

Antenna Specification

Customer: apical Technology

Project Name: jade

Report Number: SZ24664IB77

Manufacturer: Sunnyway Technology(CHINA)

Address: Floor 6, Building 5, Nam Tai Inno Park, Guangming District, Shenzhen

Report version: 3.25, 2025

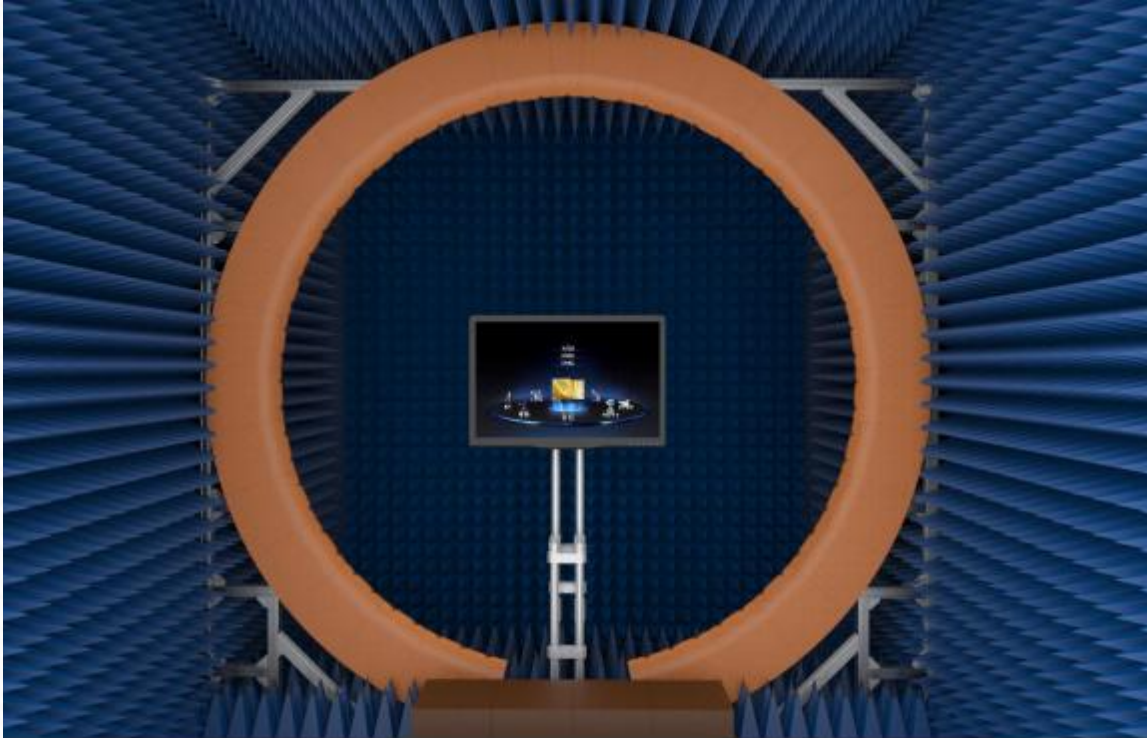
Author:

Version	Report date	Remark
A0	2025.03.25	Latest test data
A1		
A2		
A3		
A4		
A5		
A6		
A7		
A8		
A9		

1. Record.....	2
2. Project Overview	4
3. Equipment List.....	5
4. Project pictures and Passive fixturs.....	6
5. Matching Circuit	7
6. WIFI Passive data	8
7. WIFI Active data	9
8Antenna environmental	10
11. Summary	11

Prototype status	Debugging machine
Device type	car recorder
Number of antennas	WIFI antenna
Frequency band	2.4 WIFI
Structural style	FPC
Environment adjustment	No change
Matching modification	No change

