



Shenzhen DEWEIMA Communication Equipment Co.,Ltd

SPECIFICATION SHEET FOR APPROVAL

Manufacturer	Shenzhen unique Scales Co.,Ltd
Manufacturer address	301&601, no.22, Huanping Road, Gaoqiao Community Pingdi Street, Longgang District, Shenzhen City, China.
CUSTOMER P/N	CF577
PART NAME	WIFI and BT Antenna
APPROVAL REV.	DWM-V1.0

CONTRACTOR			DATE: 2023-07-02
QA CHECKED	ME CHECKED	RF CHECKED	MANAGER CHECKED

CUSTOMER		DATE:
Approved By	Checked By	Prepared By

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Product Specification

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WIFI and BT Antenna

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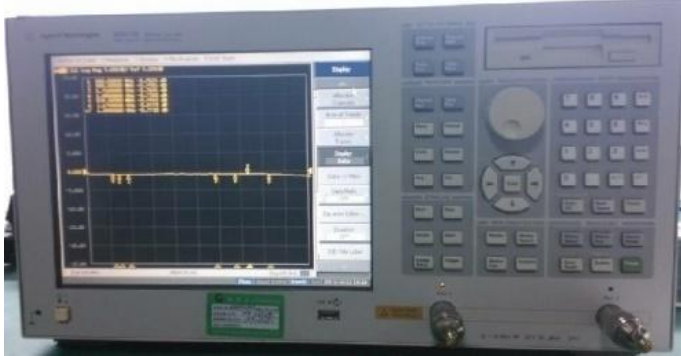
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1. Product Application

Terminal of the antenna products can only be used for WIFI and BT antenna.

2. The test environment, equipment

Item	Description	Test Condition	Requirement
2.1	Passive testing	The VSWR measurement devices are connected in sequence: Agilent5071B Network Analyzer → measurement Cable → Customer-providing Devices.	VSWR: 2400-2500MHz ≤ 2
		Test equipment	
			
Item	Description	Test Condition	
2.2	Active test	The antenna is tested within the cell mainboard provided by clients. Follow picture shows the measurement condition of the antenna been put on the measurement device, which is used for all measurement of electric performances.	
2.3	Microwave	Test equipment	



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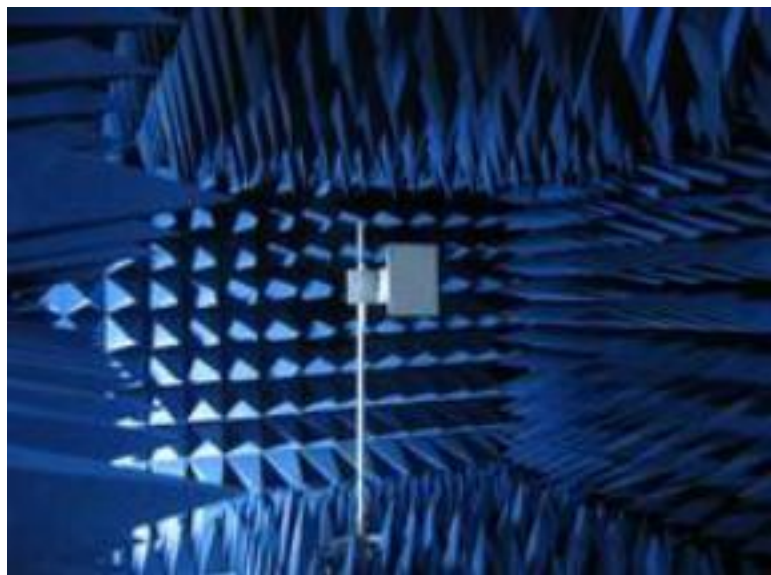
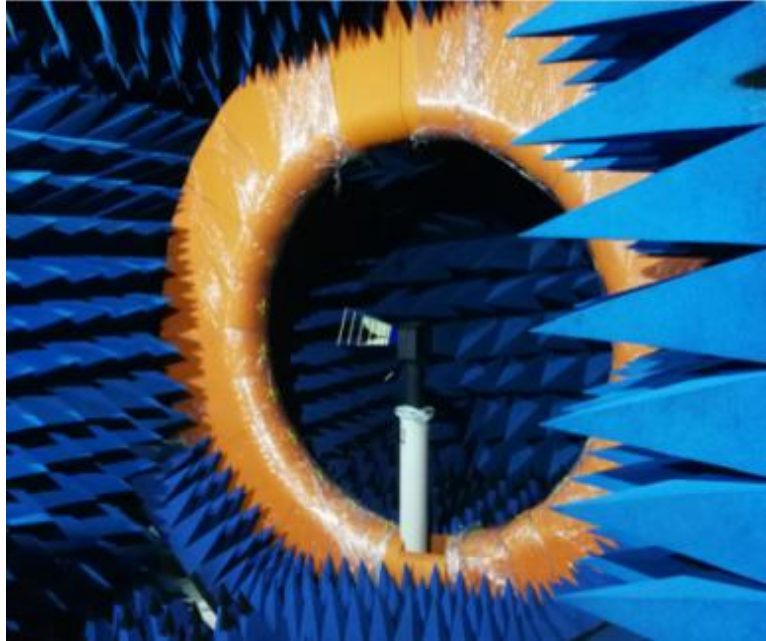
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Anechoic chamber
(Satimo&ETS
)





