



深圳瑞宁无线技术有限公司

Shenzhen Runicc Wireless Technology Co.,LTD

# 天线测试报告

# Antenna Test Report

Customer No. : CF569(gG 0412)

RF: Ning Jiang

2023/4/26

# 1.WIFI Antenna description

## 1.1 WiFi Technology Parameters

WiFi Frequency Range: 2400MHz-2500MHz

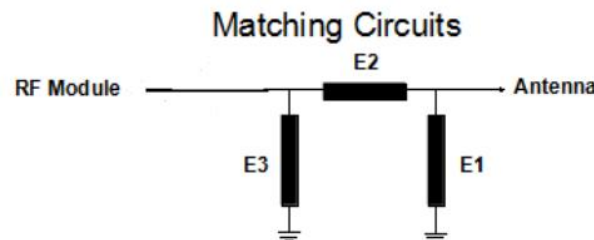
WiFi antenna type: Dipole antenna

Model: RN-CF527-WIFI-A1

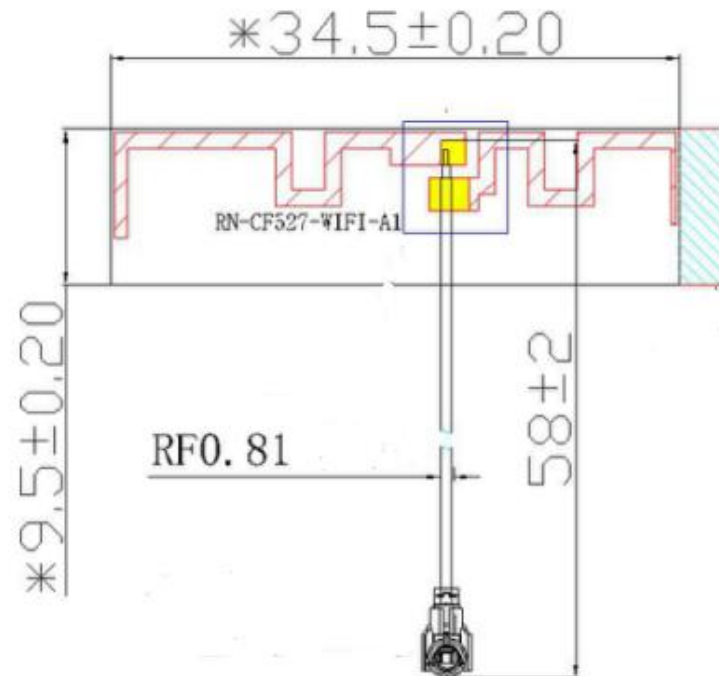
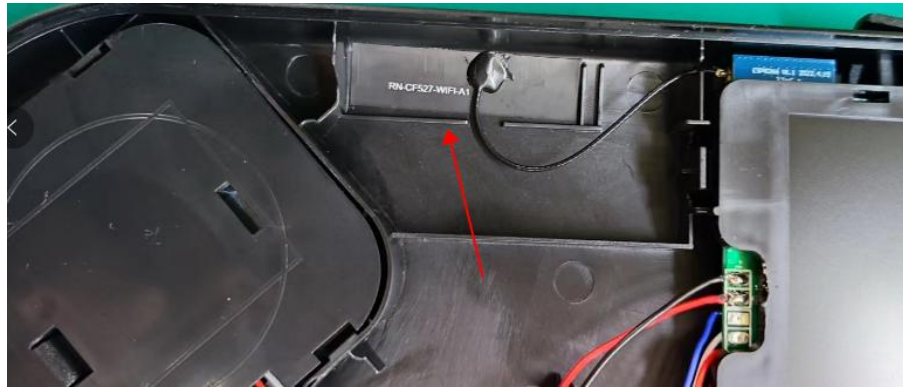
Manufacture: Shenzhen Runicc Wireless Technology Co.,LTD

