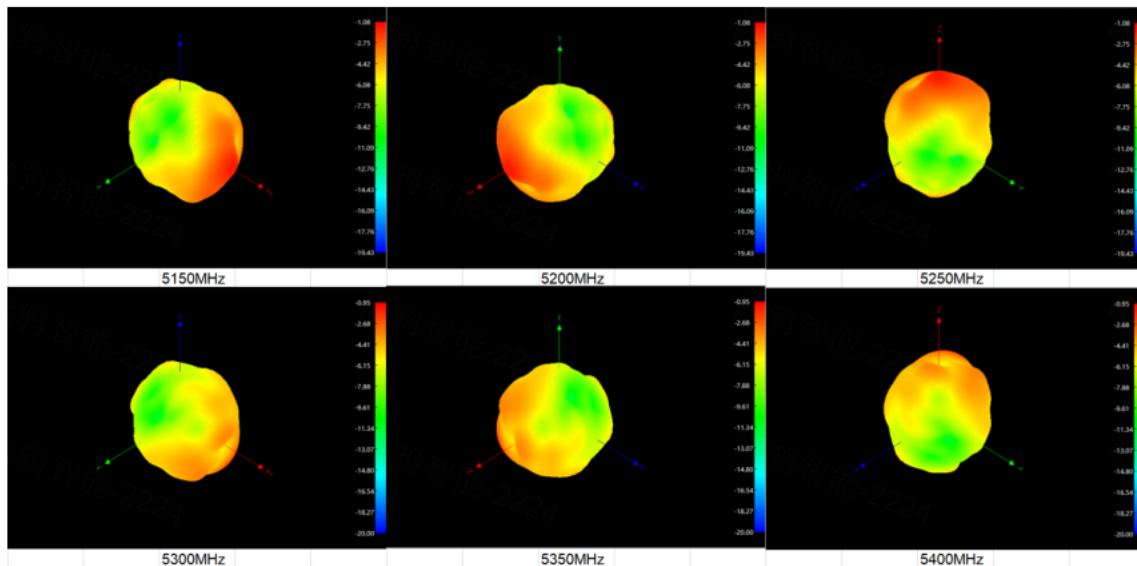


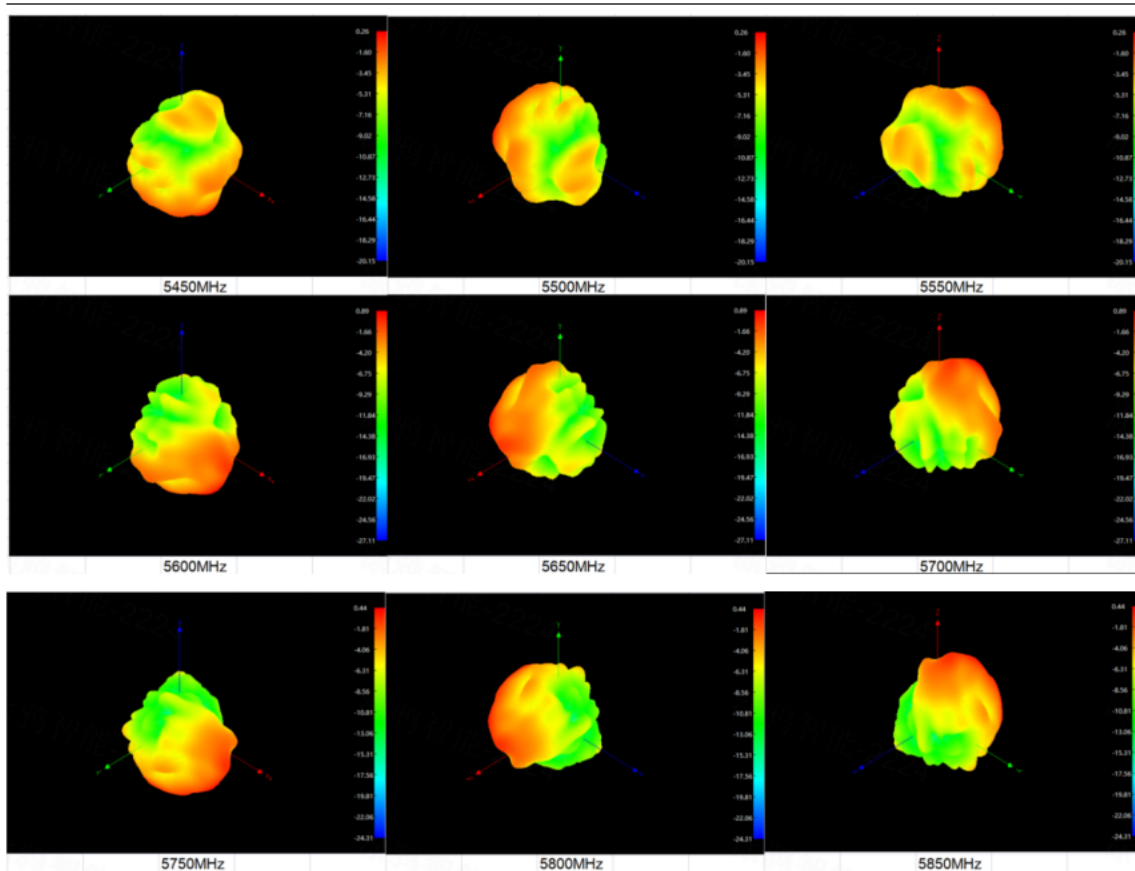
2450MHz



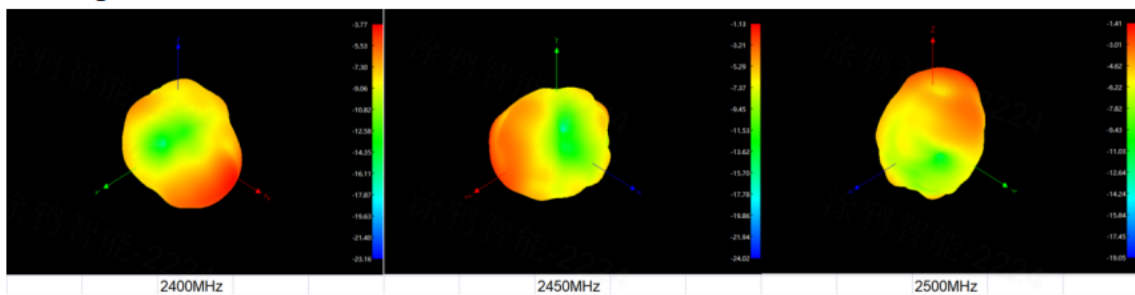
2500MHz

