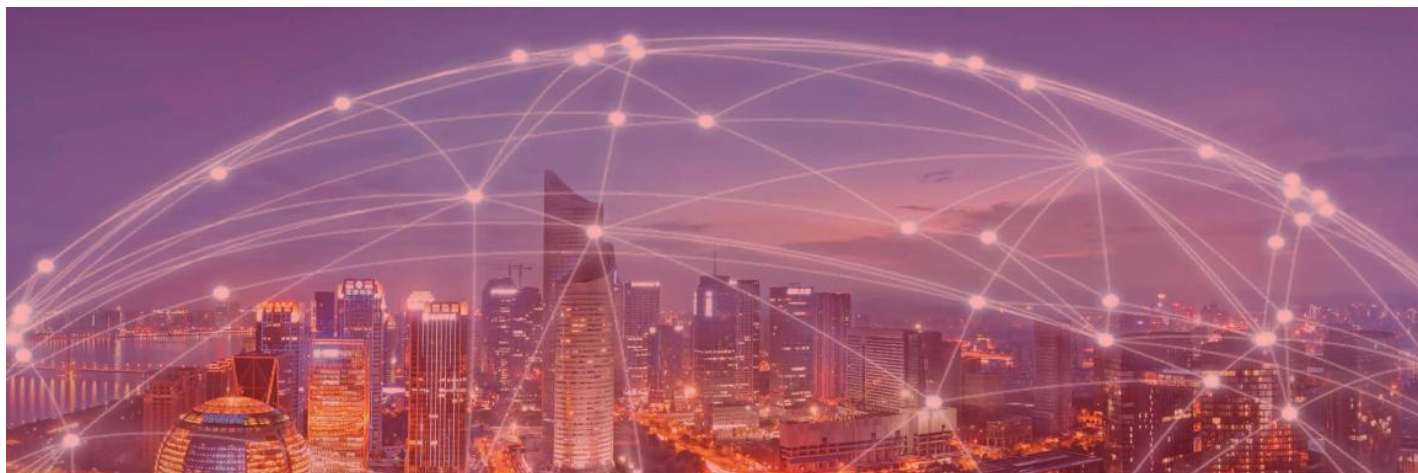




深圳市天逸源电子科技有限公司
Shenzhen Tianyiyuan Elec&Technology CO.,Ltd



Project Information

客户 <u>Customer</u>	<u>Shenzhen Xinchuangjin Technology Co., Ltd.</u>
项目名 <u>Project</u>	--
频段 <u>Band</u>	2400/5150/5850 MHz
TTY 料号 <u>Part number</u>	TTY-TX5008
版本 <u>Version</u>	01
射频 <u>RF</u>	Mr. Tang
结构 <u>ME</u>	Mr. Jiang
日期 <u>Date</u>	2025.03.27
报告版本 <u>project Version</u>	V1.0
客户料号 <u>Customer part number</u>	



WIFI Specification

1、Specifications

This report provides electrical performance test results for the Shenzhen Xinchuangjin Technology Co., Ltd. device. The TYY-TX5008 antenna is an internal WIFI antenna composed of FPC and RF cable (as shown in Figure 1).

The finished product features			
电 性 能 指 标		Electrical Specifications	
频率范围	2400~2500MHZ	Frequency Range	2400~2500MHZ
电压驻波比	≤1.5	VSWR	≤1.5
最大增益	2.51DBI	Max GAIN	2.51DBI
输入阻抗	50 Ω	Input Impedance	50 Ω
机 械 指 标		Mechanical Specifications	
天线颜色	黑色	Antenna Color	BLACK
接口形式	IPEX-1	Input connector	IPEX-1
线长度	80mm	Cable length	80mm
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
工作湿度	20~80%	Working Humidity	20~80%

Figure 1 TYY-TX5008



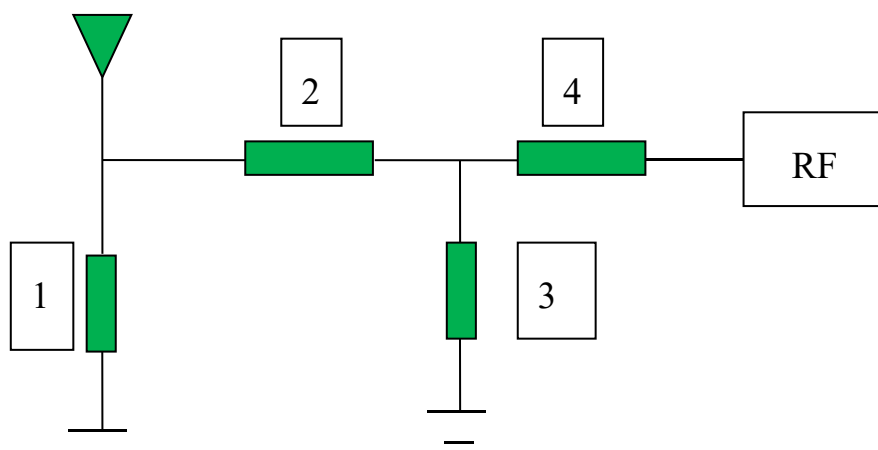
Figure 2 TYY-TX5008 WIFI ANT(Cable 80mm)



