

SUNNYWAY TECHNOLOGY(CHINA)

ANTENNA SPEC

Customer name: Newland Payment Technology		Entry name: U200
Working band:GPS+WIFI (2. 4/5. 8)		
Motherboard version:		
Sunnyway Material specification		
Specification type	Sunnyway number	Customer number
MAIN Antenna	SZ2523IB75	105040555

Revision history			
Date of preparation/change	Change content	Altered person	Edition
2025.09.05	New issue	Chen Min	A

Sunnyway Countersign column				
R&D	ME:	To examine:	QE:	Approval:
	RF:	To examine:		

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1. Project information

1.1 Mockup picture

2. Matching circuit

Antenna matching is not modified

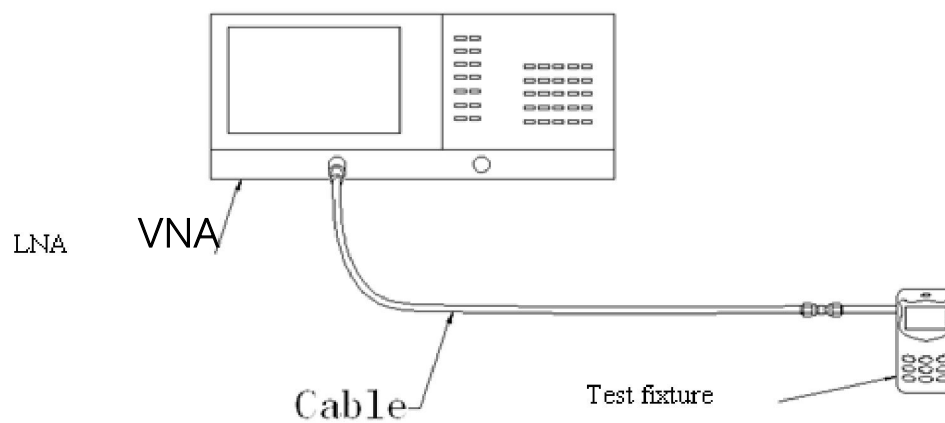
3. Antenna passive testing data

3.1 S11 Description of the test method

Test the equipment: Vector network analyzer (Agilent E5071C)

