



深圳汉阳天线设计有限公司

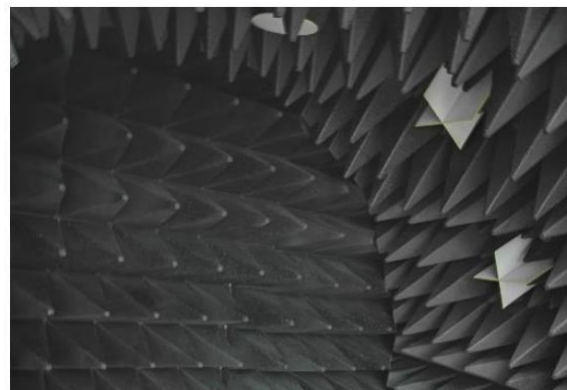
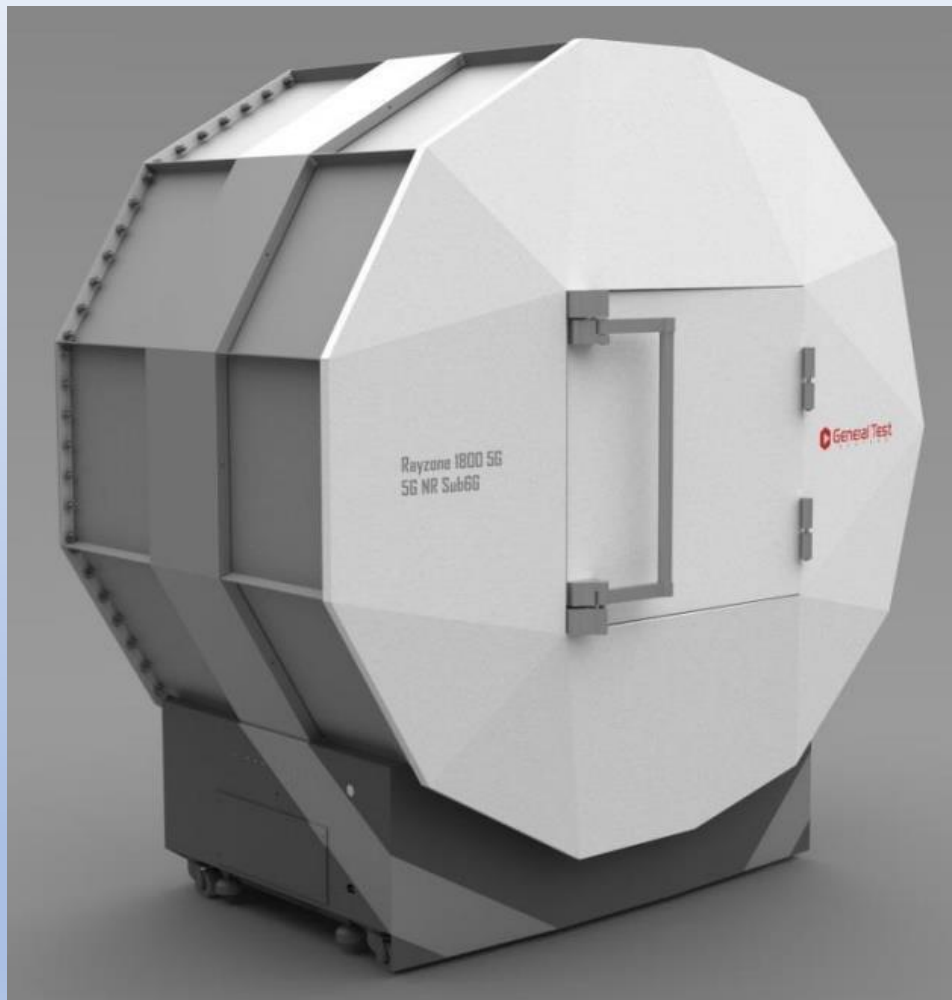
SHENZHEN HANYANG ANTENNA DESIGN CO.LTD.

Customer: **GSD**

Antennareport

Project name: **WKCT16**

Date: 2023-06-06



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.

Address of the testing laboratory :Shenzhen Baoan District Qianjin 2 Road BaoYunda logistics information building 12A11

Test Date: 6/6/2023

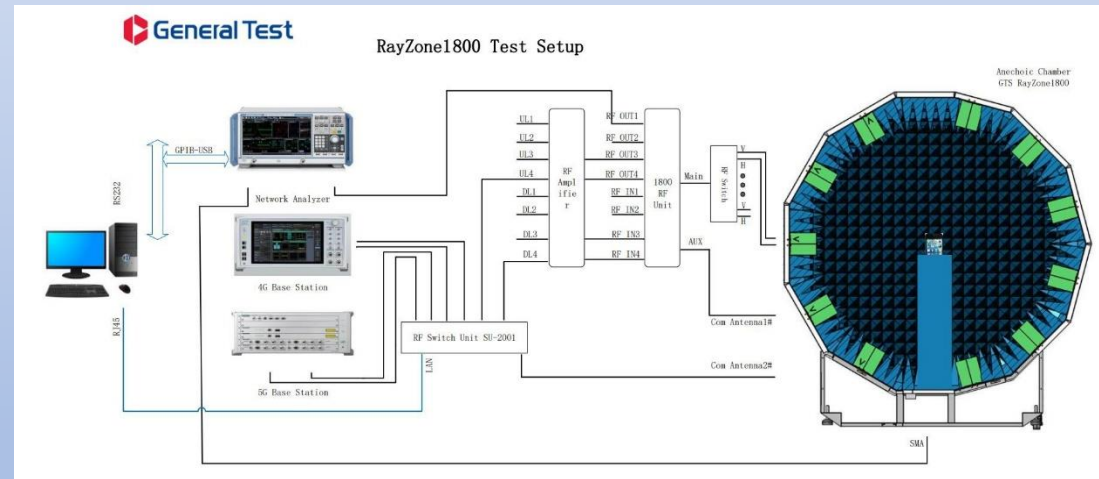
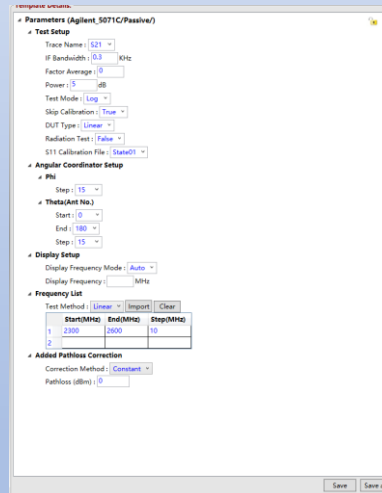
Test Engineer: Liu Deng

Software name and version: GTS_MAX SIGN Libra1.2.7

Cal Date:6/6/2023

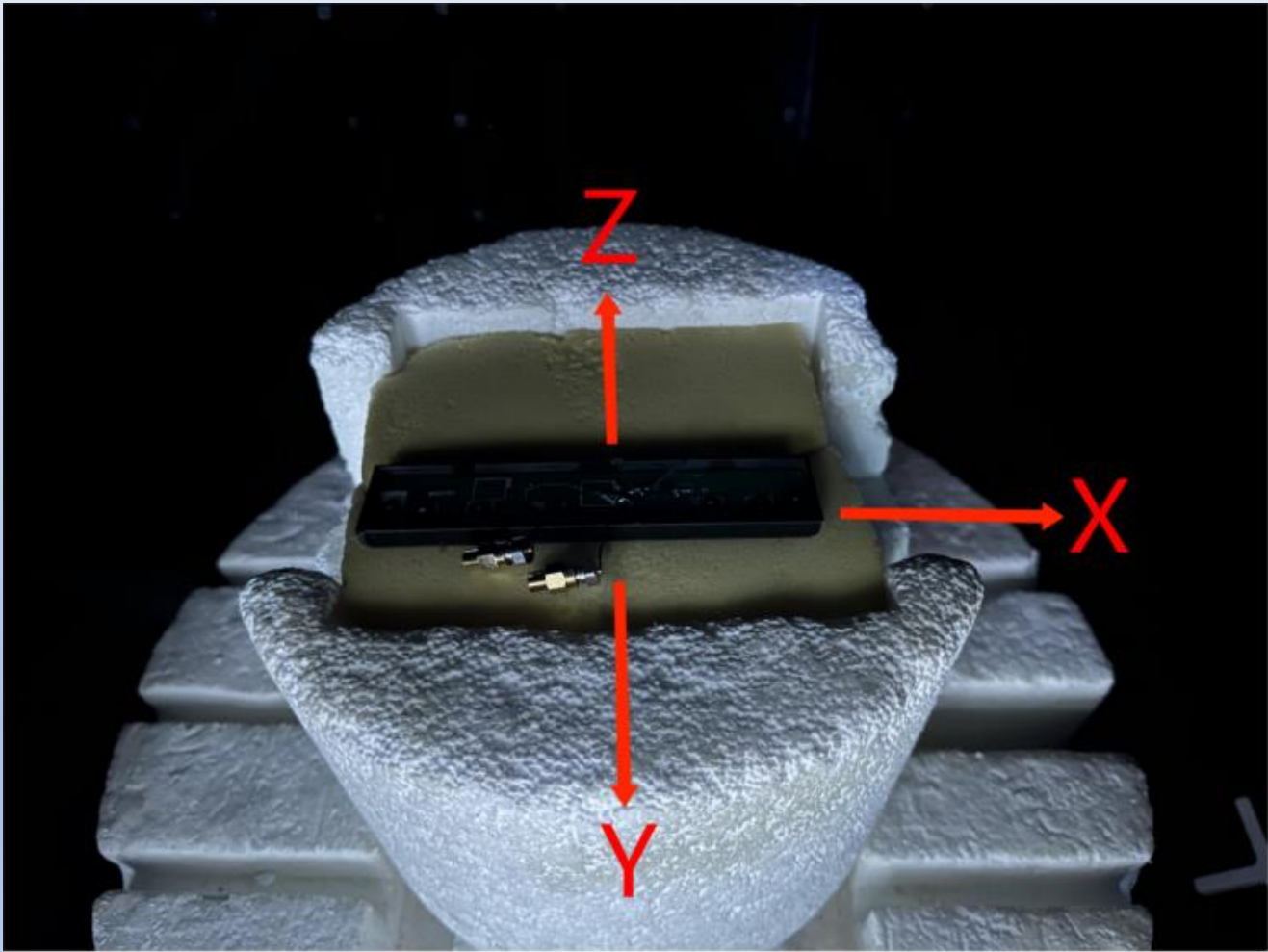
Test Standard:Generic standard

Test set-up:



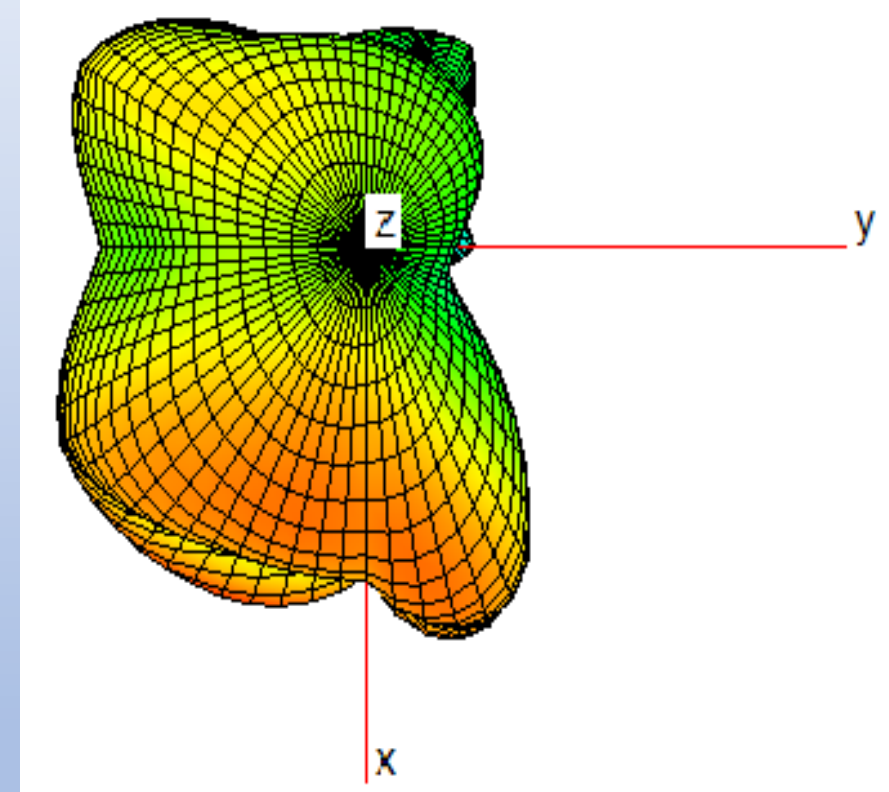
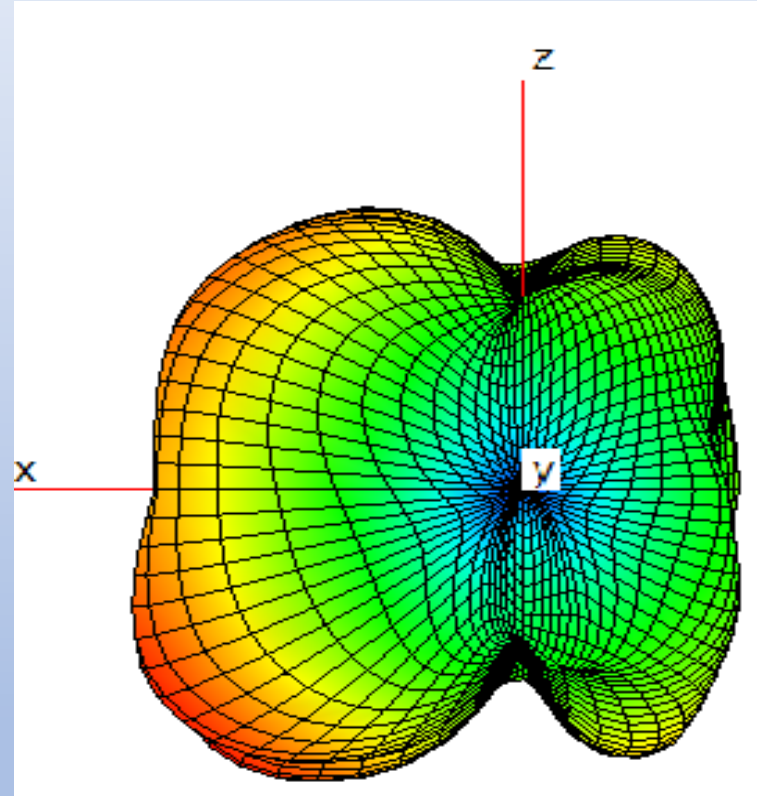
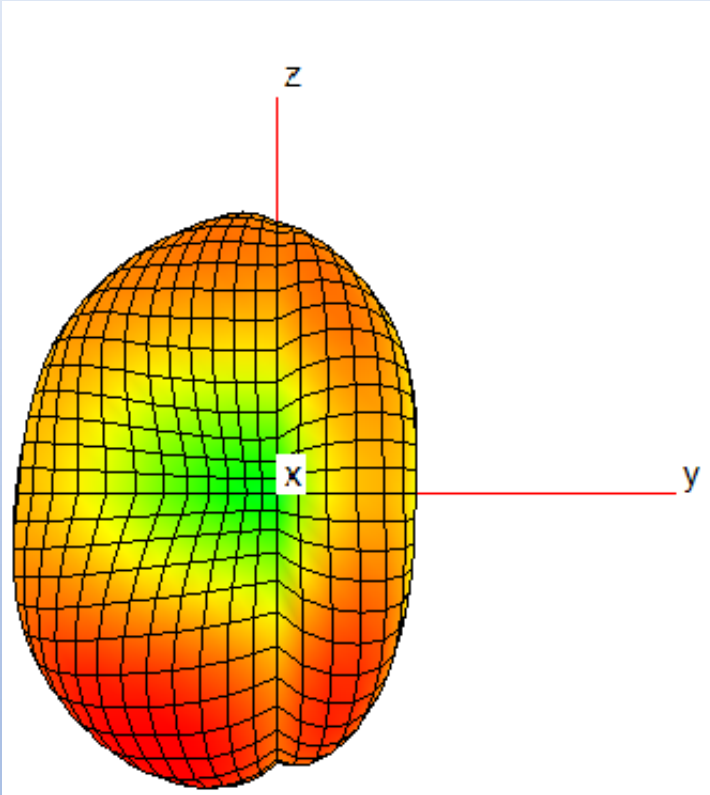
Test flow:

校准设备表	测试仪器	制造商	型号	系列号	校准日期	校准过期日期
	网络分析仪	Keysight	E5071C	MY47002902	2023. 04. 01	2024. 03. 30
	CMW500天线测试系统	GTS	1800	/	2023. 04. 01	2024. 03. 30