Equipment List



The industry's top 64 sensors OTA chamber

Frequency range: 400MHz-11GHz

Device Llimitation: 2M

Load-bearing limitation:100KG

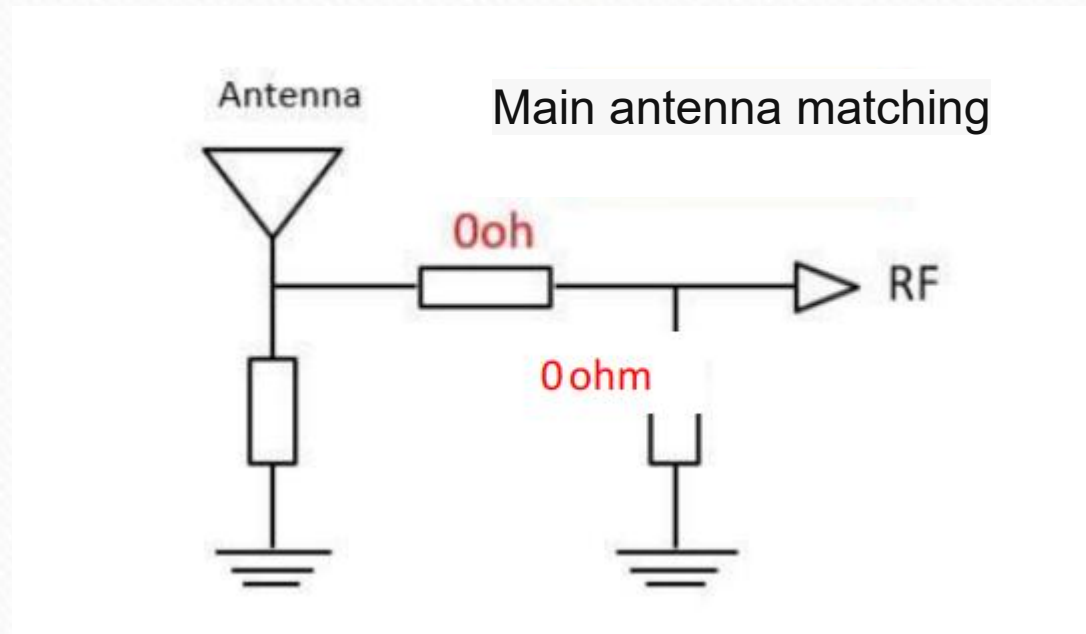
Equipments Items	Total Quantity	Quantity for Shanghai R&D	Quantity for Shenzhen R&D	Quantity for ChongQing R&D
OTA chamber	10	4	5	1
5G Tester（SP9500-CTS）	3	1	1	1
R&S Tester（high configuration CMW500）	6	3	2	1
Japan Anritsu Tester（Dual Channel 8820）	4	2	2	--
NB-IoT Tester (SP8315)	3	1	1	1
Agilent Tester（8960）	9	4	4	--
Agilent Network Analyzer（E5062A）	7	3	3	1
Agilent Network Analyzer（E5071C 8.5GHZ）	11	5	5	1
Agilent Network Analyzer（E5071B 8.5GHZ）	7	3	3	1
R&S Network Analyzer（ZND）	9	4	4	1
R&S Network Analyzer（ZVB）	3	1	1	1
OTA head hand / ear hand / arm hand	5	2	2	1
GPS/WIFI active test equipment	5	2	2	1

WIFI antenna/Antenna size



WIFI Antenna type: FPC antenna

WIFI Antenna model: SZ24664IB77



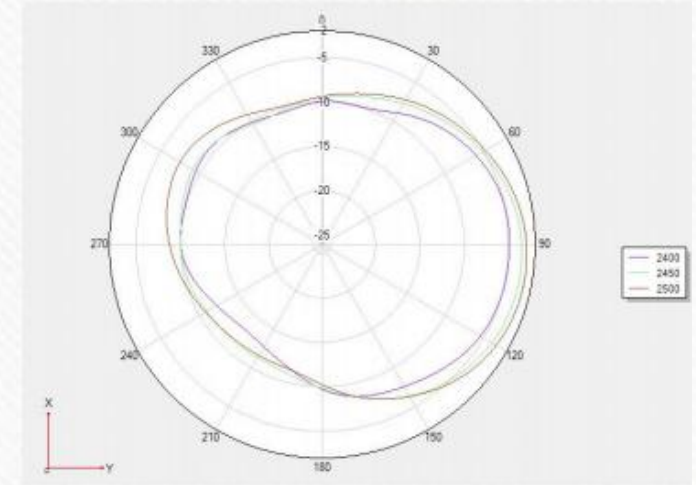
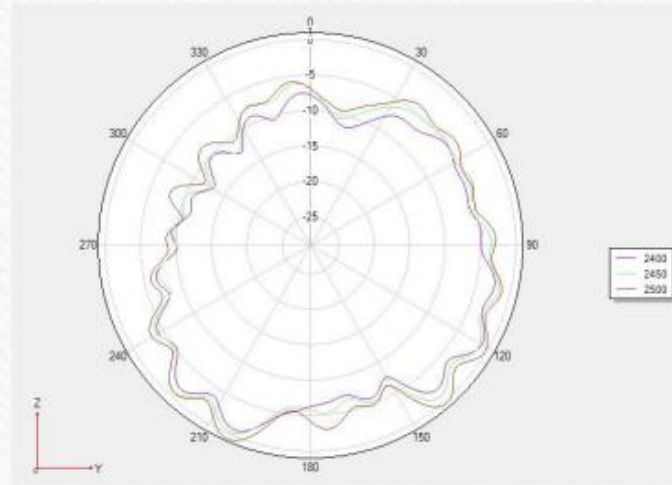
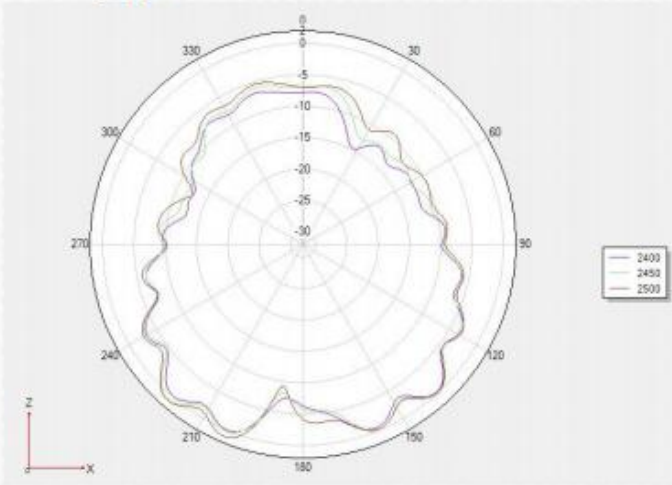
The motherboard matching has not been changed

