



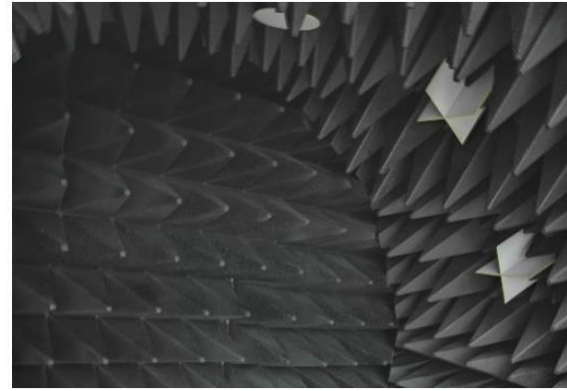
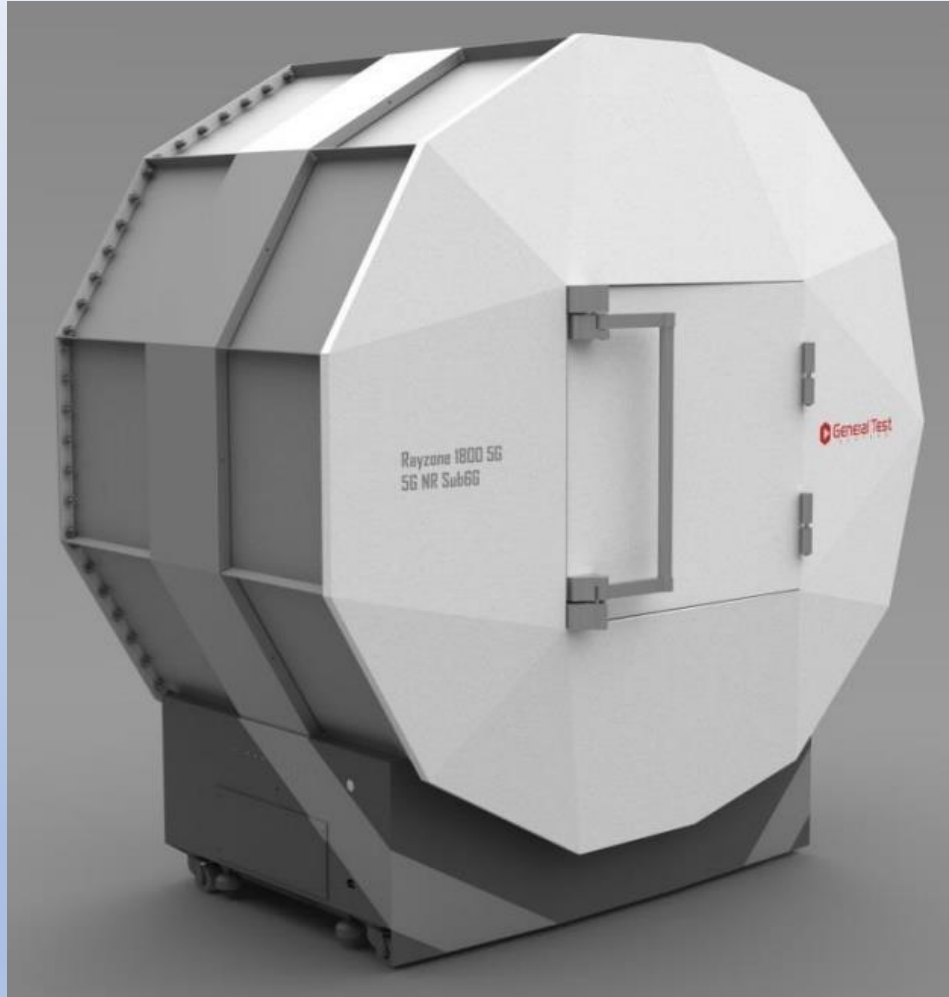
SHENZHEN HANYANG ANTENNA DESIGN CO. LTD.