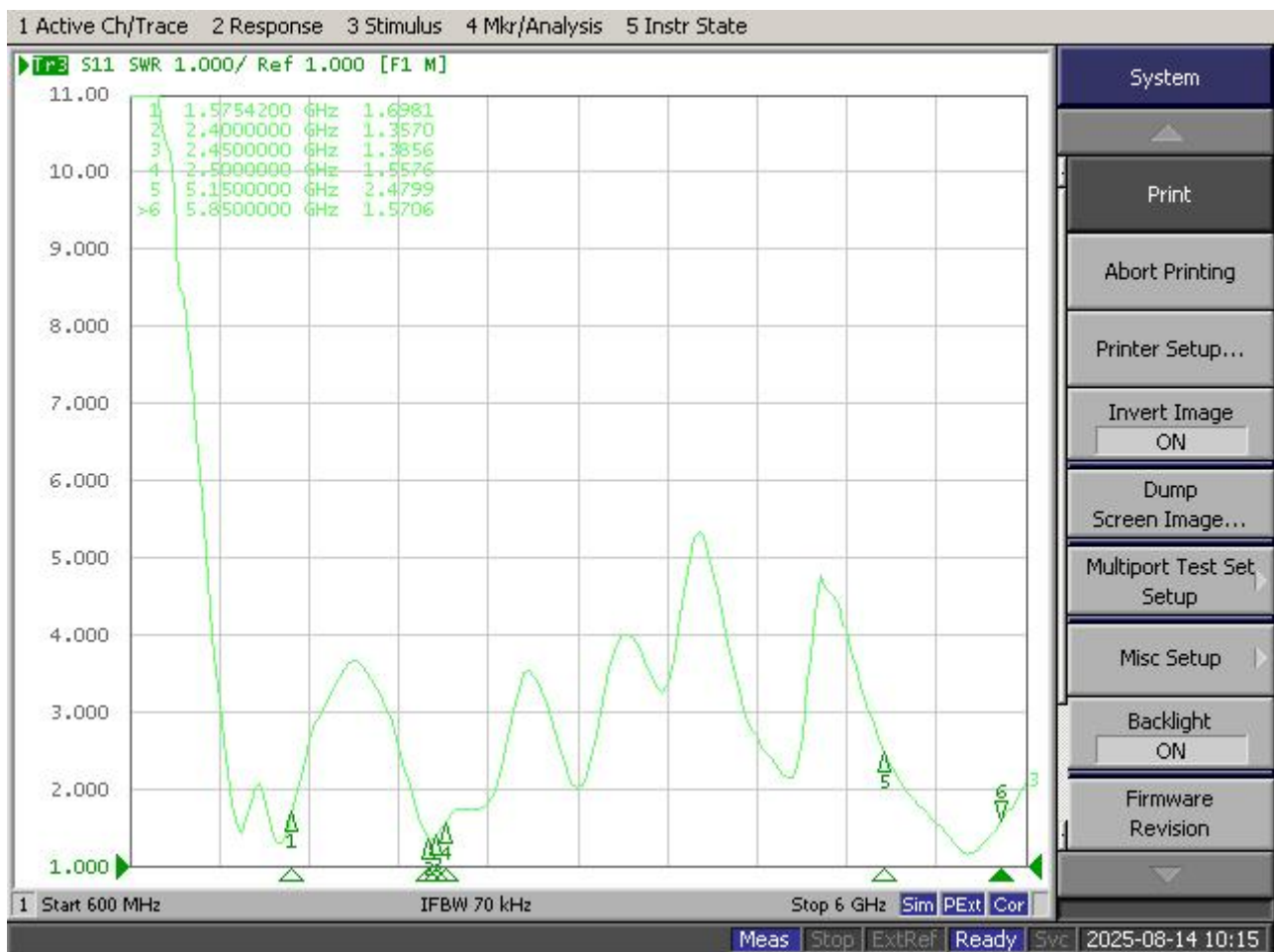
Test methodology: Use a 50 ohm CABLE cable to export from the instrument test port, use the calibration piece to calibrate and connect the SMA connector of the test fixture, and record the return loss and standing wave ratio corresponding to the relevant frequency point.

Below is a schematic picture of the test:



Test schematic diagram

3.2 S11 Test parameters



4. Antenna active testing data

4.1 Test the environment

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

Test the environment: Temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, humidity $50\% \pm 15\%$

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

OTA实验室



综测仪器



SP9500-CTS-5G



CMW500



SP8315 NB-IoT
/eMTC

其他设备



OTA head hand



OTA ear hand



OTA arm hand

4.2 OTA Active test data

2.4G	信道	TRP	TIS
802.11b 11mbps	1	12.13	-80.98
	7	12.2	-81.68
	13	11.56	-80.84
802.11g 54mbps	1	12.53	-68.01
	7	12.3	-69.1
	13	12.7	-68.5
802.11n MCS7	1	12.41	-63.56
	7	12.45	-65.39
	13	11.83	-62.86

5G	信道	TRP	TIS
802.11a 54mbps	36	10.15	-66.97
	149	12.11	-68.23
	165	10.86	-66.59
802.11n MCS7	36	10.45	-62.47
	149	12.61	-64.95
	165	10.18	-64.23

