SUNNYWAY TECHNOLOGY(CHINA)

ANTENNA SPEC

Customer name：三旗	Entry name： SI9811
Working band: WIFI(2.4/5.8)	
Motherboard version： A9811M1A2-1	

Sunnyway Material specification

Specification type	Sunnyway number	Customer number

Revision history

Date of preparation/change	Change content	Altered person	Edition
2022.12.22	New issue	Yang XIN	A

Sunnyway Countersign column

R&D	ME:	To examine:	QE:	Approval:
	RF:	To examine:		

Customer will sign the column

Electronic Engineer	Project manager	Structural Engineer	Quality Engineer

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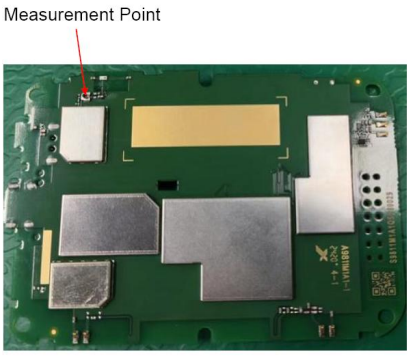
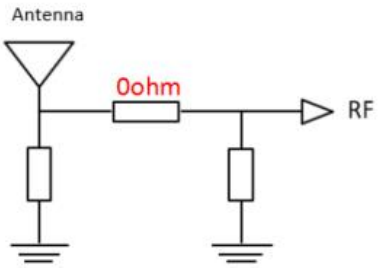
Directory

1. Project information

1.1 Mockup picture



2. Matching circuit



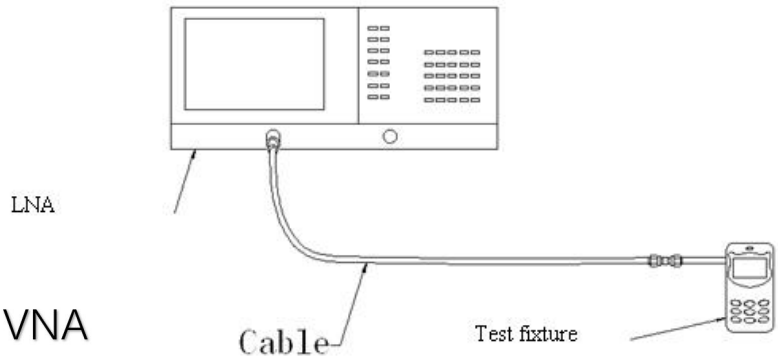
3. Antenna passive testing data

3.1 S11 Description of the test method

Test the equipment: Vector network analyzer (Agilent E5071C)

Test methodology: Use a 50 ohm CABLE cable to export from the instrument test port, use the calibration piece to calibrate and connect the SMA connector of the test fixture, and record the return loss and standing wave ratio corresponding to the relevant frequency point.

Below is a schematic picture of the test:



Test schematic diagram

3.2 Test the environment

Test the system: Multi-probe OTA measurement system (XH-IoT)

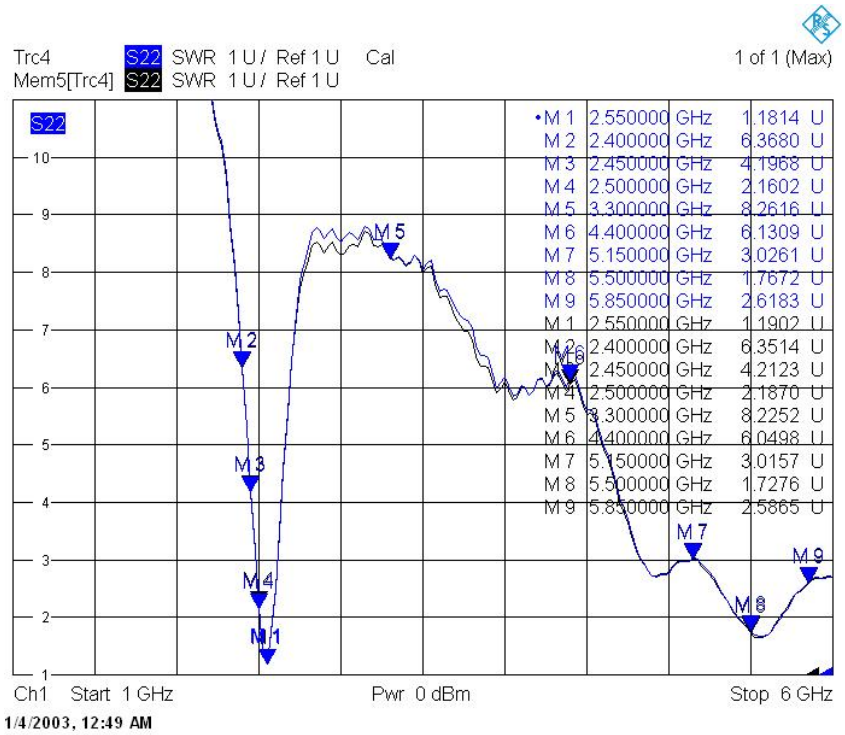
Test the environment: Temperature 22°C±3°C, humidity 50%±15%

