

Shanghai Sunnyway Communication Technology Co., Ltd

ANTENNA SPEC

Customer name: Orbbec Inc.		Entry name: OB2508
Working band: WiFi(2.4G/5G/6E)		
Motherboard version: /		
Sunnyway Material specification		
Specification type	Sunnyway number	Customer number
WIFI2 Antenna	01. SZ26068IB77	

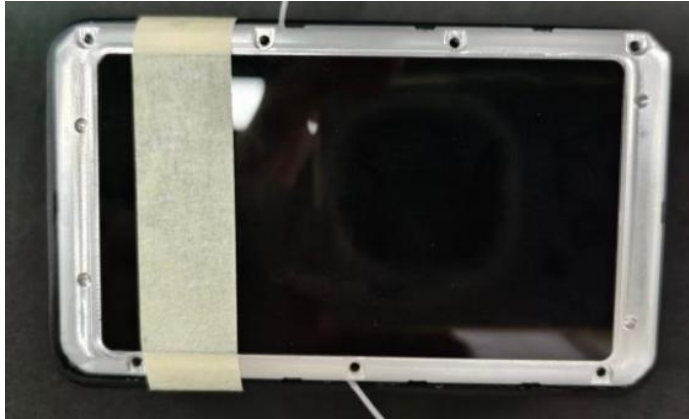
Revision history			
Date of preparation/change	Change content	Altered person	Edition
2026/4/22	New issue	Chen chan bin	A0

目录

ANTENNA SPEC	1
1. Project information	3
1.1 Mockup picture	3
2. Matching circuit.....	4
3. Antenna passive testing data	4
3.1 S11 Description of the test method	4
3.2 WIFI2-S11 Test parameters	4
3.3 WIFI2-Antenna efficiency and gain	5
4. Antenna active testing data	6
4.1 Test the environment	6
4.2 WIFI2-2D directional diagram	7
4.3 WIFI2-3D directional diagram	7
4.4.WIFITesting data.....	11
5. Environmental treatment methods.....	10
6. Standard for mass production antennas	10
7. Engineering drawings	11

1. Project information

1.1 Mockup picture



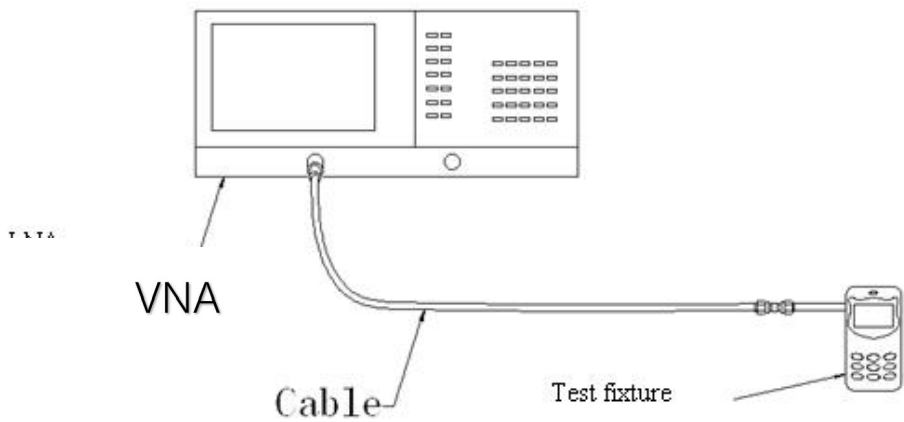
2. Matching circuit

The antenna matching has not been 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:

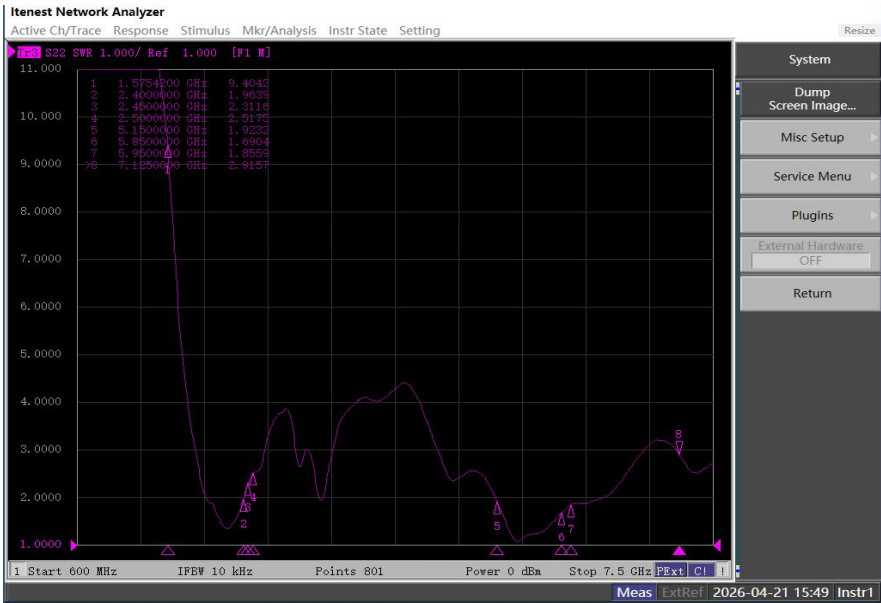


Test schematic diagram

3.2 WIFI2-S11 Test parameters

(Freq.) MHz	2400	2450	2500	5150	5850	5950	7125
VSWR	1.96	2.31	2.51	1.92	1.69	1.85	2.91

VSWR



3.3 WIFI2-Antenna efficiency and gain

Frequency/Mhz	MaxGain/dBi	Efficiency / %	Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	-2.83	32.84	5950	2.86	43.32
2410	-2.73	32.45	6000	2.97	43.78
2420	-2.57	32.27	6050	2.77	43.82
2430	-2.55	31.54	6100	2.51	43.7
2440	-2.31	31.8	6150	3.03	47.84
2450	-2.19	31.87	6200	2.72	45.29
2460	-2.13	31.97	6250	2.07	44.96
2470	-1.91	33.03	6300	1.84	42.37
2480	-1.95	33.34	6350	2.6	44.03
2490	-1.84	34.39	6400	2.51	43.75
2500	-1.81	35.35	6450	1.96	45.12
5150	1.08	43.01	6500	1.68	43.23
5200	1.27	47.55	6550	1.6	42.82
5250	1.19	50.28	6600	1.55	43.04
5300	1.05	48.71	6650	0.74	37.82
5350	0.8	45.42	6700	0.22	34.62
5400	1.14	47.93	6750	0.31	35.49
5450	0.95	46.15	6800	0.21	35.2
5500	0.54	37.88	6850	0.06	34.6
5550	1.28	40.04	6900	-0.28	32.57
5600	2.22	45.5	6950	-0.44	31.66
5650	2.1	42.61	7000	-0.09	32.67
5700	1.94	43.07	7050	0	33.13
5750	2.09	43.01	7100	0.19	34.36
5800	2.65	46.75	7125	0.23	34.36
5850	3.08	48.95			

4. Antenna active testing data

4.1 Test the environment

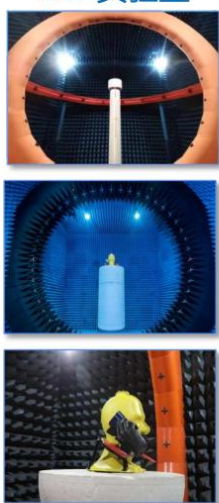
Test the system: Multi-probe OTA measurement system (XH-IoT)

