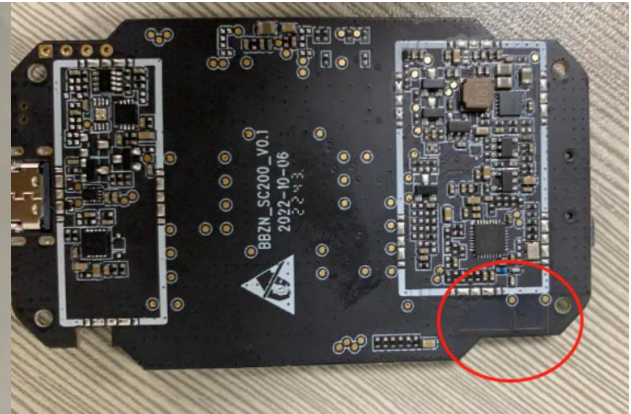


1.Specifications

This report mainly provides the testing conditions of various electric and structural performance parameters for In-car Smart box antenna C6 Figure 2-1/2-2 shows the antenna designed by SW & The fixturing of C6



2-1



2-2

WIFI

number	Item	Specifications
1	Band Width	(2400-2500) MHz (5150-5850) MHz
2	Gain	7.34dBi
3	VSWR	≤ 2.0
4	Antenna type	FPC antenna
5	Azimuth Beam width	Omni-directional
6	Impedance	50ohm

BT

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number	Item	Specifications
1	Band Width	(2402-2480) MHz
2	Gain	2.18dBi
3	VSWR	≤ 2.0
4	Antenna type	PCB antenna
5	Azimuth Beam width	Omni-directional
6	Impedance	50ohm

2.Impedance

2.1Nominal

Nominal Impedance(including matching circuit) : 50 ohms

2.2Matching Circuit

The matching circuit is as Figure 2-2.

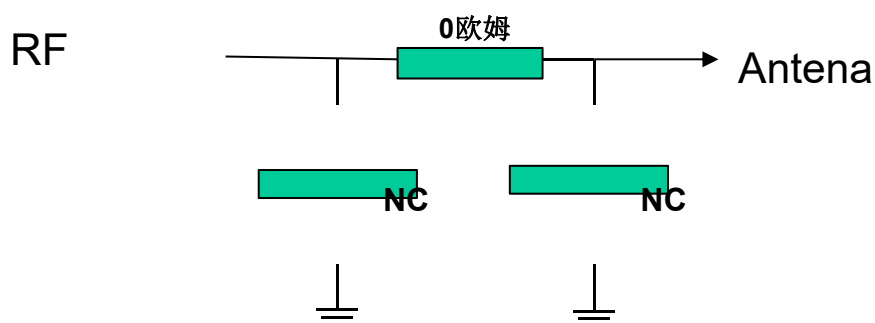


Figure 2-2: Matching circuit

2. Active Measurements

Active Measurements Data

Total Radiated Power (TRP) and Total Isotropic Sensitivity (TIS) of the

handsets with antenna are tested in the antenna chambers.