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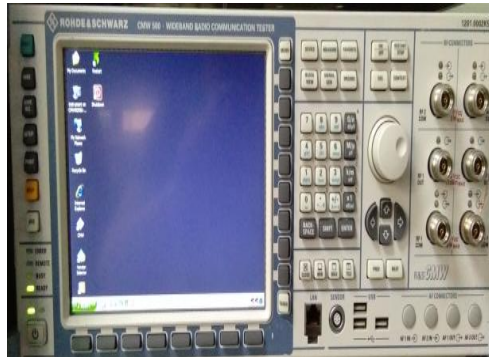
CMW500

Agilent5071B

2.4

AgilentE4405B

Agilent8960





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3. WIFI Antenna description

3.1 WiFi Technology Parameters

WiFi Frequency Range: 2400MHz-2500MHz

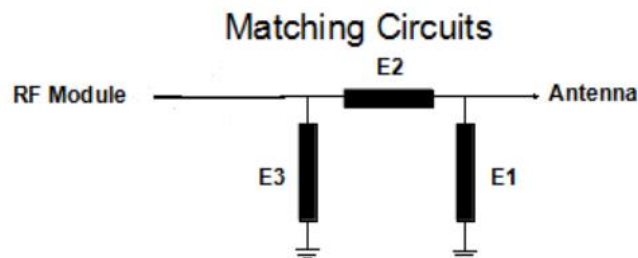
WiFi antenna type: IFA Antenna (PCB Antenna)

