

SPECIFICATION SHEET FOR APPROVAL

Manufacturer	<u>Shenzhen unique Scales Co.,Ltd</u>
Address	301&601, no.22, Huanping Road, Gaoqiao Community Pingdi Street, Longgang District, Shenzhen City, China.
<u>CUSTOMER P/N</u>	<u>ESP32-C2</u>
<u>PART NAME</u>	<u>WiFi/BT Antenna</u>
<u>APPROVAL REV.</u>	<u>DWM-V1.0</u>

<u>CONTRACTOR</u>			<u>DATE: 2023-07-02</u>
<u>QA</u> <u>CHECKED</u>	<u>ME</u> <u>CHECKED</u>	<u>RF</u> <u>CHECKED</u>	MANAGER CHECKED

CUSTOMER		DATE:
Approved By	Checked By	Prepared By

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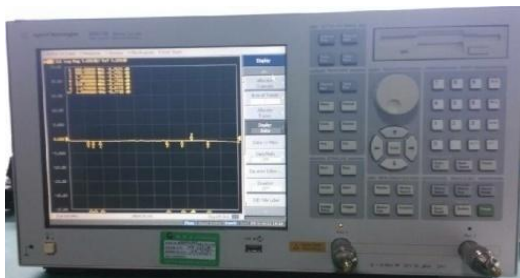
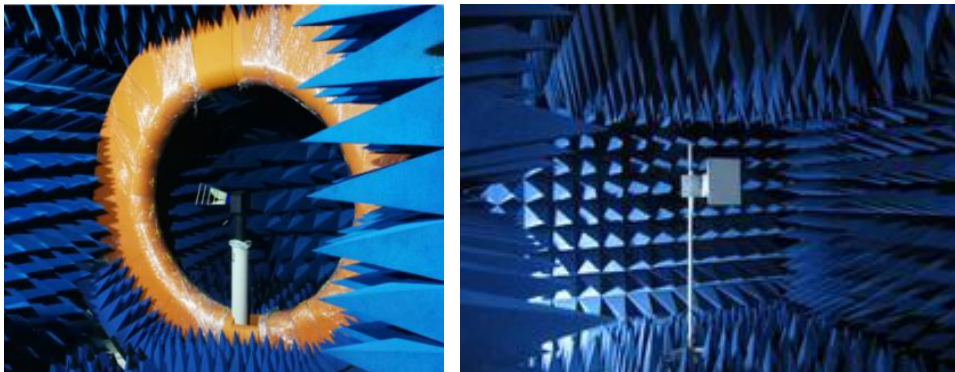
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1. Product Application

Terminal of the antenna products can only be used for WiFi/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 $\leq$ 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 Anechoic chamber (Satimo&ETS)	Test equipment	
			



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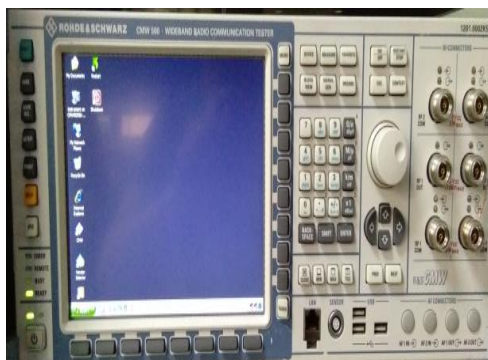
2.4

CMW500

Agilent5071B

AgilentE4405B

Agilent8960





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3. WiFi/BT Antenna description

3.1 WiFi/BT Technology Parameters

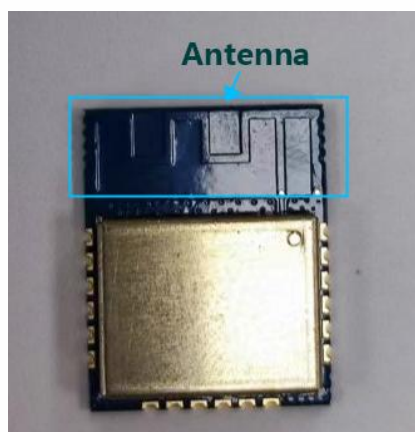
WiFi/BT Frequency Range: 2400MHz-2500MHz

WiFi/BT antenna type: IFA Antenna (PCB Antenna)