WIFI Hamber Test Data

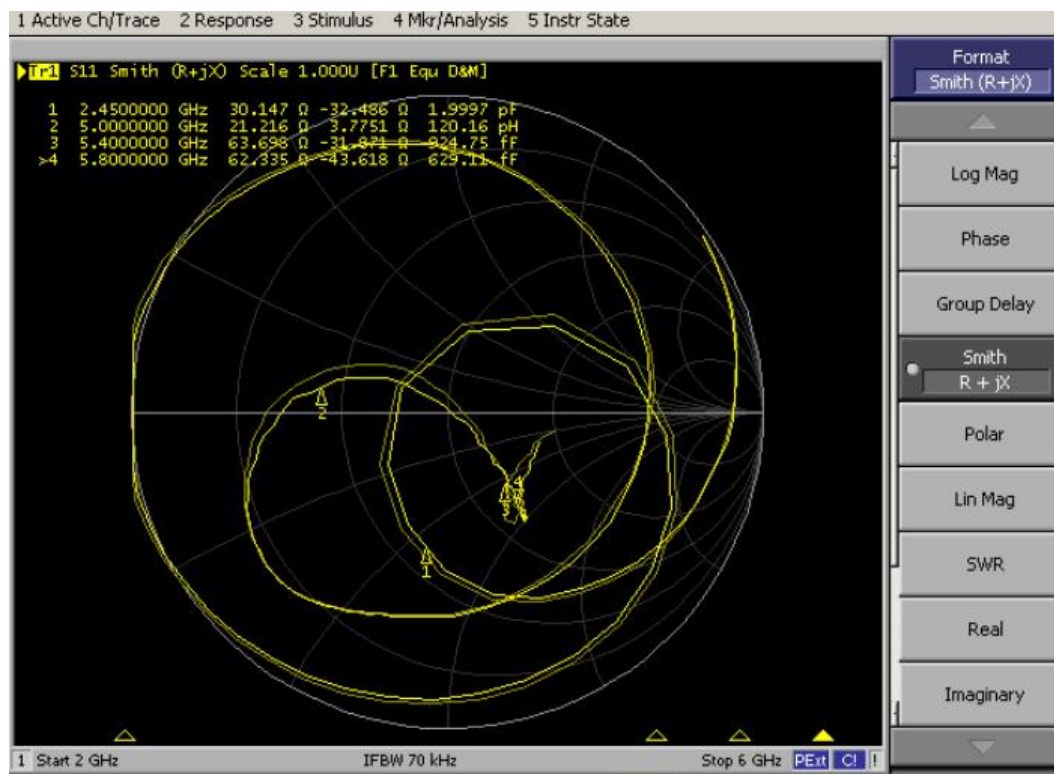
FEITUKEJI											
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Point Values											
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-5.12	-4.89	-4.68	-4.57	-4.45	-4.24	-3.99	-3.69	-3.43	-3.11	-2.86
Peak EIRP (dBm)	1.08	1.22	1.22	1.26	1.25	1.26	1.26	1.34	1.51	1.80	2.16
Directivity (dBi)	6.21	6.10	5.90	5.83	5.69	5.50	5.25	5.03	4.94	4.91	5.02
Efficiency (dB)	-5.12	-4.89	-4.68	-4.57	-4.45	-4.24	-3.99	-3.69	-3.43	-3.11	-2.86
Efficiency (%)	30.70	32.40	34.00	34.90	35.90	37.70	39.90	42.70	45.40	48.80	51.70
Gain (dBi)	1.08	1.22	1.22	1.26	1.25	1.26	1.26	1.34	1.51	1.80	2.16
NHPRP ±Pi/ 4 (dBm)	-7.51	-7.33	-7.17	-7.12	-7.01	-6.76	-6.48	-6.14	-5.79	-5.43	-5.18
NHPRP ±Pi/ 6 (dBm)	-9.40	-9.25	-9.13	-9.09	-9.00	-8.76	-8.47	-8.14	-7.76	-7.40	-7.13
NHPRP ±Pi/ 8 (dBm)	-12.83	-12.76	-12.79	-12.81	-12.81	-12.58	-12.25	-11.95	-11.46	-11.09	-10.78
Upper Hem. PRP (dBm)	-8.37	-7.97	-7.59	-7.31	-7.08	-6.78	-6.47	-6.14	-5.91	-5.63	-5.32
Lower Hem. PRP (dBm)	-7.91	-7.83	-7.79	-7.87	-7.88	-7.78	-7.60	-7.35	-7.04	-6.69	-6.51
Upper Hem. PRP (%)	14.54	15.96	17.40	18.59	19.60	20.99	22.56	24.32	25.62	27.38	29.39
Lower Hem. PRP (%)	16.19	16.49	16.65	16.33	16.30	16.68	17.38	18.41	19.79	21.43	22.36

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
5000.0	5050.0	5100.0	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5850.0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-2.44	-2.32	-2.21	-1.90	-1.37	-1.25	-1.61	-1.40	-0.99	-1.16	-1.04	-1.15	-1.35	-1.44	-1.12	-1.62	-1.19
5.28	4.69	5.19	6.40	6.39	6.53	6.57	6.66	6.21	6.42	7.47	6.83	6.54	6.64	6.82	6.12	7.34
7.72	7.01	7.40	8.30	7.76	7.79	8.18	8.05	7.20	7.58	8.52	7.97	7.90	8.08	7.94	7.74	8.53
-2.44	-2.32	-2.21	-1.90	-1.37	-1.25	-1.61	-1.40	-0.99	-1.16	-1.04	-1.15	-1.35	-1.44	-1.12	-1.62	-1.19
57.10	58.70	60.10	64.60	72.90	75.00	69.00	72.50	79.70	76.60	78.60	76.80	73.20	71.90	77.30	68.80	76.10
5.28	4.69	5.19	6.40	6.39	6.53	6.57	6.66	6.21	6.42	7.19	6.83	6.54	6.64	6.82	6.12	7.34
-5.86	-5.71	-5.15	-5.82	-5.23	-5.08	-5.65	-5.32	-4.52	-4.83	-5.48	-4.91	-5.29	-5.37	-5.04	-5.87	-4.82
-8.15	-7.96	-7.61	-8.09	-7.44	-7.40	-7.96	-7.62	-6.92	-7.15	-7.74	-7.20	-7.78	-7.54	-7.48	-8.21	-7.00
-13.28	-12.88	-13.81	-13.15	-12.15	-12.70	-13.24	-12.82	-12.75	-12.44	-12.72	-12.31	-14.19	-12.11	-13.57	-13.68	-11.62
-3.07	-3.01	-3.07	-2.46	-1.89	-1.80	-2.16	-1.93	-1.52	-1.71	-1.51	-1.57	-1.86	-2.02	-1.62	-2.07	-1.70
-11.09	-10.65	-9.67	-11.07	-10.84	-10.49	-10.87	-10.77	-10.39	-10.41	-10.96	-11.43	-10.92	-10.47	-10.77	-11.71	-10.74
49.28	50.06	49.28	56.75	64.70	66.02	60.86	64.16	70.54	67.49	70.60	69.60	65.15	62.88	68.91	62.06	67.65
7.78	8.60	10.79	7.82	8.24	8.93	8.18	8.37	9.14	9.10	8.03	7.19	8.10	8.98	8.37	6.75	8.44

