



深圳市天逸源电子科技有限公司
Shenzhen Tianyiyuan Elec&Technology CO.,Ltd

Tel: 13538032086 Fax: 0755-32936059

Address: Floor 6, Building A, Xinlongxin Industrial Park, No. 50 Fengtang Avenue, Fuhai Street, Bao'an District, Shenzhen

Acknowledgement

SPECIFICATION FOR APPROVAL

Name: WIFI Antenna(SA200)

Item No: WIFI Antenna TYY-TX2808

Custoer name: Shenzhen Xinruihe Technology Co., Ltd.

Company stamp: _____

drawing			Customer approve
MADE	CHECKED	APPROVED	
QIU	Jiang Zhiyuan	Tang Xiaohong	
DATE: 2024.08.16			DATE



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1. The

specification report mainly provides the test of various electrical performance parameters of the models of Shenzhen Xinruihe Technology Co., Ltd. TYY-TX2808 antenna is a built-in WIFI antenna, and the antenna is composed of FPC+RF line. (As shown in Figure 1 below) Figure 1 **TYY-TX2808** antenna **WIFI** antenna



Figure 2 **WIFI** main antenna **TYY-TX2808** (cable length 110mm, with 1st generation terminal)



Figure 3 Assembly drawing (WIFI antenna)

Tips: First buckle the terminal block and then tear off the adhesive tape on the back of the antenna. The antenna must be attached straight as shown above.

2. Electrical performance

2.1 WIFI antenna matching circuit, the matching circuit of this project is provided by the customer.



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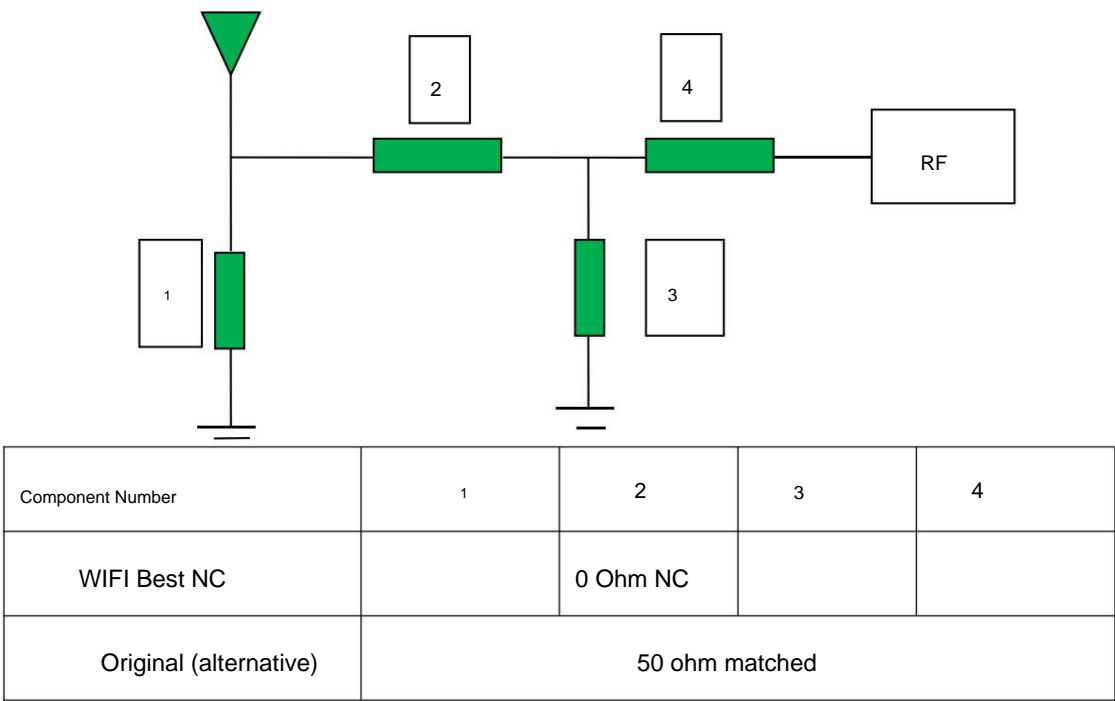