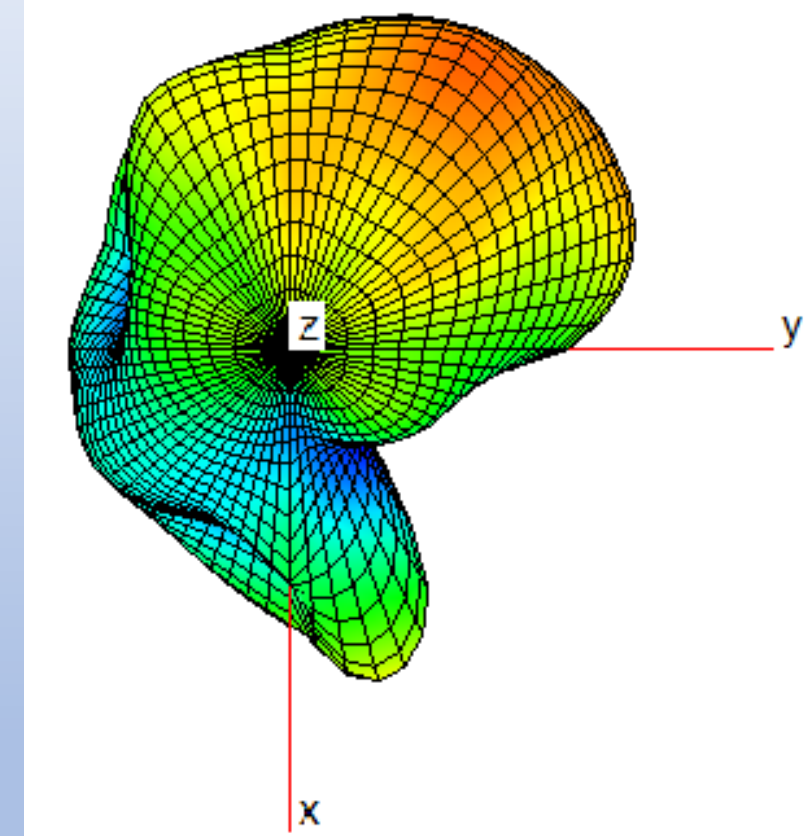
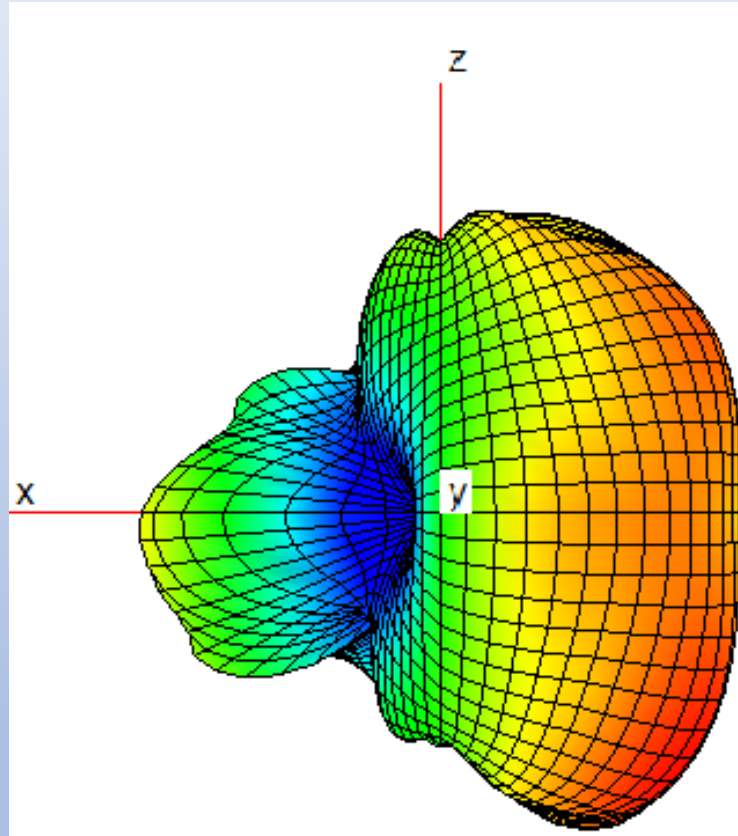
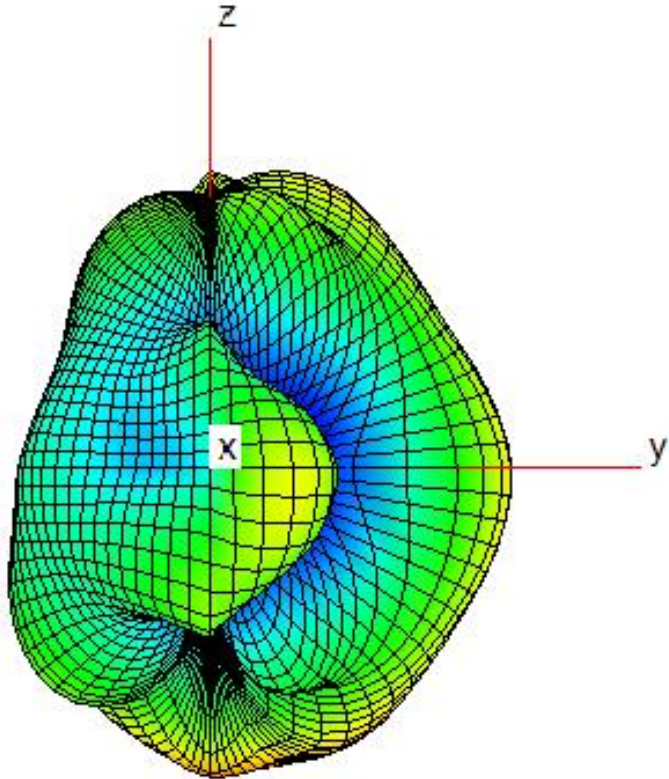


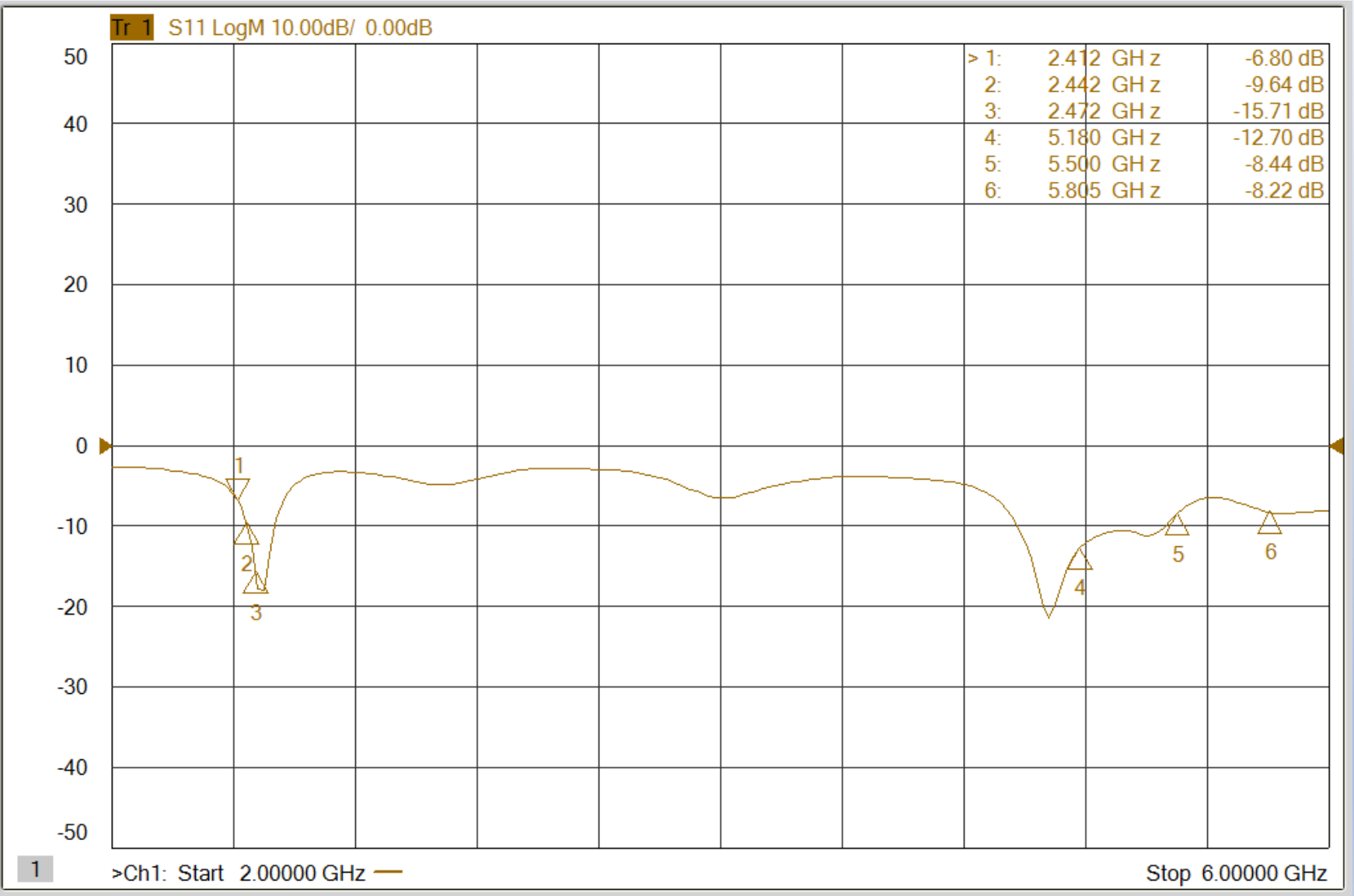
WIFI-0 2.4G				WIFI-0 5.8G			
Freq	EfficiencydB	EfficiencyPcent	Gain	Freq	EfficiencydB	EfficiencyPcent	Gain
2300	-8.02	15.76	-3.9	5150	-5.41	28.75	-1.78
2310	-7.89	16.25	-3.86	5175	-5.15	30.52	-1.41
2320	-7.47	17.91	-3.37	5200	-4.86	32.65	-1.06
2330	-7.19	19.11	-3.04	5225	-4.63	34.47	-0.77
2340	-6.9	20.4	-2.76	5250	-4.5	35.52	-0.37
2350	-6.61	21.84	-2.37	5275	-4.58	34.86	-0.15
2360	-6.3	23.46	-2.05	5300	-4.55	35.06	0.18
2370	-5.94	25.44	-1.78	5325	-4.48	35.68	0.5
2380	-5.56	27.79	-1.37	5350	-4.27	37.39	0.93
2390	-5.33	29.31	-1.06	5375	-4.07	39.19	1.16
2400	-5.05	31.27	-0.83	5400	-4.03	39.58	1.46
2410	-4.8	33.11	-0.62	5425	-4.1	38.88	1.5
2420	-4.47	35.74	-0.24	5450	-4.39	36.42	1.21
2430	-4.11	38.78	0.11	5475	-4.71	33.82	0.78
2440	-3.91	40.64	0.27	5500	-4.93	32.14	0.33
2450	-3.74	42.31	0.46	5525	-5	31.6	0.27
2460	-3.57	43.93	0.56	5550	-5.1	30.9	0.35
2470	-3.43	45.36	0.66	5575	-5.02	31.47	0.34
2480	-3.34	46.35	0.66	5600	-5.07	31.1	0.21
2490	-3.36	46.13	0.65	5625	-4.92	32.23	0.42
2500	-3.39	45.78	0.5	5650	-4.83	32.85	0.45
2510	-3.47	45	0.38	5675	-4.9	32.38	0.17
2520	-3.61	43.59	0.26	5700	-4.84	32.84	0.26
2530	-3.82	41.5	-0.05	5725	-4.81	33.04	0.25
2540	-4.12	38.75	-0.5	5750	-4.66	34.17	0.31
2550	-4.43	36.07	-0.86	5775	-4.61	34.56	0.37
2560	-4.76	33.45	-1.22	5800	-4.54	35.19	0.51
2570	-5.09	30.96	-1.61	5825	-4.49	35.52	0.58
2580	-5.52	28.03	-2.07	5850	-4.46	35.79	0.6
2590	-5.97	25.3	-2.55				
2600	-6.36	23.13	-2.85				