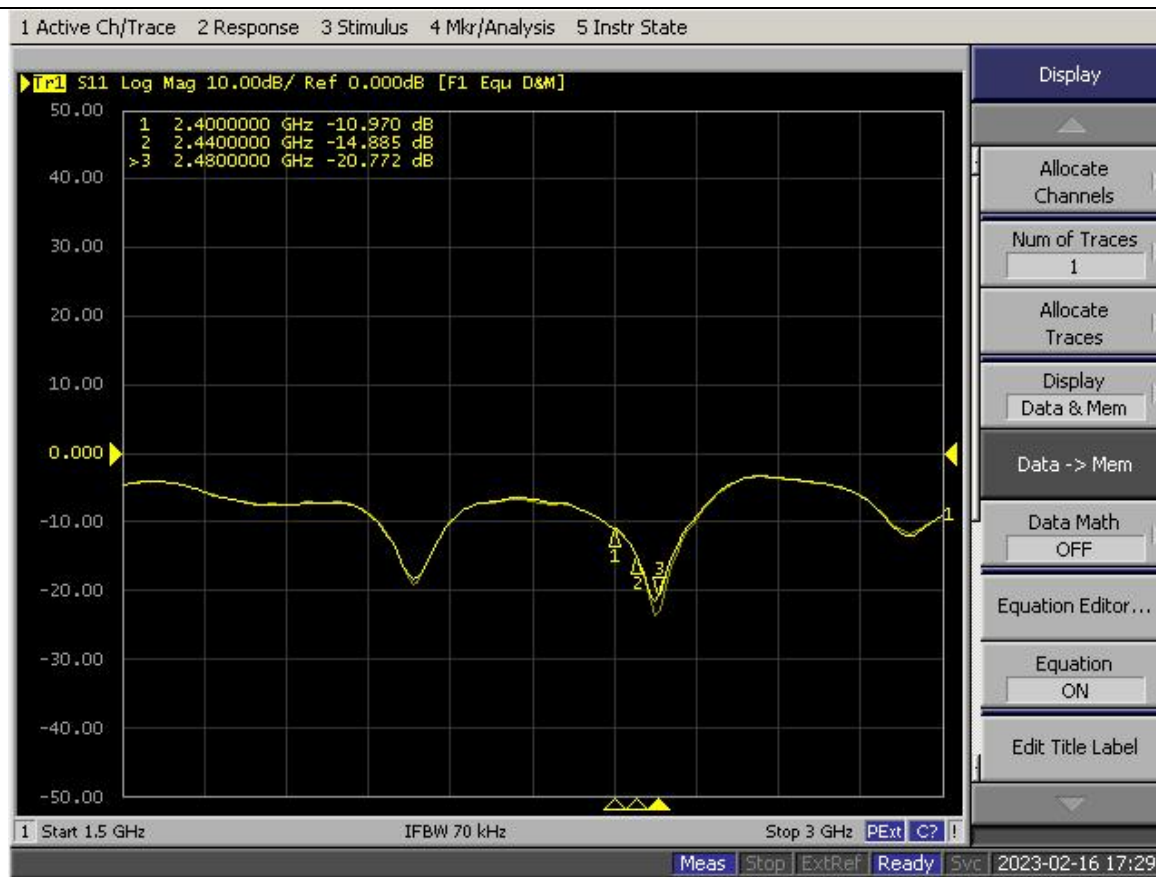
WIFI VSWR



WIFI SMITH CHAR

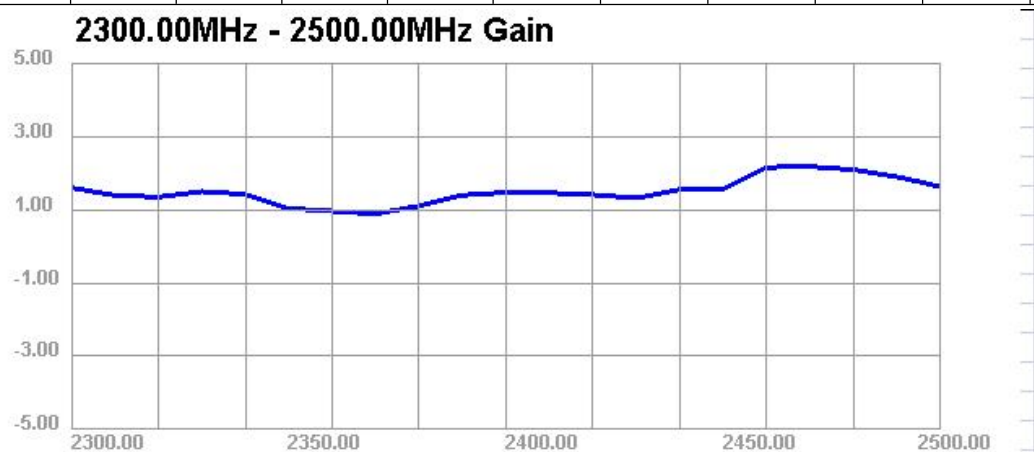


WIFI Return Loss



BT Hamber Test Data

Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2500
VSWR	1.78	1.25	1.52	1.73	1.85	1.43	1.46	1.43	1.32	1.24



Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2500
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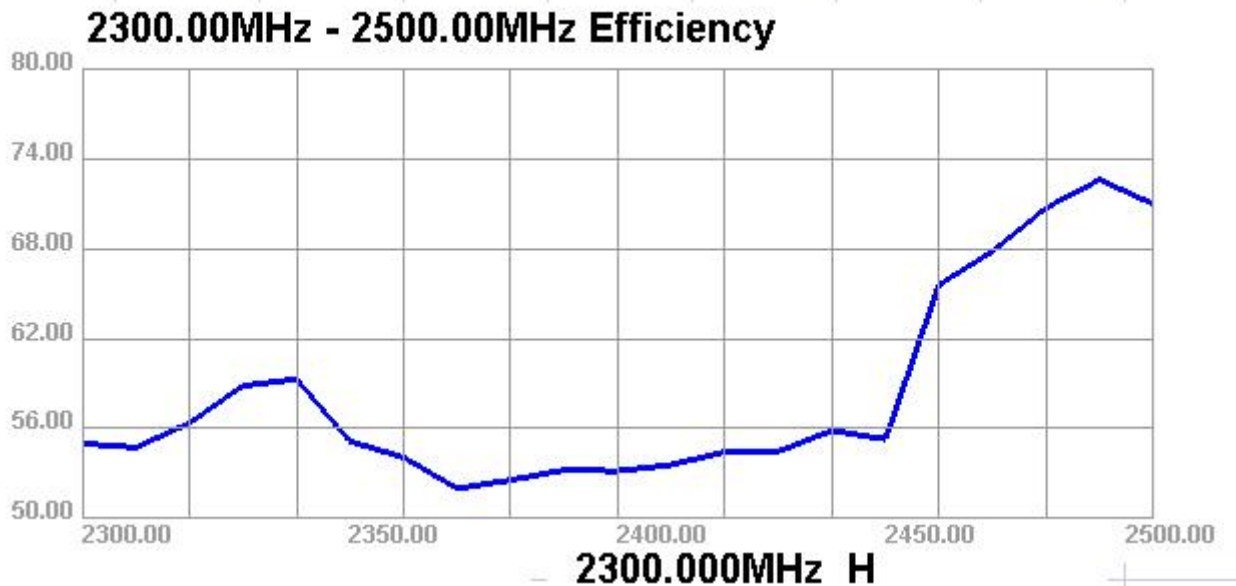
Tel: 0755-66630456

Fax: 0755-66630458

Email: sunwin_vip@163.com

Shenzhen Sunwin Telecommunication Technology Co., LTD.

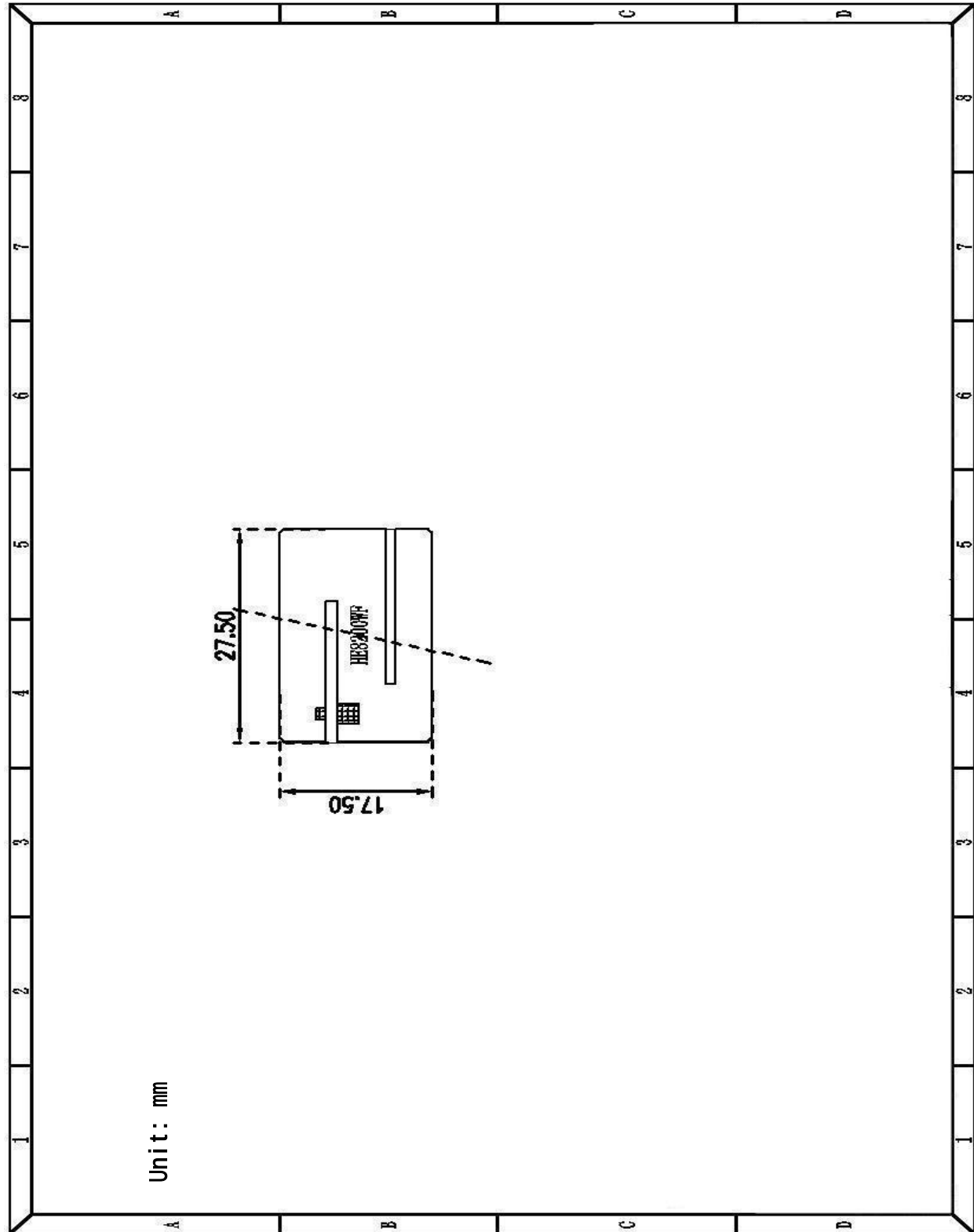
Gain	1.47	1.46	1.41	1.32	1.55	1.56	2.16	2.18	2.09	1.63
Effi (%)	39.72	53.6	41.05	49.28	50.39	56.26	31.97	58.71	53.65	67.99



Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2500
Effi (%)	39.72	53.6	41.05	49.28	50.39	56.26	31.97	58.71	53.65	67.99

3 Mechanical Properties

WIFI

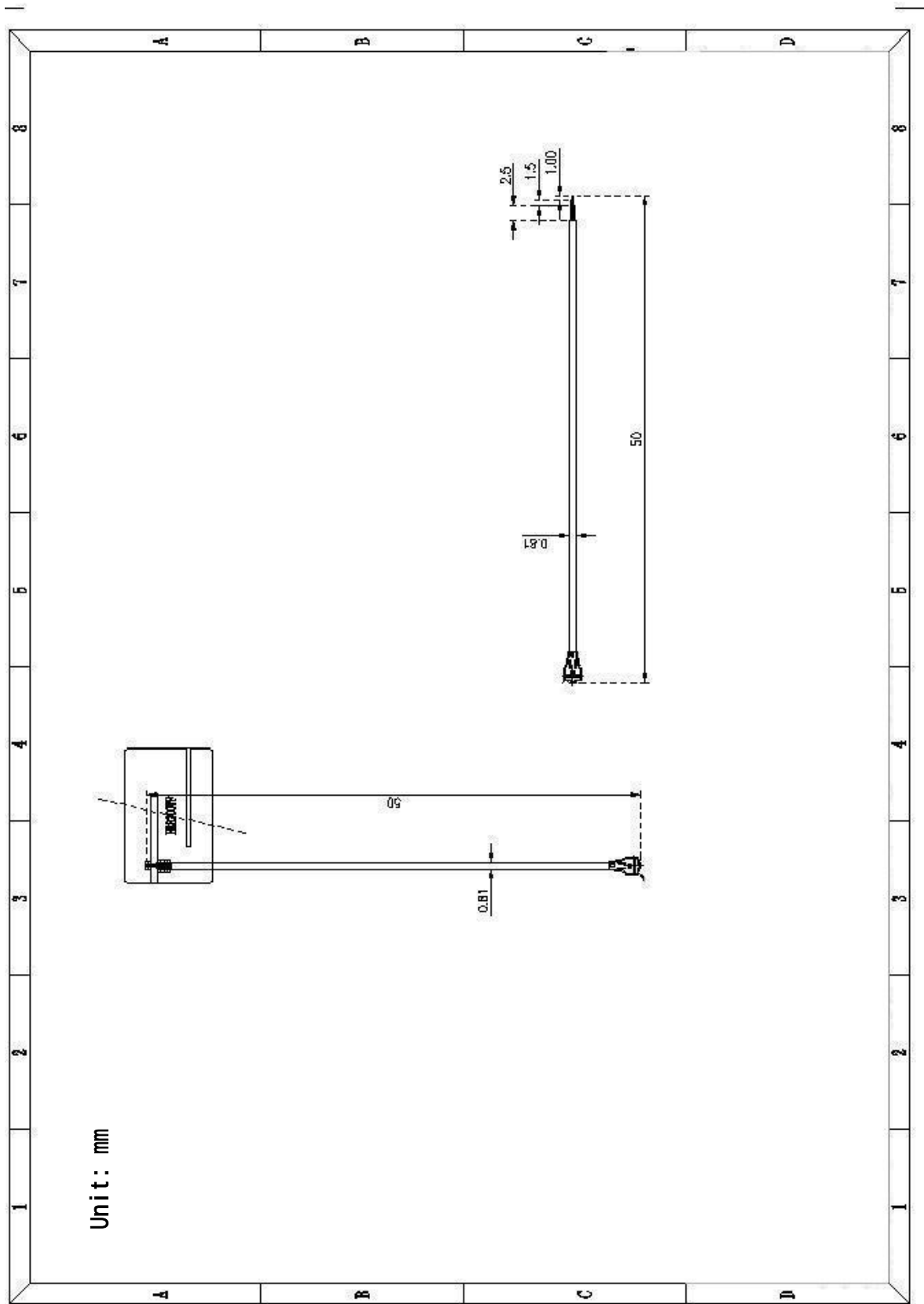


Add: Room 401, West Tower, Building No.211, Tairan Industry & Trade Park, Chegongmiao, Futian District, Shenzhen City, Guangdong Province, P.R. China

