



承 认 书

SPECIFICATION FOR APPROVAL

Name: WIFI antenna (2.4/5.8GHz)

Item No: WIFI antenna TYY-TX2811

Custoer name: _Revopoint 3D Technologies Inc

Company stamp: _____

drawing			Customer approve
MADE	CHECKED	APPROVED	
QIU	蒋 志 远	唐晓宏	
DATE: 2023.03.15			DATE



1、Specification

The finished product features

电 性 能 指 标		Electrical Specifications	
频率范围	2400~2500MHZ 5150~5250 MHz 5700~5800MHZ	Frequency Range	2400~2500MHZ 5150~5250MHz 5700~5800MHZ
电压驻波比	≤2.0	VSWR	≤2.0
增 益	3.39DBI	GAIN	3.39DBI
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-2	Input connector	IPEX-2
线长度	45mm	Cable length	45mm
工作温度	-40°C~+85°C	Working Temperature	-40°C~+85°C
工作湿度	20~80%	Working Humidity	20~80%

图 1 TYY-TX2811 天线 WIFI 天线

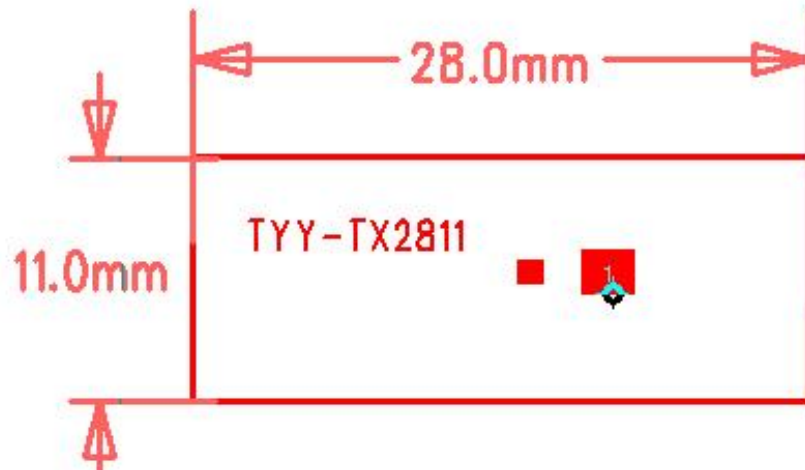
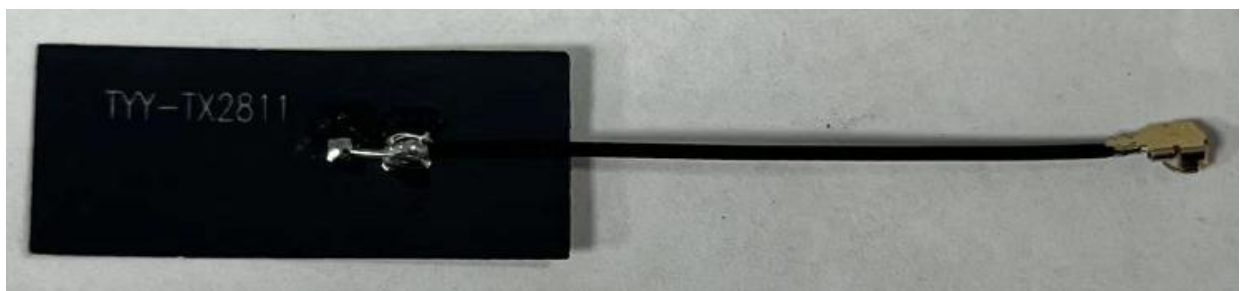
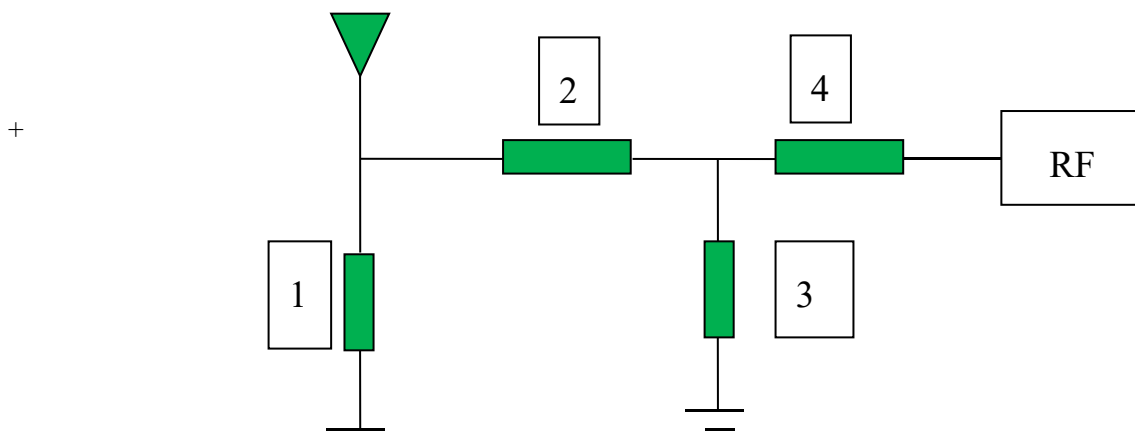


