

Antenna Test Report

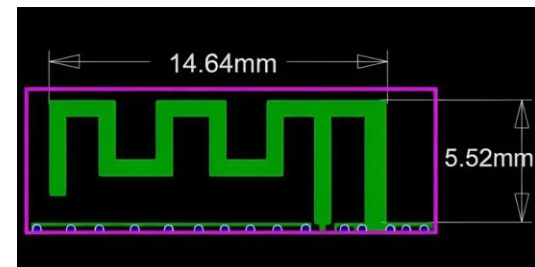
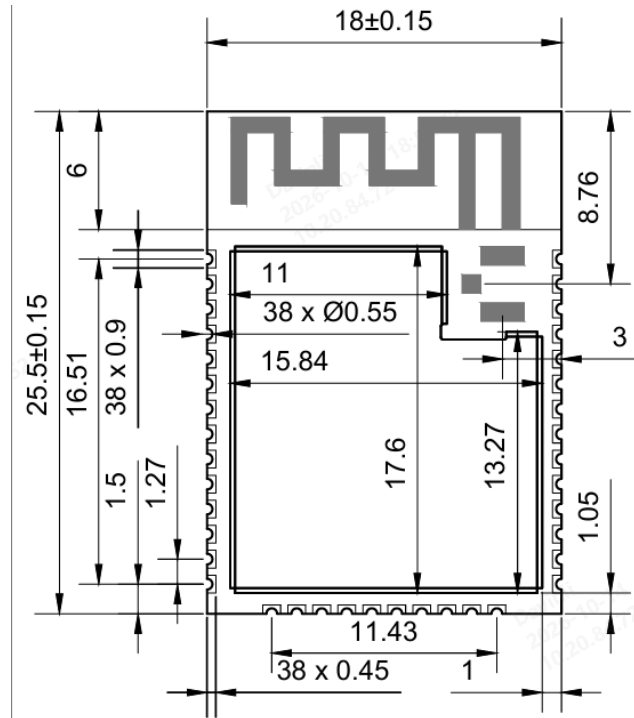
Product Information			
Client	Chen Bei	Protocol	WiFi+BLE
Product Description	Jingle	Sample Quantity	1pcs
Model Type	ESP32-C3-SOLO-1	Sample Version	TR3
Sample Pictures	 PCB Antenna		

Antenna manufacturer information

Name: Espressif Systems (Shanghai) Co., Ltd.