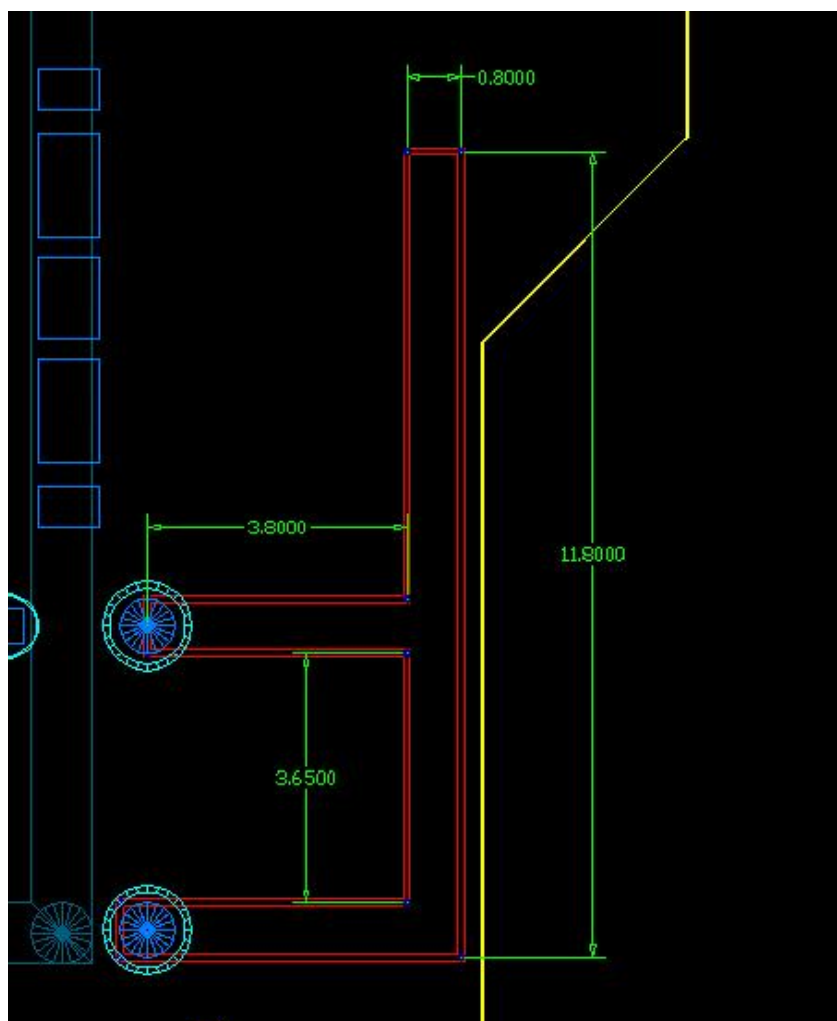
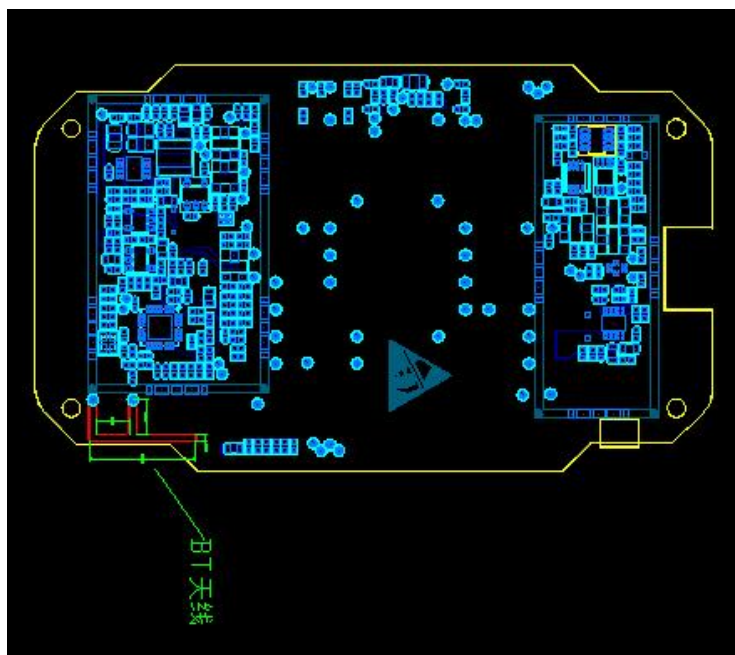
Tel: 0755-66630456

