

# Antenna Specification

- 1.Customer : Apical**
- 2.Project Name : DR3500**
- 3.Antenna Manufacturer: Shenzhen ShangyuanTechnology Co., Ltd.**
- 4.Address: The 6th floor, Building 5, Nantaiyun Innovation Valley Center, Guangming District, Shenzhen City**

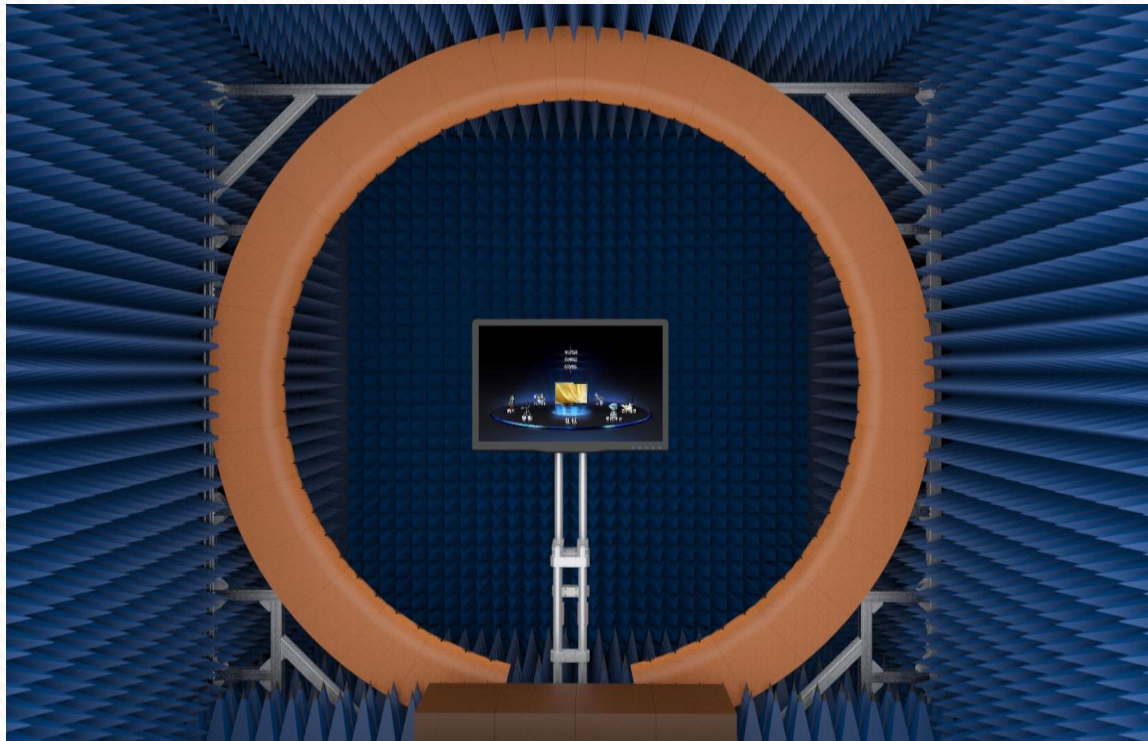
**Report version: July 25th, 2023 A0**

Version	Report date	Remark
A0	2023.07.25	Antenna test report
A1		
A2		
A3		
A4		
A5		
A6		
A7		
A8		
A9		

- 1. Record·····
- 2. Project Overview ·····
- 3. Equipment List·····
- 4. Antenna mounting position·····
- 5. Passive parameters ·····
- 6. Project picture and test Device·····
- 7. Passive efficiency and gain ·····
- 8. OTA test data ·····
- 9. Directional pattern ·····
- 10. Summary·····



Prototype status	Debugging machine	
Device type		
Number of antennas	WIFI antenna	
Frequency band	2G: N/A	
	3G: N/A	
	4G-LTE: N/A	
	5G-NR: N/A	
	WIFI 802.11 b/g/n	
Structural style	FPC	
Environment adjustment	No change	
Matching modification	No change	