Operating Humidity: 90% R.H.MAX

Temperature Rating: 0°C ~ +40°C

3.2 WiFi matching circuit

Element	Value
E1(0402)	1.8PF
E2(0402)	3nH
E3(0402)	2.4PF
Parameter not changed	





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WiFi and BT Antenna

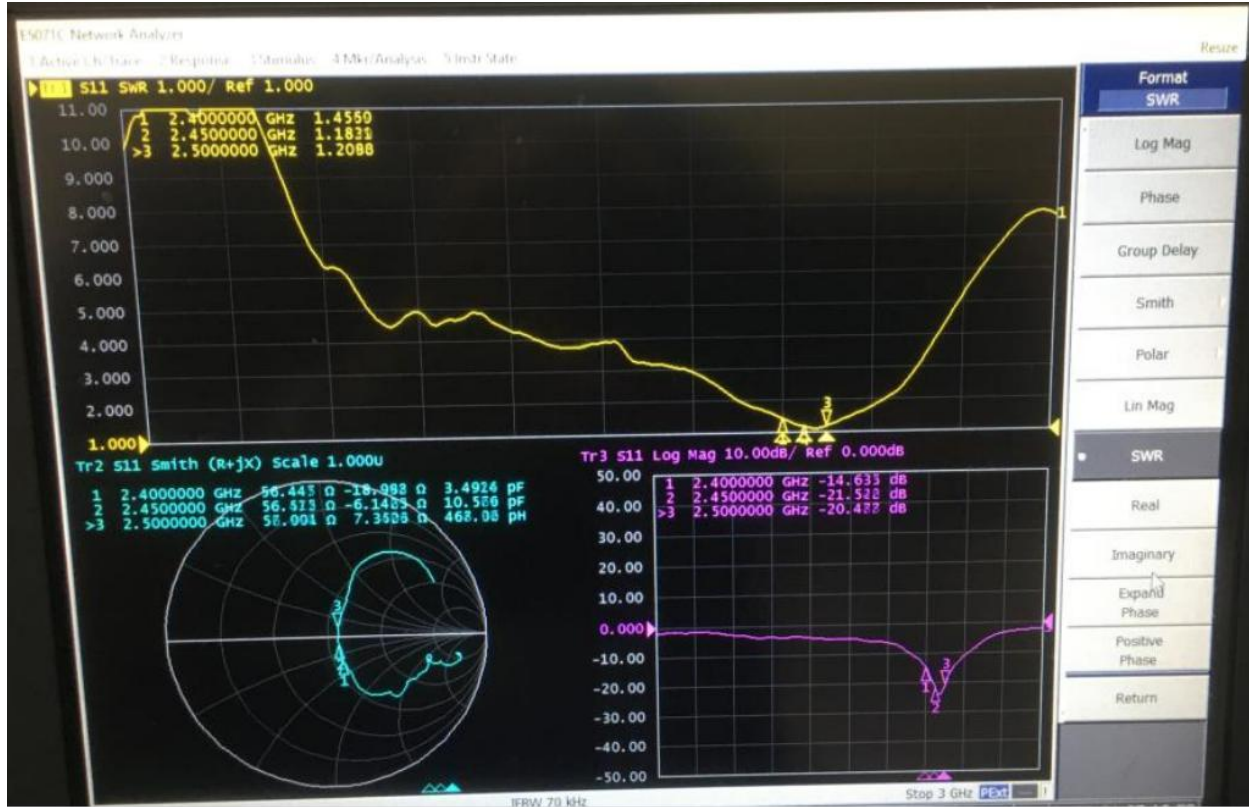
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3.3 WiFi 3VSWR/Return Loss/Smith:



3.4 WiFi Efficiency And Gain:

Frequency / MHz	Efficiency / dB	Efficiency / %
2400	-4.54	35.16
2410	-4.72	35.73
2420	-4.7	33.88
2430	-3.88	40.93
2440	-4.14	38.55
2450	-4.45	35.89
2460	-4.56	35
2470	4.36	36.64
2480	-4.29	37.24
2490	-4.51	35.4
2500	-4.18	38.19

Frequency / MHz	Gain/ dBi
2400	1.52
2410	1.37
2420	1.46
2430	1.19
2440	0.85
2450	1.01
2460	1.35
2470	1.29
2480	1.61
2490	1.96
2500	1.61