Fax: 0755-66630458

Email: sunwin_vip@163.com



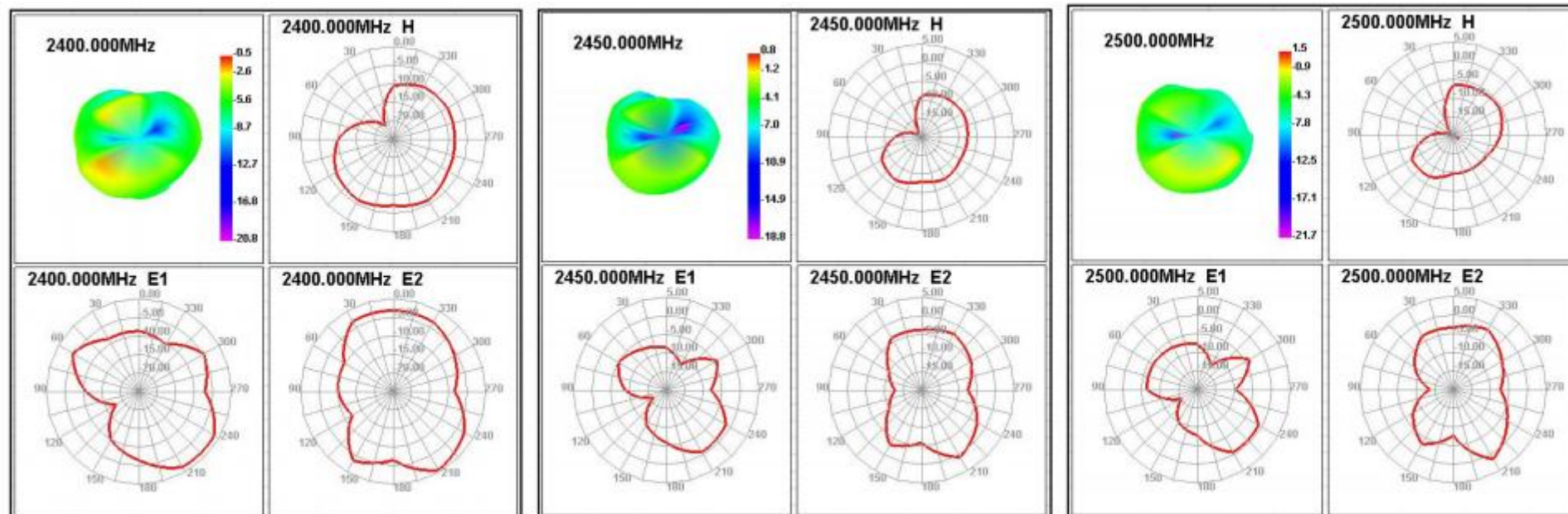
BT



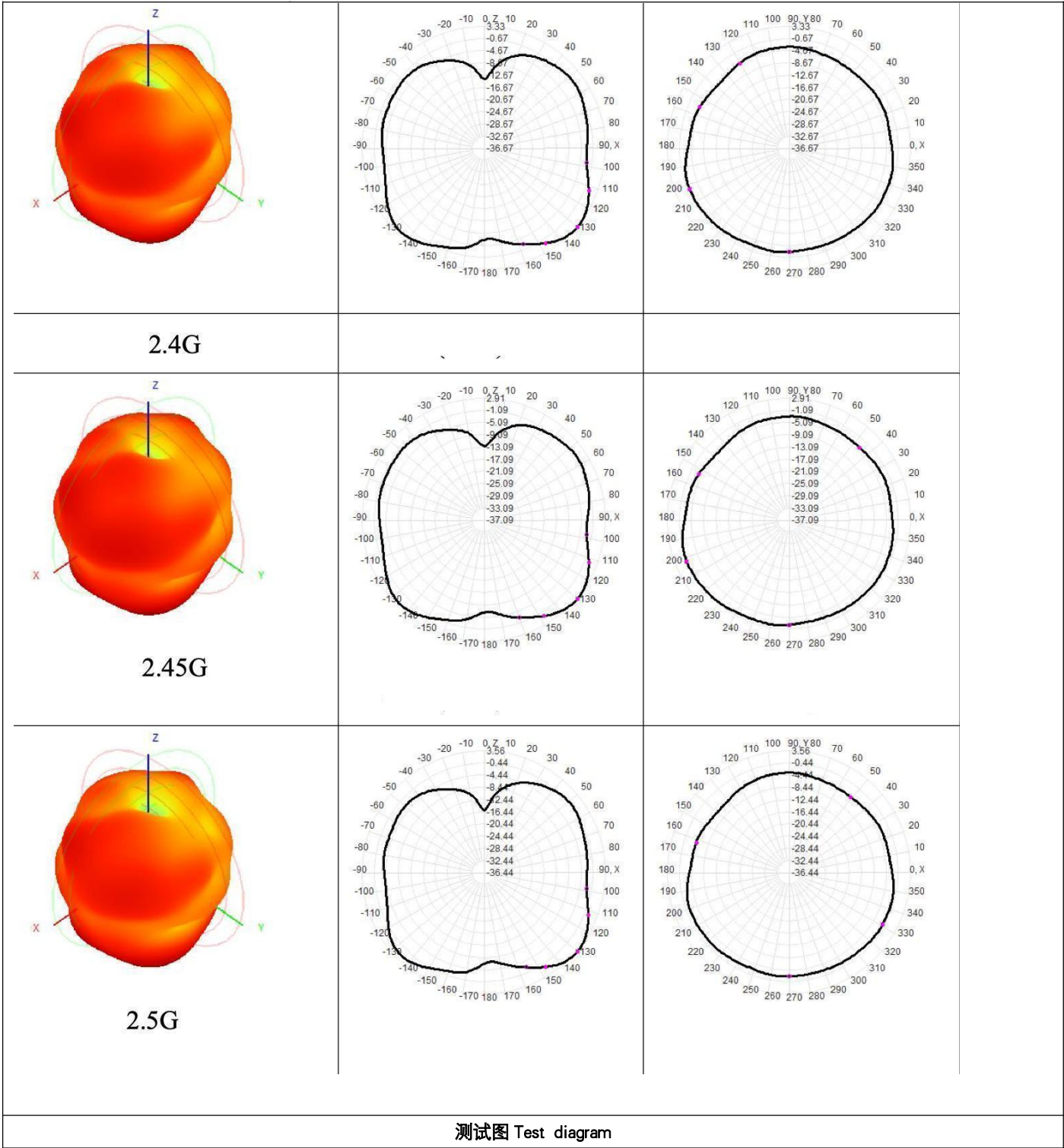
4. Environmental Characteristic

Test Item	Test description
1. Low Temperature	Temp.: -20 °C Time: 24 hours
2. High Temperature	Temp.: 80°C Time: 24 hours
3. Salt Fog	5±0.1% Nad salt fog PH Value: 6.5-7.2 Temp: 35±1°C Time:24 hours

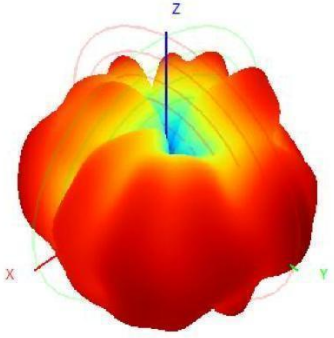
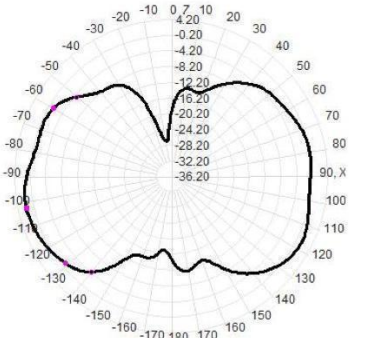