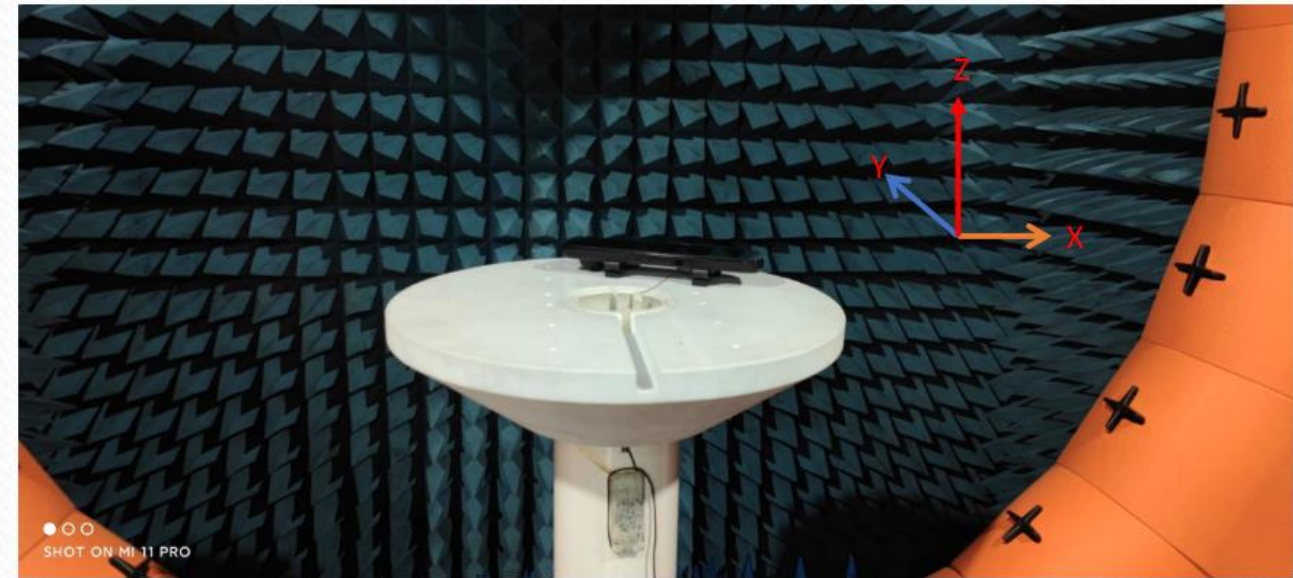
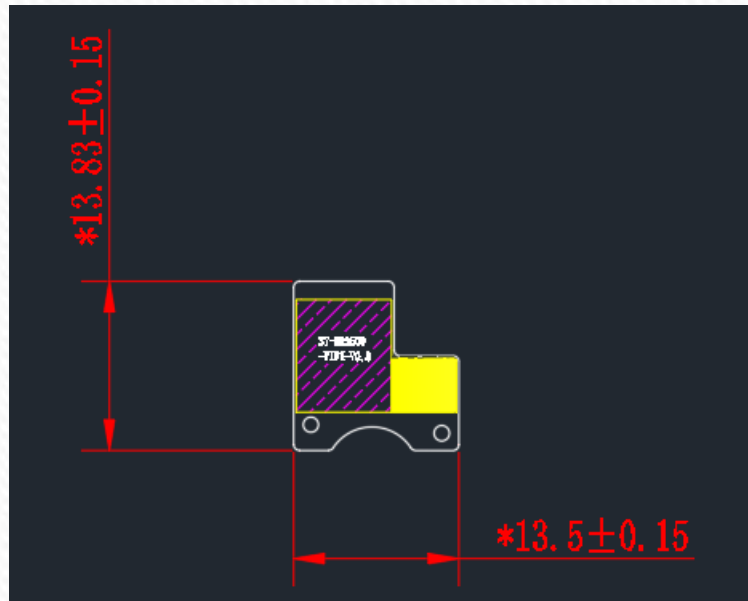
The industry's top 64 sensors OTA chamber