图 2 TYY-TX2811 antenna (The total length of the wire is 45+/-2mm with 2nd generation terminals)



2. Electrical Performance

2.1 WiFi Antenna Matching Circuit. This matching circuit is provided by the customer.



元件编号	1	2	3	4
WIFI 最佳	NC	0 欧姆	NC	
原始（备用）	50 欧姆匹配			

图 4 OTA microwave anechoic chamber test equipment



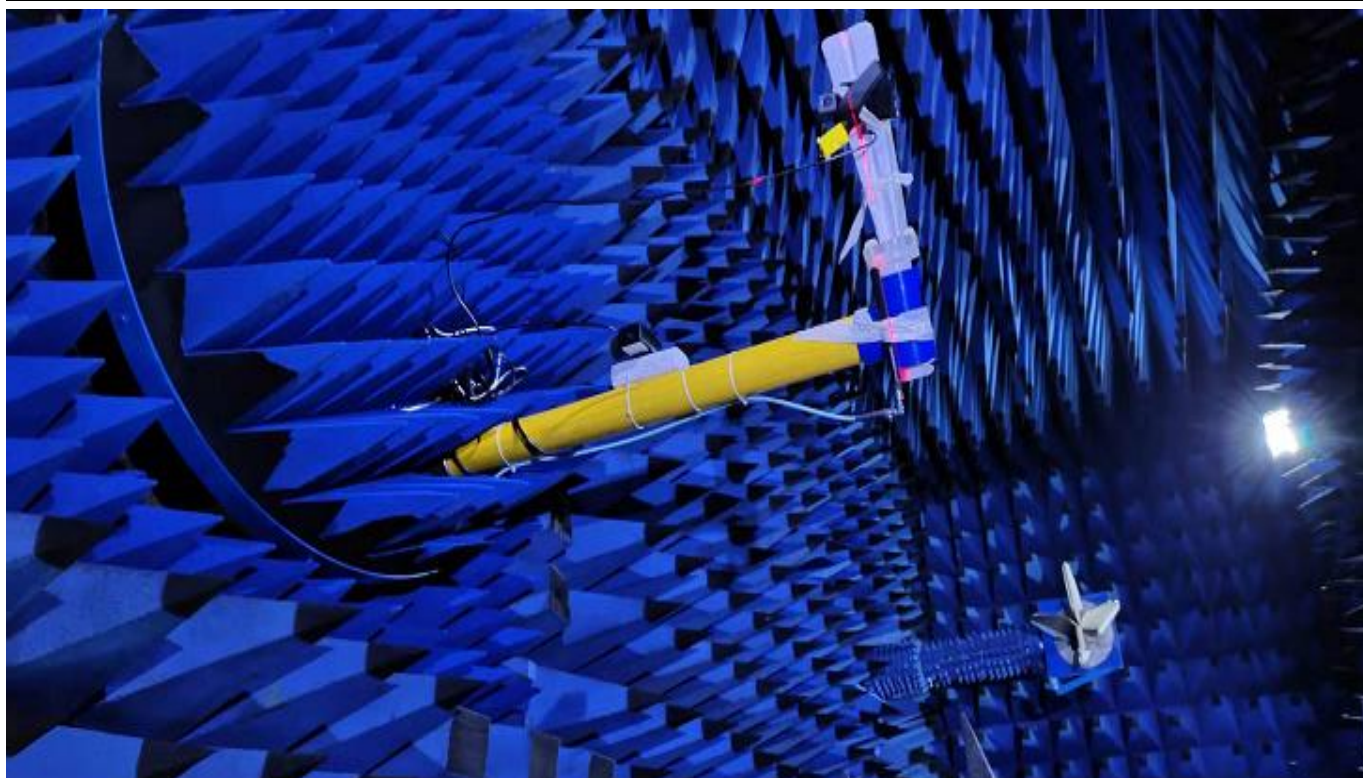
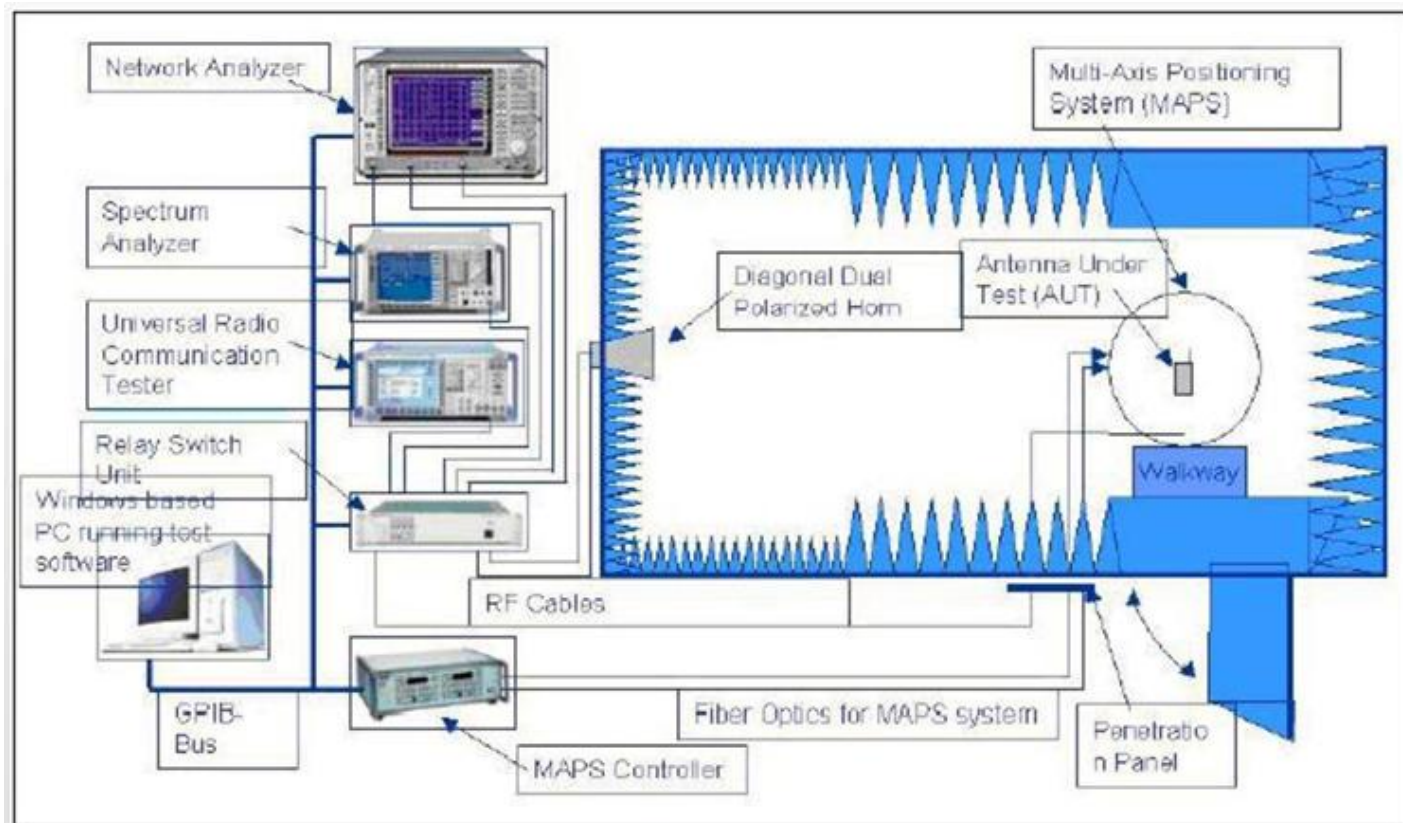