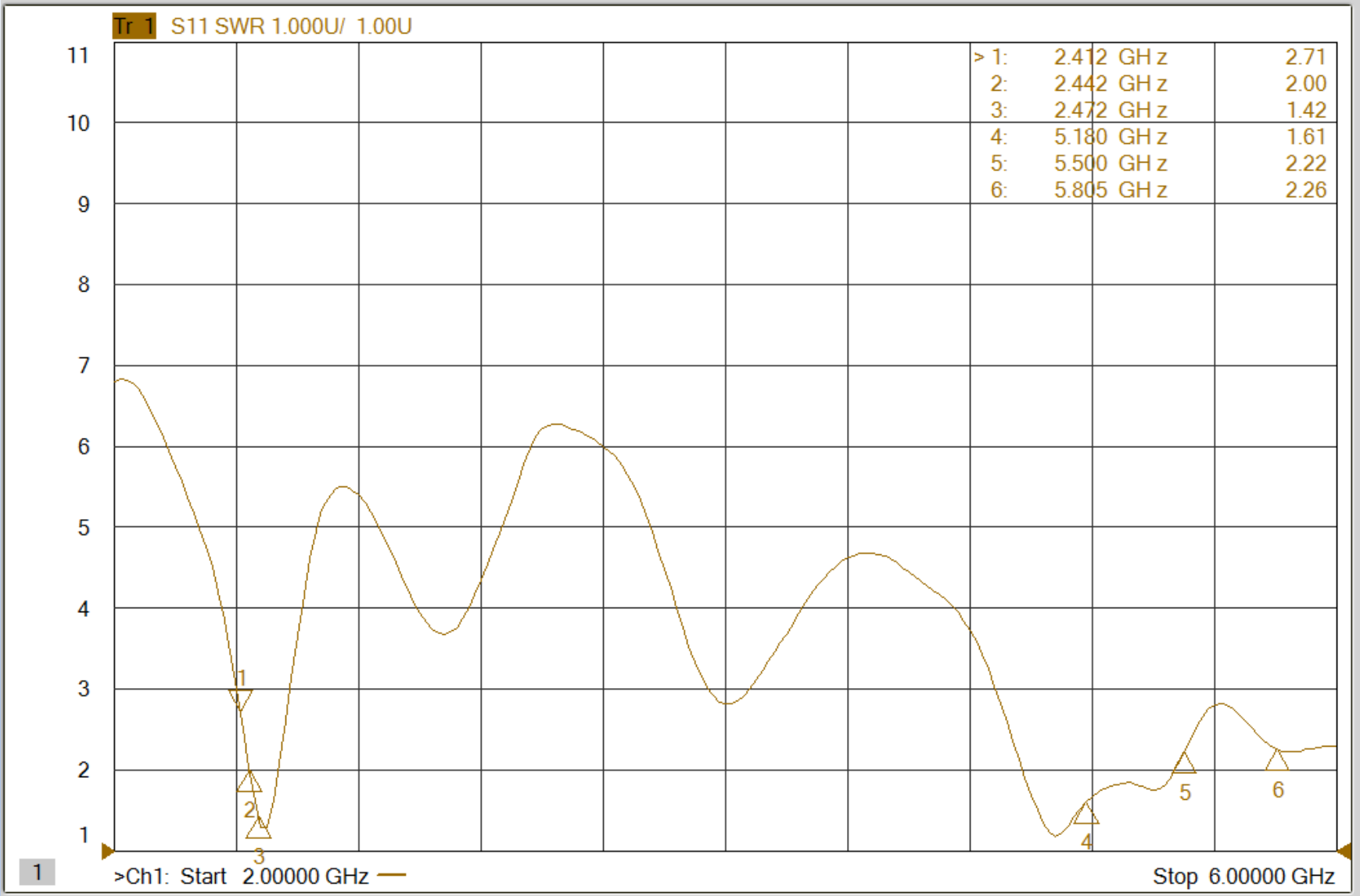
2450MHZ



5650MHZ





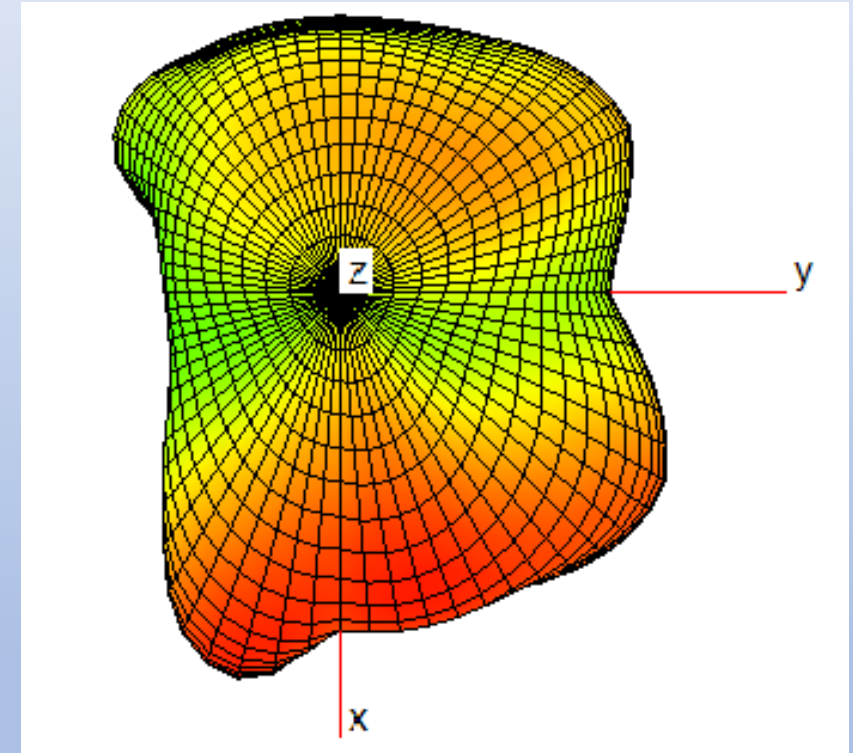
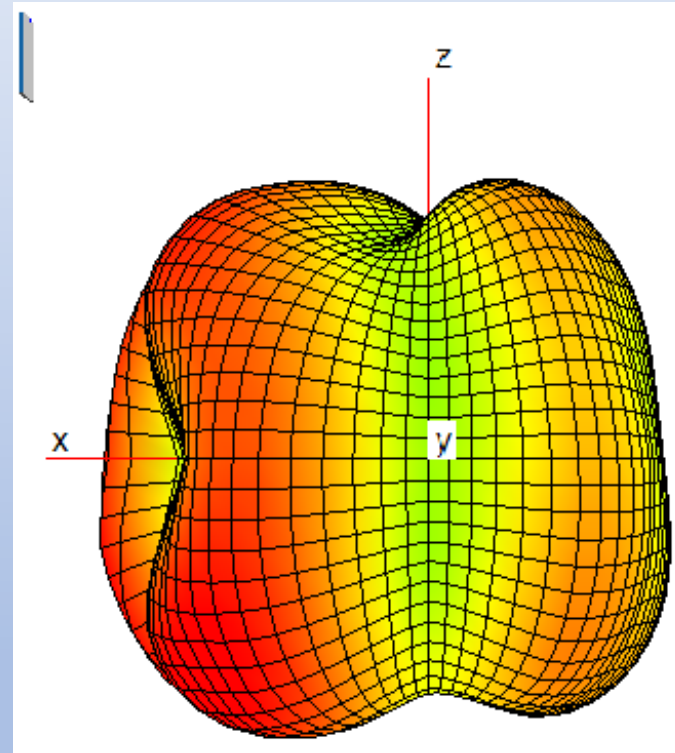
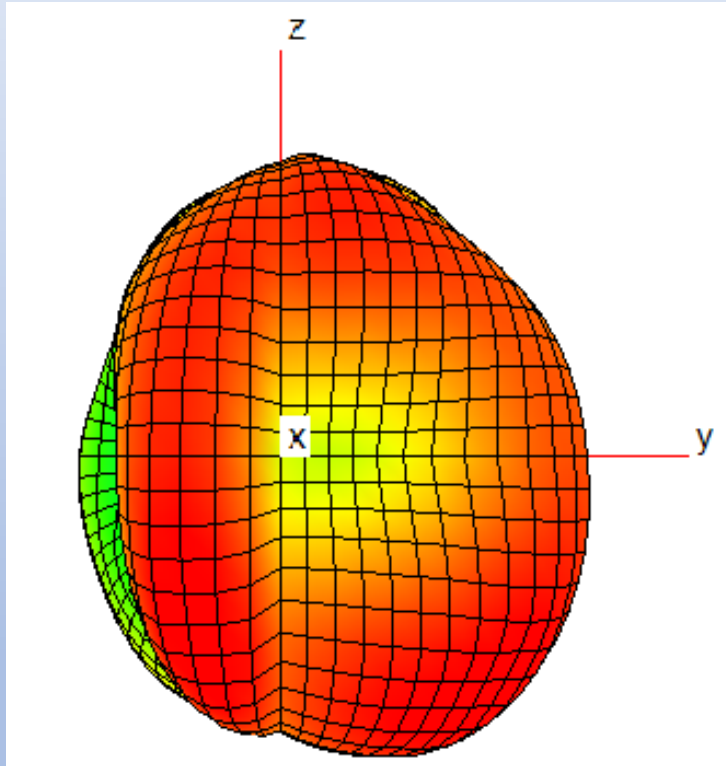