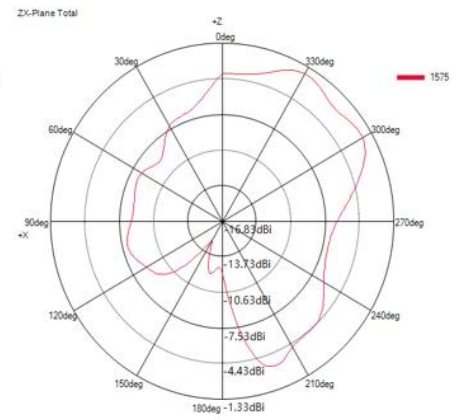
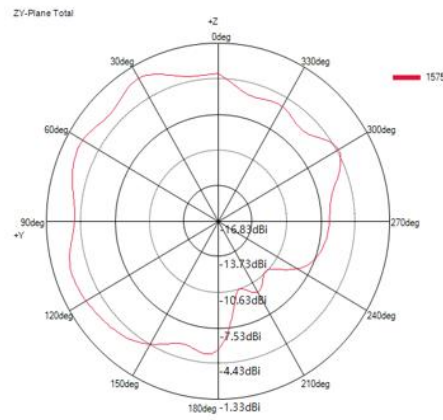
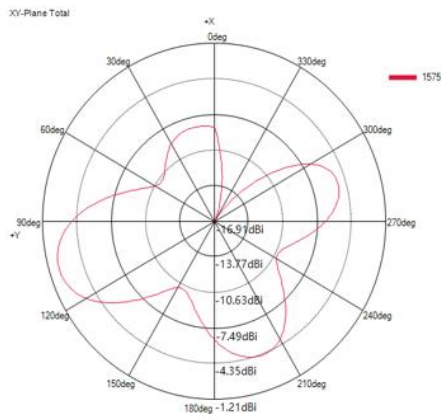
4.2 Passive test data

Freq	Effi	Gain
(MHz)	(%)	(dBi)
1570	33.4	-1.46
1571	33.42	-1.46
1572	33.48	-1.44
1573	33.61	-1.41
1574	33.7	-1.37
1575	33.86	-1.34
1576	33.96	-1.31
1577	34.12	-1.28
1578	34.21	-1.26
1579	34.36	-1.24
1580	34.43	-1.22

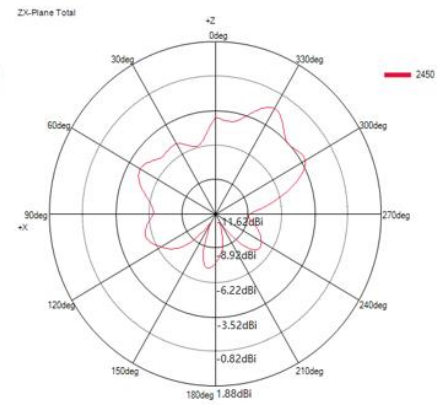
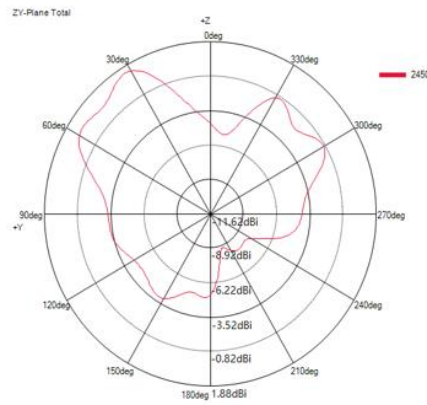
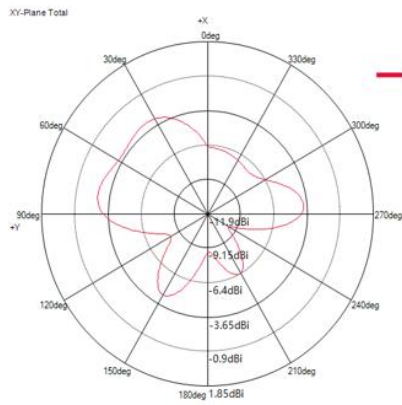
Freq	Effi	Gain
(MHz)	(%)	(dBi)
2400	42.92	1.56
2410	43.3	1.64
2420	42.85	1.6
2430	42.65	1.67
2440	42.58	1.79
2450	41.74	1.79
2460	41.75	1.83
2470	41.92	1.82
2480	42.6	1.9
2490	42.19	1.9
2500	42.14	1.84