GSD

Project Name: WIFI ANT

HY P/N: DT3L

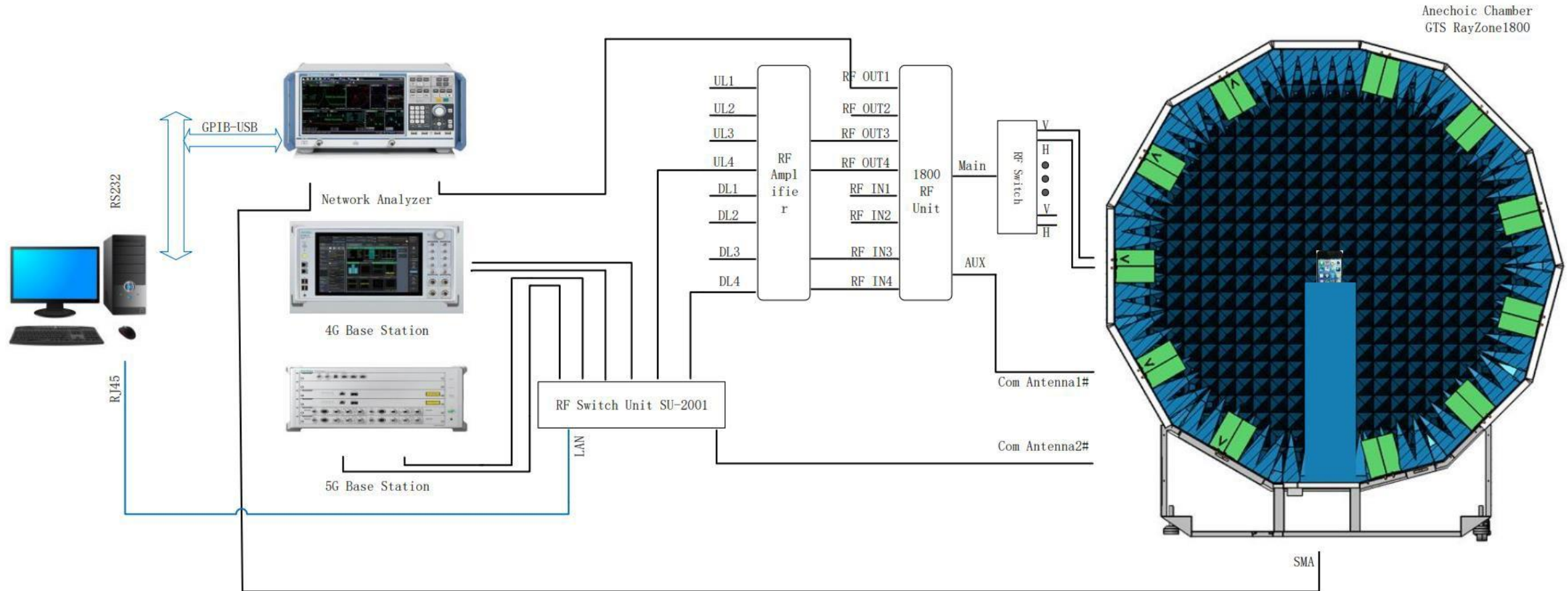
Date: 2026-04-28



Wireless communication standard: 2G/3G/4G/5G(FR1)/GNSS/Wi-Fi/Bluetooth
Internet of Things communication standards: LTE Cat NB1(NB-IoT)/Cat-M1(e-MTC)
SISO test TRP/TIS/EIRP/EIS, 2x2 MIMO Throughput test
Passive antenna test, Desense, test ICS
Support 600MHz-7.5GHz frequency
GTS MaxSign 100 test software support antenna/OTA test, Provide visual data analysis
New EPP rigid and environmentally friendly absorbing material.
Low RCS high gain measurement antenna set, Transparent turntable and fixture
MIMO test fastly. Certification level test accuracy.
Integrated design, use and maintenance is simply.



RayZone1800 Test Setup





Address: Shenzhen Baoan District Qianjin 2 Road BaoYunda logistics information building 12A11

Test date: 2023.04.20

Tester : Liu Deng

The name and software version number of the commercial testing software used: GTS_MAX SIGN Libra1.2.7

Name	Parameter	Method	Standard no.
Antenna Procedures	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-2021

Calibration equipment table	Test equipment	Manufacture	Module	SN number	Calibration date	Cal. expiration date
	network analyzer	Keysight	EE071C	MY47002902	2023.04.01	2024.03.30
	Antenna test system	GTS	1800	/	2023.04.01	2024.03.30
	Antenna Measurement System(OTA) Shielding		EMT68FF	EMT68FF-ZZ001	2023.04.01	2024.03.30

test procedure

Template Details.

Parameters (Agilent_5071C/Passive/)

Test Setup

Trace Name : S21

IF Bandwidth : 0.3 KHz

Factor Average : 0

Power : 5 dB

Test Mode : Log

Skip Calibration : True

DUT Type : Linear

Radiation Test : False

S11 Calibration File : State01

Angular Coordinator Setup

Phi

Step : 15

Theta(Ant No.)