图 5 Test environment: OTA743 darkroom, 8960/W500/8753ES/5071C, the machine is placed with its back facing away from the standard speaker on a turntable 4 meters away



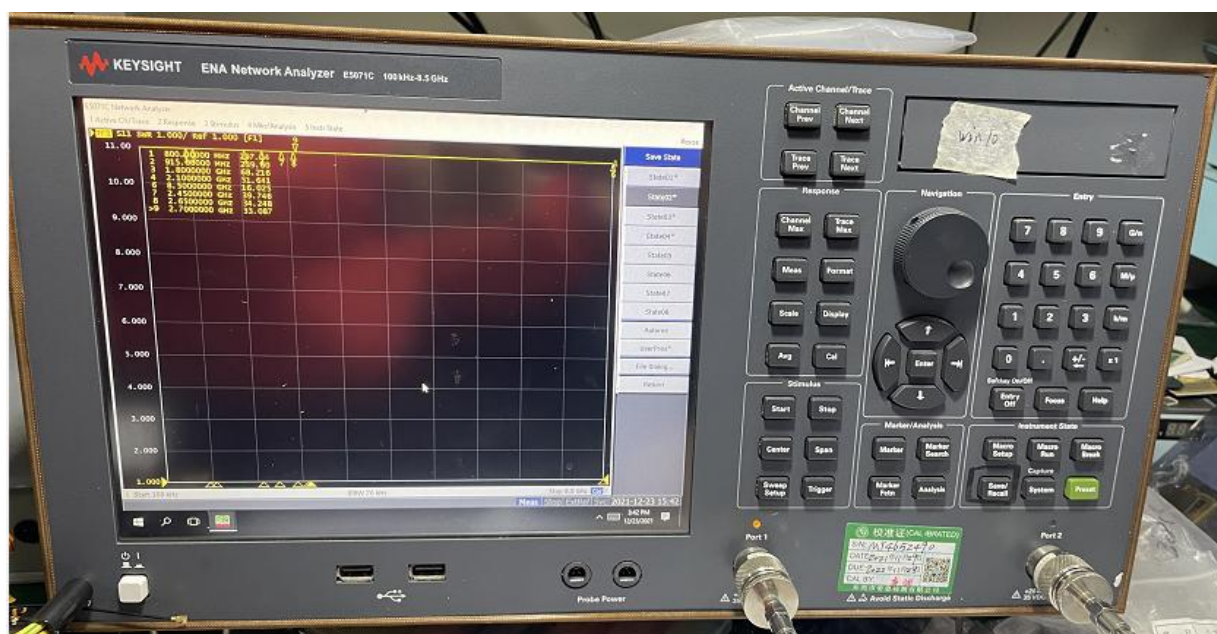
2.3 VSWR Testing

2.3.1. Test Setup

The VSWR test setup consisted of the following: an Agilent E5071C Network Analyzer®, a 50-ohm coaxial cable®, a 120mm-long copper tube® test fixture.

Test fixture preparation: A rigid cable was connected from the 50-ohm antenna test point on the flat PCB to an SMA-J connector. This was then connected to the copper tube with a choke coil, and then to the other components.