Freq	Effi	Gain
(MHz)	(%)	(dBi)
5150	33.64	-1.2
5200	33.32	-0.56
5250	34.85	-0.01
5300	34.42	0.25
5350	35.2	0.73
5400	37.7	1.31
5450	38.66	1.59
5500	38.34	1.76
5550	43.76	2.4
5600	43.22	2.49
5650	42.81	2.86
5700	41.3	2.84
5750	40.25	2.08
5800	40.57	2.51
5850	41.29	2.94

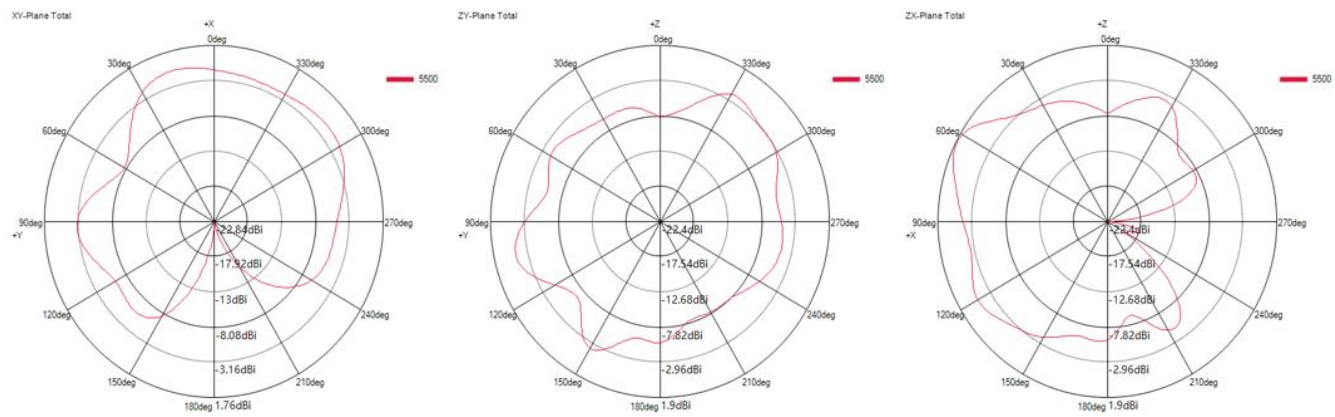
1575



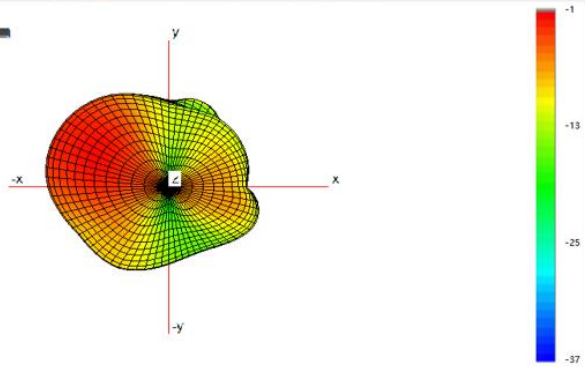
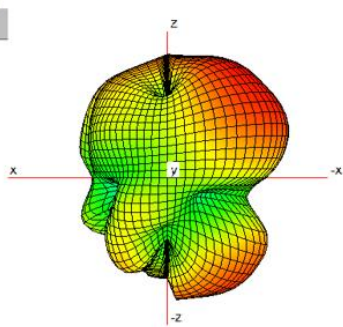
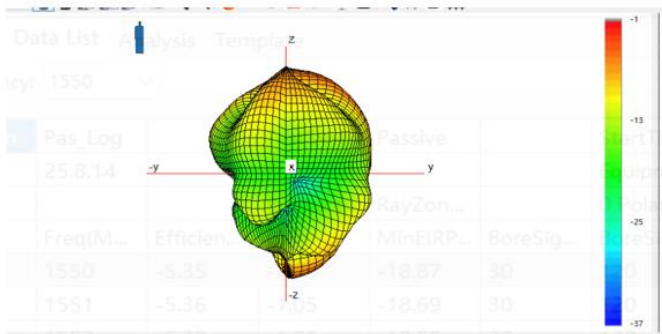
2450