Figure 3 Assembly drawing (WIFI ANT)

2. Electrical Performance

2.1 The matching circuit for this project is provided by the customer.



Component Number	1	2	3	4
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图 4 Agilent E5071C

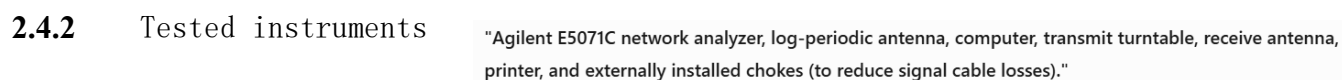


Figure 5 OTA Microwave darkroom

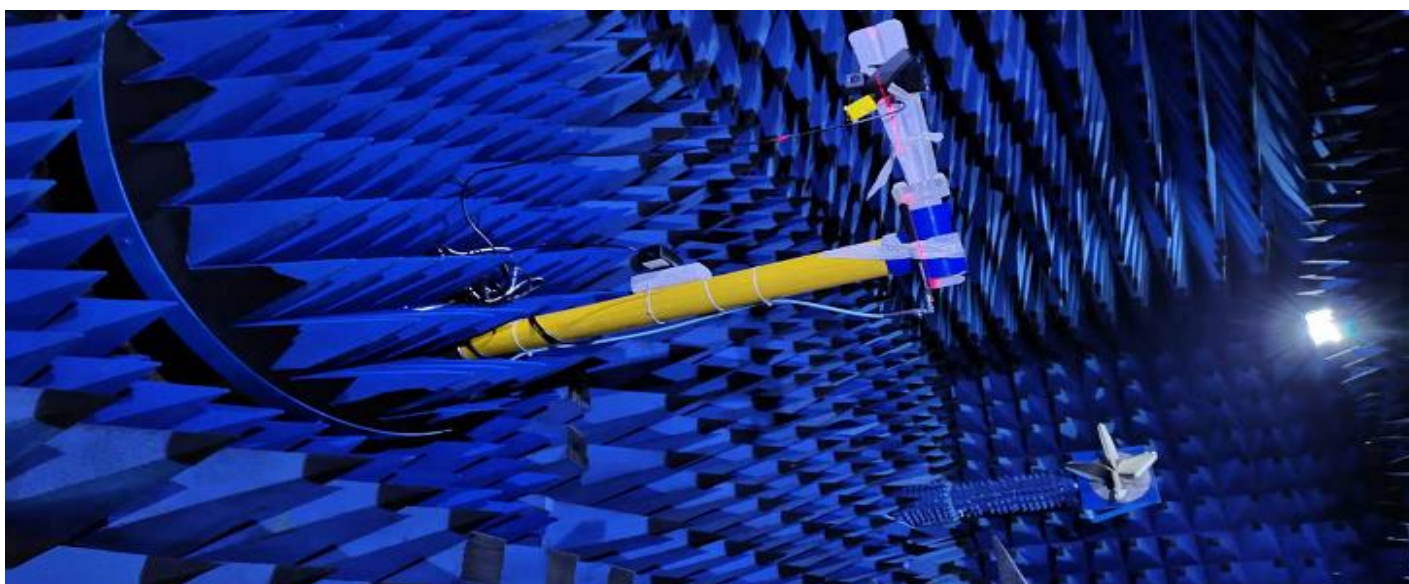
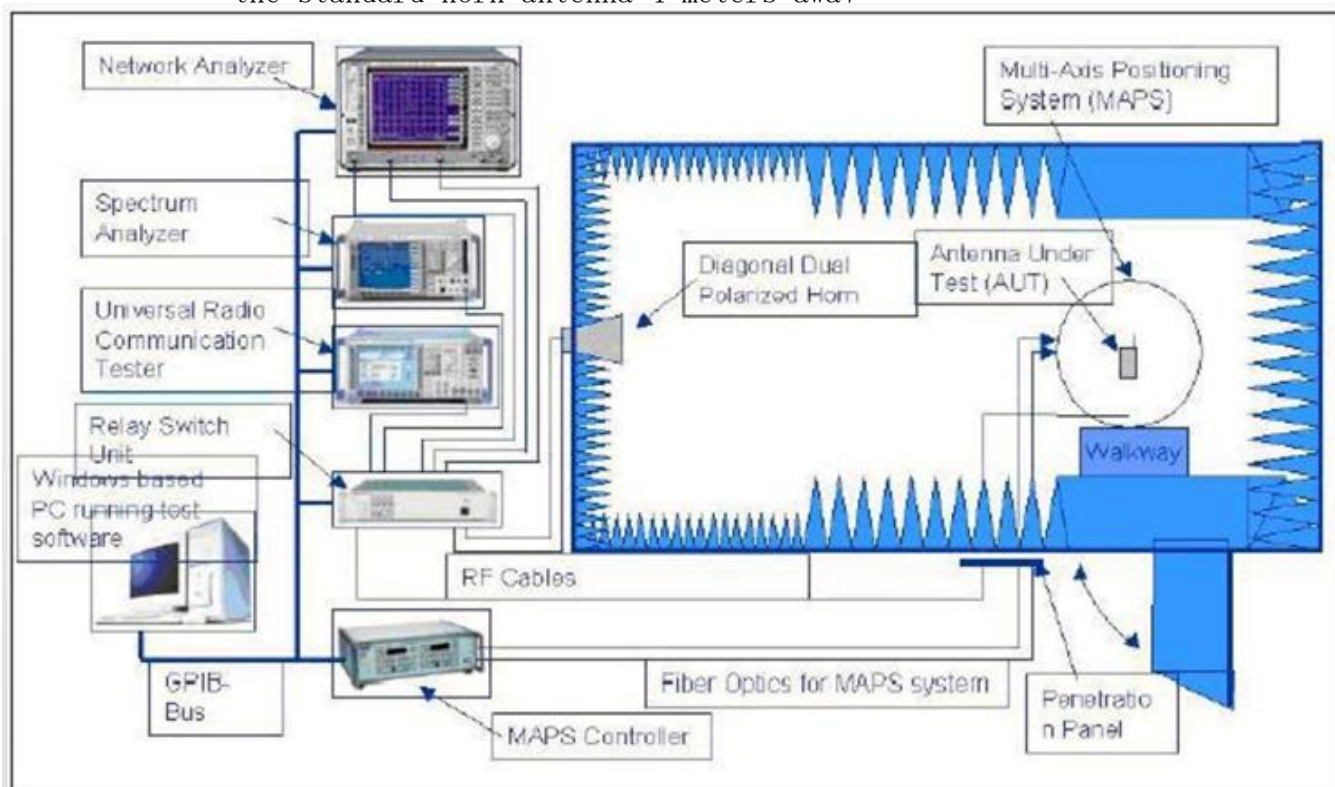