Address: High-tech park in zhangjiang shanghai

Model type: ESP32-C3-SOLO-1



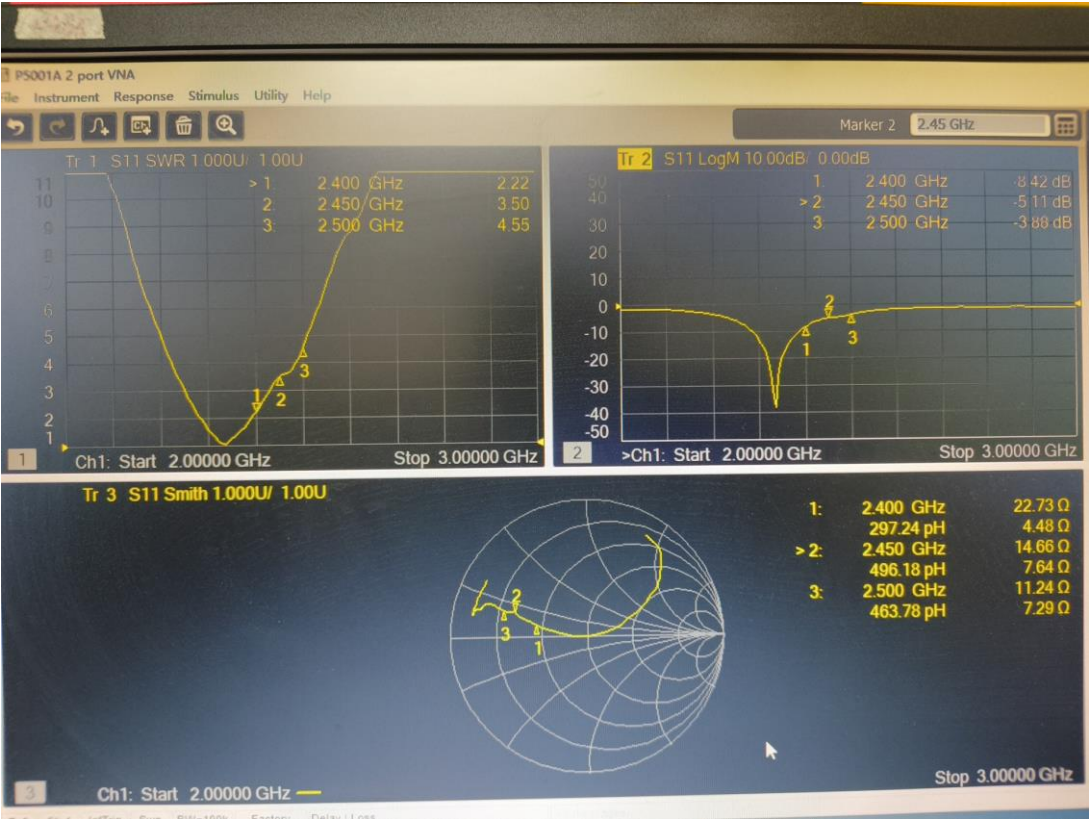
Picture 2 Antenna plots

Prepared By	MORLAB LABORATORY
Adress	F1, Building A, FeiYang Science and Technology Park, No.8, Longchang Rd., Baoan District, Shenzhen, Guangdong Province, China
TEL	36698555
Test Data	2025.06.23

Equipent	Manufacturer	Type	Serial Number	Calibration Date	Effective Date
Network Analyzer	Aglient	E5071C	MY46110140	2025.05.30	2026.05.29
Dark Room	ETS	AMS-8923-150	TJ2235-Q1793	2024.11.30	2025.11.29
Antenna Test System	ETS	EMQuest EMQ-100 V1.13 Build 21267	1685	/	/

Test Data

SVN

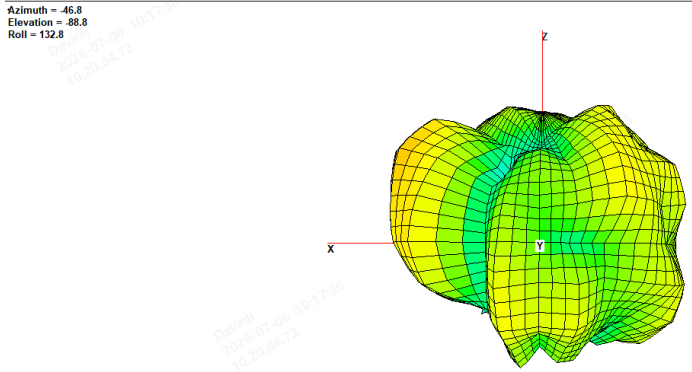


Efficiency & Gain

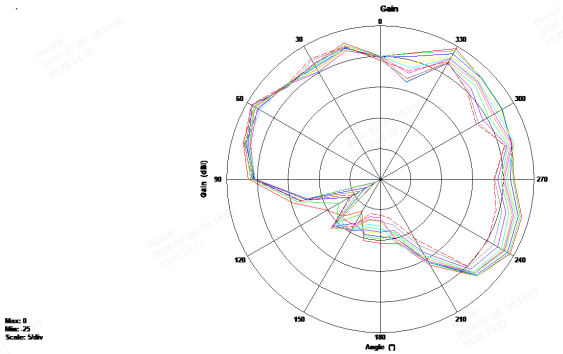
Frequency (MHz)	Gain (dBi)	Efficiency (%)	Efficiency (dB)
2400	2.74	42.57	-3.7
2410	2.54	40.10	-4.0
2420	2.11	37.22	-4.3
2430	1.79	34.81	-4.6
2440	1.67	33.80	-4.7
2450	1.89	32.62	-4.9
2460	1.94	31.68	-5.0
2470	1.80	30.36	-5.2
2480	1.76	29.67	-5.3
2490	2.00	29.27	-5.3
2500	1.93	29.29	-5.3

Test Data

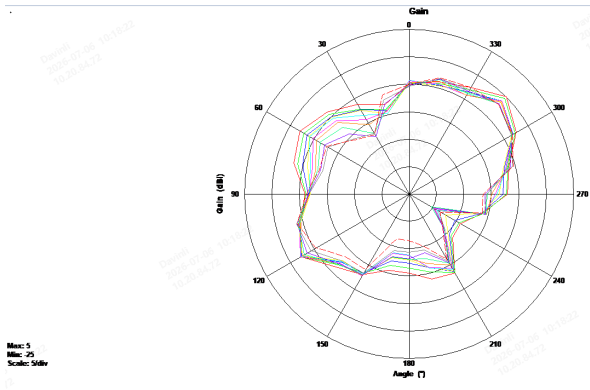
3D (2450MHz)



$\theta = 90^\circ$ (XY Plane)



$\varphi = 0^\circ$ (XZ Plane)



$\varphi = 90^\circ$ (YZ Plane)