S11-VSWR

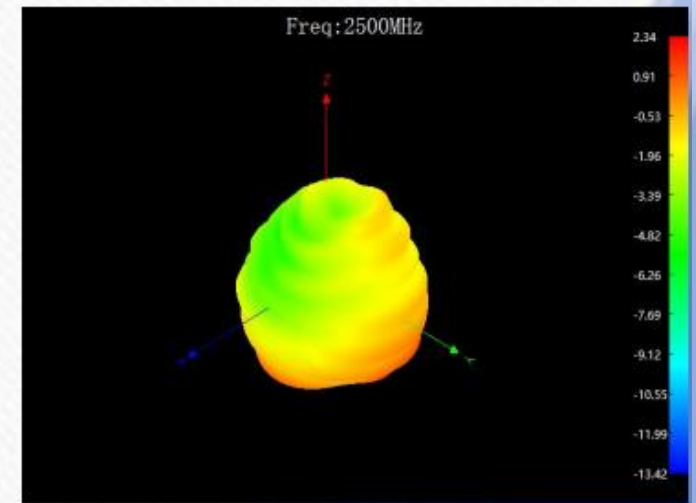
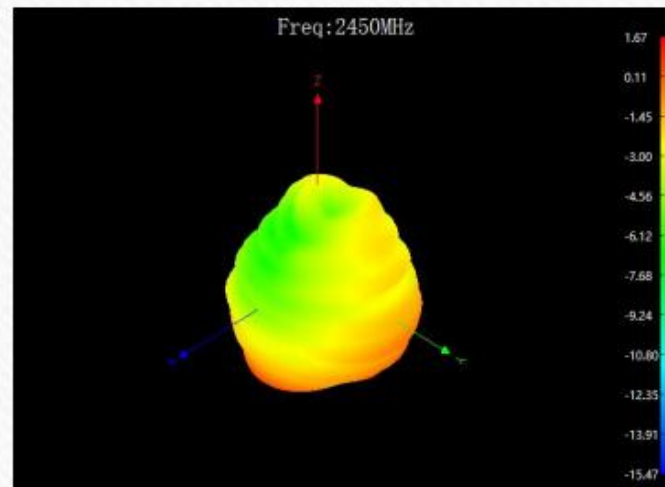
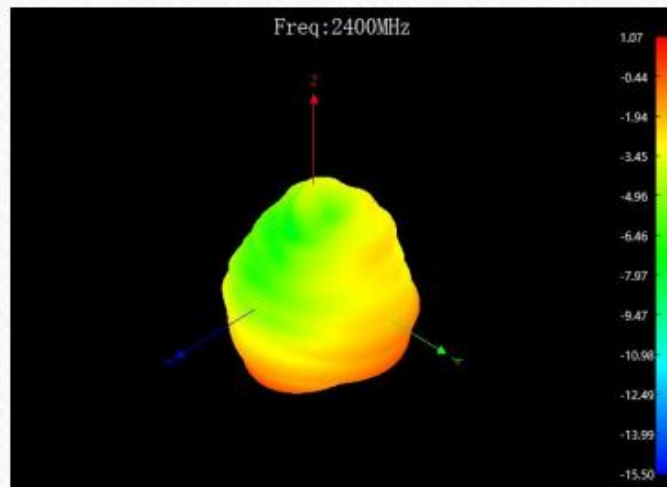


