

# Antenna Testing Report

**Customer :** Apical

**Project Name :** 3513

**Report Number:**

**Manufacturer:** Sunnyway Technology(CHINA)

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

**Report version:** February01, 2024

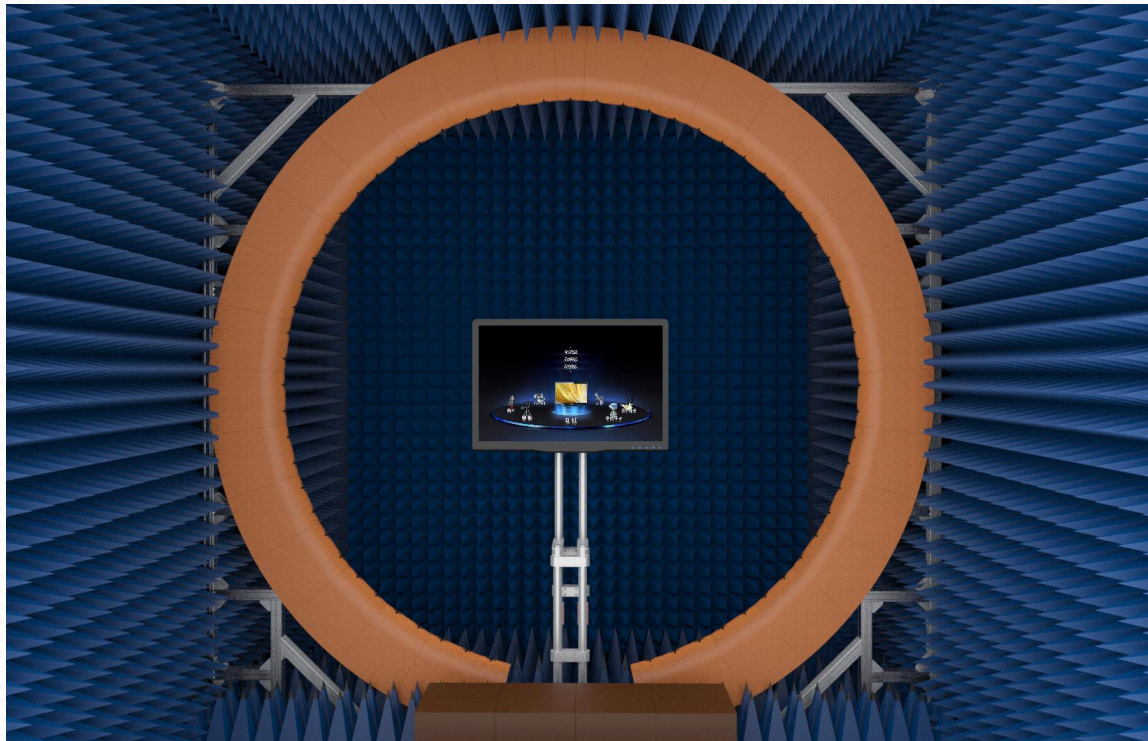
**Author:** Wen long sun

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Prototype status	Debugging machine
Device type	car recorder
Number of antennas	WIFI antenna
Frequency band	802.11b/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

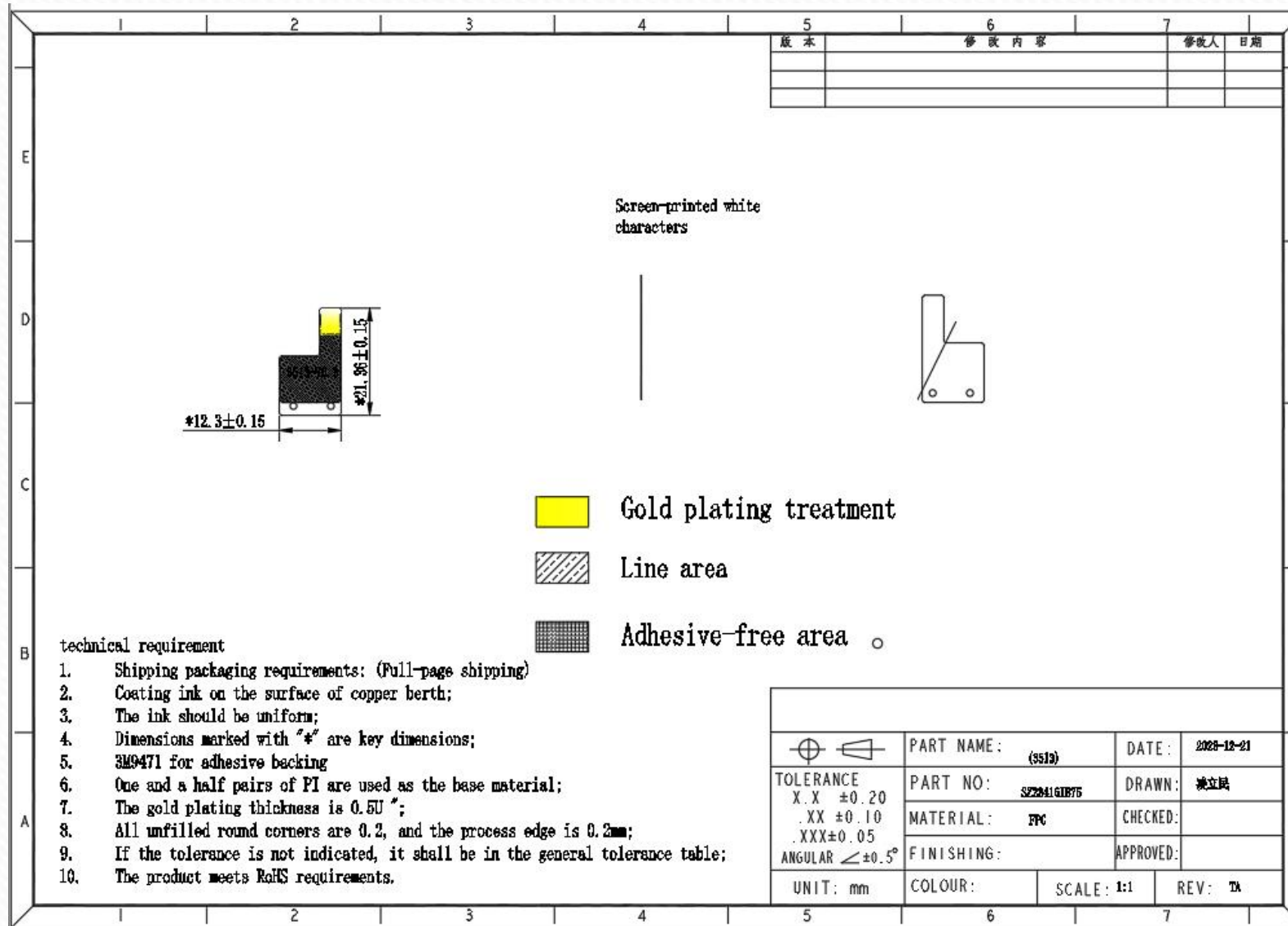
Device Llimitation: 2M

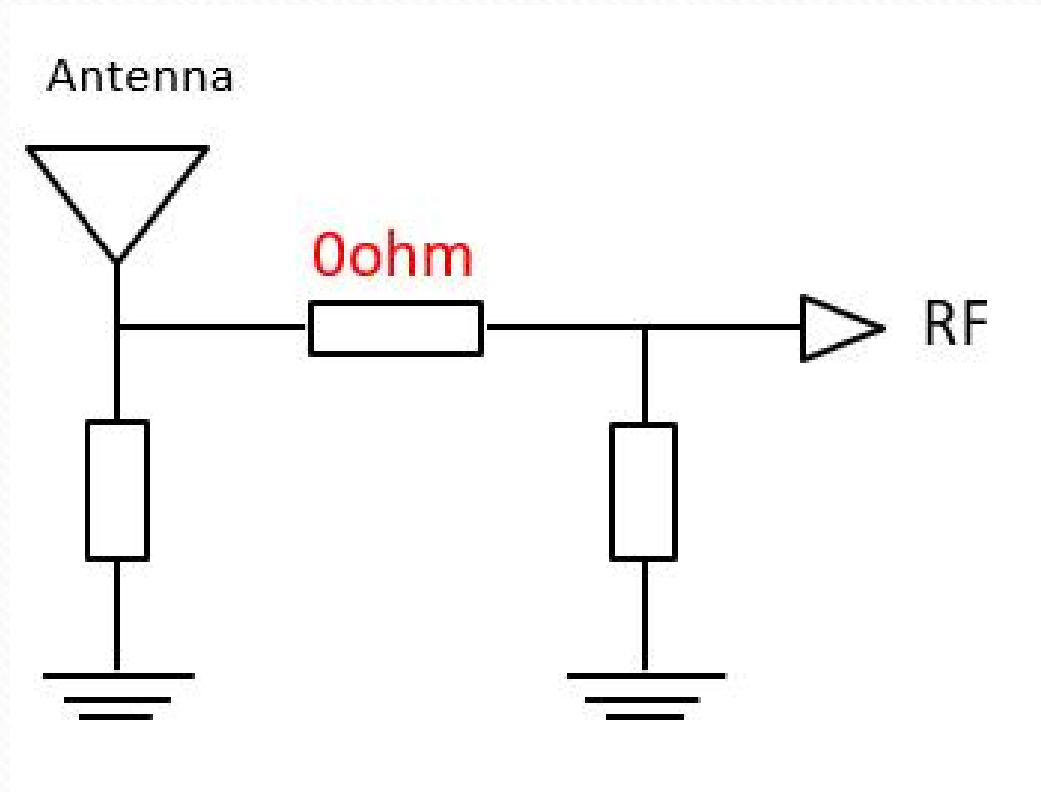
Load-bearing limitation:100KG

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





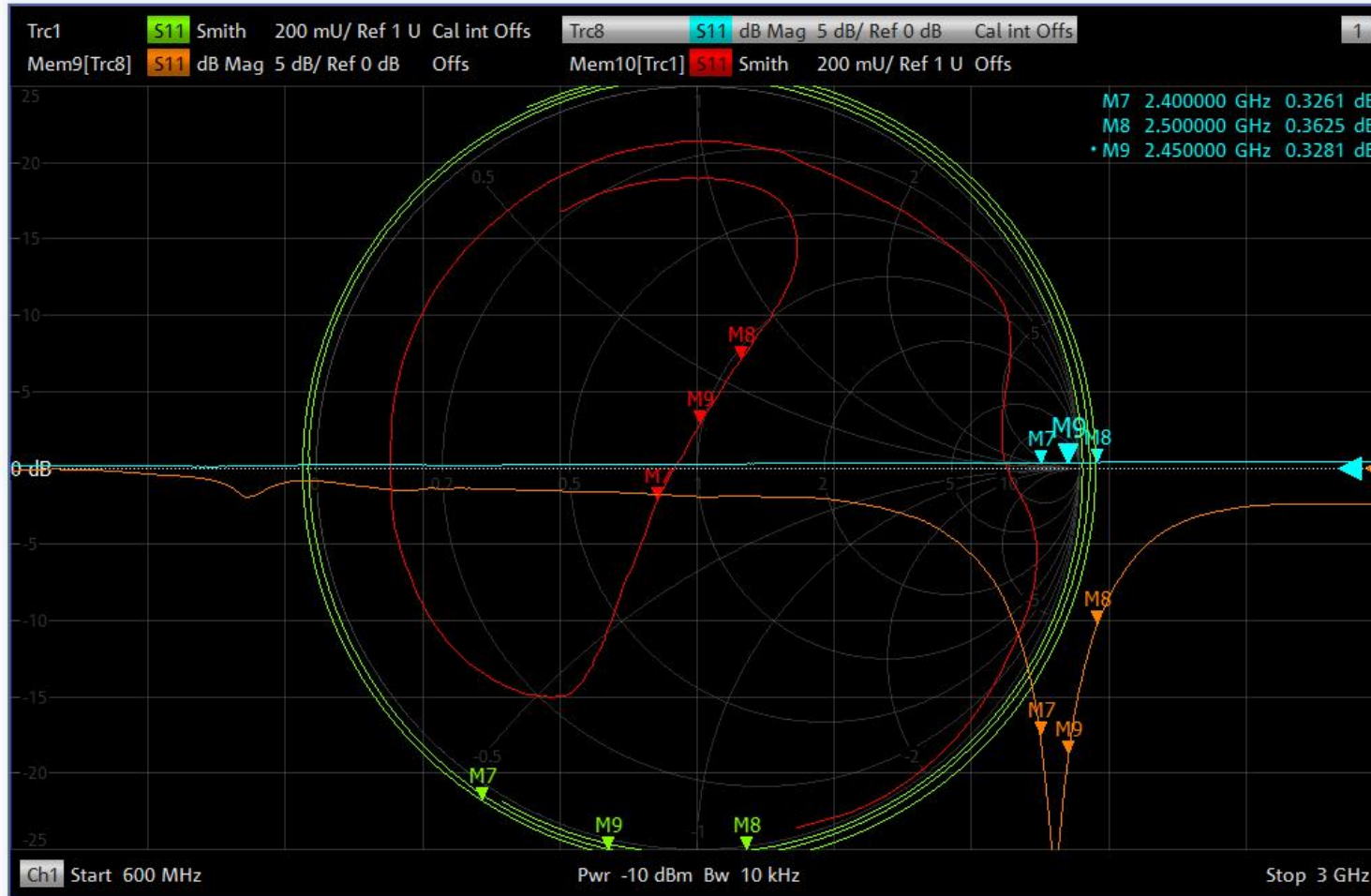






## WiFi Antenna

### VSWR



## WIFI Antenna

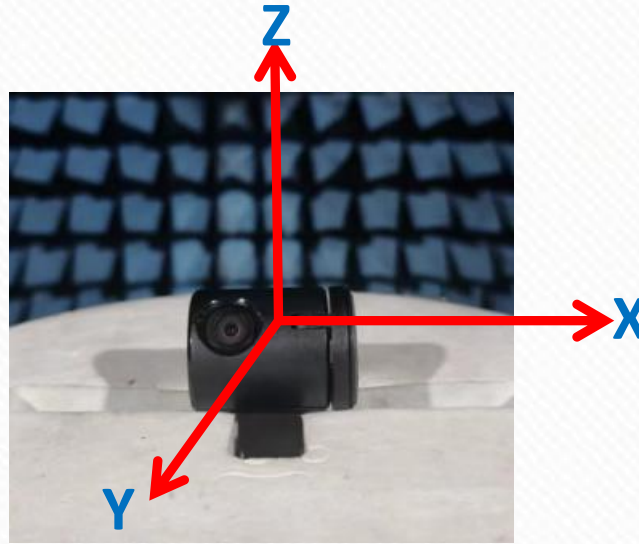
Frequency/Mhz	Efficiency / %	MaxGain/dBi
2400	47.97	4.75
2410	50	4.96
2420	48.19	4.73
2430	49.66	4.81
2440	52.48	4.89
2450	52.72	4.91
2460	52.84	4.9
2470	49.43	4.66
2480	48.75	4.53
2490	46.99	4.4
2500	46.67	4.17

## WIFI Antenna

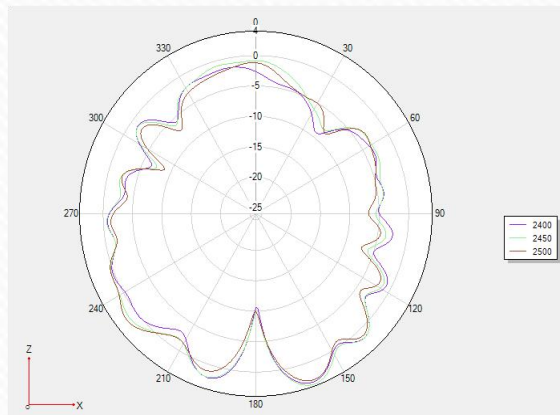
Measurement	Standard	Band	Channel	Total
TRP	WIFI (Station)	WIFI_B (1M)	1	14.77
TRP	WIFI (Station)	WIFI_B (1M)	7	15.66
TRP	WIFI (Station)	WIFI_B (1M)	13	15.34
TIS(EIRP)	WIFI (Station)	WIFI_B (11M)	13	-79.29
TRP	WIFI (Station)	WIFI_G (6M)	1	13.39
TRP	WIFI (Station)	WIFI_G (6M)	7	14.04
TRP	WIFI (Station)	WIFI_G (6M)	13	12.92
TIS(EIRP)	WIFI (Station)	WIFI_G (54M)	13	-65.86
TRP	WIFI (Station)	WIFI_N_ISM (6.5M)	1	12.31
TRP	WIFI (Station)	WIFI_N_ISM (6.5M)	7	11.64
TRP	WIFI (Station)	WIFI_N_ISM (6.5M)	13	12.22
TIS(EIRP)	WIFI (Station)	WIFI_N_ISM (65M)	13	-62.36



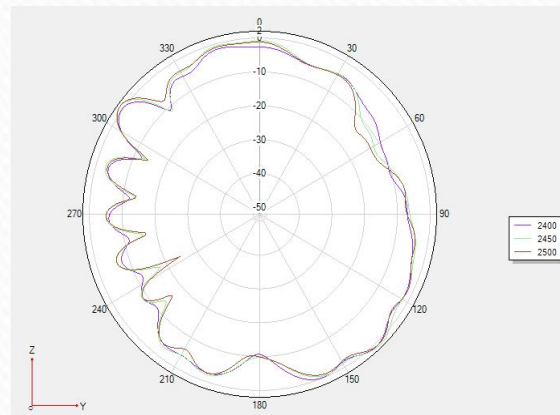
WiFi Antenna



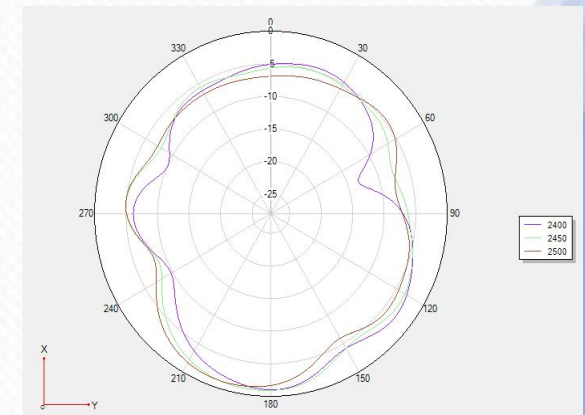
phi 0°



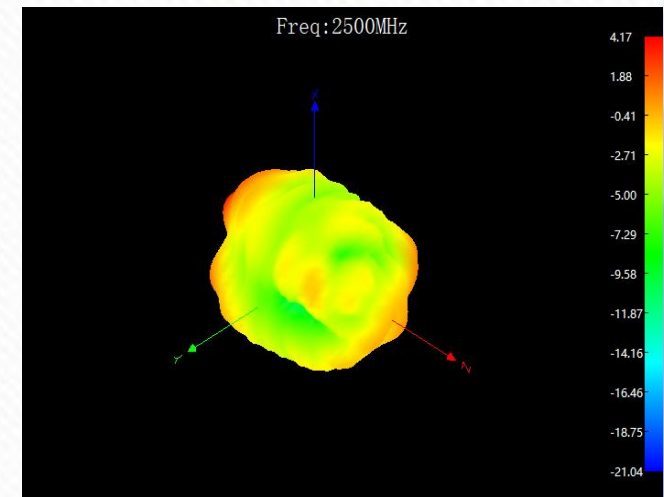
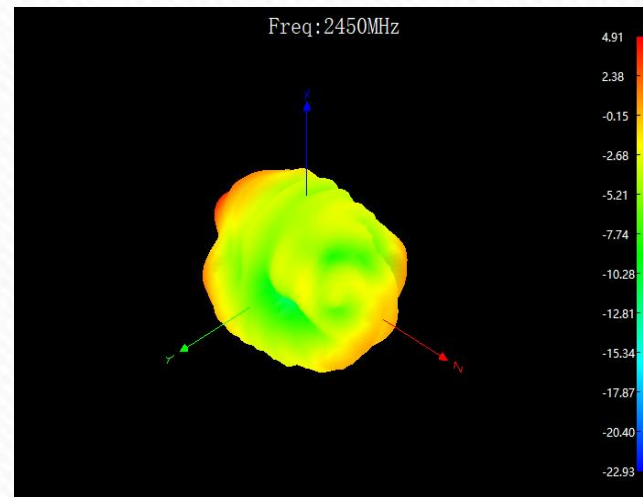
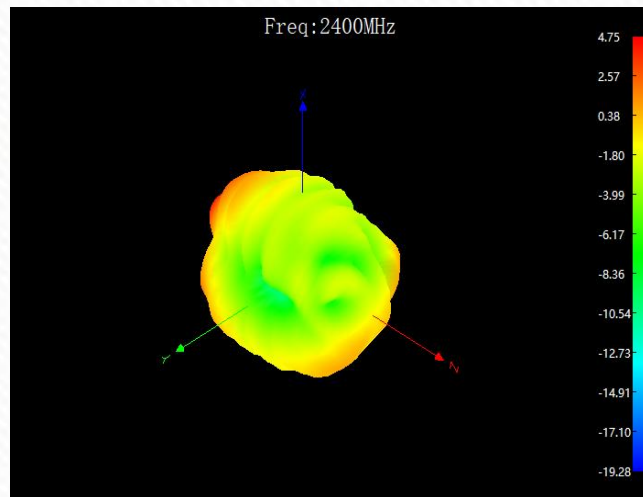
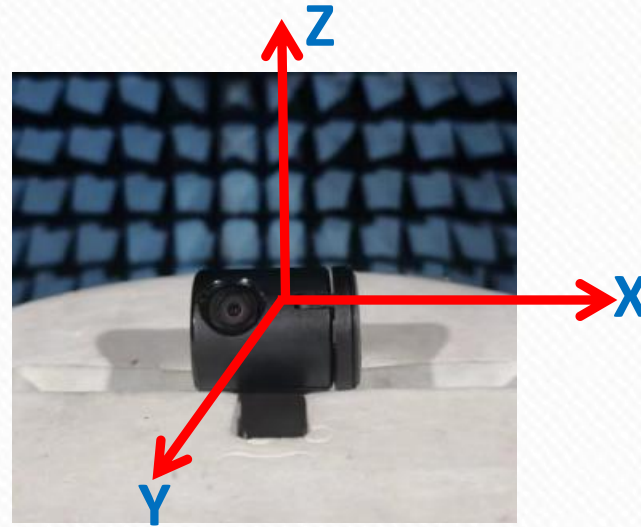
phi 90°



theta 90°



WIFI Antenna



Good antenna performance test results



# Thank You

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