Figure 4 Agilent E5071C Network Analyzer

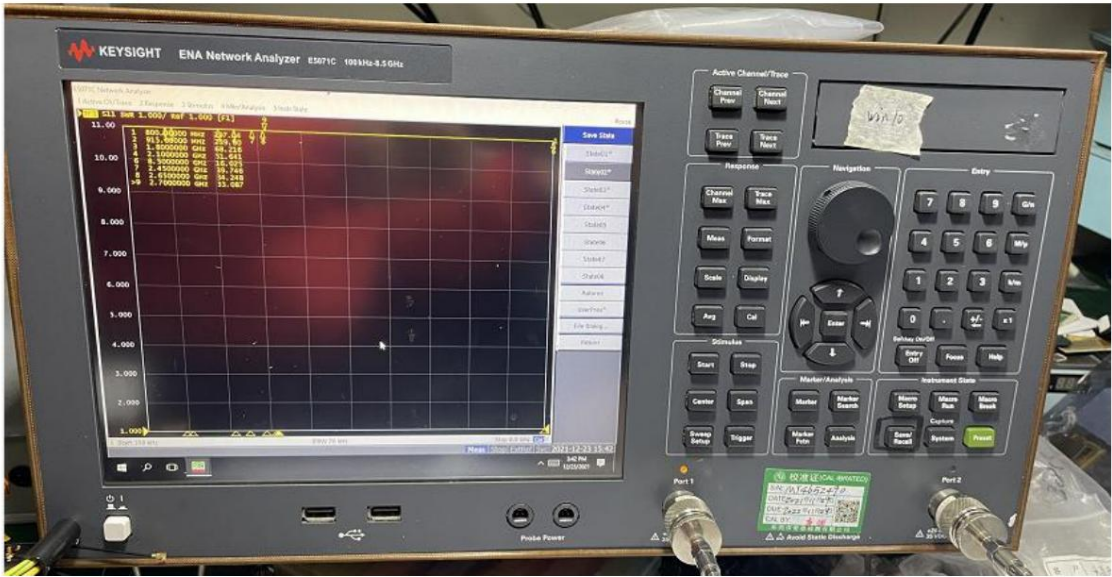


Figure 5 WIFI VSWR



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Frequency(MHz)	2400	2500	5700	5800	
VSWR	1.4	1.1	1.4	1.9	