Frequency range: 400MHz-11GHz

Device Llimitation: 2M

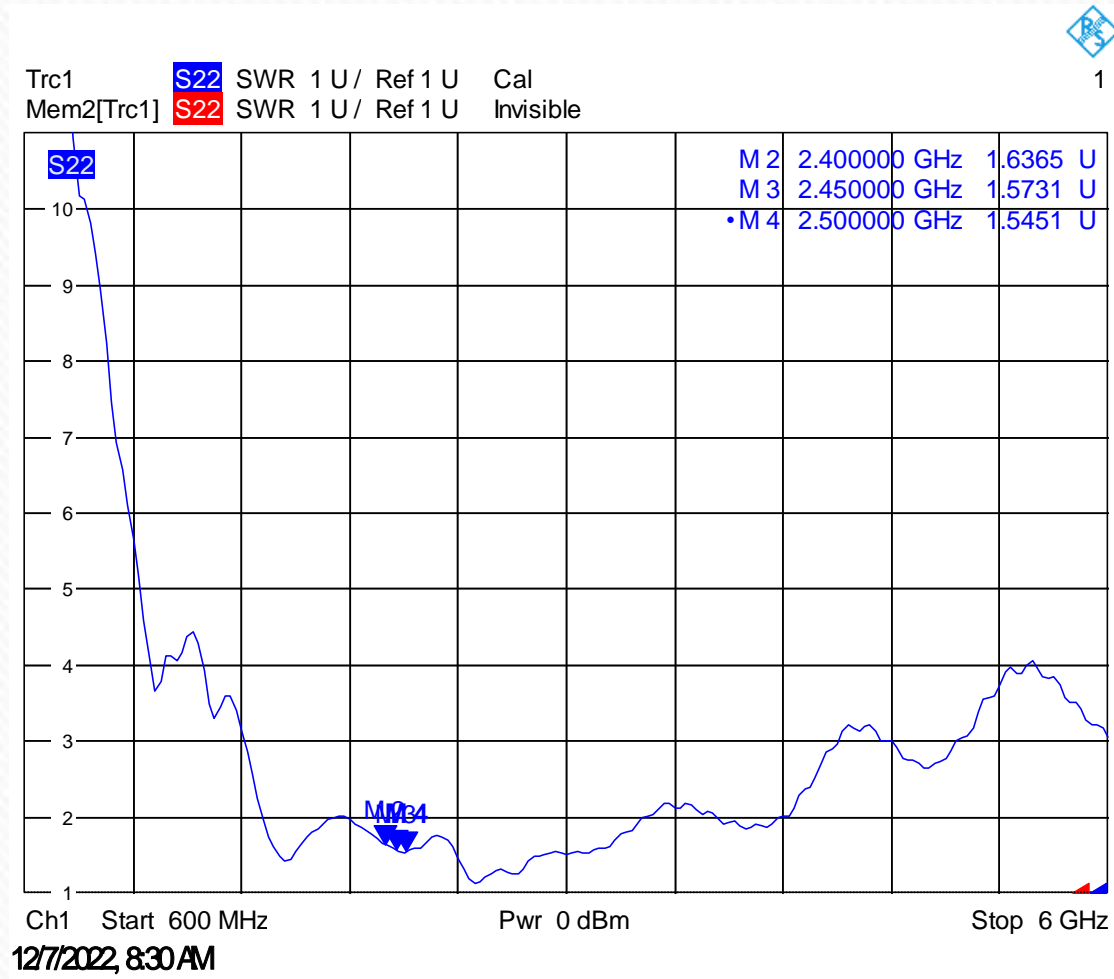
Load-bearing limitation:100KG

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





## VSWR

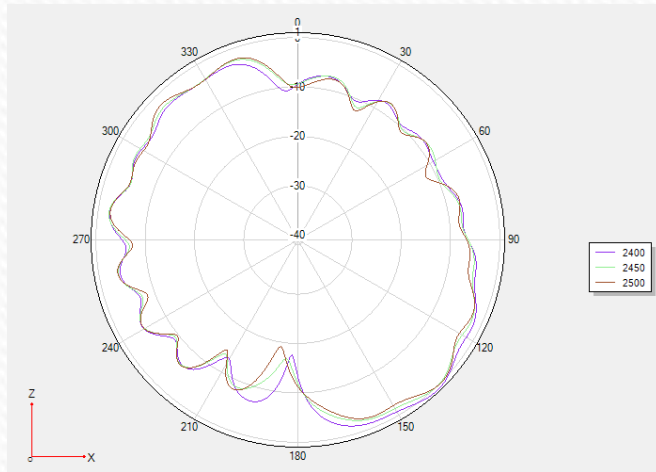


Frequency/Mhz	Efficiency / %	MaxGain/dBi
2400	40.73	2.83
2410	41.15	2.6
2420	43.19	2.51
2430	44.07	2.35
2440	45.9	2.15
2450	44.41	2.2
2460	43.99	1.71
2470	42.9	2.18
2480	42.11	1.93
2490	40.5	1.87
2500	39.14	1.8