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

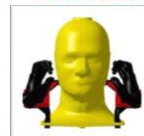


CMW500



SP8315 NB-IoT
/eMTC

其他设备



OTA head hand

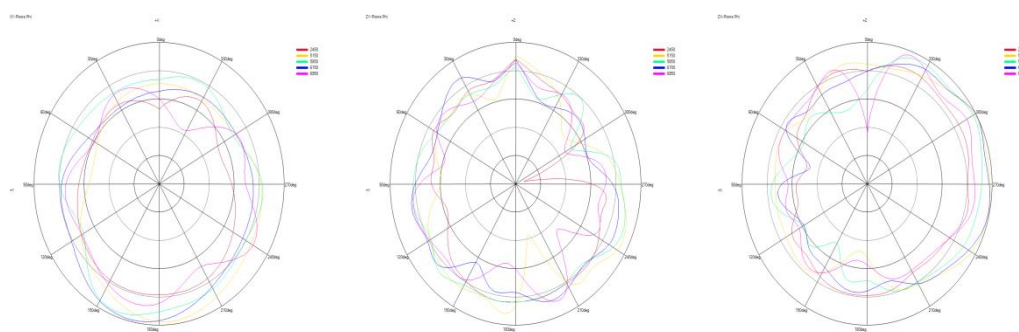


OTA ear hand



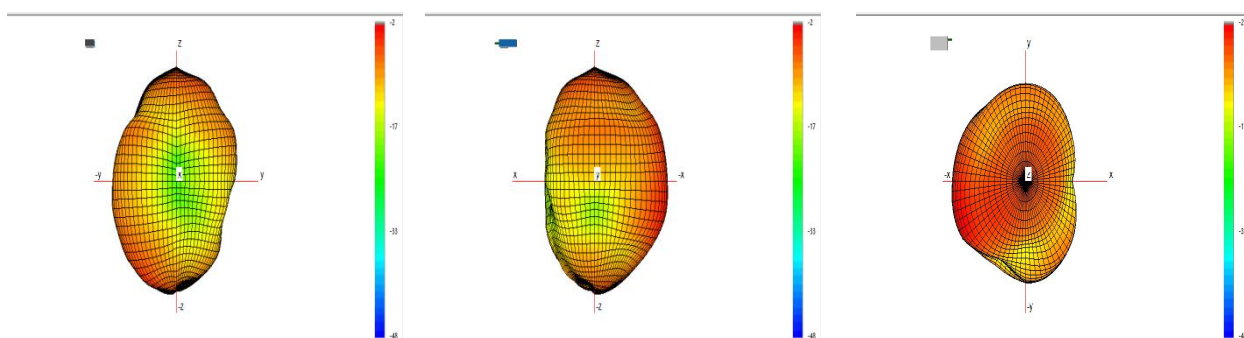
OTA arm hand

4.2 WIFI2-2D directional diagram

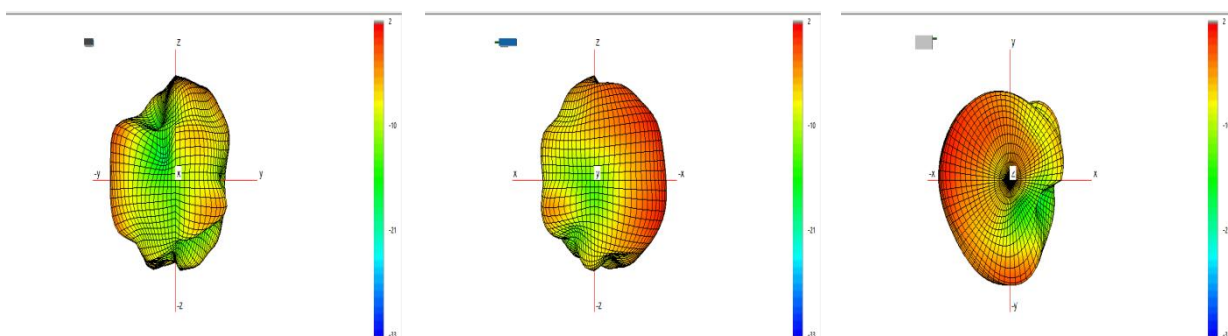


4.3 WIFI2-3D directional diagram

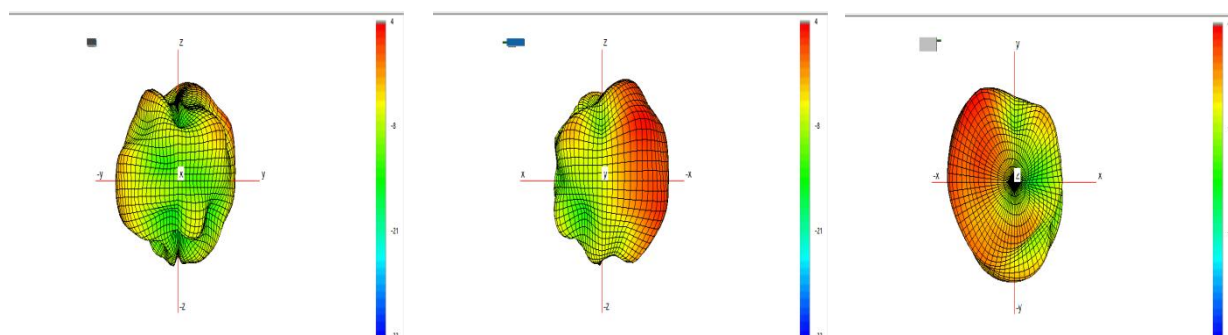
Freq: 2450MHz



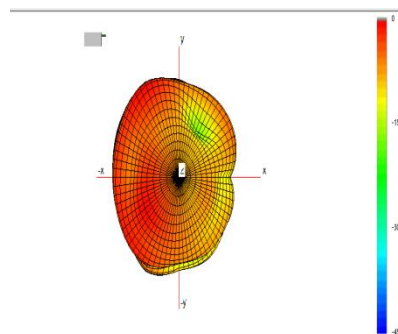
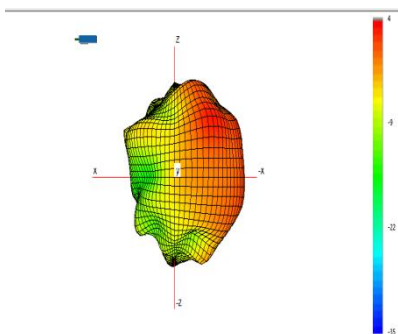
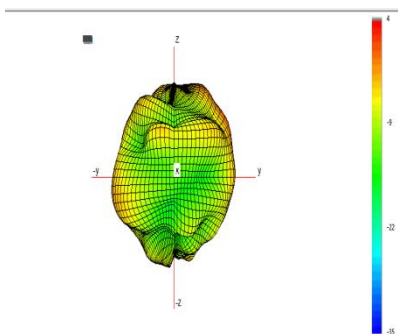
Freq: 5150MHz



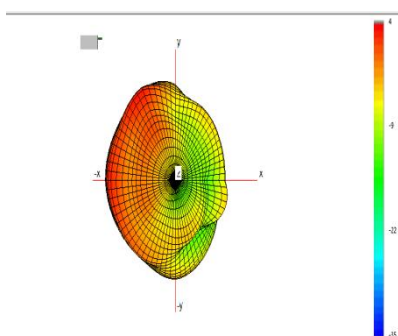
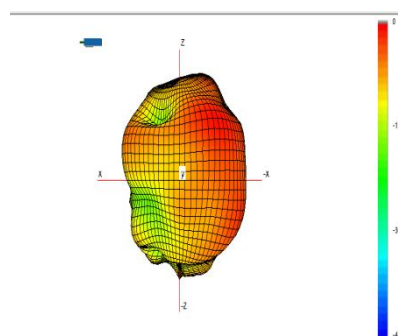
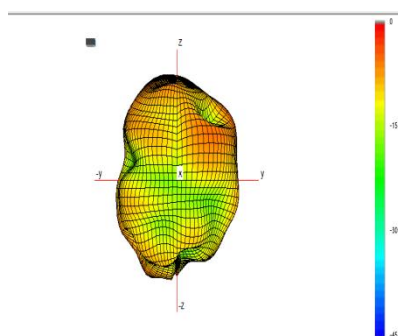
Freq: 5850MHz



Freq: 6150MHz



Freq: 6950MHz



4.4.WIFI Testing data

Band	Channel	TRP(dBm)
802.11g	1	13.75
802.11g	6	13.93
802.11g	11	13.8
802.11g	1	-69.83
802.11g	6	-68.41
802.11g	11	-71.5
802.11a	36	14.09
802.11a	64	14.21
802.11a	149	14.79
802.11a	165	14.83
802.11a	36	-70.92
802.11a	64	-70.82
802.11a	149	-70.83
802.11a	165	-70.84

Band	Channel	TRP(dBm)
802.11ax	36	14.99
802.11ax	64	14.17
802.11ax	100	14.59
802.11ax	149	14.21
802.11ax	165	14.16
802.11ax	36	-59.24
802.11ax	64	-58.19
802.11ax	100	-57.42
802.11ax	149	-58.05
802.11ax	165	-57.98
802.11ax6e	5	12.92
802.11ax6e	117	10.13
802.11ax6e	121	12.17
802.11ax6e	221	11.9
802.11ax6e	5	-59.33
802.11ax6e	117	-55.96
802.11ax6e	121	-55.74
802.11ax6e	221	-55.23

5. Environmental treatment methods

No additional environmental treatment was added

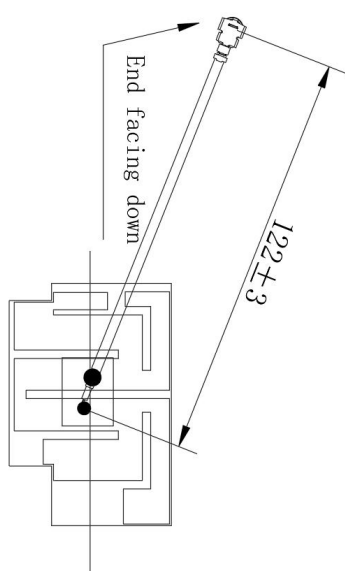
6. Standard for mass production antennas

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
2400-2500	$VSWR(\text{Production performance}) < VSWR(\text{Confirmed performance}) \pm 0.5$
5150-5850	$VSWR(\text{Production performance}) < VSWR(\text{Confirmed performance}) \pm 0.5$
5950-7125	$VSWR(\text{Production performance}) < VSWR(\text{Confirmed performance}) \pm 0.5$

7. Engineering drawings



	OSP antioxidant zone
	Pattern zone
	Release paper area

1. Packaging requirements for shipment: (Single PCS shipment)
2. Apply black matte ink on the surface of the copper pool;
3. The ink should be uniform;
4. The size with the “*” symbol is the key size;
5. 3M 467MP for adhesive backing;
6. Use PI half in half for the substrate;
7. OSP treatment, welding of coaxial lines;
8. Undeclared chamfers are all 0.2, and the process edge is 0.2mm;
9. Unmarked tolerances shall be in accordance with the general tolerance table;
10. The product complies with RoHS2, REACH requirements.

5	6	7
版本	修改内容	修改人 日期

3	FPC		BLACK	1
2	Coaxial line	φ 1.13MM length 110MM	BLACK	1
1	Terminal	ECT818000501	Golden	1
序号	名称	规格说明	Colour	Dosage
				notes

商 远 科 技 (中 国) 有 限 公 司			
			
TOLERANCE X.X ±0.20 .XX ±0.10 .XXX±0.05 ANGULAR $\leq \pm 0.5^\circ$	PART NAME: WIFI2 ANT (0B2508)	DATE: 2026-04-22	
PART NO: SZ260681B77	DRAWN: Xuwei		
MATERIAL: PPC+Coaxial line	CHECKED:		
FINISHING:	APPROVED:		
UNIT: mm	COLOUR: BLACK	SCALE: 1:1	REV: TA