图 6 Agilent E5071C Network Analyzer



WIFI VSWR

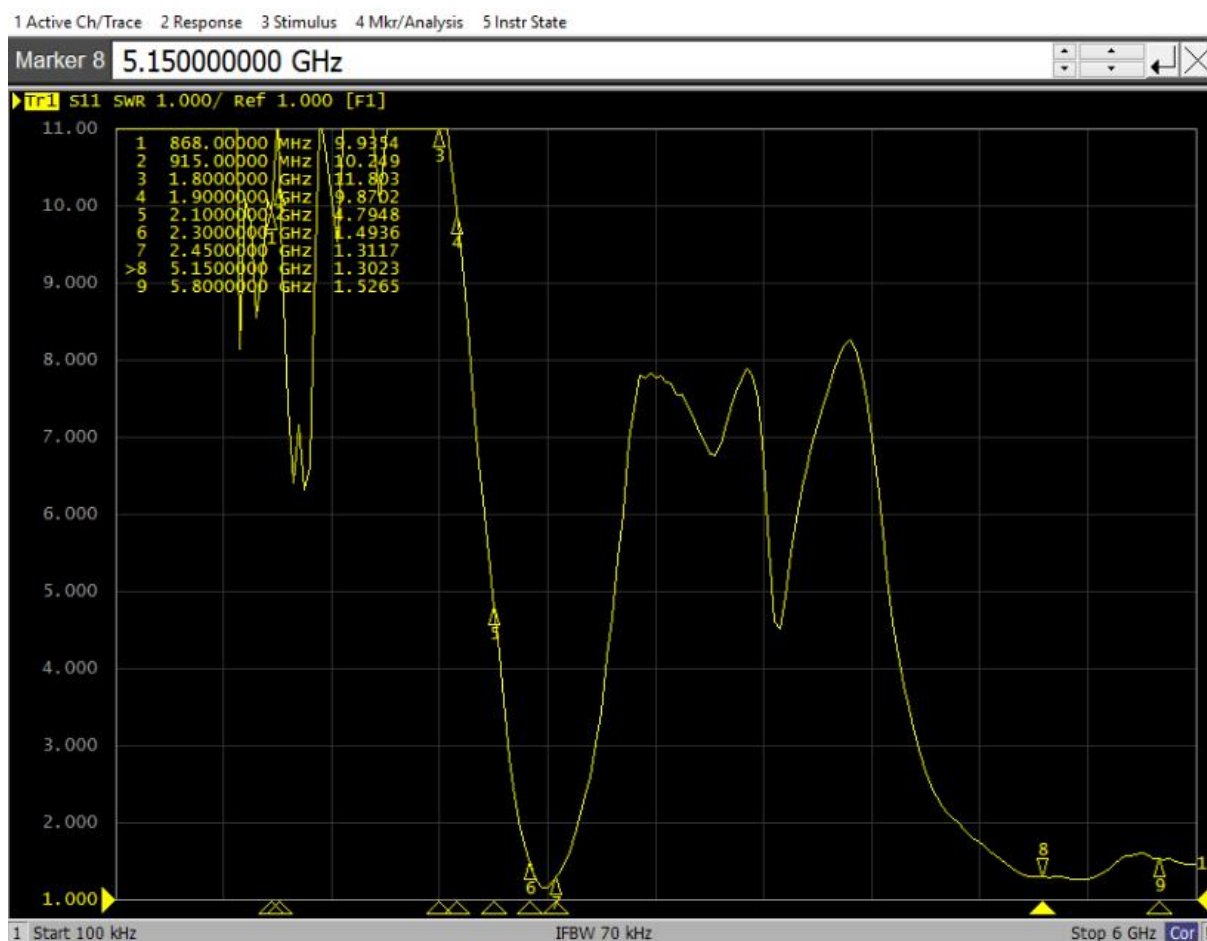
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3 WIFI VSWR