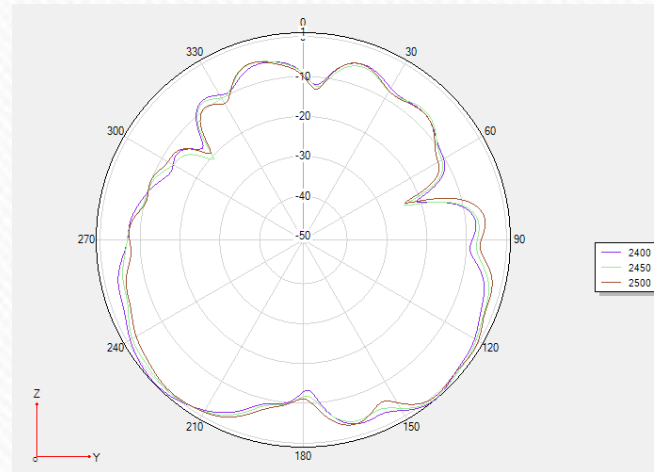


Measurement	Band	Channel	Frequency	Total
TRP	WIFI_B (11M)	1	2412	17.55
TRP	WIFI_B (11M)	7	2442	16.75
TRP	WIFI_B (11M)	13	2472	14.73
TIS(EIRP)	WIFI_B (11M)	13	2472	-85.12
TRP	WIFI_G (54M)	1	2412	15.87
TRP	WIFI_G (54M)	7	2442	15.24
TRP	WIFI_G (54M)	13	2472	13.55
TIS(EIRP)	WIFI_G (54M)	13	2472	-71.28
TRP	WIFI_N_ISM (65M)	1	2412	13.71
TRP	WIFI_N_ISM (65M)	7	2442	11.91
TRP	WIFI_N_ISM (65M)	13	2472	11.72
TIS(EIRP)	WIFI_N_ISM (65M)	13	2472	-67.56