Figure 6 OTA microwave darkroom





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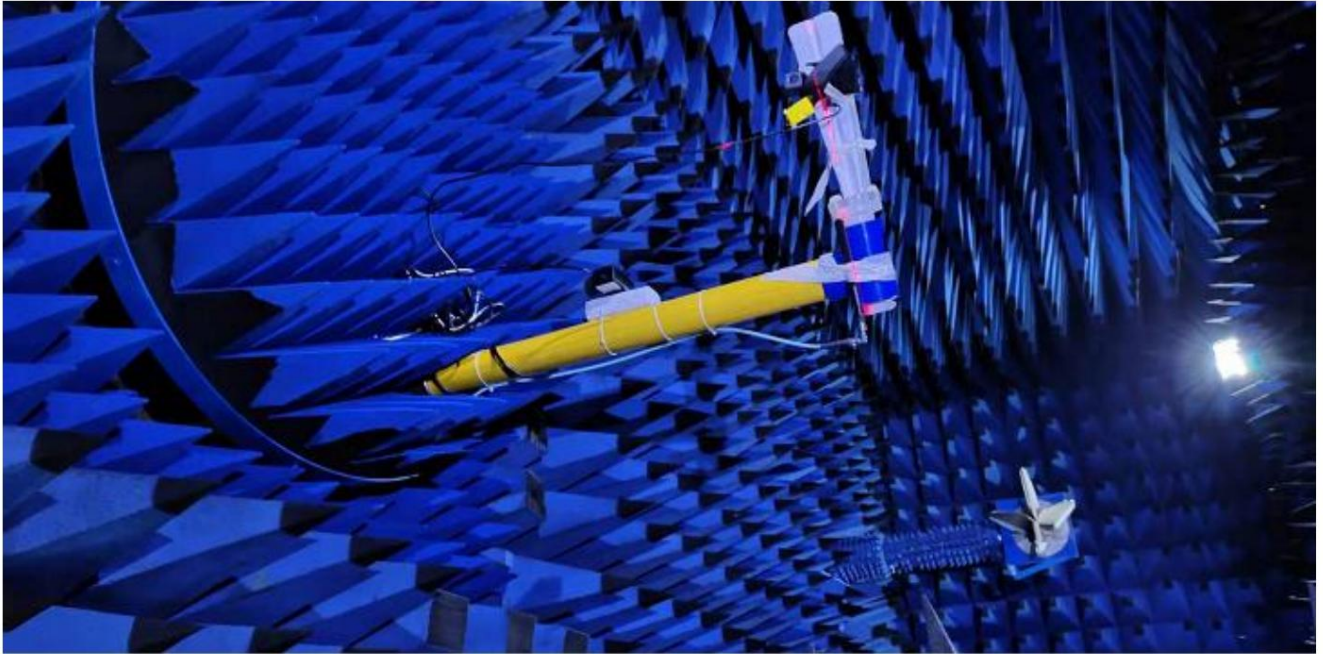
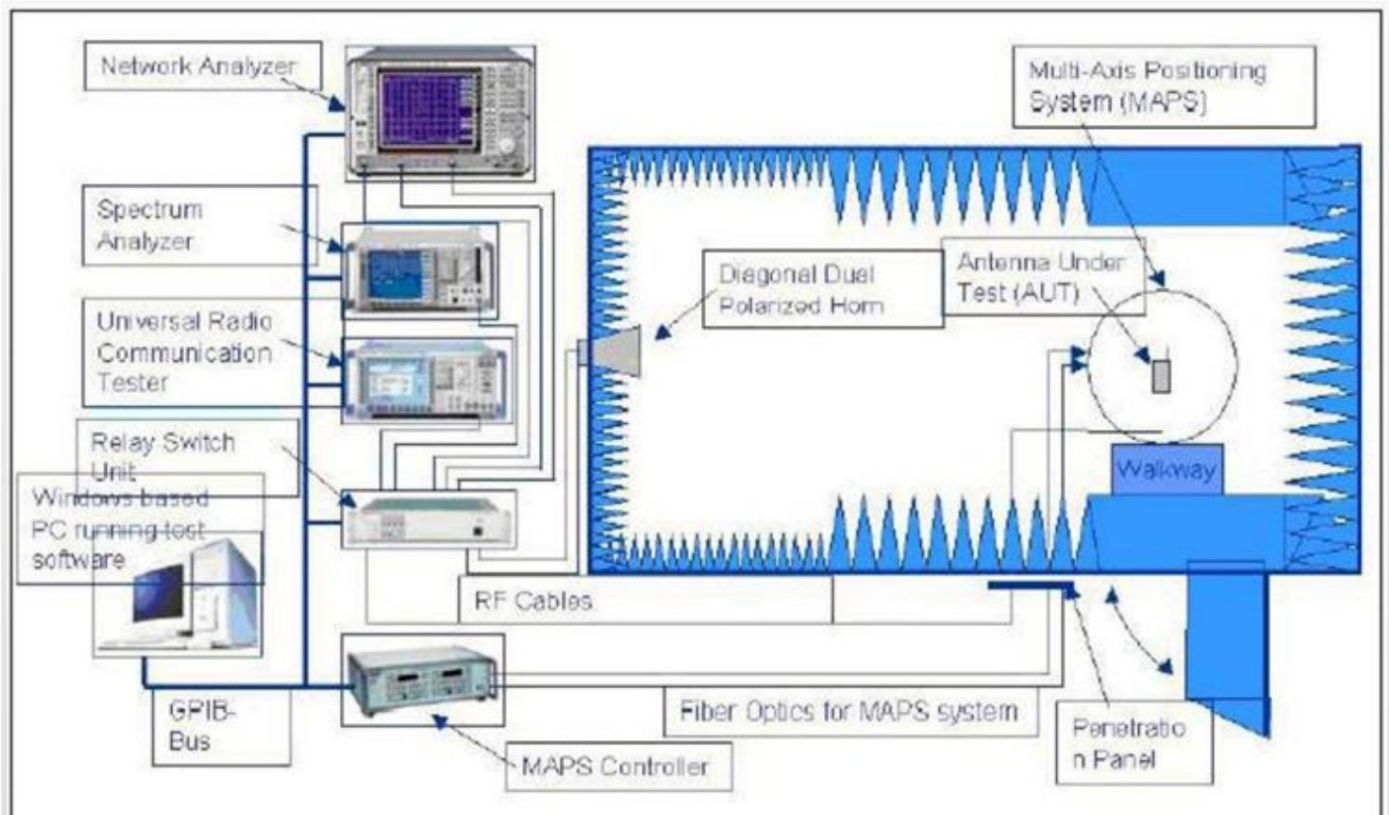