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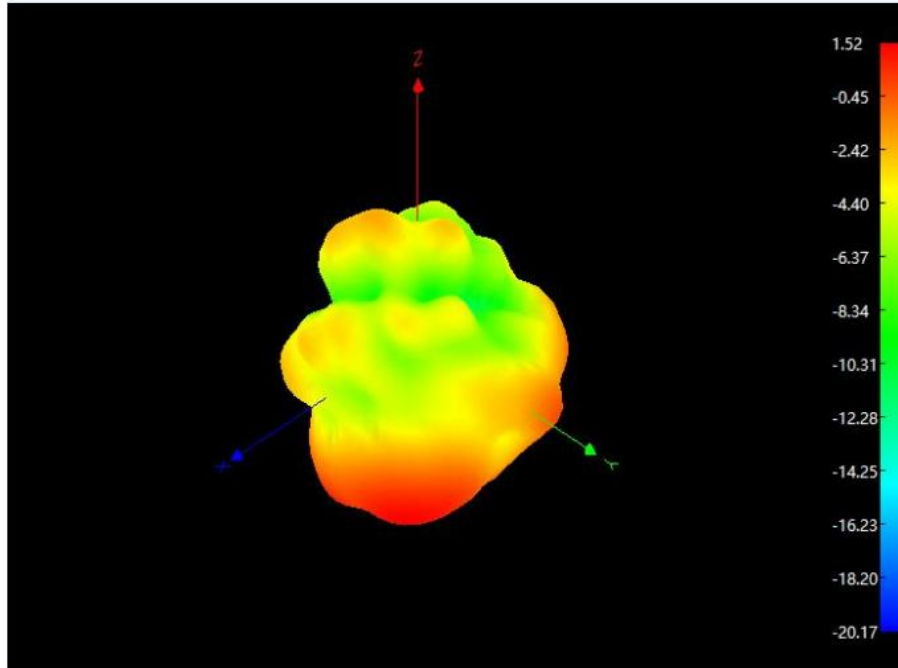
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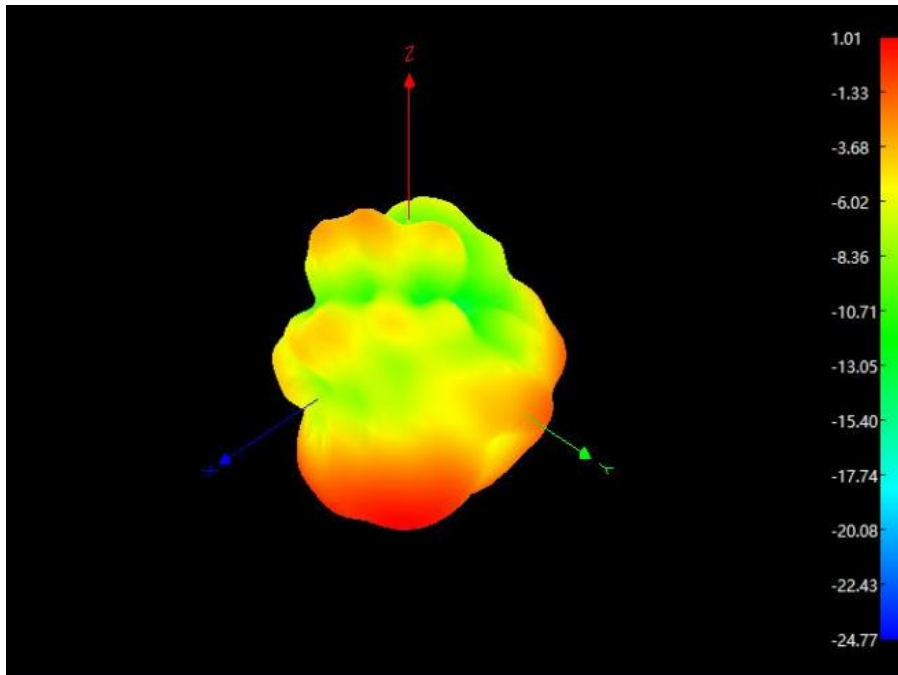
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3.5. WiFi 3D Pattern

2400MHz



2450MHz





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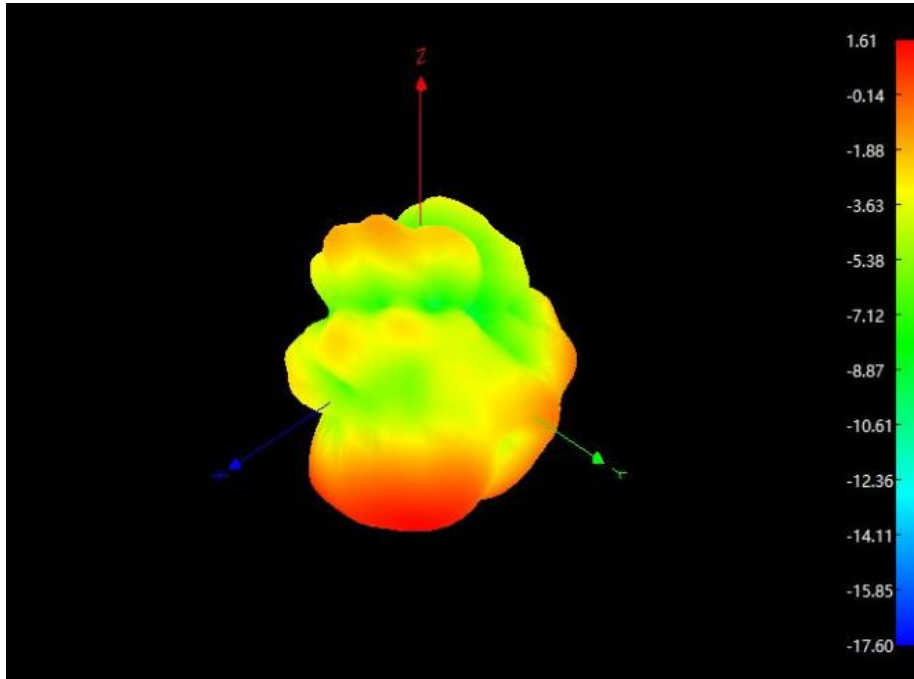
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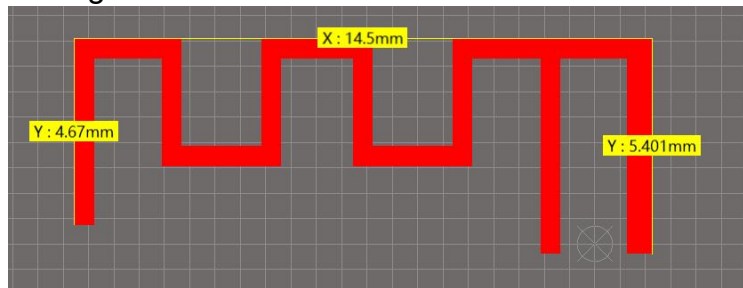
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2500MHz