Operating Humidity: 90% R.H.MAX

Temperature Rating: 0°C ~ +40°C

3.2 WiFi/BT antenna position



3.3 WiFi/BT 3VSWR/Return Loss/Smith:





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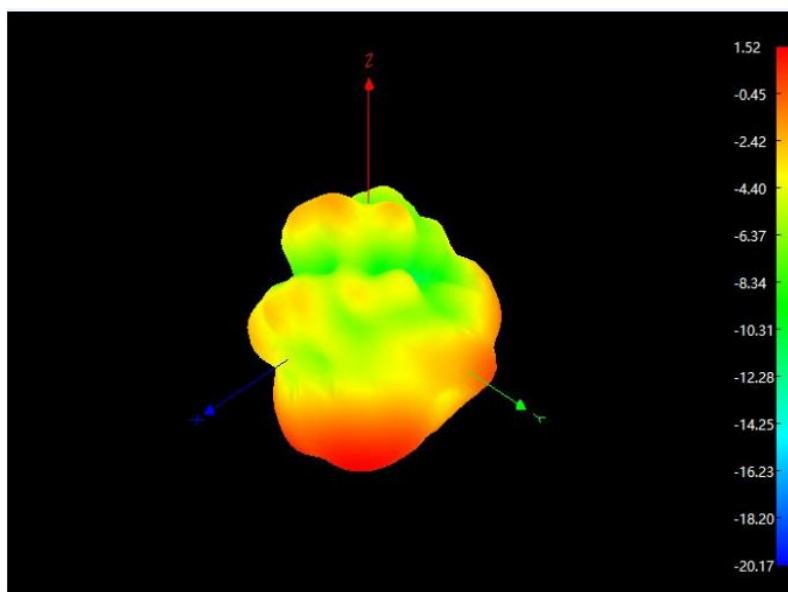
3.4 WiFi/BT Efficiency And Gain:

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

3.5. WiFi/BT 3D Pattern

2400MHz



2450MHz



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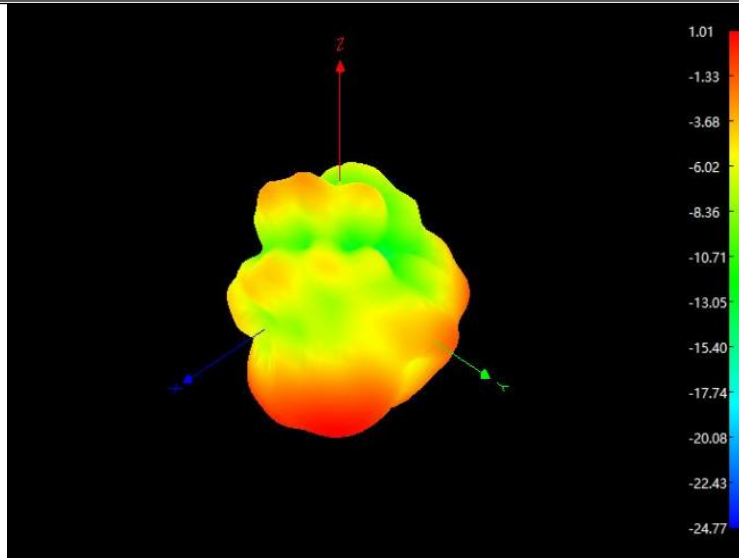
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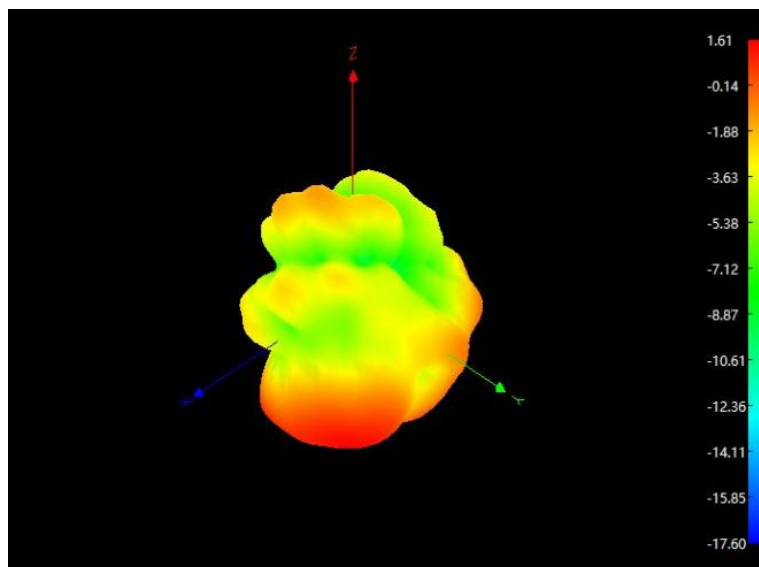
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2500MHz



3.6 WiFi/BT Engineering drawings:

