

深圳市鑫尔盛科技有限公司

Shenzhen xinersheng Technology Co., Ltd

Passive Antenna Test Report

Model:EL.RTL8733BU-CWFT
Engineering: Fang Zhili
Date: 2024-05-27

Manufacturer : EXPRESS LUCK INDUSTRIAL (SHENZHEN) LIMITED

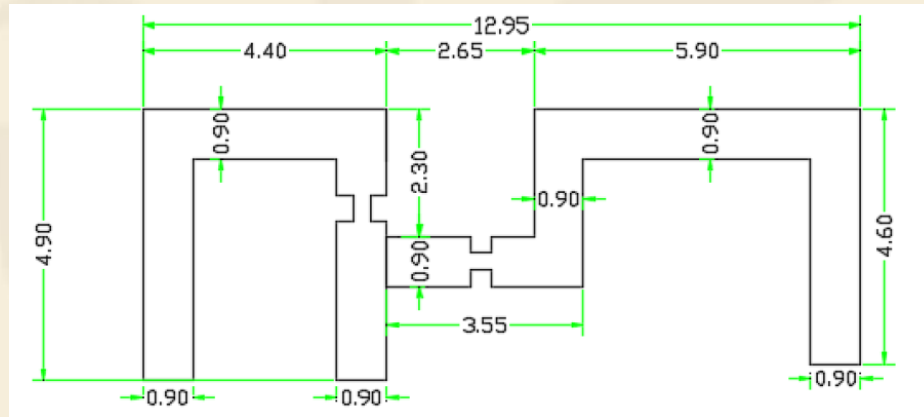
Address: Floor1, Workshop1, No.88, South Baotong Road, Xikeng Community Yuanshan Street, Longgang District,
Shenzhen, GuangDong, China

1. Multi-probe RF antenna test system

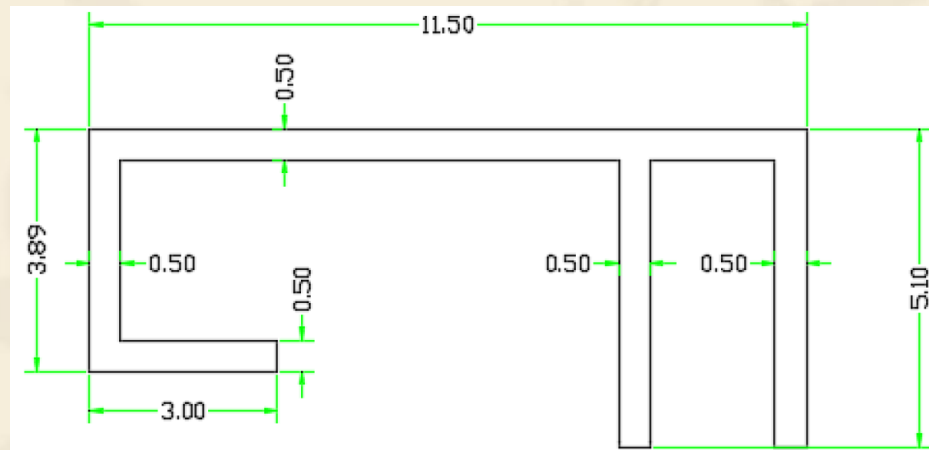


2. Antenna size

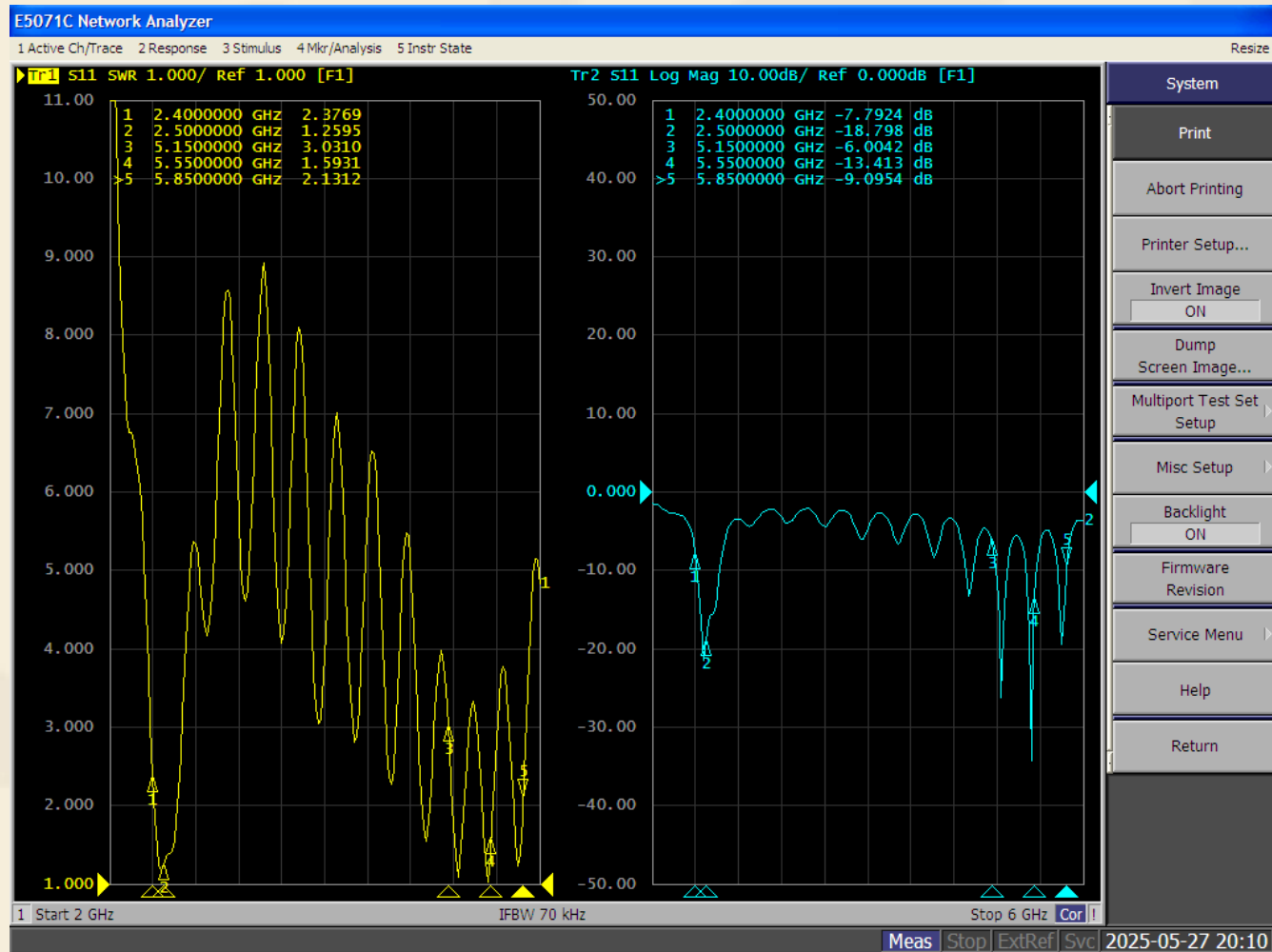
Antenna 1: Unit: mm



Antenna 2: Unit: mm



3. Antenna1 S11:

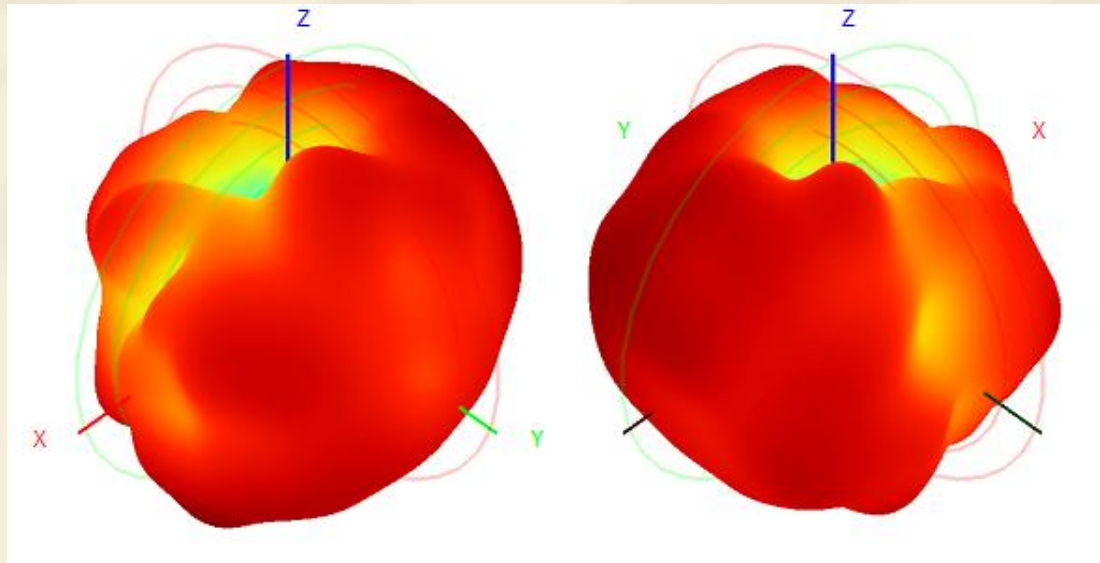


3. Antenna1 passive test data:

Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0	5150.0	5200.0	5250.0	5300.0
Efficiency (dBi)	-8.19	-7.36	-6.74	-6.51	-6.60	-6.65	-6.92	-7.07	-7.20	-7.40	-7.51	-9.29	-7.22	-6.39	-7.49
Gain (dBi)	-3.78	-2.39	-2.07	-1.87	-1.92	-1.88	-2.28	-2.30	-2.67	-2.71	-2.67	-2.02	-0.45	0.97	0.13
Efficiency (%)	15.17	18.37	21.18	22.32	21.87	21.63	20.34	19.63	19.04	18.19	17.74	11.78	18.97	22.98	17.82
Directivity (dB)	4.41	4.97	4.67	4.64	4.68	4.77	4.63	4.77	4.53	4.69	4.84	7.27	6.77	7.35	7.62
Peak Gain Position (Theta)	59.00	115.00	90.00	90.00	56.00	54.00	54.00	103.00	97.00	120.00	121.00	89.00	102.00	96.00	103.00
Peak Gain Position (Phi)	4.00	228.00	340.00	340.00	339.00	342.00	344.00	231.00	257.00	219.00	218.00	275.00	293.00	291.00	215.00
Efficiency ThetaPol (%)	3.84	4.60	5.31	5.55	5.52	5.68	5.51	5.56	4.99	4.54	4.27	4.63	6.05	7.22	5.97
Efficiency PhiPol (%)	11.33	13.77	15.87	16.77	16.35	15.95	14.83	14.07	14.05	13.65	13.47	7.15	12.91	15.77	11.85
Upper Hem. Efficiency (%)	8.05	9.74	11.09	11.63	11.30	11.14	10.52	9.94	9.46	9.00	8.76	6.03	10.20	11.41	9.02
Lower Hem. Efficiency (%)	7.12	8.63	10.09	10.69	10.57	10.49	9.82	9.69	9.59	9.19	8.98	5.75	8.76	11.57	8.81

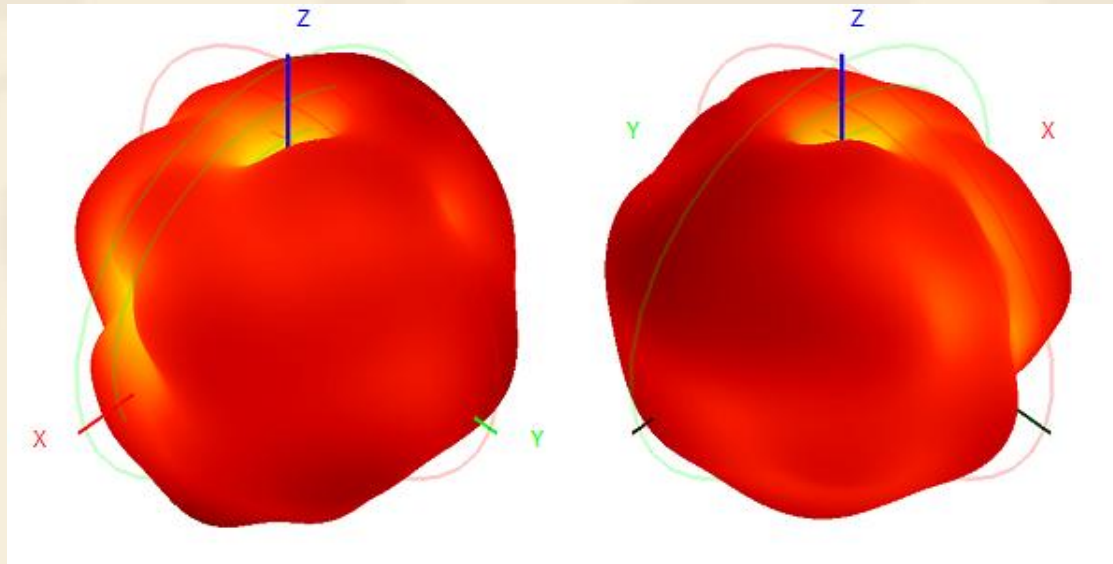
Frequency ID	16	17	18	19	20	21	22	23	24	25	26
Frequency (MHz)	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0	5850.0
Efficiency (dBi)	-8.42	-9.22	-8.11	-7.10	-7.48	-8.82	-9.82	-9.55	-8.10	-6.65	-8.27
Gain (dBi)	-0.47	-0.93	0.63	1.89	1.60	0.68	-0.29	0.10	1.47	3.17	1.23
Efficiency (%)	14.39	11.95	15.44	19.49	17.88	13.12	10.43	11.10	15.49	21.65	14.91
Directivity (dB)	7.95	8.29	8.74	9.00	9.08	9.51	9.53	9.65	9.57	9.81	9.50
Peak Gain Position (Theta)	98.00	101.00	88.00	90.00	92.00	90.00	89.00	91.00	89.00	89.00	88.00
Peak Gain Position (Phi)	215.00	215.00	232.00	232.00	232.00	232.00	232.00	232.00	231.00	231.00	231.00
Efficiency ThetaPol (%)	4.44	4.19	5.20	6.30	5.64	4.69	3.69	3.84	5.53	7.48	5.74
Efficiency PhiPol (%)	9.95	7.77	10.24	13.19	12.24	8.43	6.74	7.26	9.96	14.17	9.17
Upper Hem. Efficiency (%)	7.72	6.01	8.18	9.89	8.78	7.02	5.64	5.80	8.48	11.08	8.13
Lower Hem. Efficiency (%)	6.67	5.95	7.27	9.60	9.11	6.10	4.80	5.30	7.02	10.57	6.78

3. Antenna 1 3D:



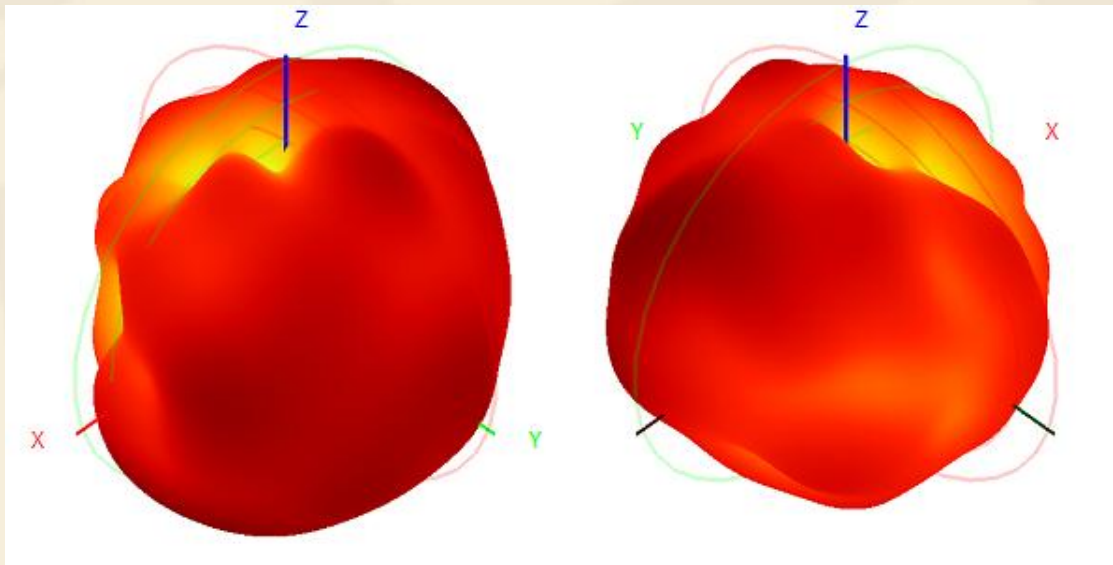
Frequency: 2400MHz, Peak Gain: -3.78dBi

3. Antenna 1 3D:



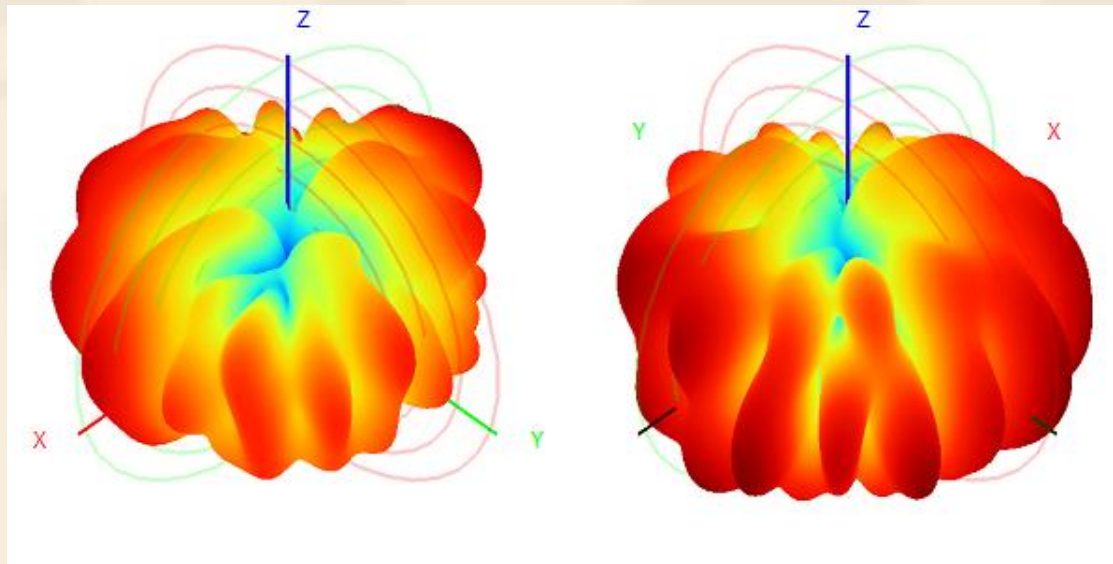
Frequency: 2450MHz, Peak Gain: -1.88dBi