3.6 WiFi Engineering drawings:





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4. BT Antenna description

4.1 BT Technology Parameters

BT Frequency Range: 2400MHz-2500MHz

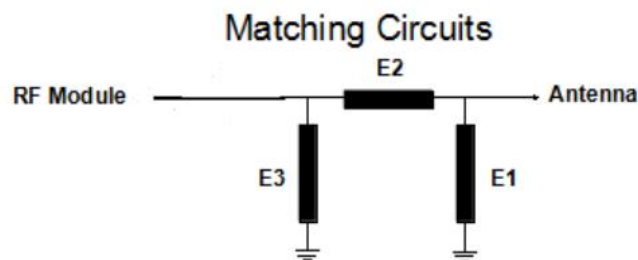
BT antenna type: IFA Antenna (PCB Antenna)

Operating Humidity: 90% R.H.MAX

Temperature Rating: 0°C ~ +40°C

4.2 BT matching circuit

Element	Value
E1(0402)	NC
E2(0402)	4.7pf
E3(0402)	0.5pf
Parameter not changed	



4.3 BT VSWR/Return Loss/Smith:

4.4 BT Efficiency And Gain:



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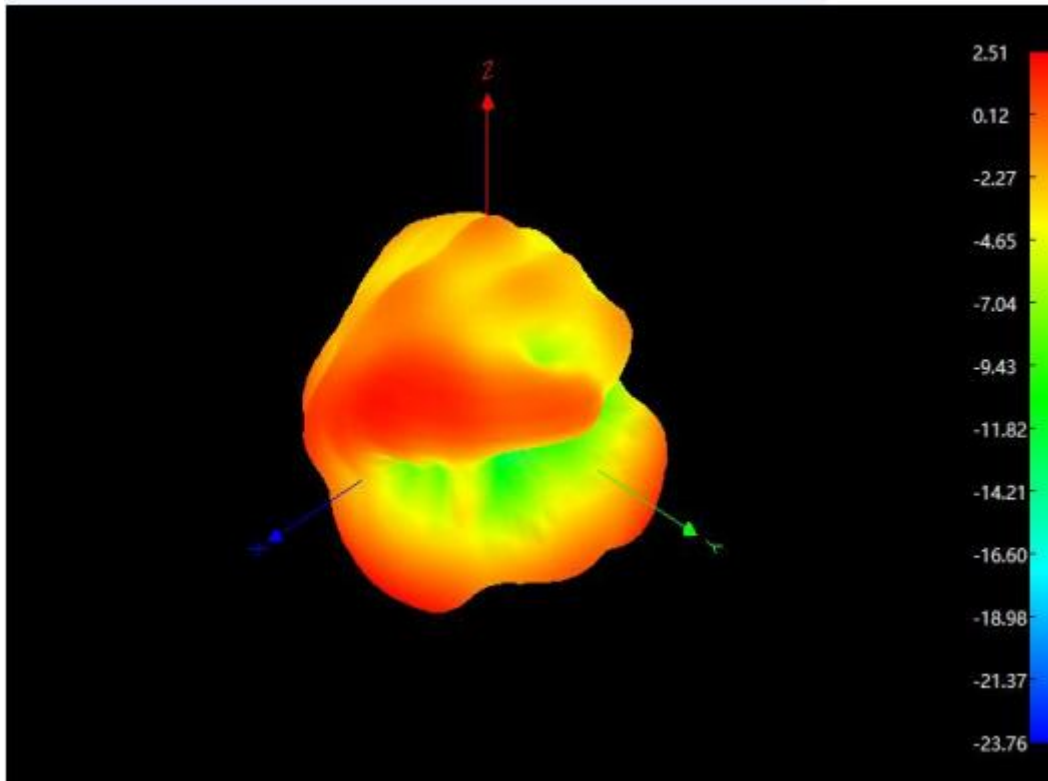
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Frequency / MHz	Efficiency / dB	Efficiency / %
2400	-3.35	46.24
2410	-3.54	44.26
2420	-3.4	45.71
2430	-3.39	45.81
2440	-3.59	43.75
2450	-3.49	44.77
2460	-3.42	45.5
2470	-3.62	43.45
2480	-3.62	43.45
2490	-3.49	44.77
2500	-3.8	41.69