## 1.2 WiFi matching circuit

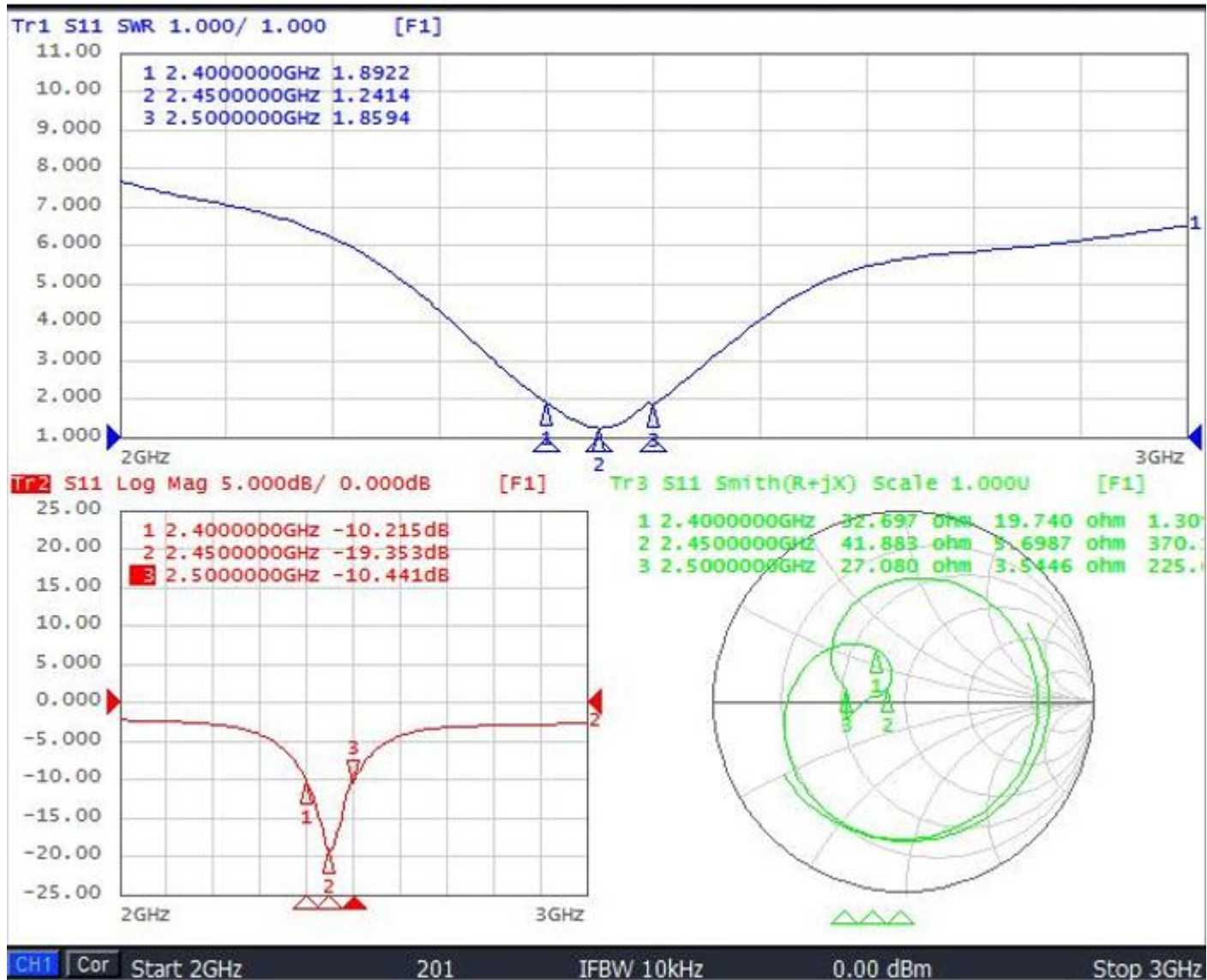
Element	Value
E1(0402)	1.8pf
E2(0402)	3nH
E3(0402)	2.4pf
Parameter not changed	