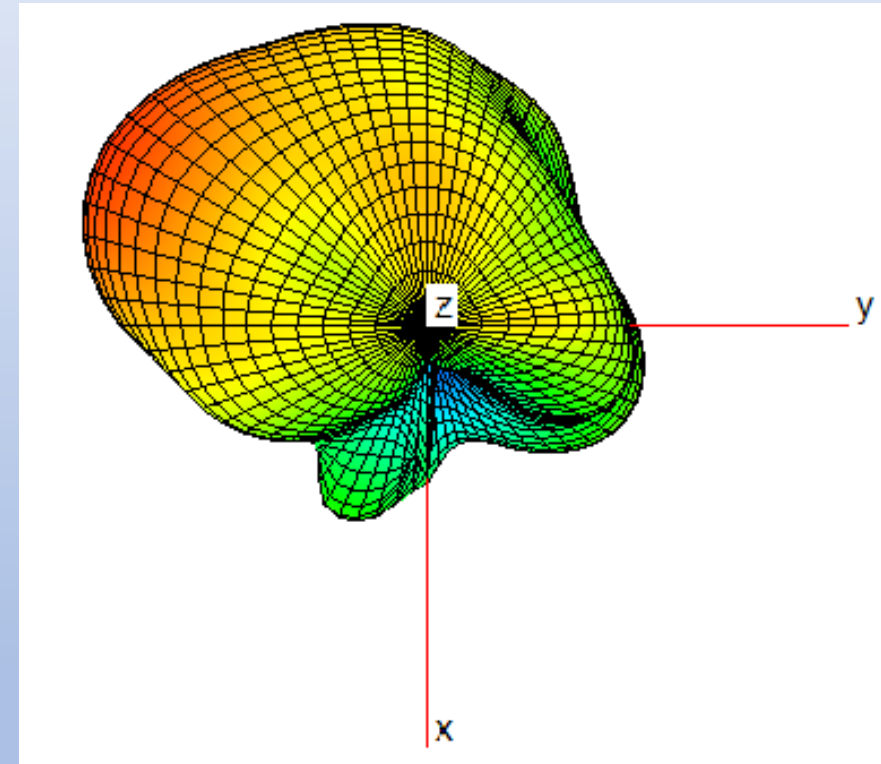
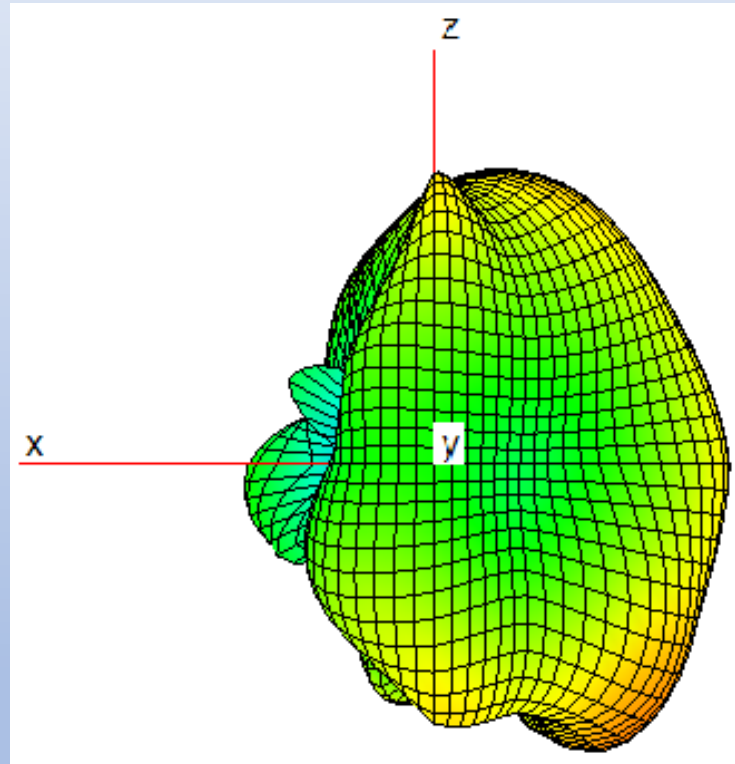
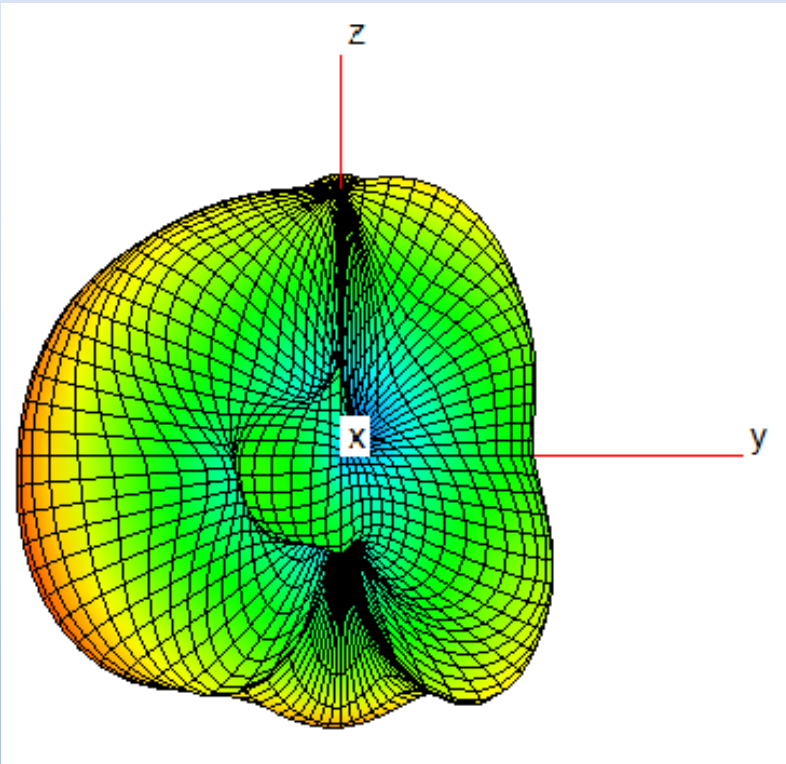
WIFI-1 2.4G			
Freq	EfficiencydB	EfficiencyPcent	Gain
2300	-6.73	21.25	-2.46
2310	-6.65	21.61	-2.25
2320	-6.36	23.12	-1.98
2330	-6.02	24.99	-1.54
2340	-5.77	26.46	-1.31
2350	-5.5	28.21	-1.03
2360	-5.26	29.79	-0.68
2370	-5.03	31.44	-0.58
2380	-4.64	34.33	-0.13
2390	-4.41	36.24	0.08
2400	-4.2	38.01	0.22
2410	-4.01	39.73	0.39
2420	-3.84	41.33	0.56
2430	-3.59	43.73	0.69
2440	-3.38	45.88	0.8
2450	-3.28	46.98	0.79
2460	-3.17	48.16	0.87
2470	-3.11	48.9	0.94
2480	-3	50.11	0.96
2490	-2.92	51.04	0.94
2500	-2.9	51.26	0.93
2510	-2.87	51.69	0.96
2520	-2.89	51.44	0.85
2530	-2.9	51.3	0.81
2540	-2.96	50.63	0.68
2550	-3.07	49.34	0.61
2560	-3.2	47.83	0.41
2570	-3.36	46.13	0.28
2580	-3.6	43.65	-0.08
2590	-3.87	41.06	-0.33
2600	-4.17	38.28	-0.77