Figure 6 testing environment:

At the turntable OTA743 darkroom, 8960/W500/8753ES/5071C, machine placed facing away from the standard horn antenna 4 meters away

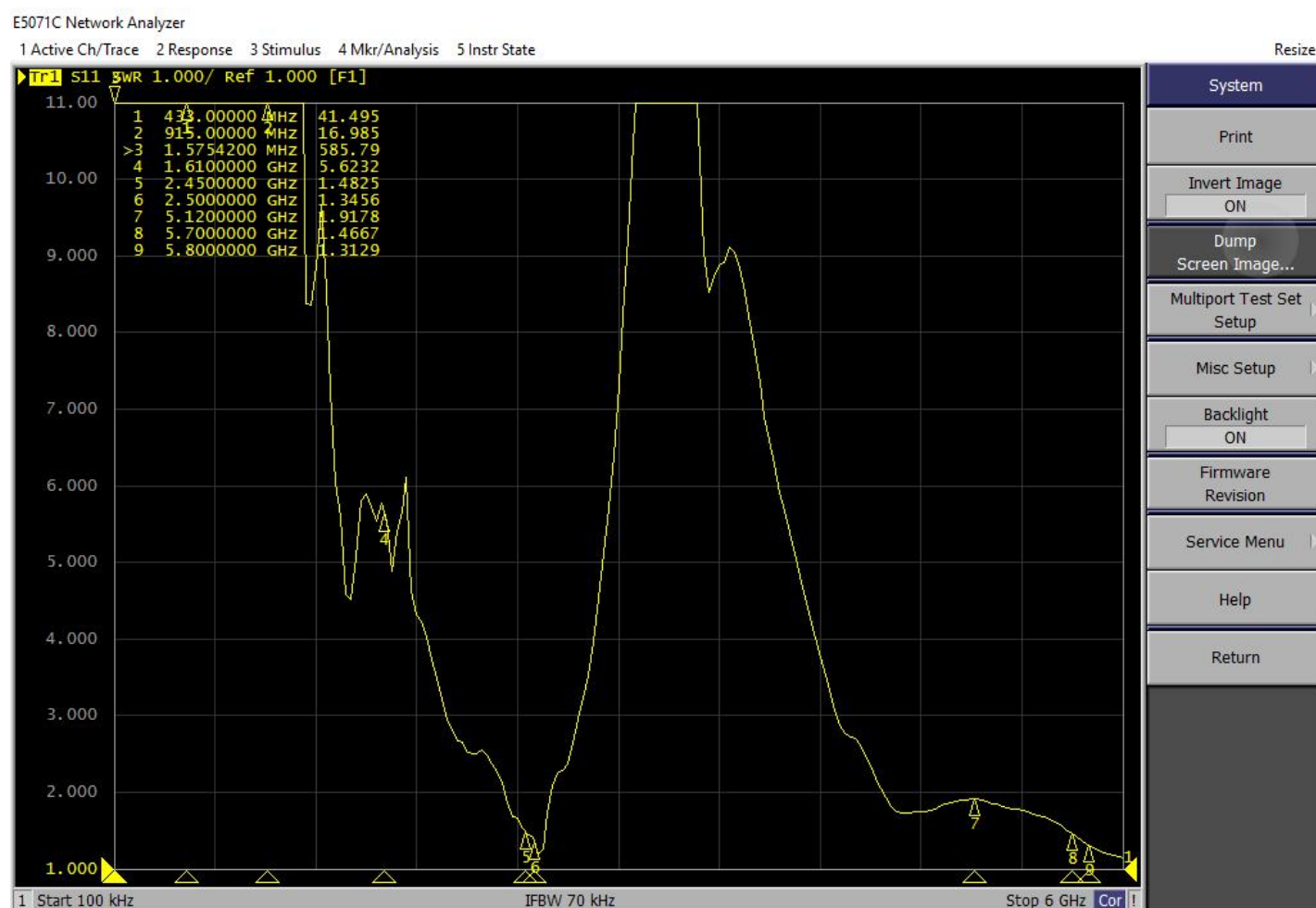


2.3 VSWR Test