Figure 7 Test environment: OTA743 darkroom, 8960/W500/8753ES/5071C, machine placed with back to center

Quasi-horn antenna 4 meters turntable





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2.3 VSWR test

2.3.1. Test setup

The VSWR test equipment is connected in sequence: Agilent E5071C Network Analyzer® 50 ohm coaxial Cable® 120 mm long Copper Tube® Test Fixture Test Fixture Processing: Use a hard wire to test the 50 ohm test point of the antenna on the flat PCB.

The cable leads out of the SMA-J connector, connects to the copper tube with a choke, and then connects to other devices in turn.

Figure 8 Standing wave ratio (VSWR)



VSWR Standing Wave Ratio

Standard	2.4~52.5GHz		5.7~5.8GHz		
Frequency(MHz)	2400	2500	5700	5800	
VSWR	1.4	1.1	1.4	1.9	

WIFI passive test report



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FETUKEJI												
Frequency ID	1	3	5	7	9	11	12	14	16	18	20	22
Frequency (MHz)	2400.0	2420.0	2440.0	2460.0	2480.0	2500.0	5700.0	5720.0	5740.0	5760.0	5780.0	5800.0
Efficiency (dBi)	-2.44	-2.50	-1.91	-1.59	-1.47	-2.10	-1.49	-1.08	-2.62	-1.42	-1.52	-1.55
Gain (dBi)	2.22	2.61	3.43	3.80	2.91	2.38	3.39	4.13	2.22	3.61	3.78	2.82
Efficiency (%)	57.02	56.28	64.38	69.33	71.29	61.70	71.01	78.01	54.67	72.14	70.49	70.06
Directivity (dB)	4.66	5.11	5.34	5.39	4.38	4.48	4.88	5.21	4.85	5.03	5.30	4.37
Peak Gain Position (Theta)	144.00	141.00	144.00	124.00	144.00	145.00	80.00	127.00	79.00	86.00	141.00	81.00
Peak Gain Position (Phi)	180.00	180.00	180.00	210.00	180.00	180.00	90.00	90.00	90.00	270.00	60.00	90.00
Efficiency ThetaPol (%)	39.41	39.00	45.30	49.26	50.37	43.36	22.93	23.88	24.09	23.92	23.84	23.39
Efficiency PhiPol (%)	17.60	17.28	19.08	20.07	20.92	18.34	48.08	54.13	30.58	48.22	46.65	46.67
Upper Hem. Efficiency (%)	21.62	20.70	23.32	25.75	27.24	23.07	33.45	36.85	26.01	33.82	32.02	31.23
Lower Hem. Efficiency (%)	35.39	35.57	41.06	43.58	44.04	38.62	37.56	41.16	28.66	38.32	38.47	38.83