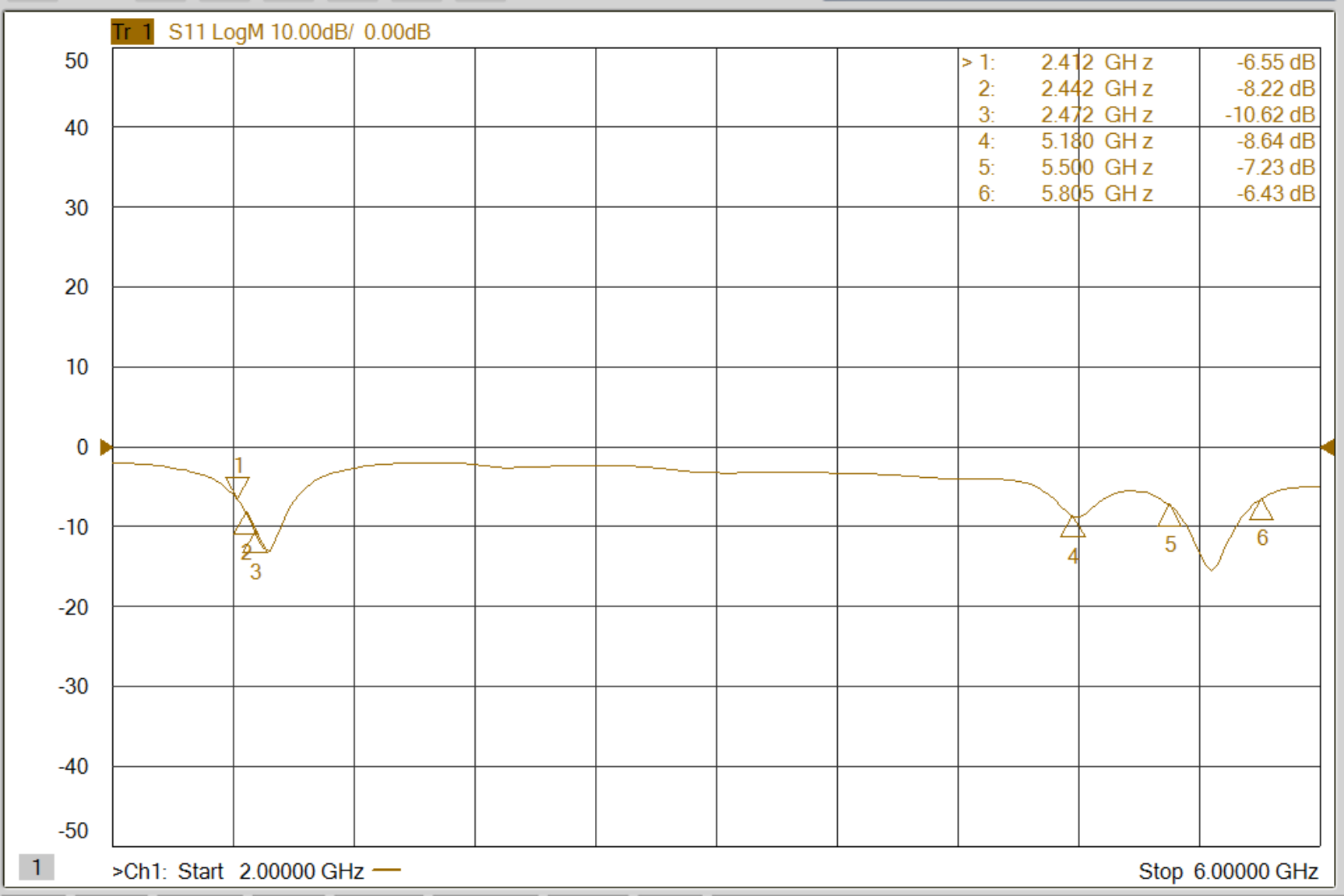
WIFI-1 5.8G			
Freq	EfficiencydB	EfficiencyPcent	Gain
5150	-4.82	32.92	-0.81
5175	-4.32	37	-0.11
5200	-3.83	41.41	0.46
5225	-3.5	44.63	0.88
5250	-3.45	45.17	1.07
5275	-3.65	43.18	1.06
5300	-3.73	42.32	1.26
5325	-3.77	41.95	1.16
5350	-3.61	43.5	1.41
5375	-3.43	45.44	1.73
5400	-3.39	45.84	1.73
5425	-3.43	45.41	1.52
5450	-3.58	43.88	1.24
5475	-3.73	42.33	1.12
5500	-3.79	41.8	1.42
5525	-3.65	43.19	1.57
5550	-3.52	44.46	1.95
5575	-3.22	47.67	2.4
5600	-3.05	49.5	2.62
5625	-2.82	52.29	2.98
5650	-2.66	54.22	3.21
5675	-2.69	53.84	3.25
5700	-2.63	54.62	3.37
5725	-2.65	54.38	3.41
5750	-2.58	55.23	3.53
5775	-2.6	54.94	3.43
5800	-2.64	54.47	3.29
5825	-2.71	53.56	3.12
5850	-2.75	53.11	3.1