2.3.1. Test setup:

Agilent E5071C Network Analyzer → 50Ω coaxial cable → 45mm copper tube → test fixture.

Figure 7 (VSWR)

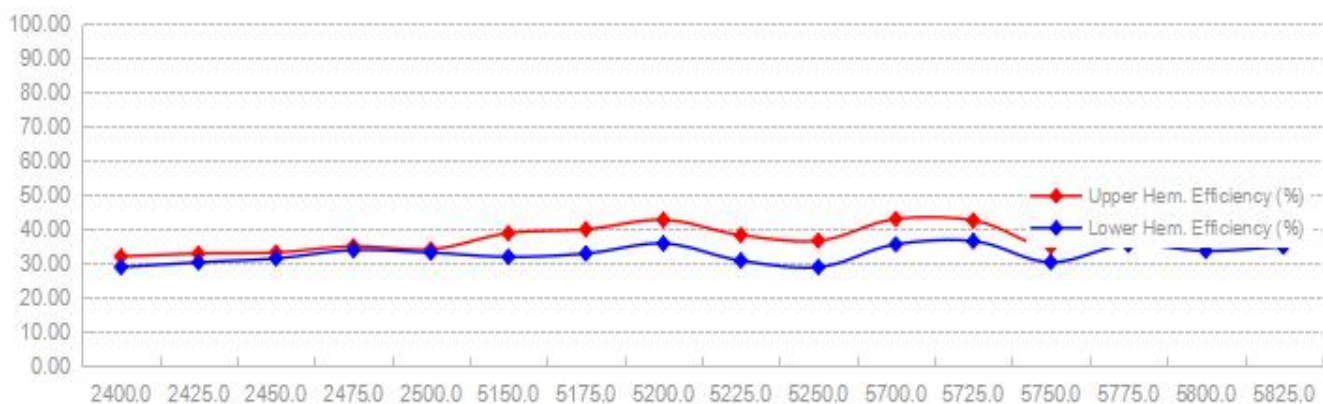
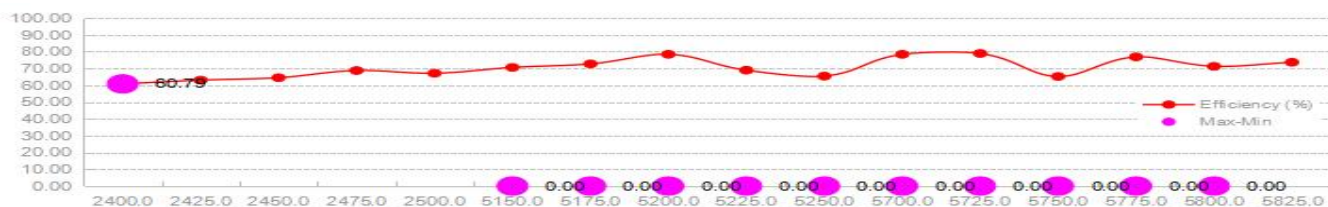