3. Antenna 1 3D:



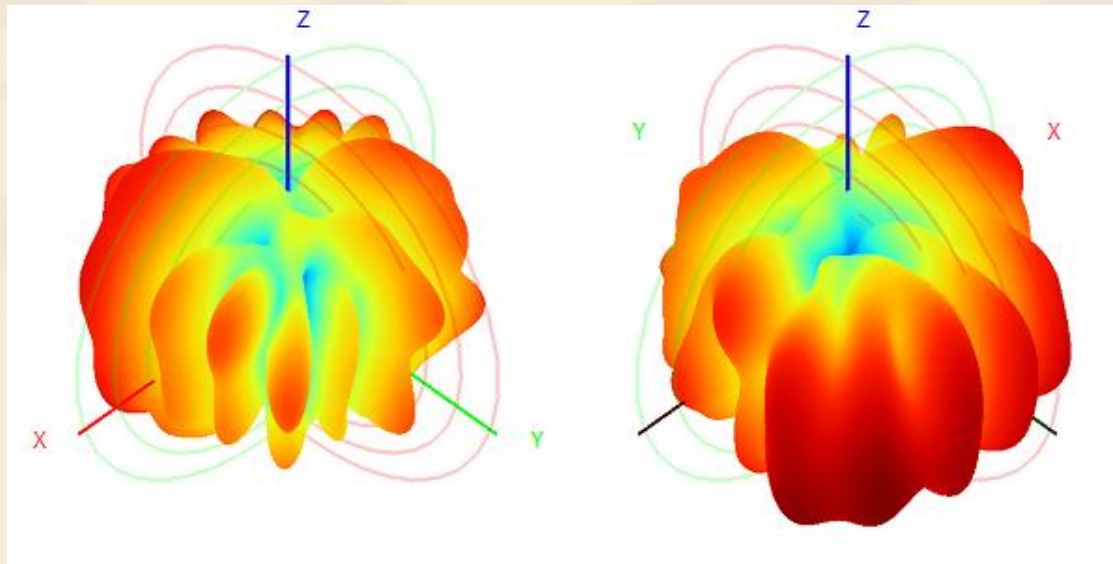
Frequency: 2500MHz, Peak Gain: -2.67dBi

3. Antenna 1 3D:



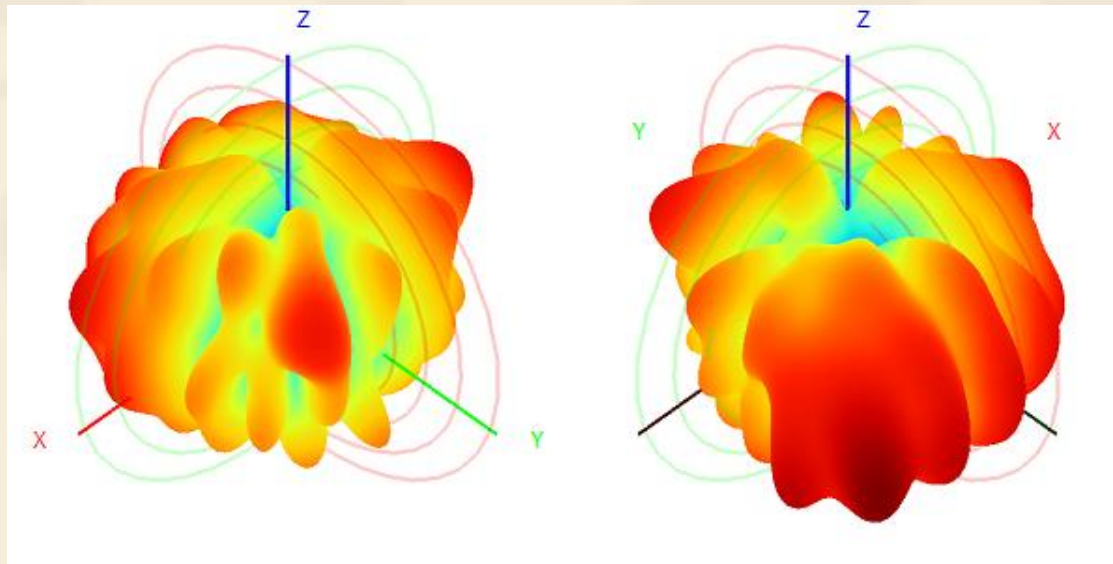
Frequency: 5150MHz, Peak Gain: -2.02dBi

3. Antenna 1 3D:



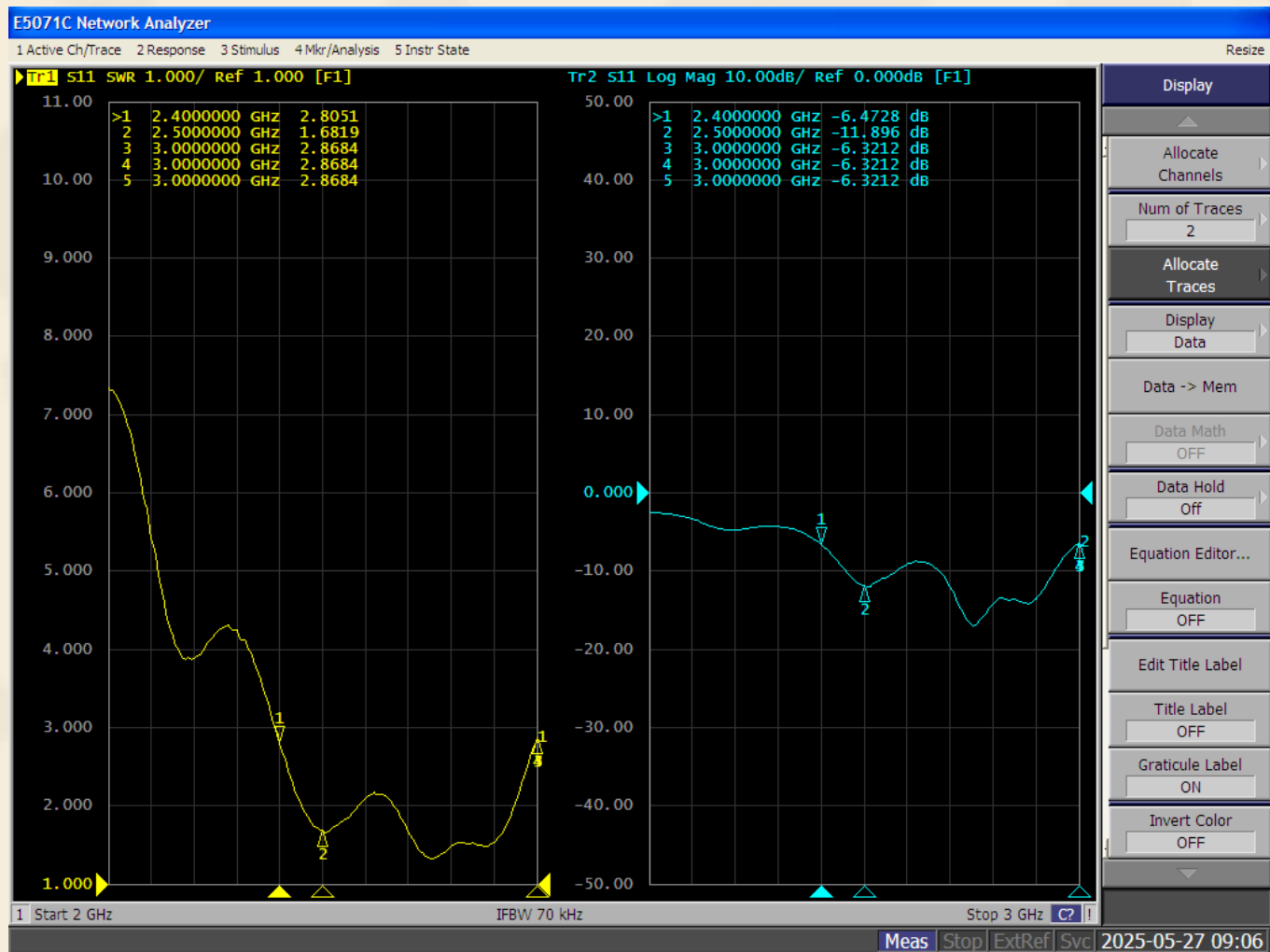
Frequency: 5500MHz, Peak Gain: 1.89dBi

3. Antenna 1 3D:



Frequency: 5850MHz, Peak Gain: 1.23dBi

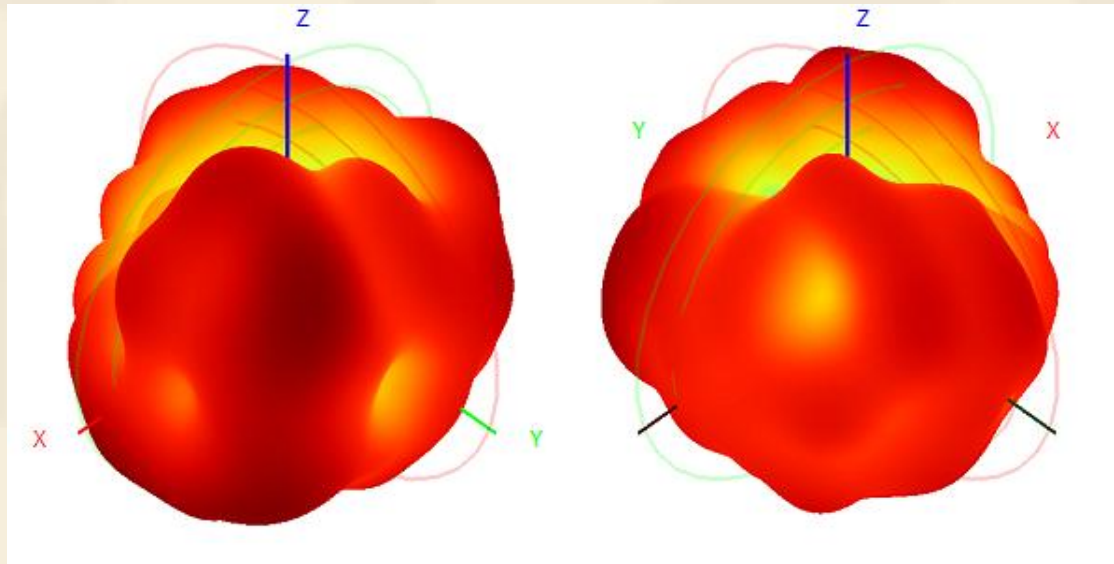
4. Antenna 2 S11:



4. Antenna 2 passive test data:

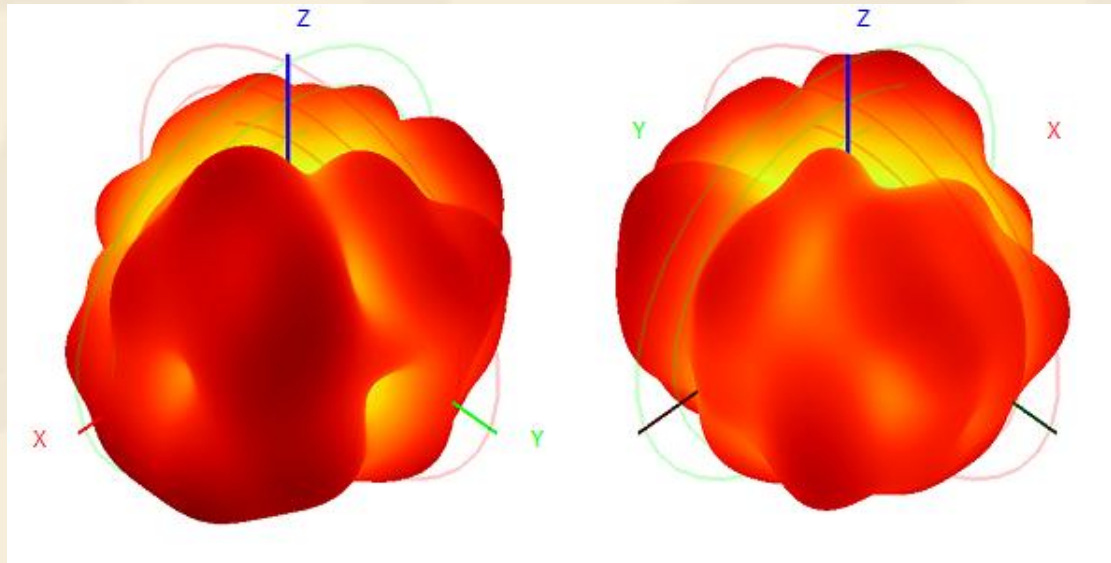
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-11.63	-10.94	-10.30	-9.87	-9.38	-8.84	-8.44	-8.04	-7.81	-7.84	-8.06
Gain (dBi)	-6.87	-5.88	-5.15	-4.85	-4.37	-3.79	-3.46	-3.08	-2.27	-2.37	-2.66
Efficiency (%)	6.87	8.05	9.32	10.31	11.52	13.07	14.32	15.69	16.57	16.43	15.65
Directivity (dB)	4.76	5.06	5.15	5.02	5.02	5.05	4.98	4.97	5.53	5.48	5.40
Peak Gain Position (Theta)	121.00	51.00	52.00	55.00	120.00	119.00	118.00	117.00	99.00	99.00	98.00
Peak Gain Position (Phi)	17.00	48.00	47.00	46.00	18.00	18.00	18.00	19.00	29.00	29.00	30.00
Efficiency ThetaPol (%)	2.54	2.96	3.39	3.73	4.22	4.96	5.60	6.14	6.24	6.05	5.69
Efficiency PhiPol (%)	4.33	5.10	5.93	6.58	7.30	8.11	8.72	9.54	10.33	10.39	9.96
Upper Hem. Efficiency (%)	3.22	3.76	4.35	4.84	5.43	6.16	6.77	7.41	7.82	7.80	7.50
Lower Hem. Efficiency (%)	3.65	4.29	4.97	5.46	6.10	6.91	7.55	8.28	8.75	8.64	8.15

4. Antenna 2 3D:



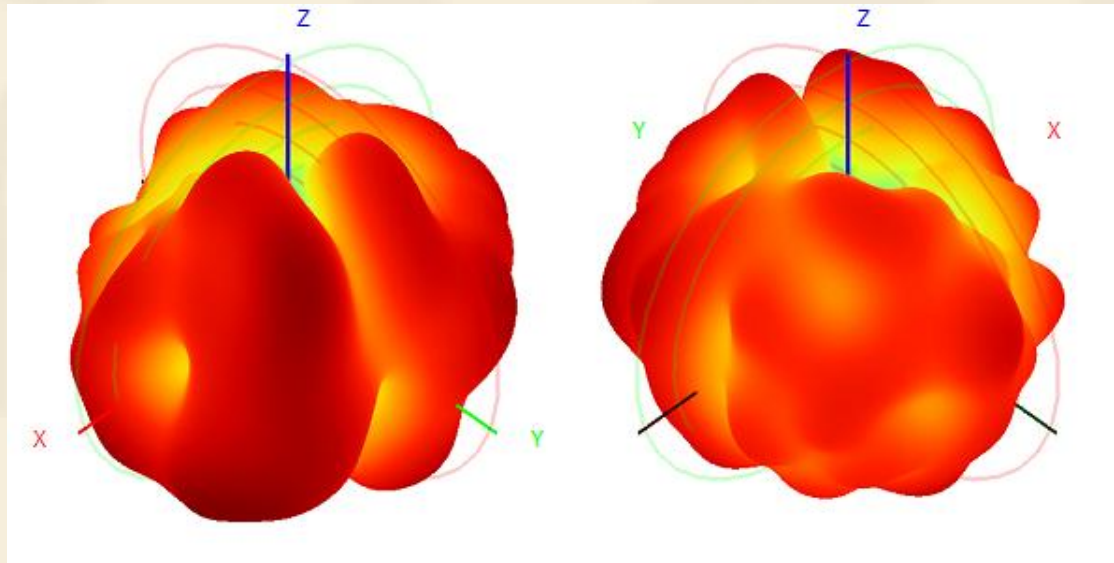
Frequency: 2400MHz, Peak Gain: -6.87dBi

4. Antenna 2 3D:



Frequency: 2450MHz, Peak Gain: -3.79dBi

4. Antenna 2 3D:



Frequency: 2500MHz, Peak Gain: -2.66dBi