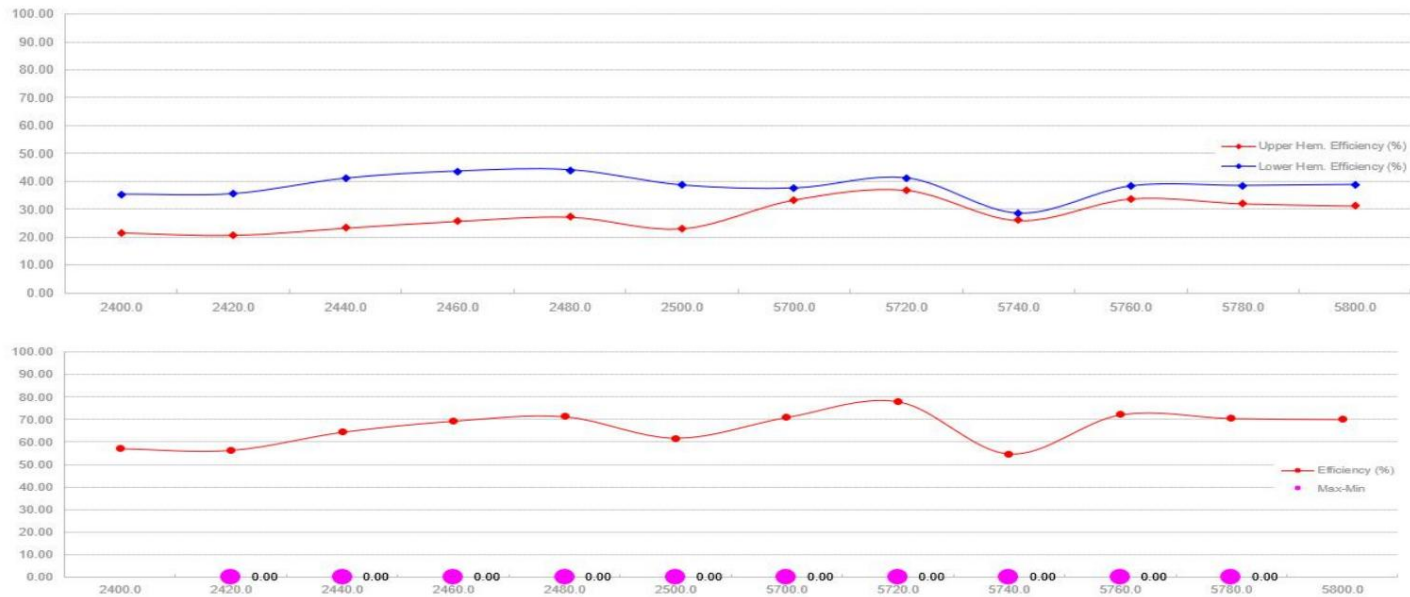
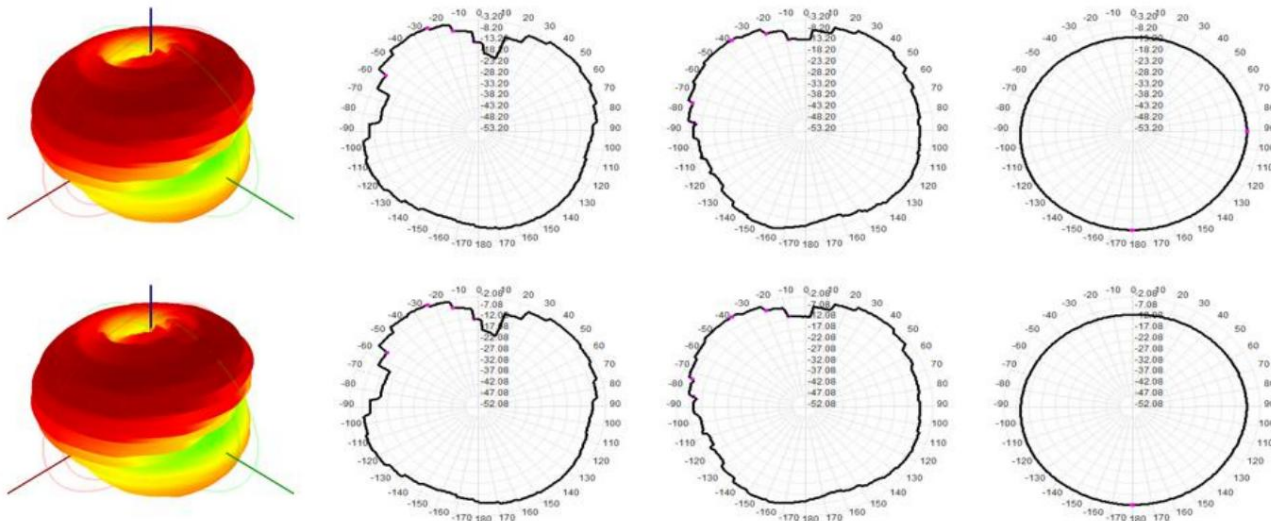