图 7 WIFI VSWR



频率(MHz)	2412	2480	2500	5700	5800
VSWR	1.1	1.1	1.2	1.6	2.0

3、Full-device 3D dynamic testing

3.1 Test site

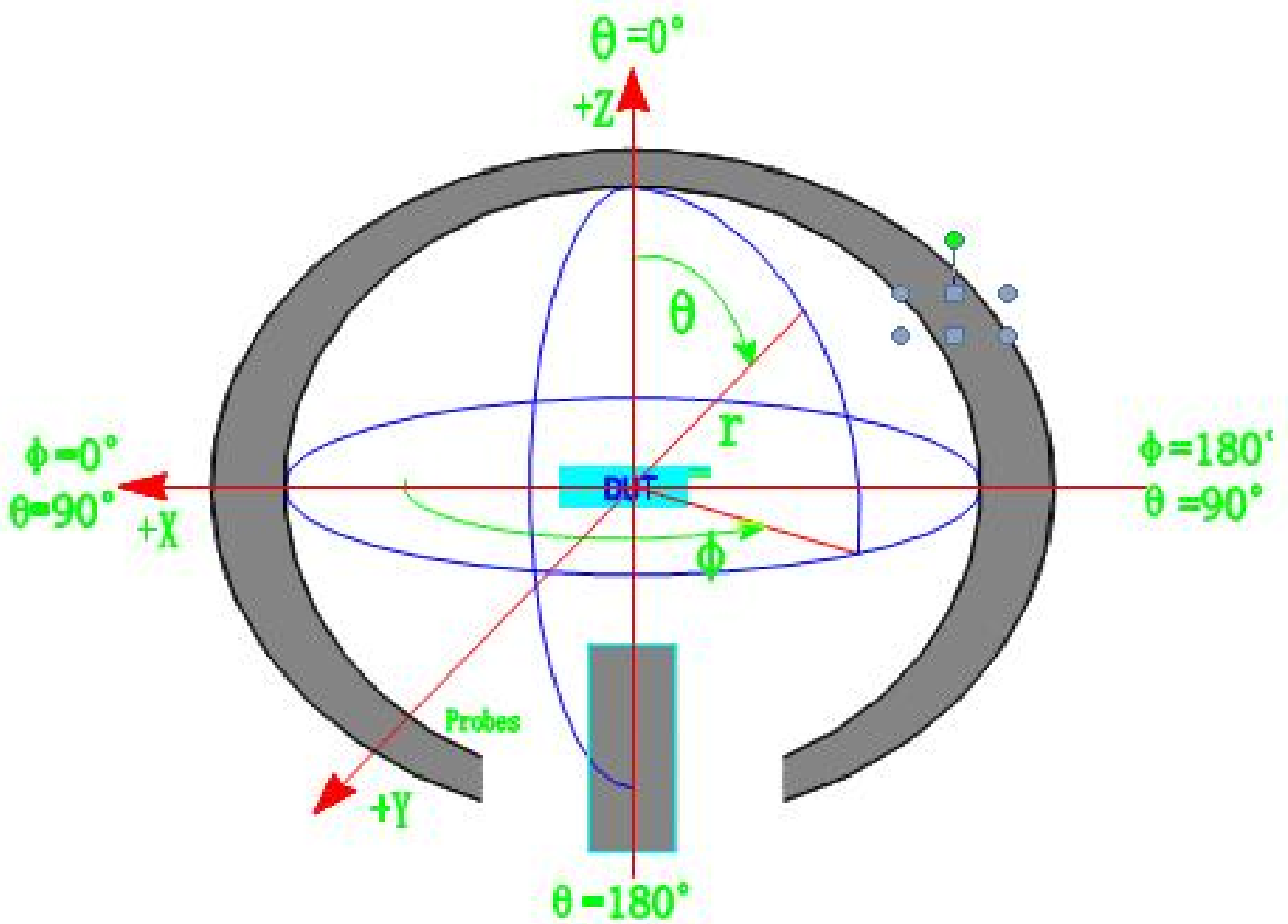
TCT microwave anechoic chamber: Test frequency range 600MHz-6GHz, quiet zone 50cm circumference, reflectivity less than -90dB.

(See Figures 4 and 5)

3.2 Environmental conditioning

Environmental conditioning: No environmental conditioning was performed.