Frequency / MHz	Gain/ dBi
2400	2.51
2410	2.21
2420	2.77
2430	2.59
2440	2.09
2450	2.43
2460	2.87
2470	2.4
2480	2.43
2490	2.79
2500	2.3

4.5. BT 3D Pattern 2400MHz





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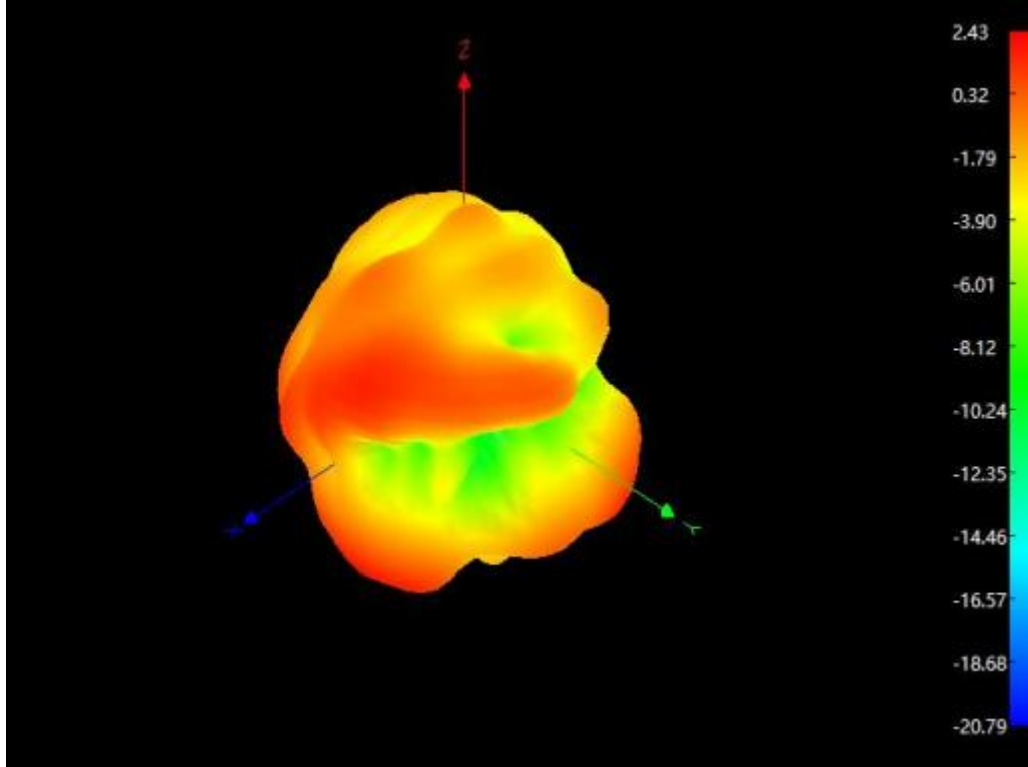
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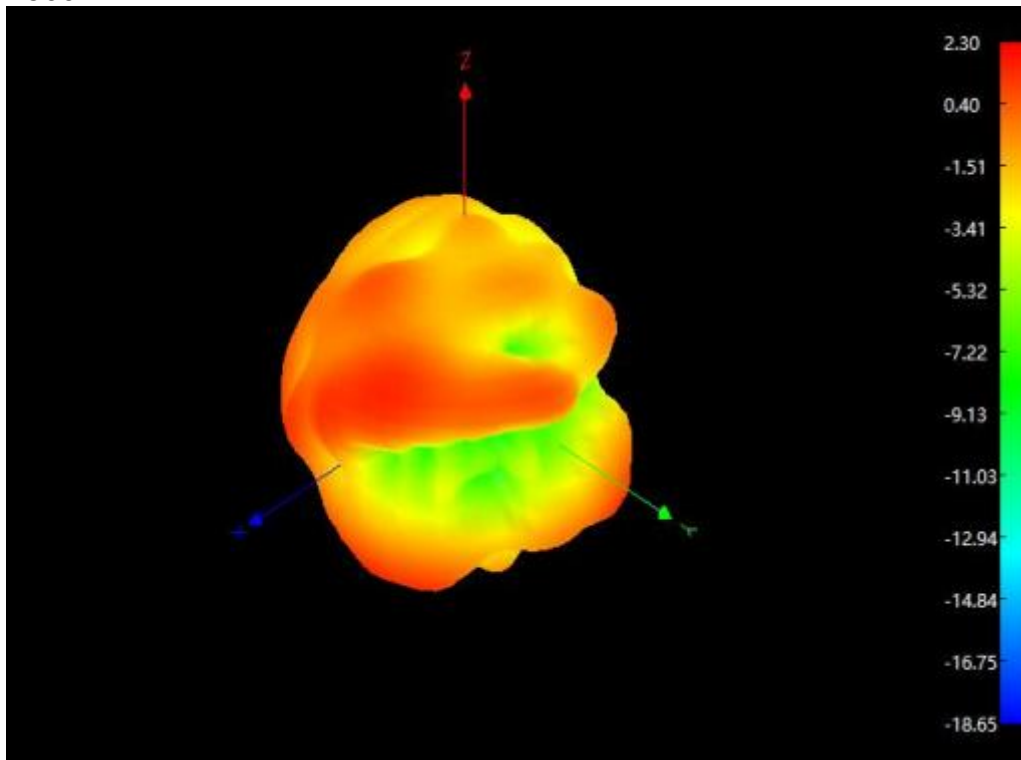
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2450MHz



2500MHz





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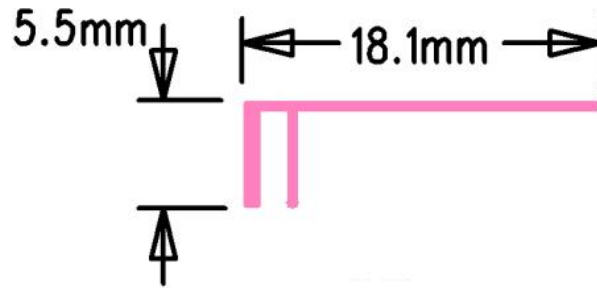
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4.6 BT Engineering drawings:



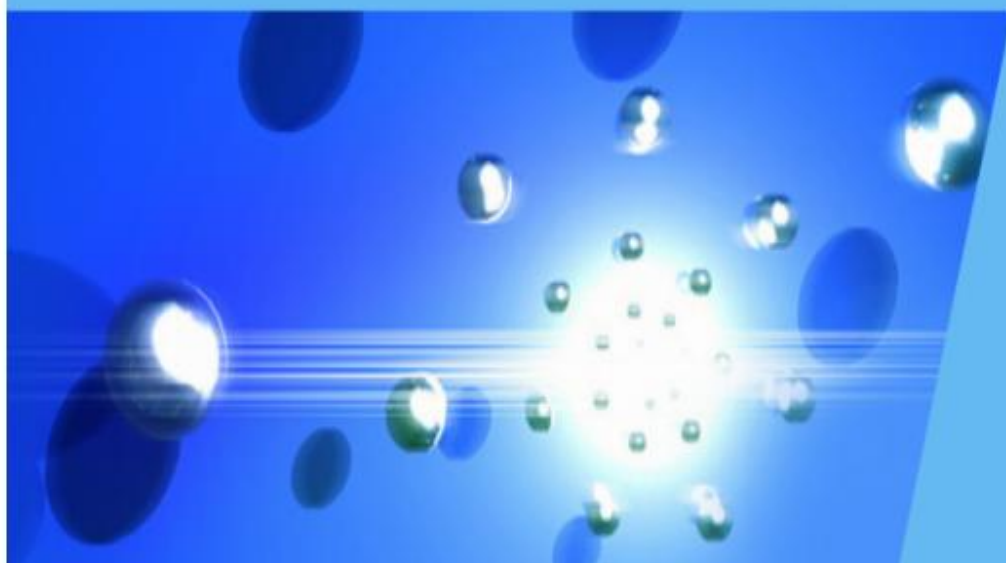
PCB on-board antenna

5. WiFi and BT antenna isolation



WiFi and BT antenna isolation data (about -33~-34dB)

Professional RF R&D institutions



Thank You !

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