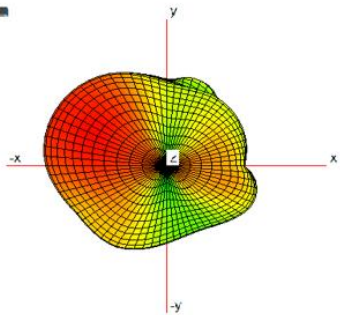
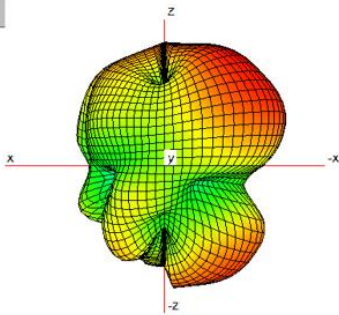
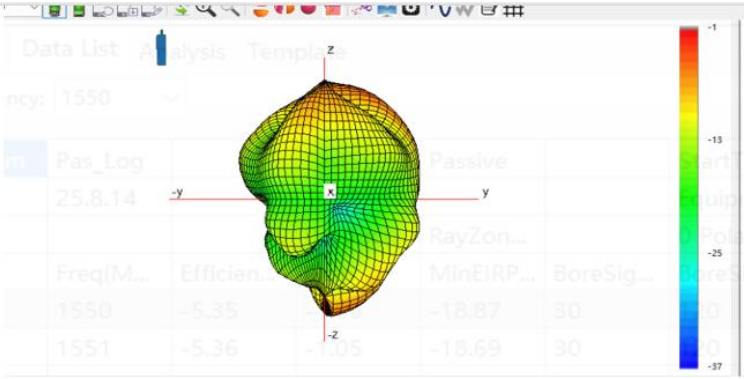
5500



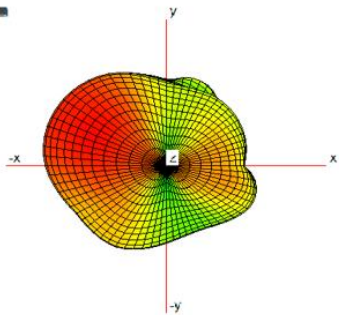
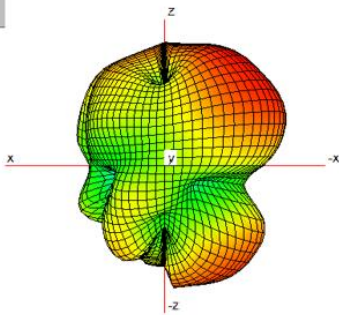
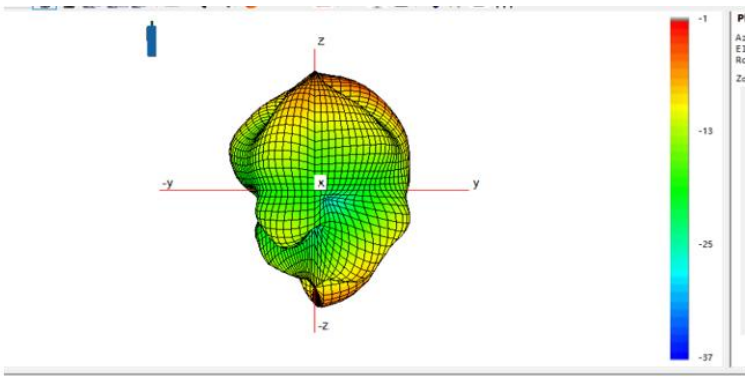
1575



2450



5500



5. Environmental treatment methods

6. 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±1.023	VSWR(Production performance)<VSWR(Confirmed performance)±0.5
2400-2500	VSWR (Production performance)<VSWR(Confirmed performance)±0.5
5150-5850	VSWR (Production performance)<VSWR(Confirmed performance)±0.5

7. Engineering drawings