### 1.3 WiFi antenna position



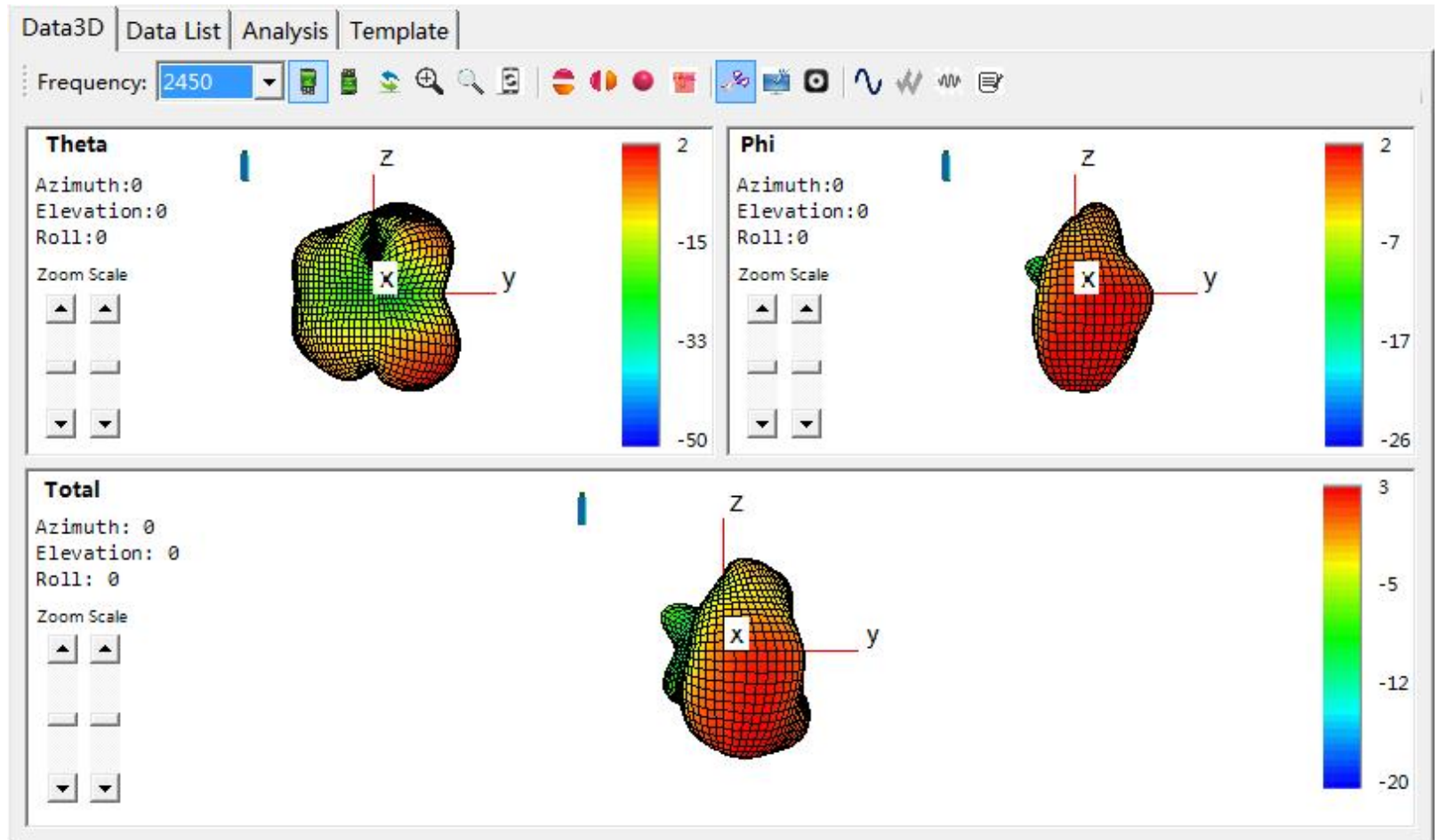
# 1.4 WiFi 3 VSWR/Return Loss/Smith:



## 1.5 WiFi Efficiency And Gain:

Frequency (MHz)	Efficiency (%)	Peak gain(dBi)
2400	44	2.25
2410	45	2.35
2420	46	2.33
2430	46	2.28
2440	46	2.38
2450	45	2.46
2460	44	2.46
2470	44	2.46
2480	45	2.62
2490	46	2.73
2500	46	2.75