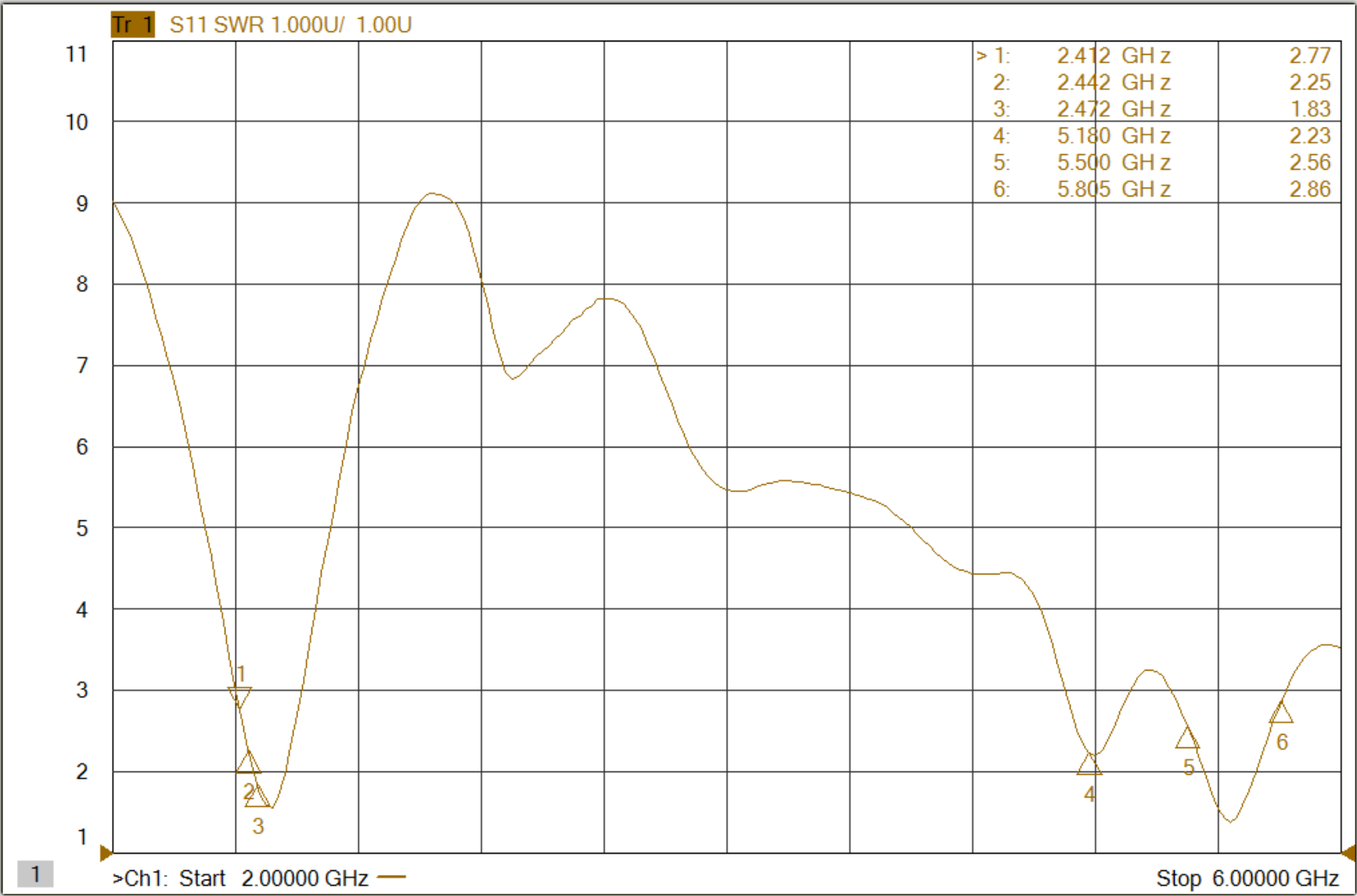
2450MHZ



5650MHZ

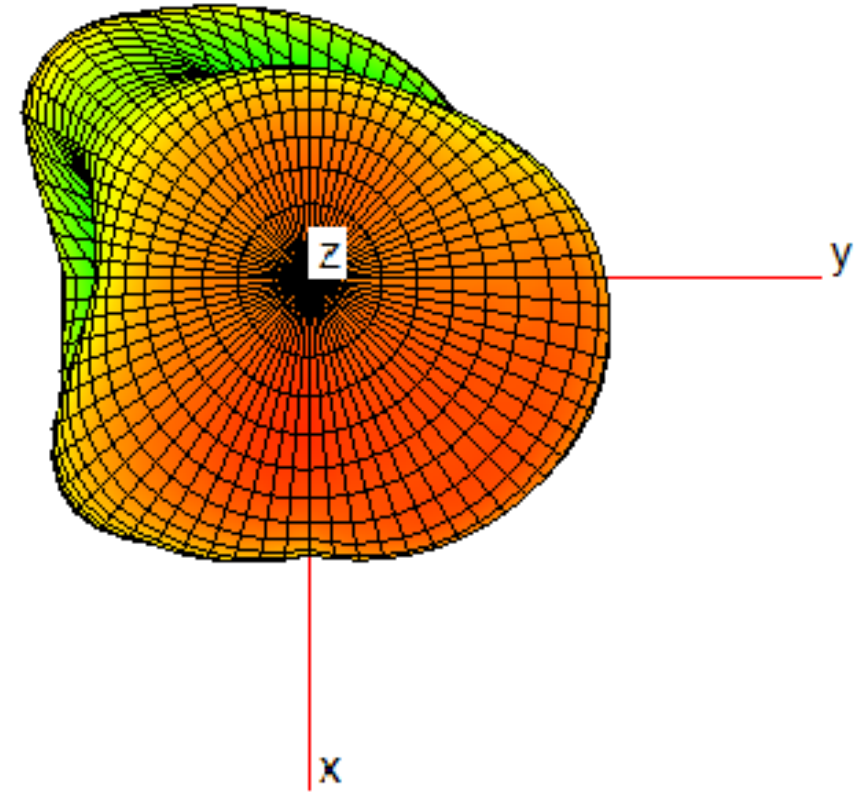
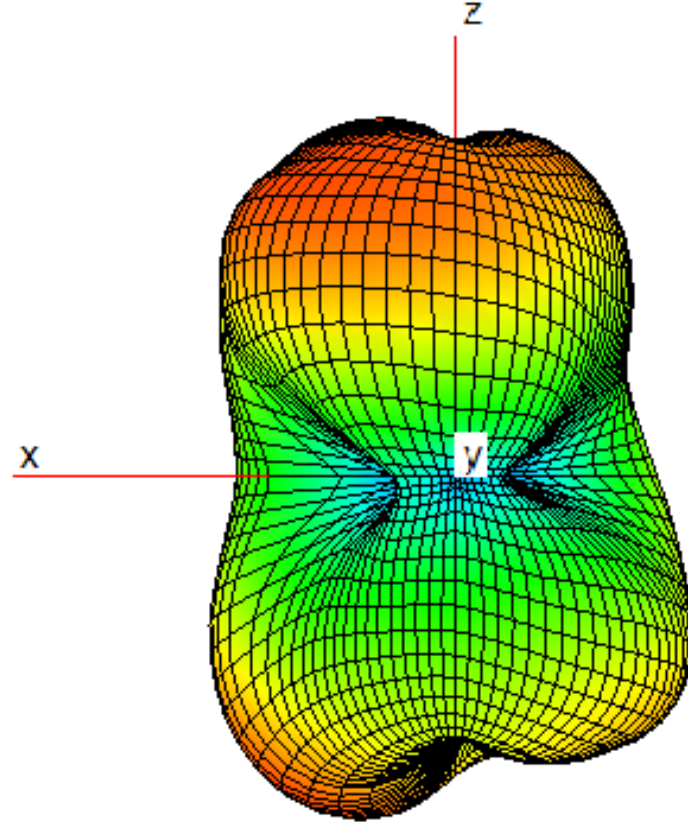
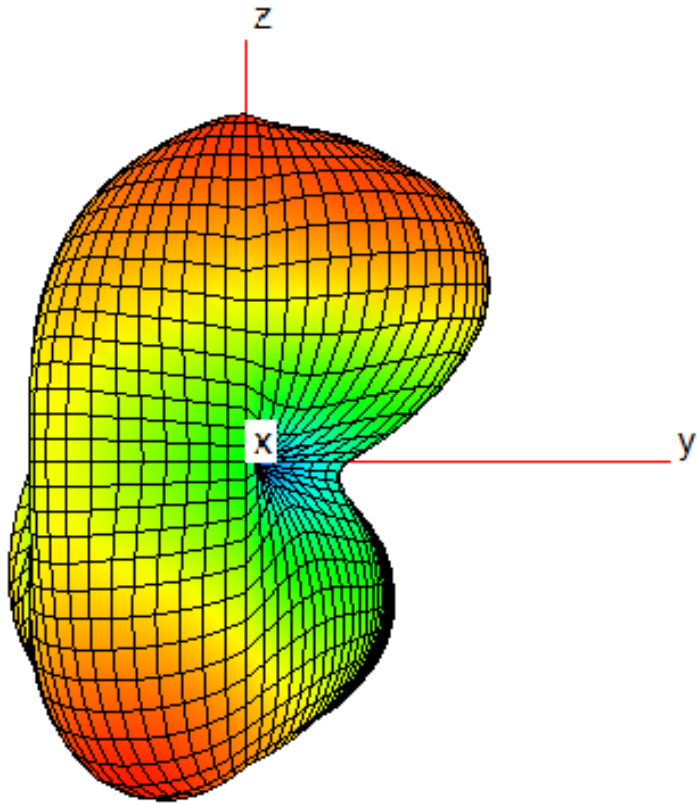


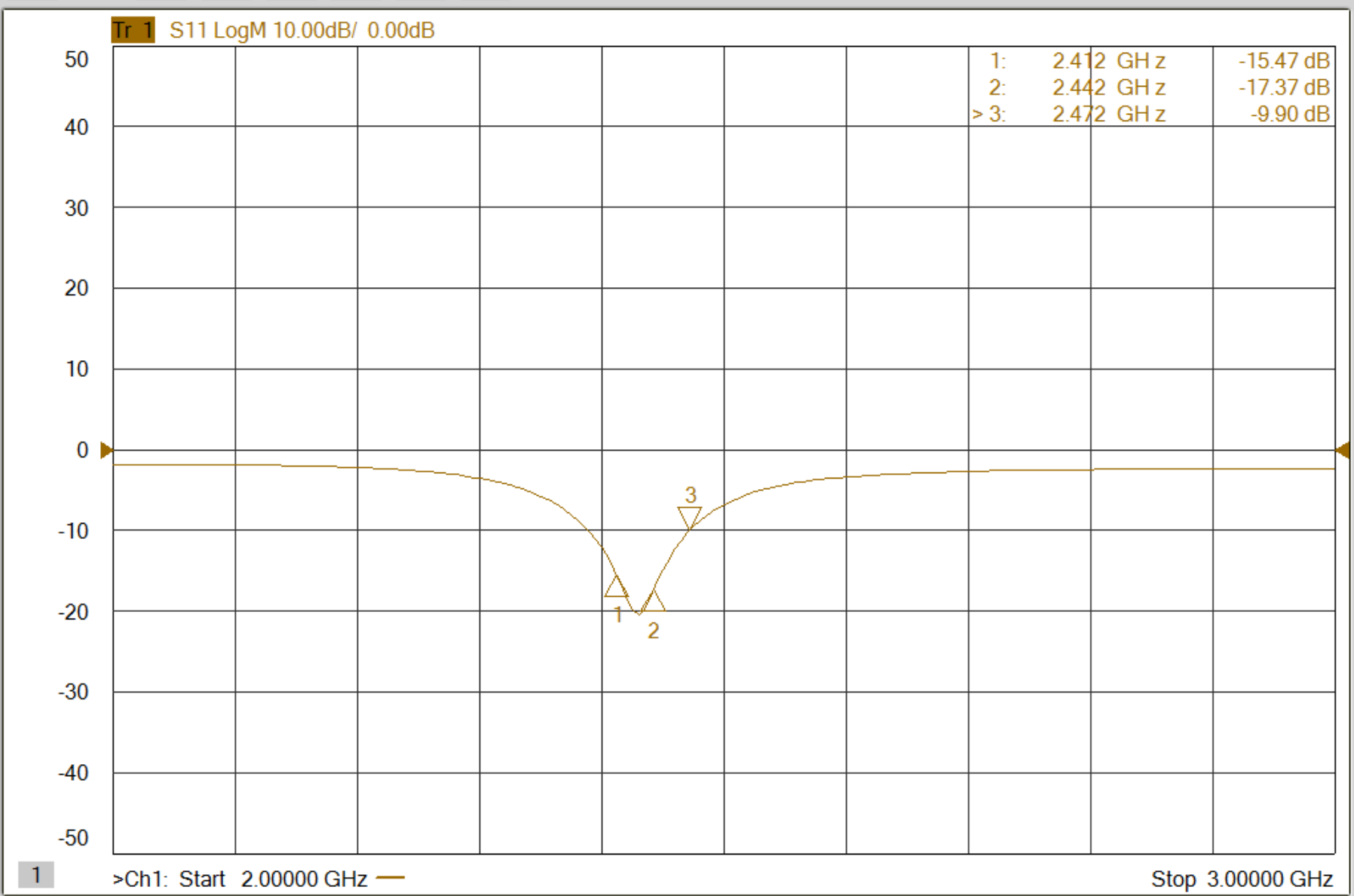


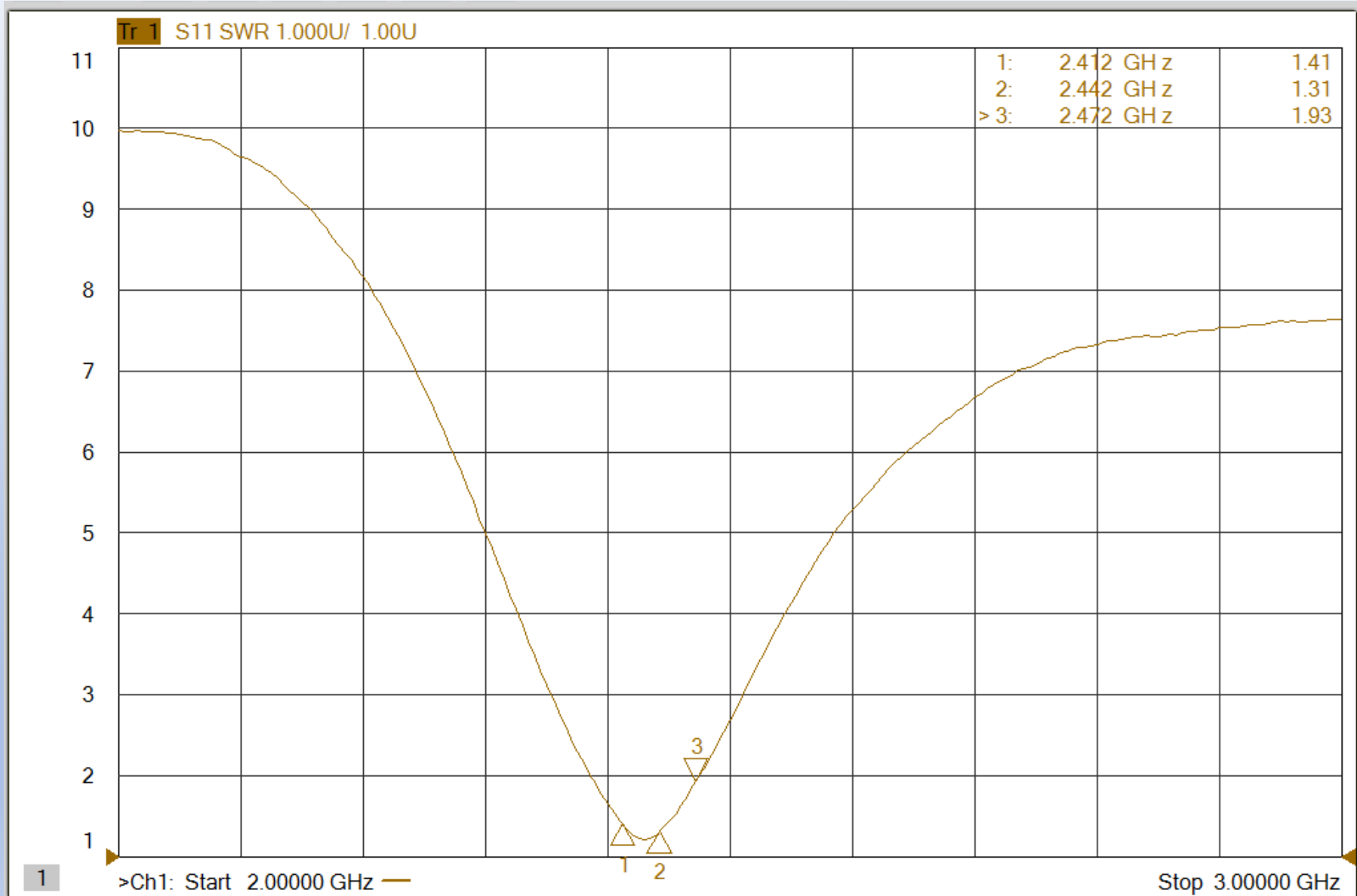


BT			
Freq	EfficiencydB	EfficiencyPcent	Gain
2300	-4.75	33.53	-0.1
2310	-4.47	35.72	0.24
2320	-4.26	37.48	0.42
2330	-3.95	40.31	0.79
2340	-3.63	43.37	1.07
2350	-3.35	46.26	1.31
2360	-2.99	50.19	1.73
2370	-2.8	52.42	1.73
2380	-2.56	55.53	1.98
2390	-2.3	58.87	2.26
2400	-2.09	61.83	2.46
2410	-1.91	64.48	2.73
2420	-1.74	67.02	2.97
2430	-1.68	67.96	3.18
2440	-1.66	68.24	3.32
2450	-1.72	67.23	3.44
2460	-1.86	65.13	3.38
2470	-2.04	62.53	3.27
2480	-2.24	59.66	3.21
2490	-2.5	56.18	2.96
2500	-2.79	52.57	2.78
2510	-3.07	49.33	2.51
2520	-3.39	45.78	2.19
2530	-3.7	42.69	1.92
2540	-3.99	39.94	1.63
2550	-4.35	36.73	1.23
2560	-4.69	33.96	0.77
2570	-5.05	31.29	0.47
2580	-5.45	28.54	-0.08
2590	-5.8	26.32	-0.55
2600	-6.21	23.91	-0.93

2450MHZ



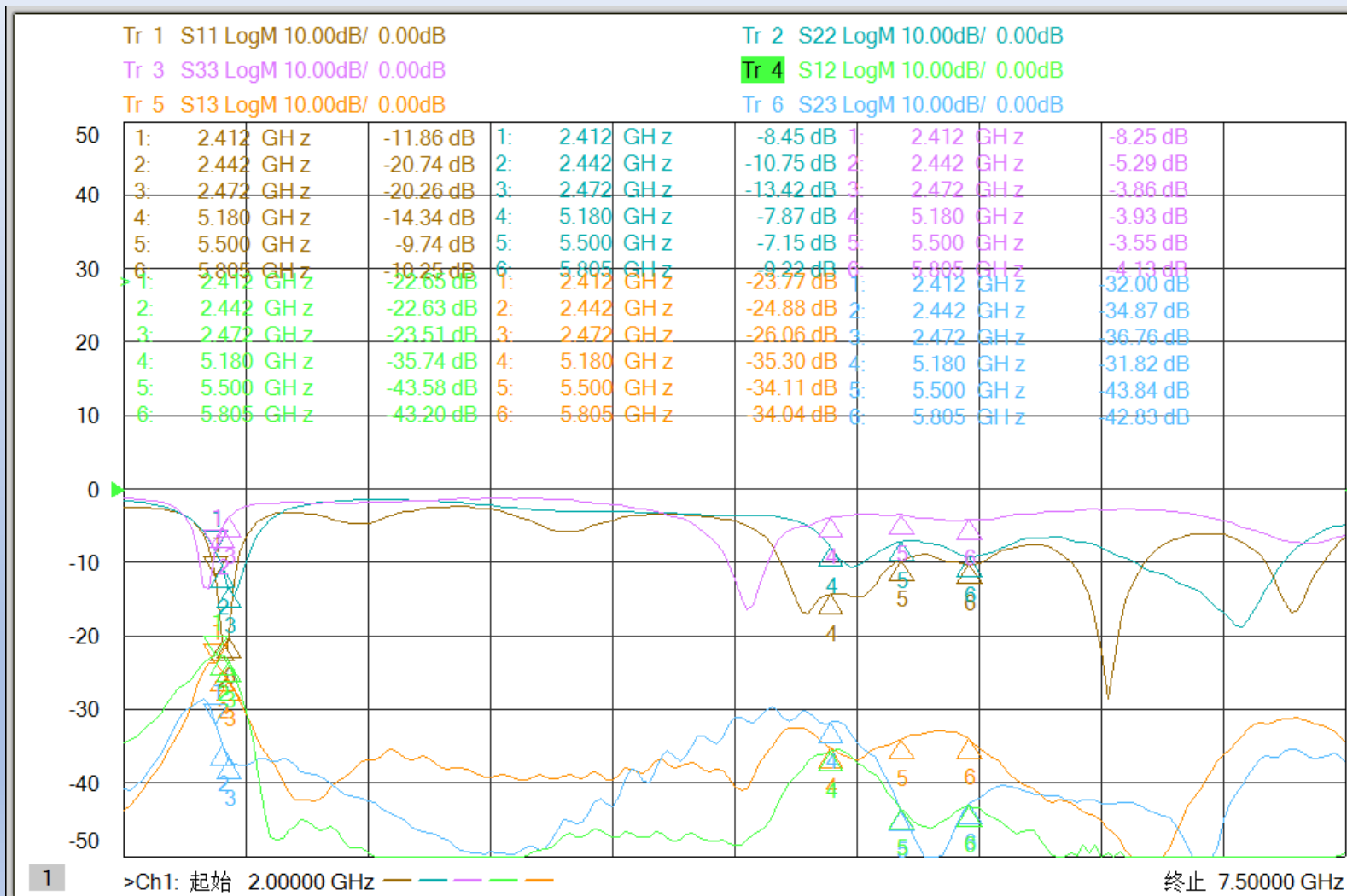




WIFI-0-Tr 1 S11

WIFI-1-Tr 2 S22

BT-Tr 3 S33





深圳汉阳天线设计有限公司

SHENZHEN HANYANG ANTENNA DESIGN CO. LTD.

5G

Welcome calls consultations, negotiations and guidance come!

Thank you

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Tel: 0755-23069700

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