Figure 9 Direction diagram

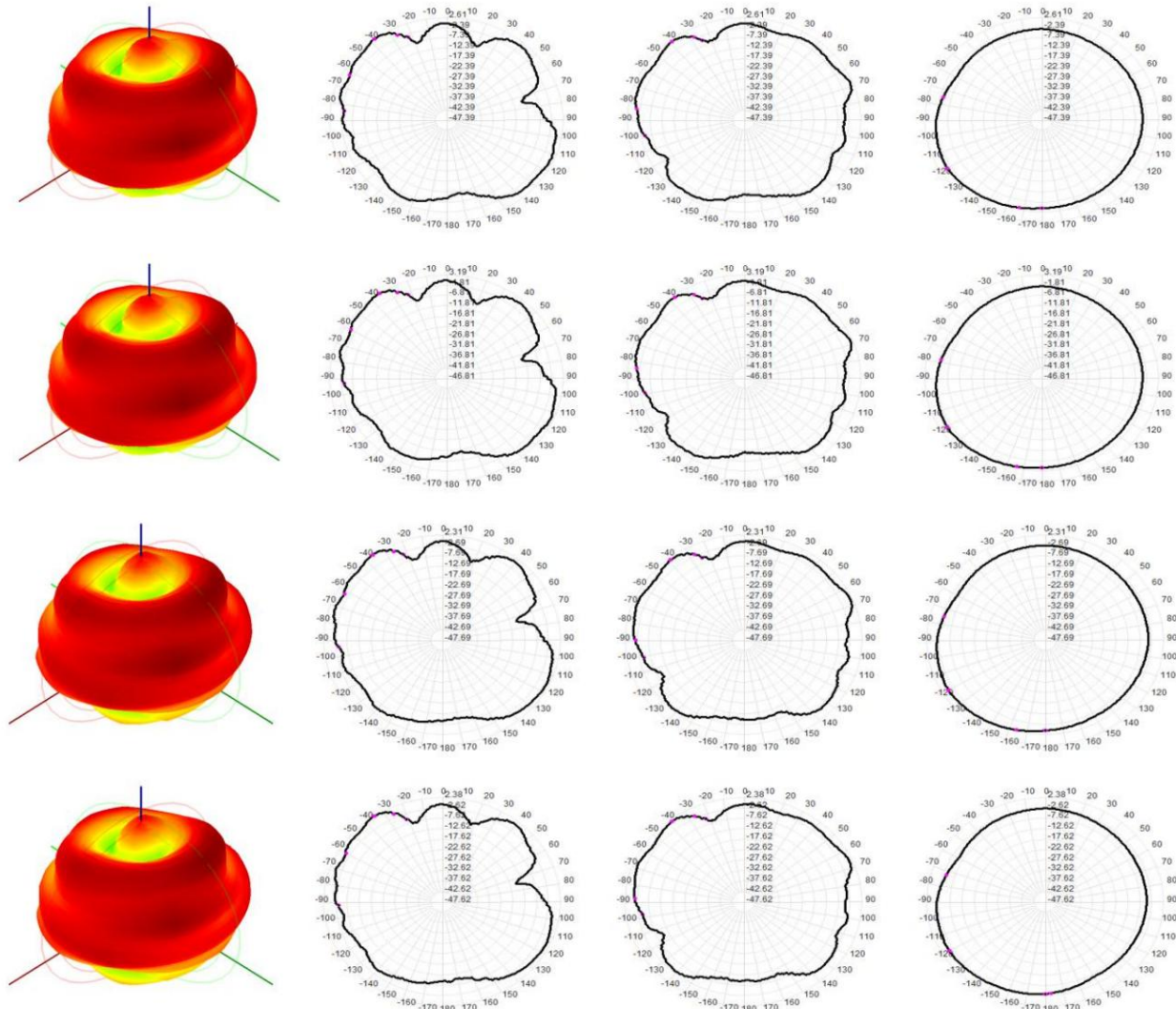




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4. Recommendations and Conclusions

This report is based on the final version of the project proposed by Shenzhen Xinruihe Technology Co., Ltd.

Antenna electrical performance: From the above test data, we can see that this antenna provides good electrical performance.

Tianyiyuan R&D looks forward to your confirmation, thank you for your cooperation!