# 1.6 WiFi 3D Pattern



## 1.7 WIFI antenna active test data

	Mode	Data Rate, Mbps	Channel	Antenna Data	
				TRP	TIS
2.4G WIFI	IEEE 802.11B	11M	1	14.74	-84.61
			6	15.09	-84.8
			11	15.58	-84.15
	IEEE 802.11G	TRP/6M, TIS/54M	1	14.89	-73.94
			6	14.82	-73.62
			11	14.76	-73.88
	IEEE 802.11N	TRP/MC S0,TIS/M CS7	1	14.07	-68.85
			6	13.56	-69.92
			11	13.94	-69.38

# 2. BLE Antenna description

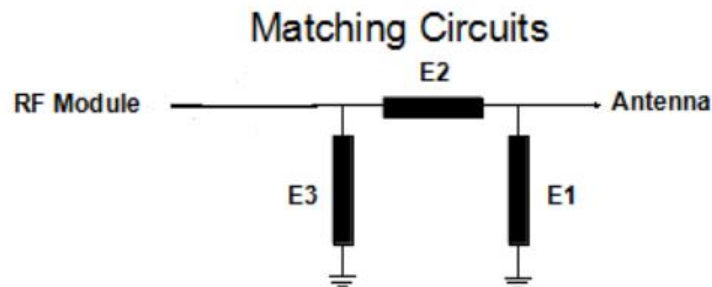
## 2.1 BLE Technology Parameters

BLE Frequency Range: 2400MHz-2500MHz

BLE antenna type: IFA antenna

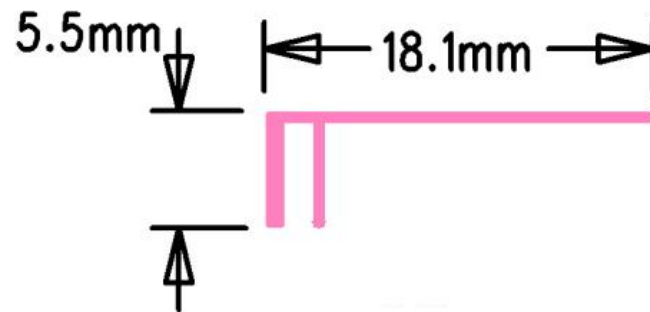
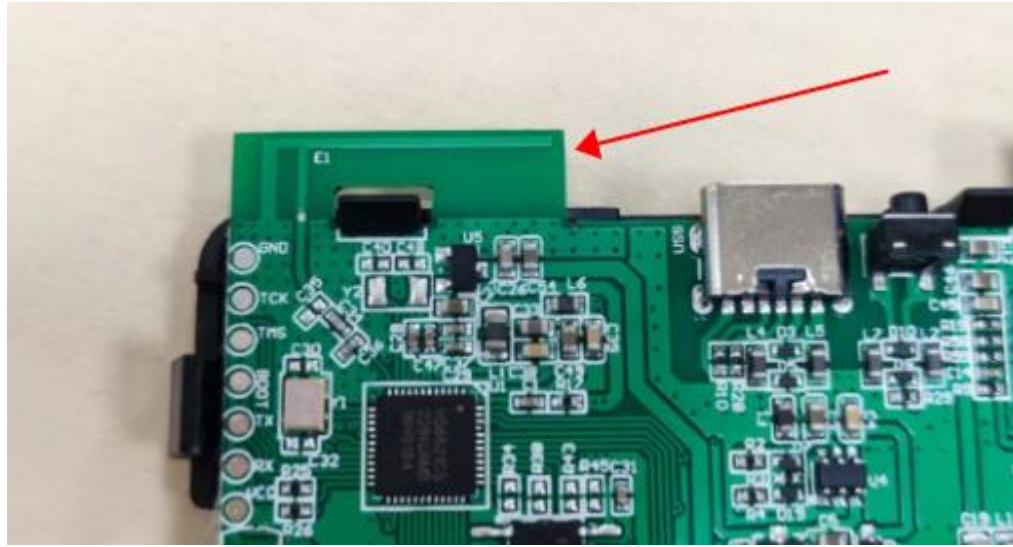
## 2.2 BLE matching circuit