VSWR Results

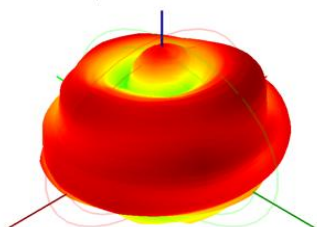
	2.4~2.5GHz		5.7~5.8GHz		
Frequency(MHz)	2450	2500	5120	5700	5800
VSWR	1.4	1.3	1.9	1.4	1.3

WIFI test report

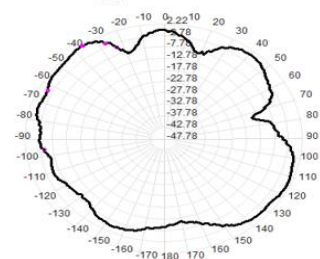
Frequency ID	1	2	3	4	5	12	13	14	15	16	17	18	19	20	21	22
Frequency (MHz)	2400.0	2425.0	2450.0	2475.0	2500.0	5150.0	5175.0	5200.0	5225.0	5250.0	5700.0	5725.0	5750.0	5775.0	5800.0	5825.0
Efficiency (dBi)	-2.16	-2.00	-1.91	-1.63	-1.73	-1.51	-1.38	-1.06	-1.62	-1.84	-1.06	-1.03	-1.86	-1.14	-1.47	-1.33
Gain (dBi)	2.22	2.24	2.28	2.51	2.47	2.58	2.55	2.65	2.52	2.56	2.63	2.77	2.98	2.55	2.61	2.78
Efficiency (%)	60.79	63.03	64.48	68.74	67.12	70.59	72.70	78.38	68.93	65.41	78.37	78.91	65.20	76.86	71.26	73.66
Directivity (dB)	4.08	4.20	4.29	4.74	4.70	4.59	4.93	5.31	5.43	5.64	5.29	4.80	5.03	4.69	4.38	4.21
Peak Gain Position (Theta)	79.00	79.00	40.00	44.00	44.00	42.00	42.00	42.00	39.00	33.00	33.00	44.00	31.00	32.00	45.00	36.00
Peak Gain Position (Phi)	330.00	330.00	30.00	30.00	30.00	240.00	240.00	240.00	240.00	210.00	180.00	210.00	120.00	150.00	240.00	180.00
Efficiency ThetaPol (%)	46.42	47.51	48.72	51.70	50.50	39.98	40.88	43.24	42.73	44.99	50.03	46.16	38.80	45.71	41.73	43.12
Efficiency PhiPol (%)	14.37	15.52	15.76	17.04	16.62	30.60	31.82	35.14	26.21	20.41	28.35	32.75	26.40	31.15	29.53	30.54
Upper Hem. Efficiency (%)	31.95	32.81	33.10	34.94	34.05	38.74	39.89	42.65	38.19	36.56	42.89	42.48	34.92	41.47	37.67	38.84
Lower Hem. Efficiency (%)	28.83	30.22	31.38	33.80	33.07	31.84	32.82	35.73	30.74	28.84	35.48	36.42	30.28	35.39	33.59	34.82



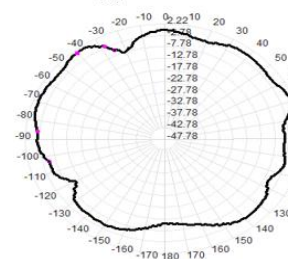
2400.0MHz H+V, Eff: 57.0%



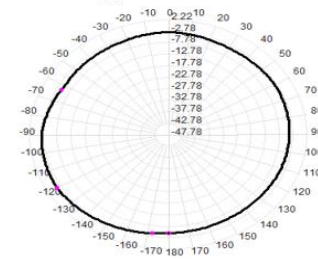
2400.0MHz Total(E1), Max= 2.22dBi



2400.0MHz Total(E2), Max= 1.02dBi



2400.0MHz Total(H), Max= -1.62dBi





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