图 8 Return loss



WIFI Passive test report

FEITUKEJI													
Frequency ID	1	3	5	7	9	11	12	12	14	16	18	20	22
Frequency (MHz)	2400.0	2420.0	2440.0	2460.0	2480.0	2500.0	5150.0	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	-1.19	-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	2.12	3.39	3.13	2.22	3.61	3.78	3.82
Efficiency (%)	57.02	56.28	64.38	69.33	71.29	61.70	69.01	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	4.28	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	86.00	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	90.00	270.00	60.00	90.00
Efficiency ThetaPol (%)	39.41	39.00	45.30	49.26	50.37	43.36	20.93	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	46.08	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	30.45	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	35.56	37.56	41.16	28.66	38.32	38.47	38.83

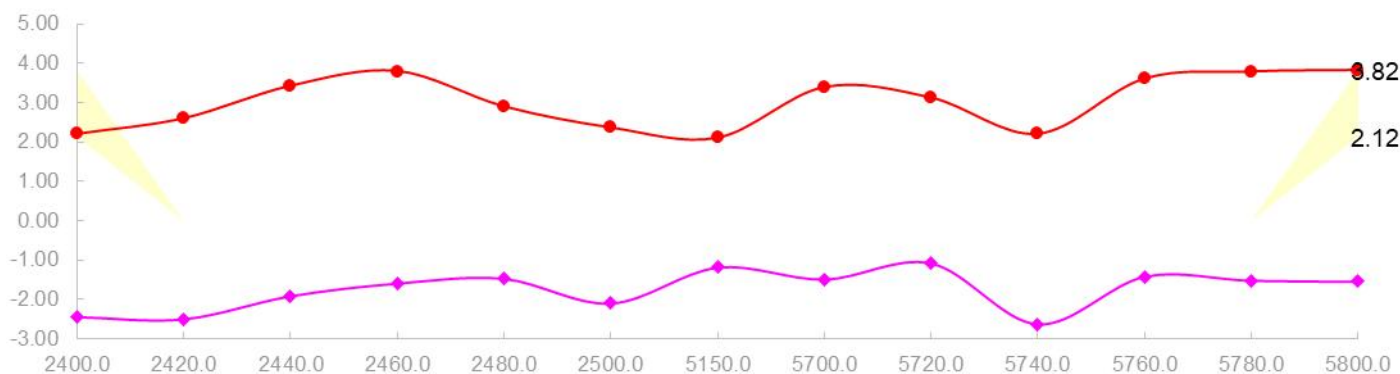
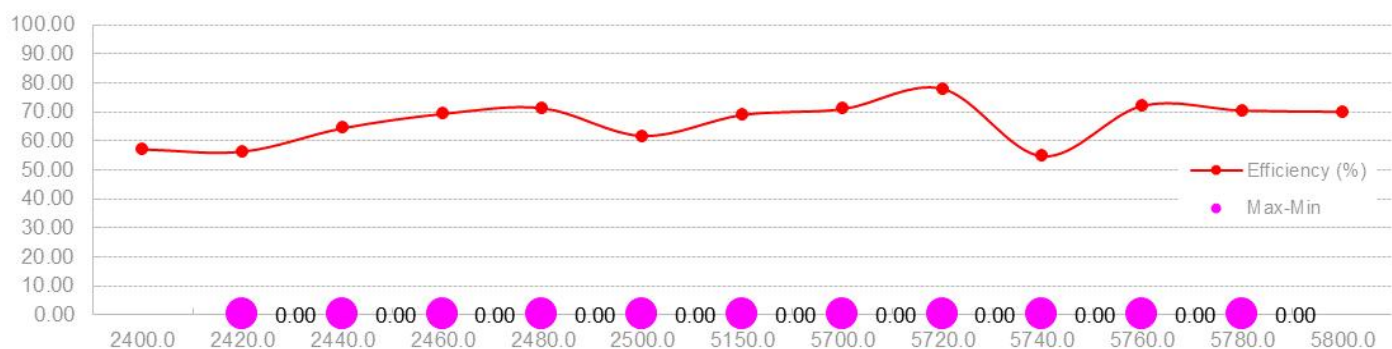
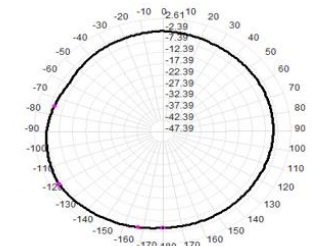
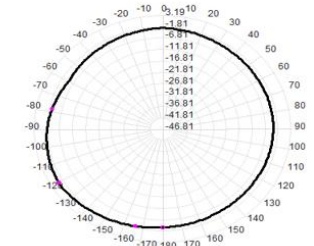
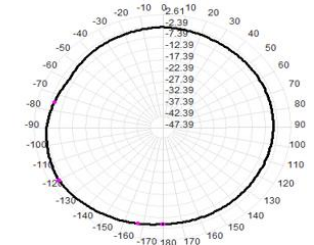
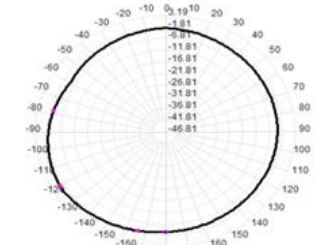
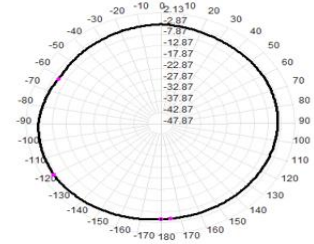
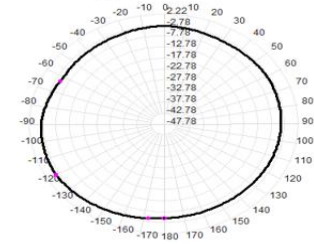