Start : 0

End : 180

Step : 15

Display Setup

Display Frequency Mode : Auto

Display Frequency : MHz

Frequency List

Test Method : Linear Import Clear

	Start(MHz)	End(MHz)	Step(MHz)
1	2300	2600	10
2			

Added Pathloss Correction

Correction Method : Constant

Pathloss (dBm) : 0

Save

Save as

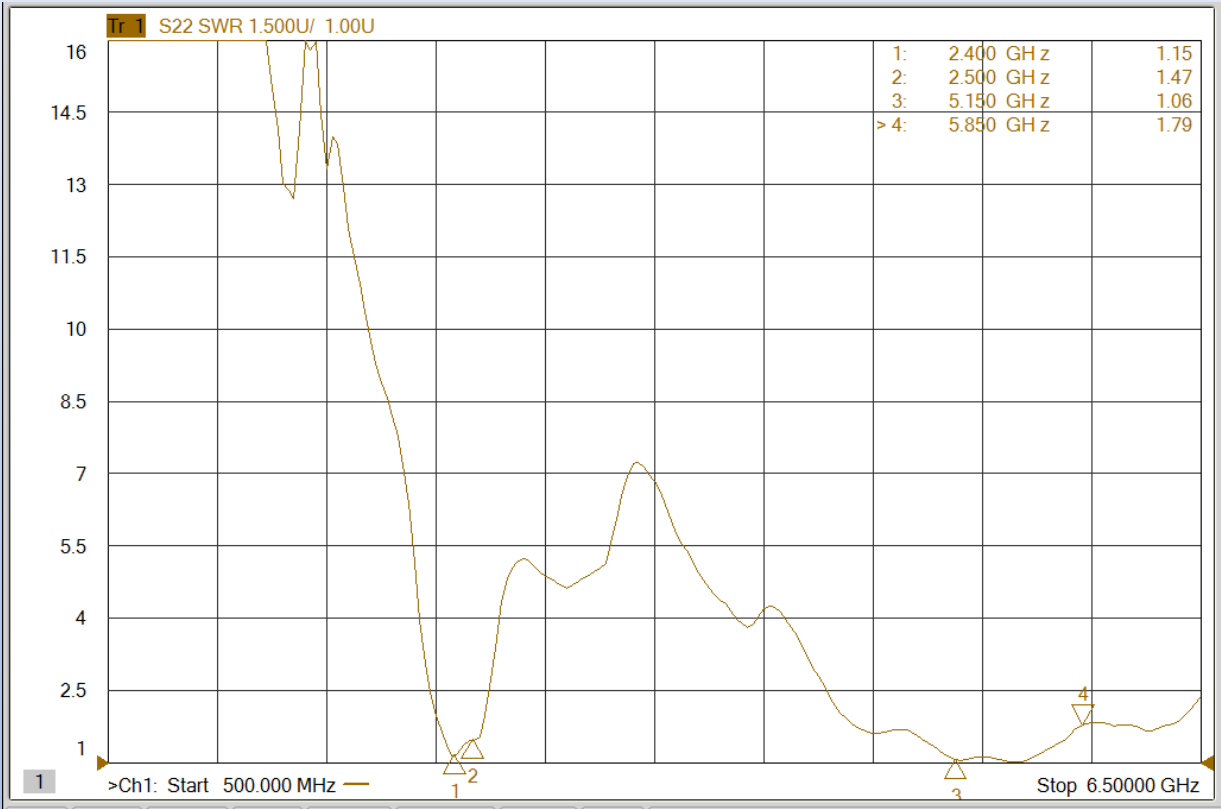
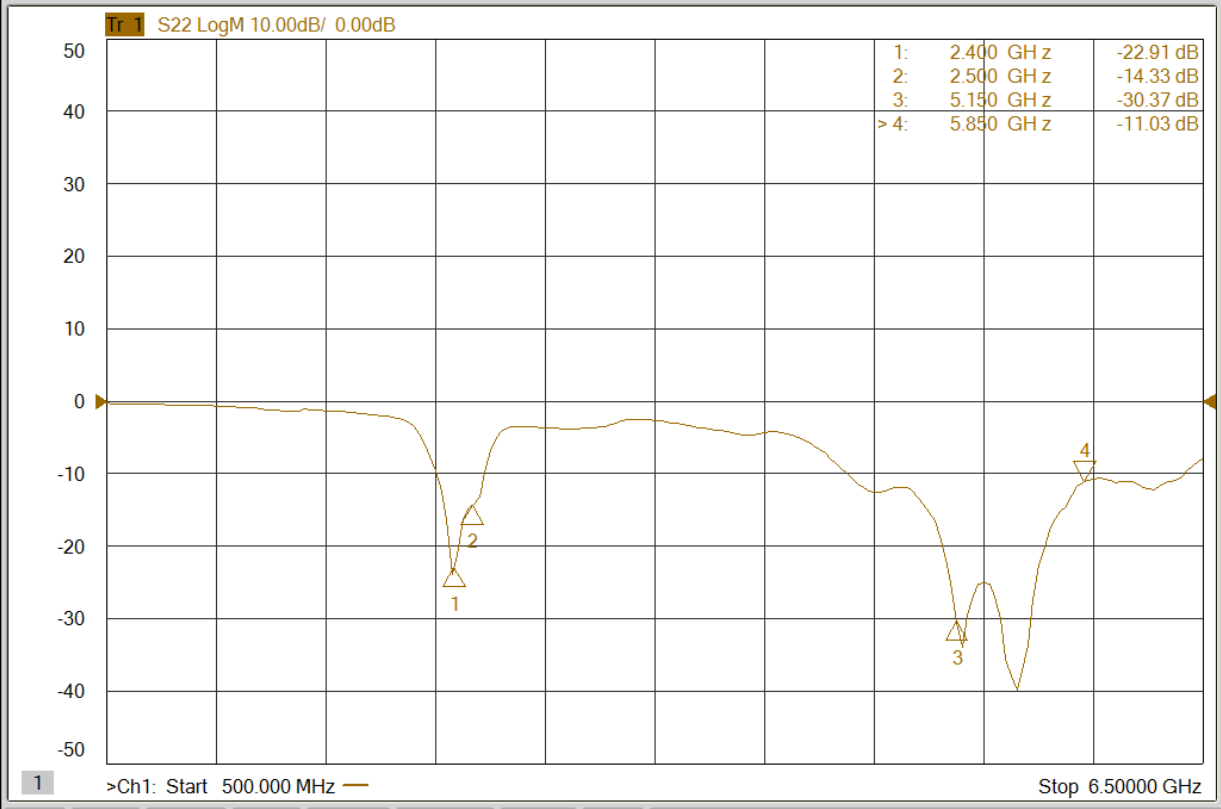




Freq	Efficiency_dB	Efficiency_Pcent	Gain
2400	-3.13	48.64	2.08
2410	-3.1	48.98	2.41
2420	-2.97	50.47	2.89
2430	-2.95	50.7	3.03
2440	-2.99	50.23	3.06
2450	-3.06	49.43	2.96
2460	-3.1	48.98	2.98
2470	-3.19	47.97	2.83
2480	-3.28	46.99	2.86
2490	-3.43	45.39	2.8
2500	-3.48	44.87	2.82

Freq	Efficiency_dB	Efficiency_Pcent	Gain
5150	-1.47	71.29	3.05
5175	-1.51	70.63	3.03
5200	-1.52	70.47	3.15
5225	-1.5	70.79	3.01
5250	-1.38	72.78	3.11
5275	-1.24	73.62	3.09
5300	-1.16	73.45	3.24
5325	-1.19	71.78	3.43
5350	-1.23	71.29	3.58
5375	-1.24	71.78	3.44
5400	-1.29	72.11	3.32
5425	-1.31	70.15	3.15
5450	-1.33	71.12	3.42
5475	-1.33	69.66	3.25
5500	-1.38	68.39	3.27
5525	-1.34	66.99	3.26
5550	-1.37	66.37	3.53
5575	-1.44	66.07	3.59
5600	-1.52	67.14	3.81
5625	-1.53	65.31	3.76
5650	-1.47	64.57	3.86
5675	-1.48	63.97	3.65
5700	-1.44	66.22	3.67
5725	-1.43	65.42	3.46
5750	-1.37	64.86	3.59
5775	-1.42	66.07	3.39
5800	-1.47	65.16	3.54
5825	-1.54	65.61	3.47
5850	-1.46	63.53	3.54

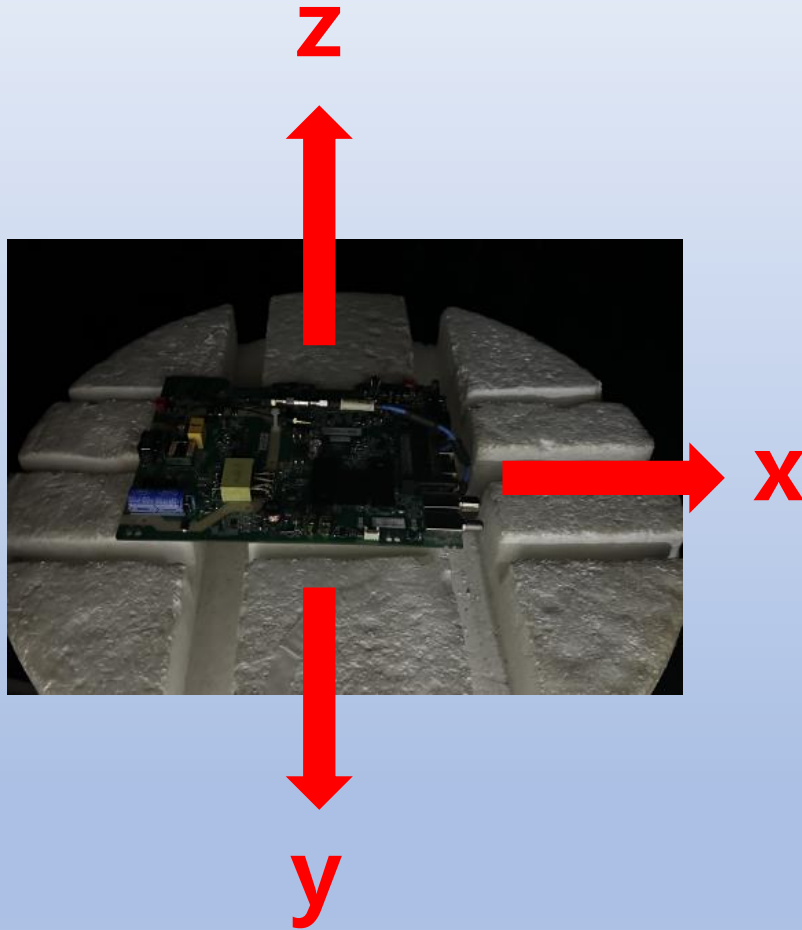
S11 Plot & SWR-ANT 1



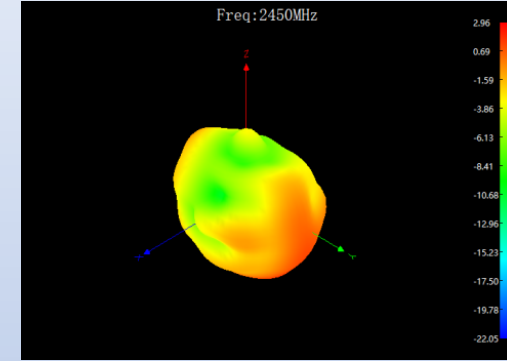
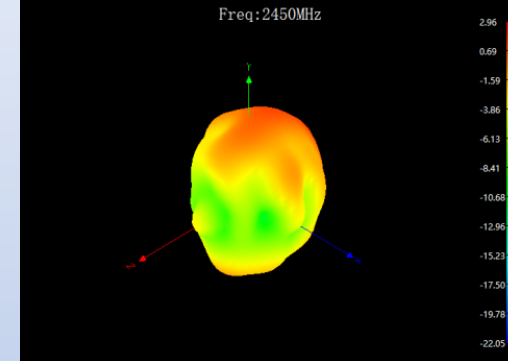
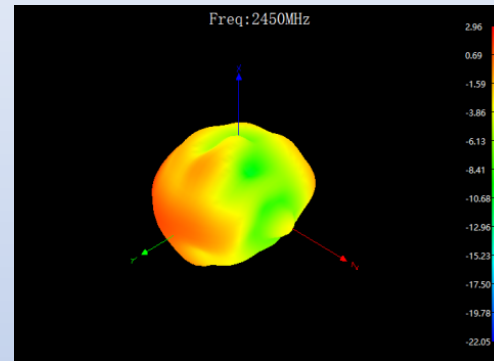
Radiation pattern-3D-ANT 1



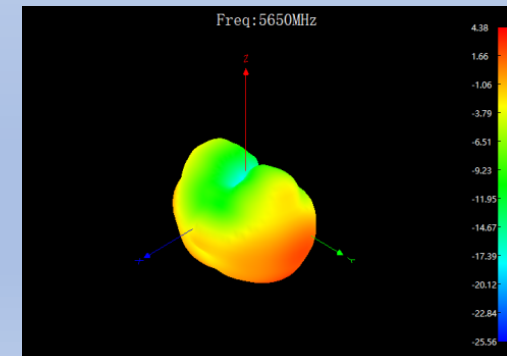
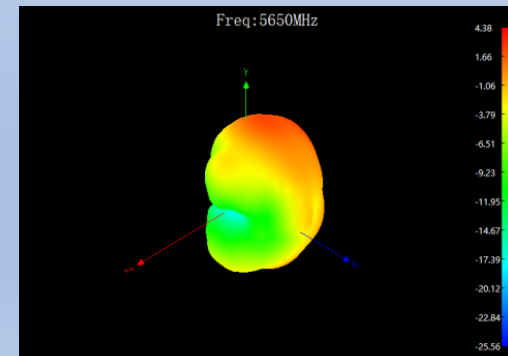
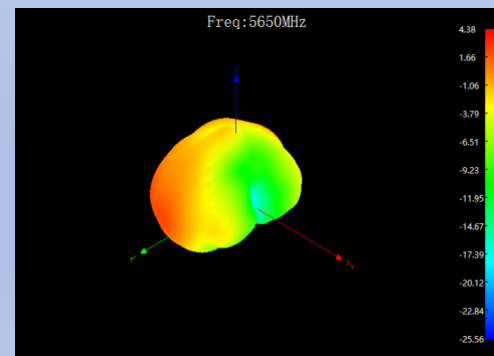
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2450MHZ



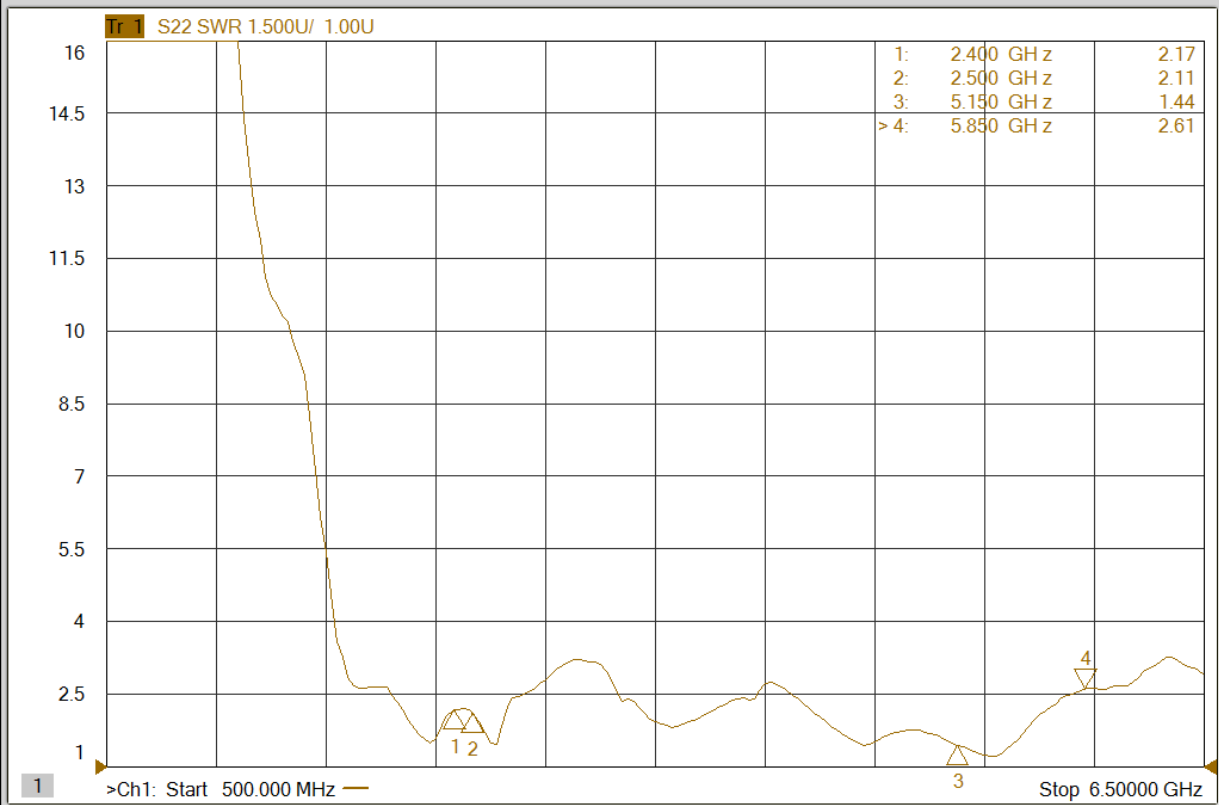
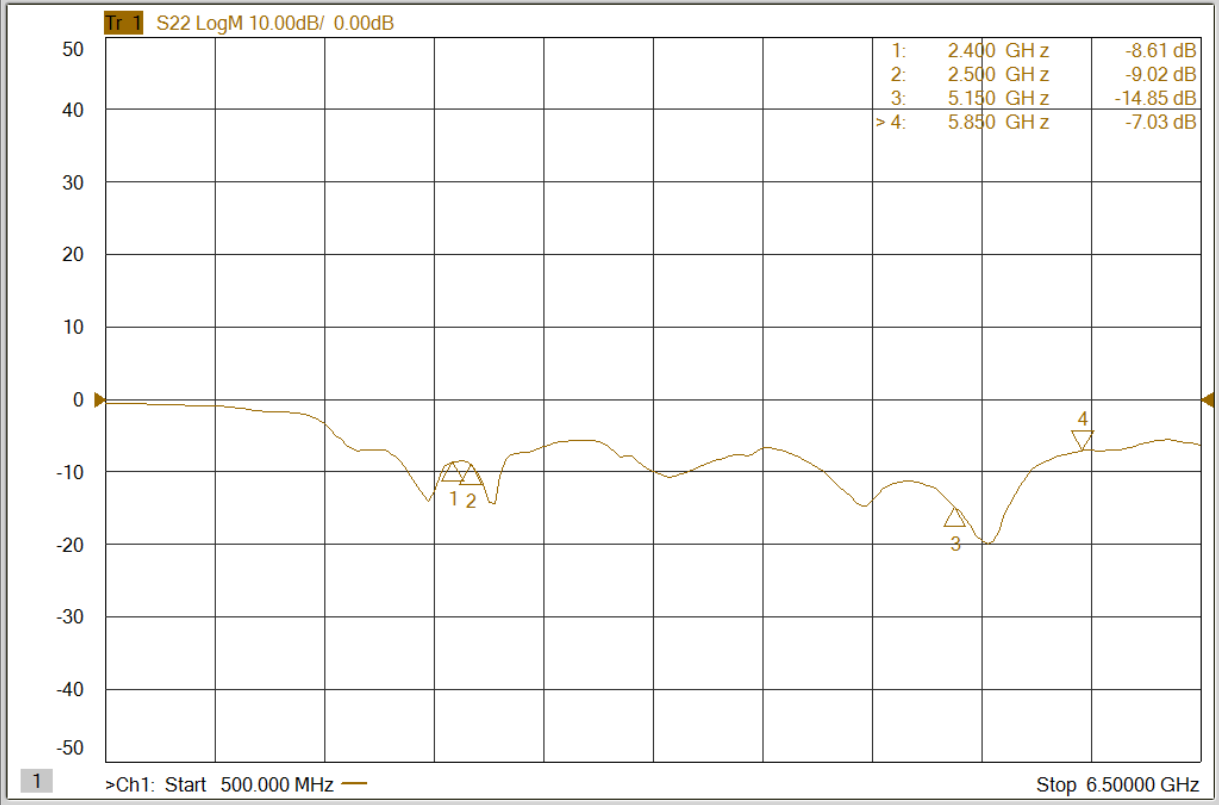
5650MHZ

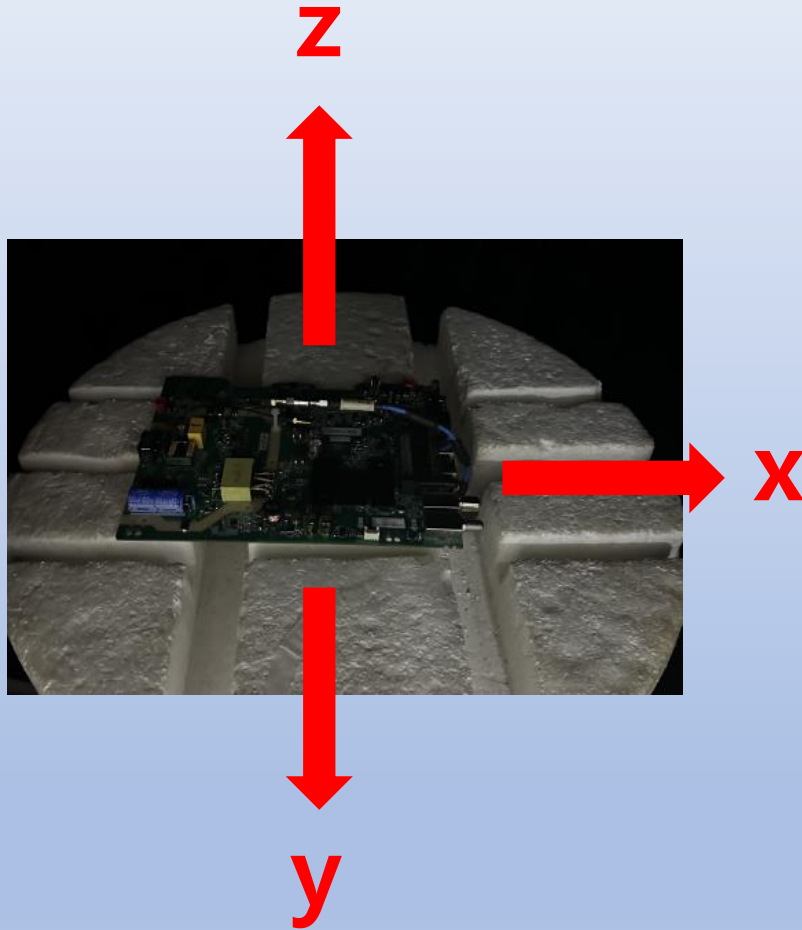




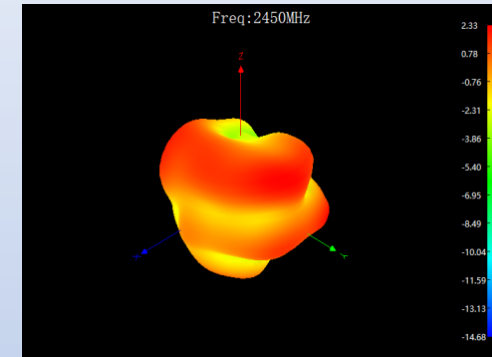
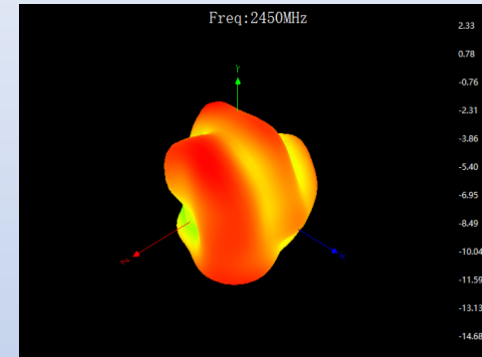
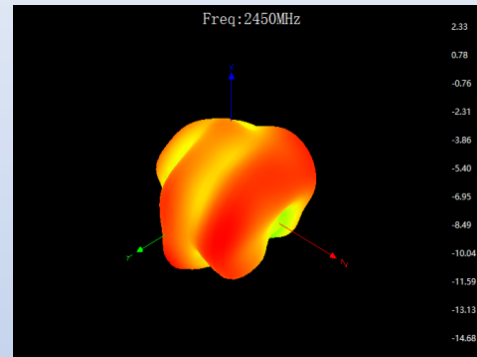
Freq	Efficiency_dB	Efficiency_Pcent	Gain
2400	-3.34	46.34	2.06
2410	-3.25	47.32	1.7
2420	-3	50.12	2.66
2430	-2.9	51.29	2.45
2440	-2.83	52.12	2.44
2450	-2.83	52.84	2.33
2460	-2.77	53.09	2.48
2470	-2.75	54.2	2.56
2480	-2.66	53.95	2.66
2490	-2.68	54.2	2.7
2500	-2.5	53.95	2.89

Freq	Efficiency_dB	Efficiency_Pcent	Gain
5150	-2.32	58.61	2.85
5175	-2.44	57.02	2.84
5200	-2.47	56.62	3.01
5225	-2.29	59.02	3.54
5250	-2.36	58.08	3.46
5275	-2.41	57.41	3.45
5300	-2.4	57.54	3.65
5325	-2.46	56.75	3.72
5350	-2.52	55.98	3.74
5375	-2.62	54.7	3.67
5400	-2.65	54.33	3.72
5425	-2.74	53.21	3.68
5450	-2.67	54.08	3.71
5475	-2.61	54.83	3.31
5500	-2.88	51.52	3.78
5525	-2.96	50.58	3.49
5550	-3.15	48.42	3.61
5575	-3.14	48.53	3.87
5600	-3.24	47.42	3.39
5625	-3.39	45.81	3.81
5650	-3.67	42.95	3.4
5675	-3.83	41.4	3.27
5700	-4.11	38.82	2.84
5725	-4.25	38.58	2.65
5750	-4.64	34.36	2.24
5775	-4.9	32.36	1.94
5800	-4.95	31.99	1.76
5825	-5.14	30.62	1.36
5850	-5.48	28.31	0.82

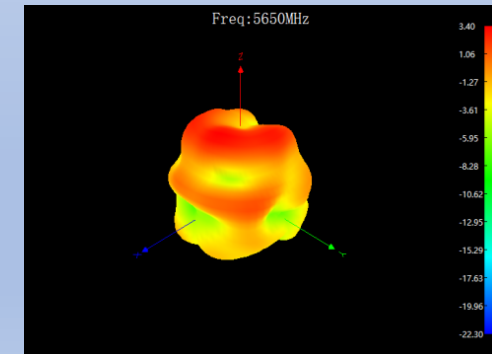
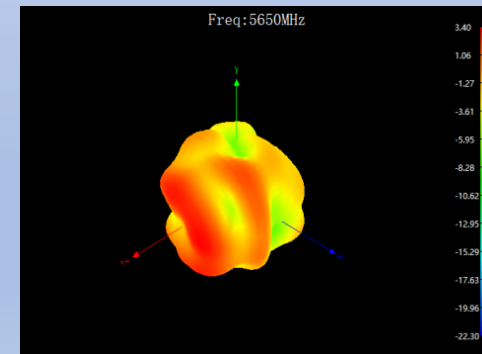
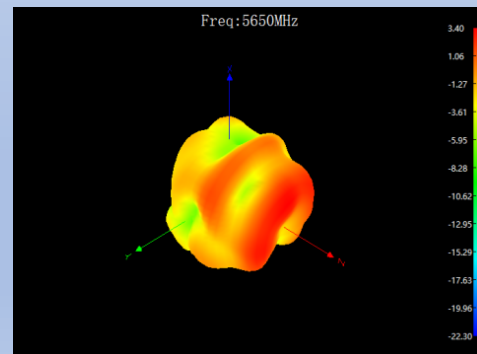




2450MHZ



5650MHZ





SHENZHEN HANYANG ANTENNA DESIGN CO. LTD.

5G

Welcome calls consultations, negotiations and guidance come!

Thank you