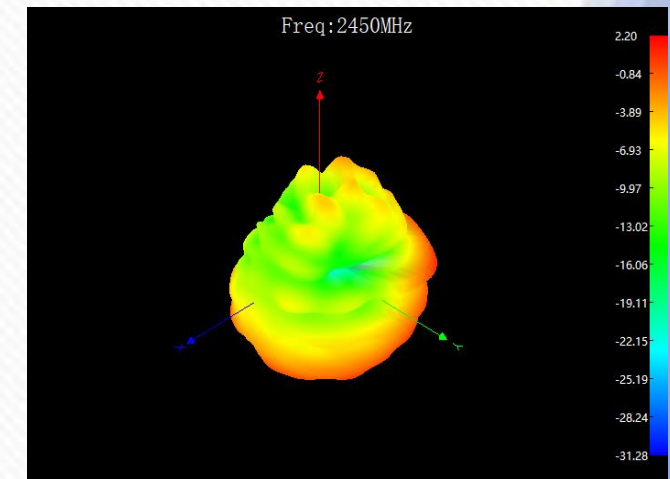
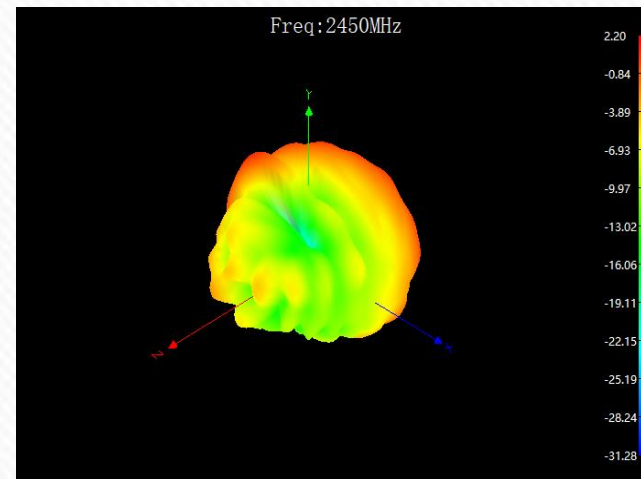
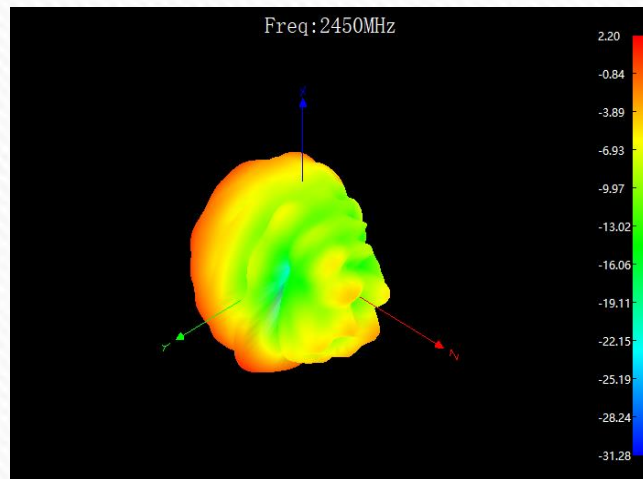
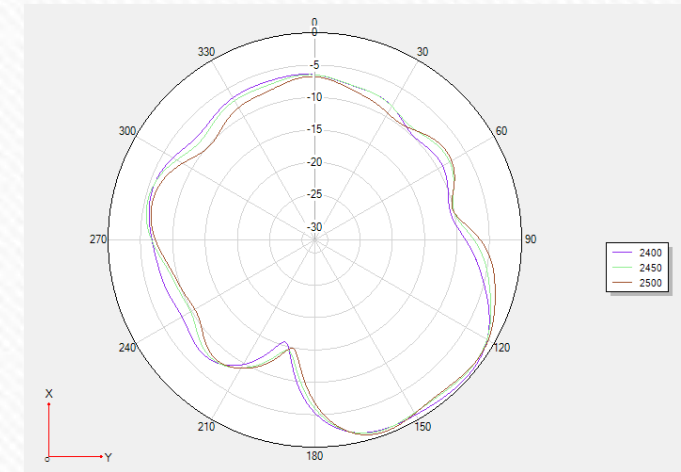
phi 0°



phi 90°



theta 90°



1. The antenna matching is not changed.
2. The antenna environment is not increased.
3. The antenna performance test is OK.



# Thank You

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

**Shenzhen R&D Center:** The 6th floor, Building 5, Nantaiyun Innovation Valley Center, Guangming District, Shenzhen City

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

**Huizhou Factory:** 4-5F, No.1, Central Village Road, Longhu Industrial Zone, Shuikou Town, Huicheng District, Huizhou, 516255, PRC

TEL: 021-60835368      E-mail: [sales@sunnyway-iot.com](mailto:sales@sunnyway-iot.com)

[www.sunnyway-iot.com](http://www.sunnyway-iot.com)