Frequency/Mhz	Efficiency / dB	Efficiency / %	MaxGain/dBi
2400	-4.17	43.28	1.07
2410	-4.4	41.31	1.54
2420	-4.68	40.04	0.42
2430	-4.55	40.08	1.13
2440	-4.45	40.89	0.89
2450	-4.21	42.93	1.67
2460	-4.17	43.28	1.33
2470	-3.97	45.09	1.94
2480	-3.99	45.9	1.86
2490	-3.92	45.55	2.32
2500	-3.94	45.36	2.34

2D



3D



WIFI Active data

Measurement	Standard	Band	Channel	Frequency	Total
TRP	WIFI (AP)	WIFI_B (1M)	1	2412	16.98
TRP	WIFI (AP)	WIFI_B (1M)	6	2437	18.31
TRP	WIFI (AP)	WIFI_B (1M)	7	2442	18.57
TRP	WIFI (AP)	WIFI_B (1M)	11	2462	18.22
TIS(EIRP)	WIFI (AP)	WIFI_B (11M)	1	2412	-87.03
TIS(EIRP)	WIFI (AP)	WIFI_B (11M)	6	2437	-86.44
TIS(EIRP)	WIFI (AP)	WIFI_B (11M)	7	2442	-86.82
TIS(EIRP)	WIFI (AP)	WIFI_B (11M)	11	2462	-89.7
TRP	WIFI (AP)	WIFI_G (6M)	1	2412	18.49
TRP	WIFI (AP)	WIFI_G (6M)	6	2437	19.35
TRP	WIFI (AP)	WIFI_G (6M)	7	2442	19.46
TRP	WIFI (AP)	WIFI_G (6M)	11	2462	19.43
TIS(EIRP)	WIFI (AP)	WIFI_G (54M)	1	2412	-72.47
TIS(EIRP)	WIFI (AP)	WIFI_G (54M)	6	2437	-70.34
TIS(EIRP)	WIFI (AP)	WIFI_G (54M)	7	2442	-70.51
TIS(EIRP)	WIFI (AP)	WIFI_G (54M)	11	2462	-74.42
TRP	WIFI (AP)	WIFI_N_ISM (6.5M)	1	2412	17.79
TRP	WIFI (AP)	WIFI_N_ISM (6.5M)	6	2437	18.59
TRP	WIFI (AP)	WIFI_N_ISM (6.5M)	7	2442	18.35
TRP	WIFI (AP)	WIFI_N_ISM (6.5M)	11	2462	18.65
TIS(EIRP)	WIFI (AP)	WIFI_N_ISM (65M)	1	2412	-72.87
TIS(EIRP)	WIFI (AP)	WIFI_N_ISM (65M)	6	2437	-70.49
TIS(EIRP)	WIFI (AP)	WIFI_N_ISM (65M)	7	2442	-70.03
TIS(EIRP)	WIFI (AP)	WIFI_N_ISM (65M)	11	2462	-73.98
TRP	WIFI (AP)	WIFI_AX_ISM (8M)	1	2412	17.53
TRP	WIFI (AP)	WIFI_AX_ISM (8M)	6	2437	18.72
TRP	WIFI (AP)	WIFI_AX_ISM (8M)	7	2442	17.84
TRP	WIFI (AP)	WIFI_AX_ISM (8M)	11	2462	18.33
TIS(EIRP)	WIFI (AP)	WIFI_AX_ISM (8M)	1	2412	-91.46
TIS(EIRP)	WIFI (AP)	WIFI_AX_ISM (8M)	6	2437	-87.21
TIS(EIRP)	WIFI (AP)	WIFI_AX_ISM (8M)	7	2442	-86.94
TIS(EIRP)	WIFI (AP)	WIFI_AX_ISM (8M)	11	2462	-91.52



The current prototype has no battery and is connected to external power
Source test data

The above is the latest validation test data.

Thank You

Shanghai R&D Center: 1F, Building 4, No.99, Lane 215, Gaoguang Road, Qingpu District, Shanghai, 201799, PRC

Shenzhen R&D Center: Floor 6, Building 5, Nam Tai Inno Park, Guangming District, Shenzhen, 518057, PRC

ChongQing R&D Center: 1F, ARM Ecological Industrial Park, 19 East Datugu Road, Xiantao, Yubei District, Chongqing, 401120, PRC

Huizhou Factory: F4-6, Building 8, Xiongtao Tech Park, No.15, Qingli 2nd Rd, Huicheng Dist, Huizhou City, 516255, PRC

TEL: 021-60835368 E-mail: sales@sunnyway-iot.com

www.sunnyway-iot.com