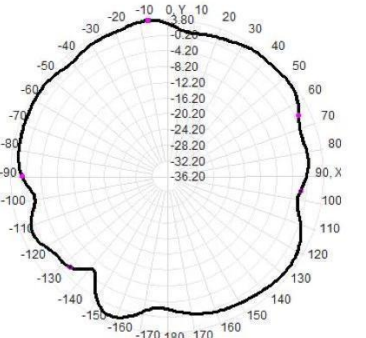
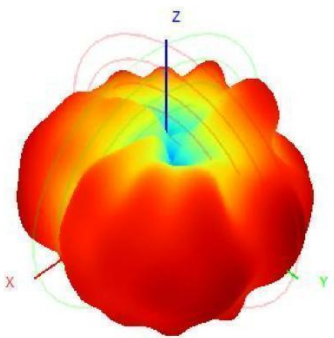
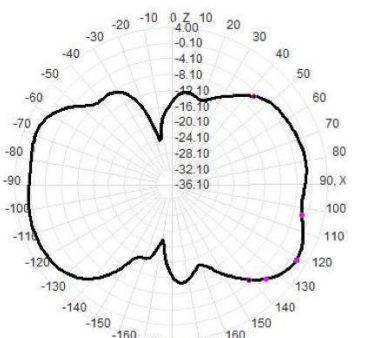
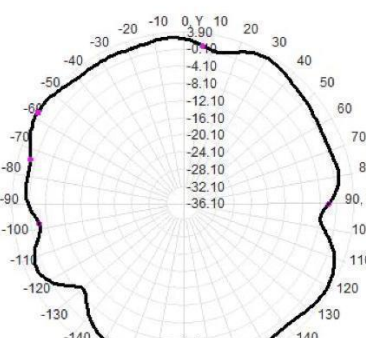
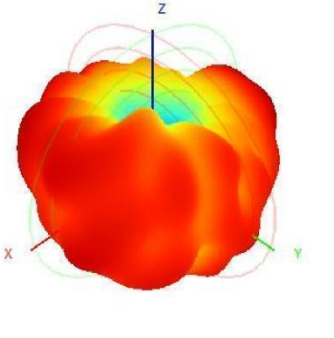
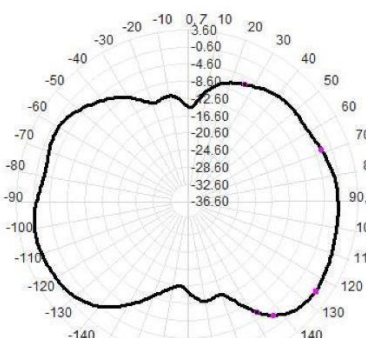
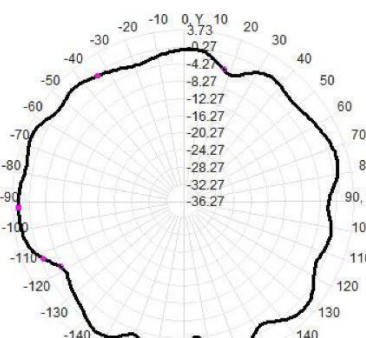
BT



频点 Frequency point	2400Mhz-2500Mhz
方向 Directions	水平极化



频点 Frequency point	5150Mhz—5850Mhz
方向 Directions	水平极化

		
5.15G		
		
5.5G		
		
5.85G		
测试图 Test diagram		