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



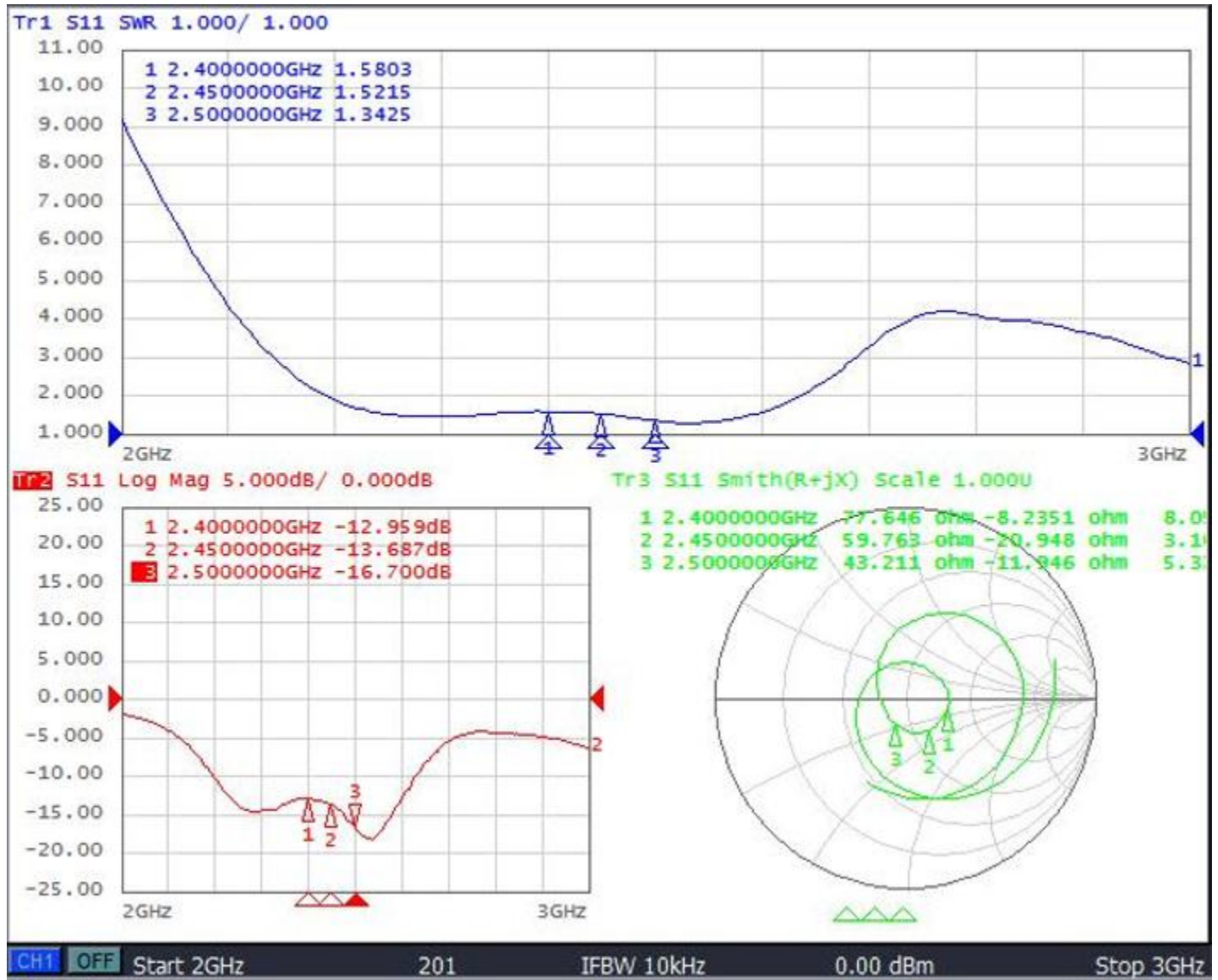


## 2.3 BLE antenna position



PCB on-board antenna

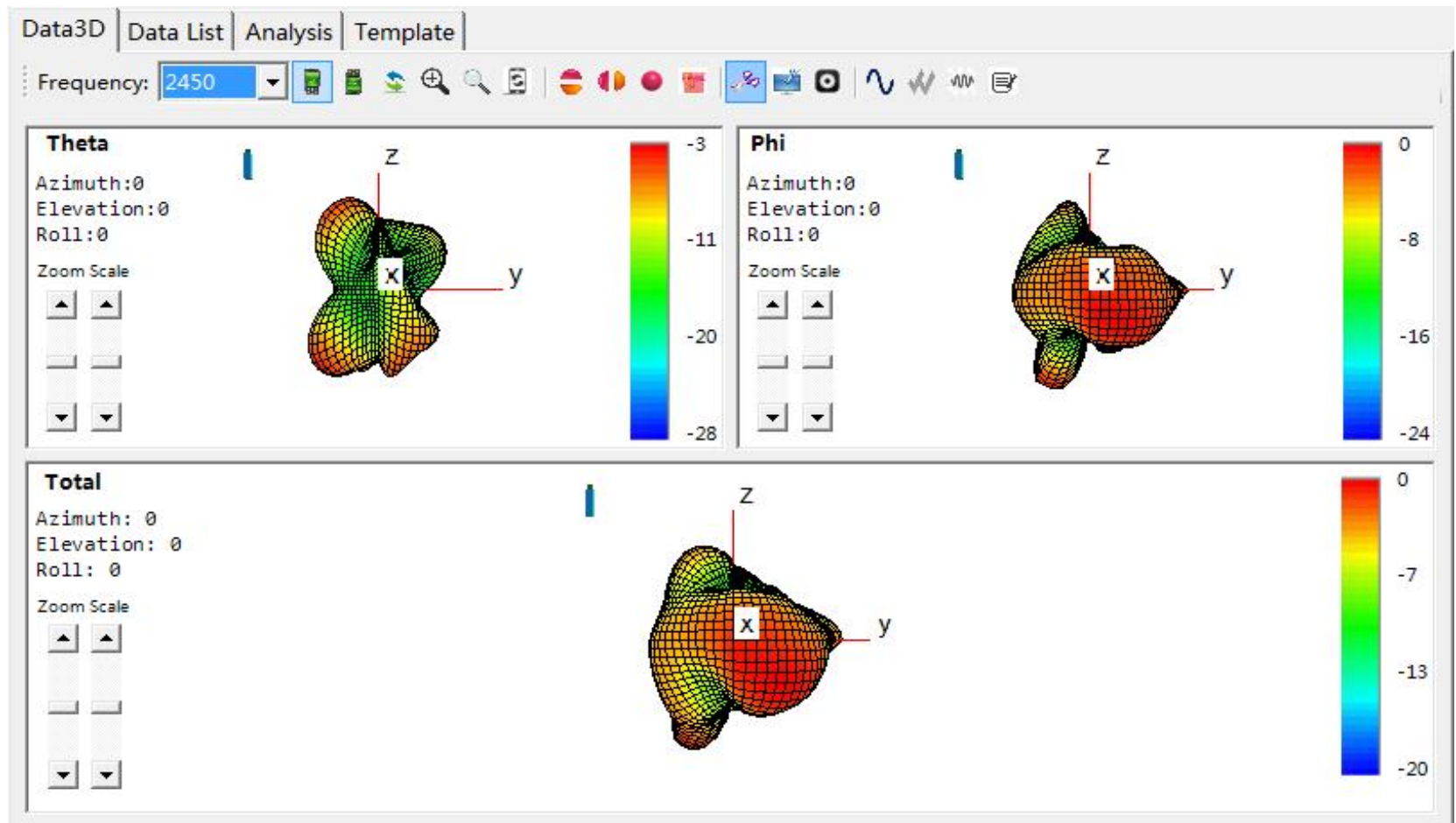
## 2.4 BLE 3VSWR/Return Loss/Smith:



## 2.5 BLE Efficiency And Gain:

Frequency (MHz)	Efficiency (%)	Peak gain(dBi)
2400	34	0.41
2410	33	0.10
2420	33	0.04
2430	32	-0.05
2440	30	-0.37
2450	30	-0.30
2460	31	0.14
2470	32	0.83
2480	32	1.24
2490	34	1.59
2500	35	1.77

## 2.6. BLE 3D Pattern



# 3. conclusion

From the above data, it can be seen that the antenna performance basically meets the requirements.



深圳瑞宁无线技术有限公司

Shenzhen Runicc Wireless Technology Co.,LTD