Test the equipment: When testing passive data, use the network analyzer R&S ZND/ Agilent E5071C

When testing active data, use the Agilent 8960/CMW500/SP9500E/SP8315

3.3 S11 Test parameters

驻波比 VSWR

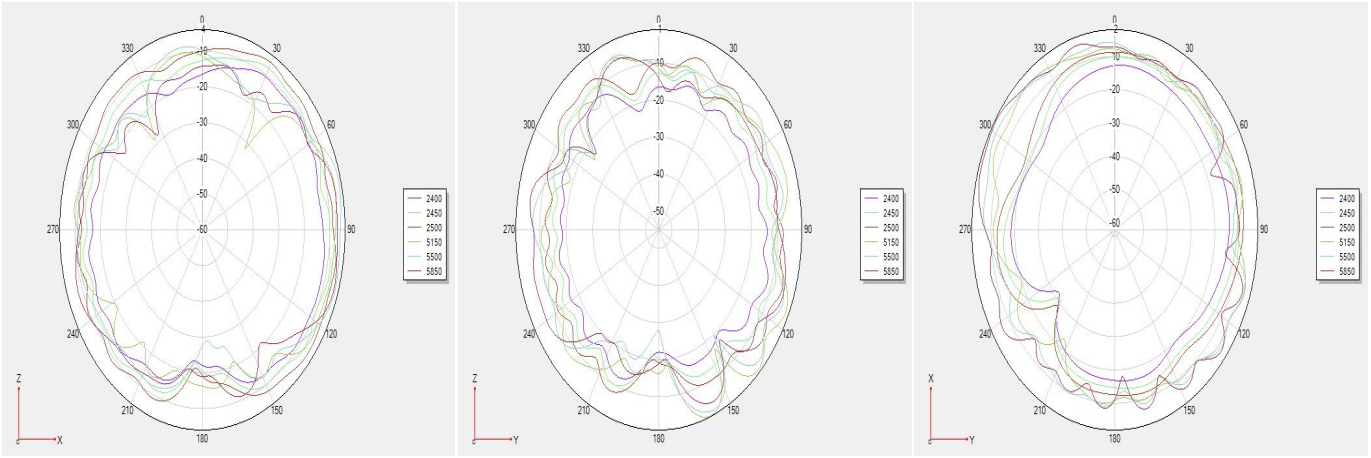


Antenna efficiency and gain

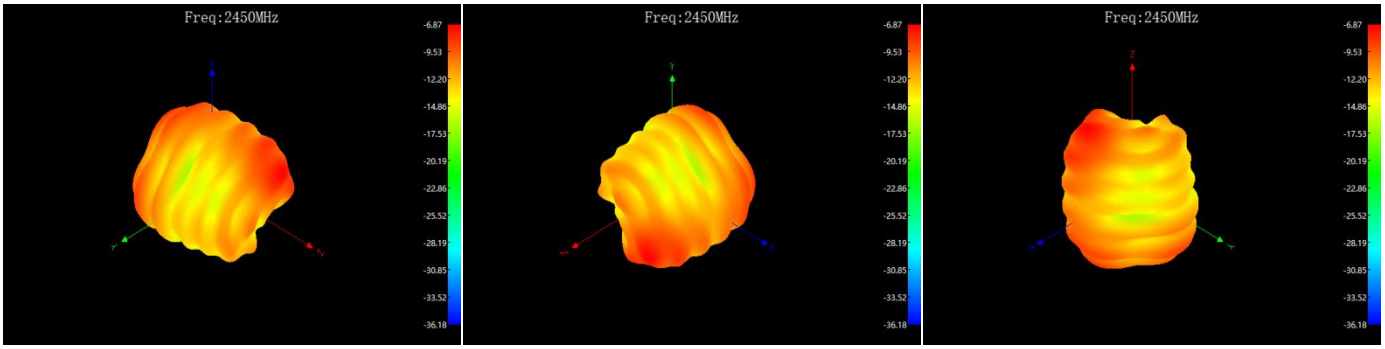
Freq (MHz)	Effi (%)	Gain (dB)
2400	23.08	0.19
2410	23.25	0.18
2420	23.94	0.19
2430	24.31	0.27
2440	24.73	0.64
2450	24.62	0.9
2460	25.21	0.66
2470	25.08	0.5
2480	25.53	0.23
2490	26.55	0.52
2500	26.14	0.65