图 9 3D directional pattern

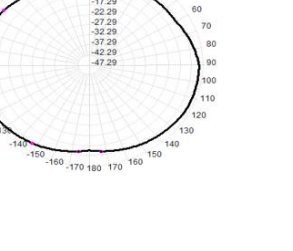
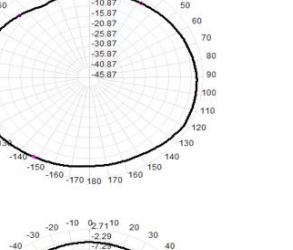
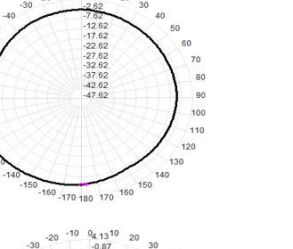
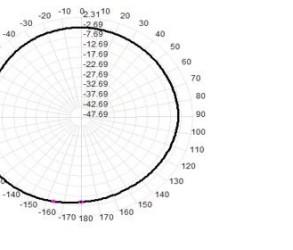
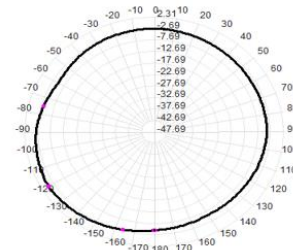
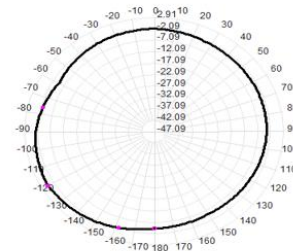


2400.0MHz Total(H), Max= -1.62dBi

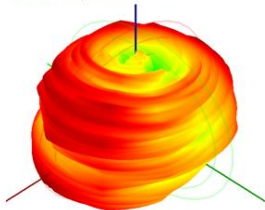




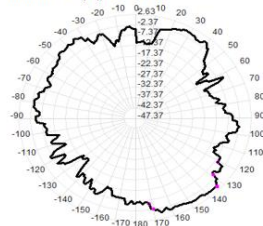
2470.0MHz Total(H), Max= 0.74dBi



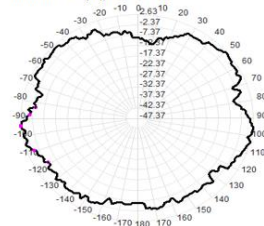
5790.0MHz H+V, Eff: 66.3%



5790.0MHz Total(E1), Max= 0.62dBi



5790.0MHz Total(E2), Max= 2.63dBi



5790.0MHz Total(H), Max= 0.89dBi