3.2.2 Wi-Fi @5G

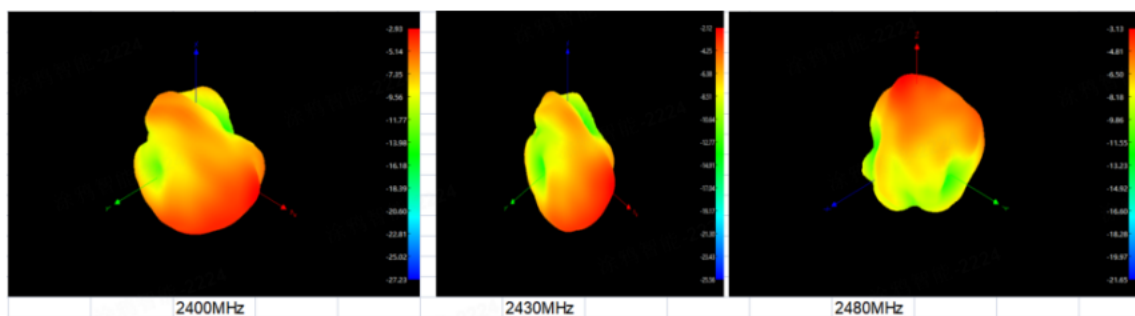




3.2.3 Zigbee Antenna



3.2.4 BLE Antenna



4. Antenna Dimensions

4.1 Wi-Fi Antenna (unit: mm)