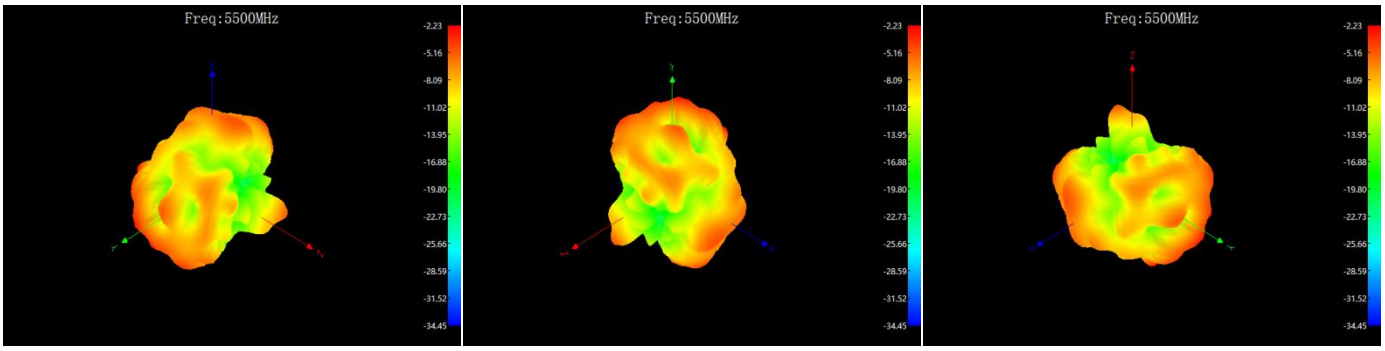
Freq (MHz)	Effi (%)	Gain (dB)
5100	22.27	0.74
5150	21.83	0.78
5200	21.94	0.18
5250	22.05	0.68
5300	21.09	0.39
5350	22.11	0.89
5400	22.82	0.18
5450	22.65	0.38
5500	24	0.52
5550	23.84	0.56
5600	24.62	0.66
5650	24.03	0.41
5700	23.09	0.54
5750	23.24	0.52
5800	23.03	0.71
5850	23.97	0.58

Passive direction diagram



Radiation Apple Figure





4. Environmental treatment methods

No design

5. Standard for mass production antennas

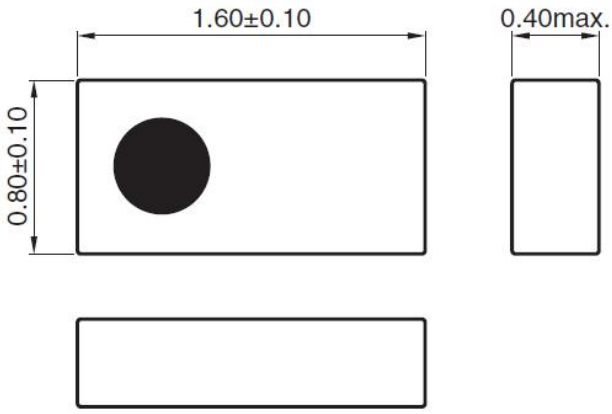
When the antenna is mass-produced, the VSWR is used as the mass production test standard.

According to the differences in the project itself, the following criteria are given:

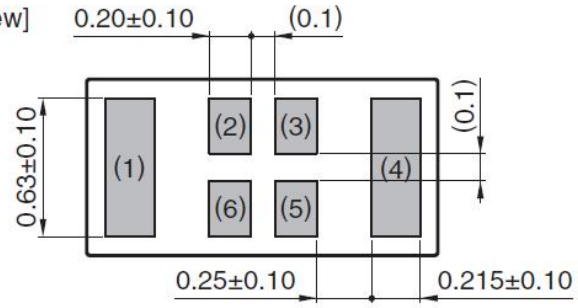
Freq. (MHz)	Mass production standards
1575.42	VSWR(Production performance)<VSWR(Confirmed performance)±0.5
2400~2500/5100~5850	VSWR(Production performance)<VSWR(Confirmed performance)±0.5

6. Antenna size

[Top view]



[Bottom view]



Terminal functions	
1	Radiator electrode for 2.4GHz ISM
2	Feed point
3	Feed point
4	Radiator electrode for 5.5GHz
5	Feed point
6	Feed point

Dimensions in mm