

Antenna Specifications

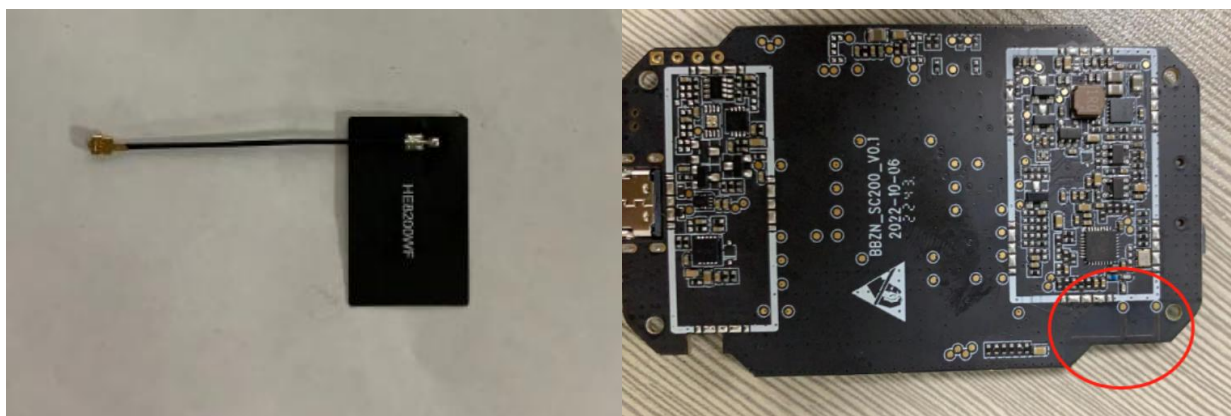
CUSTOMER			
CS P/N		BBZN-HE8200WF (C6)	
SW P/N		SW102-BBZN(HE8200WF)-F	
Checked by(RF)	Checkedby(QA)	Approval led by	Date
Customer Approval			

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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	Working Central Frequency	2400-5900 MHz
2	Band Width	2400-5900 MHz
3	Gain	2400MHz-2500MHz: 2.16dBi (MAX) 5000MHz-5900MHz: 7.47dBi (MAX)
4	VSWR	≤ 2.0
5	Antenna type	FPC antenna
6	Azimuth Beam width	Omni-directional
7	Impedance	50ohm

BT

number	Item	Specifications
1	Working Central Frequency	2441 MHz
2	Band Width	(2402-2480) MHz
3	Gain	2.18dBi (MAX)
4	VSWR	≤ 2.0
5	Antenna type	PCB antenna
6	Azimuth Beam width	Omni-directional
7	Impedance	50ohm
8	Modulation mode	GFSK, $\pi/4$ -DQPSK, 8-DPSK

2.Impedance

2.1Nominal

Nominal Impedance(including matching circuit) : 50 ohms

2.2Matching Circuit

The matching circuit is as Figure 2-2.

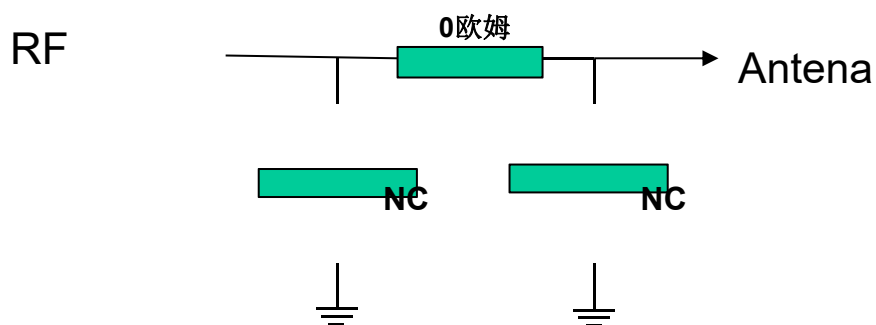


Figure 2-2: Matching circuit

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

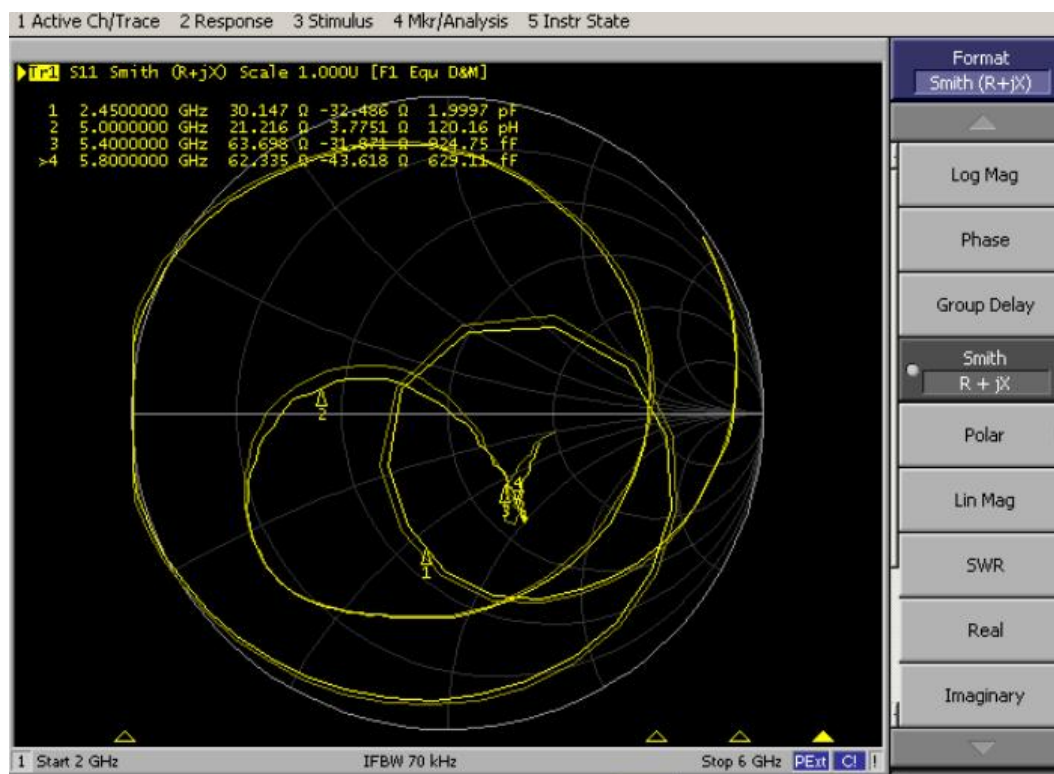
FEITUKEJI											
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Point Values											
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-5.12	-4.89	-4.68	-4.57	-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 $\pm$ 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 $\pm$ 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 $\pm$ 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	5900.0
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	7.47	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



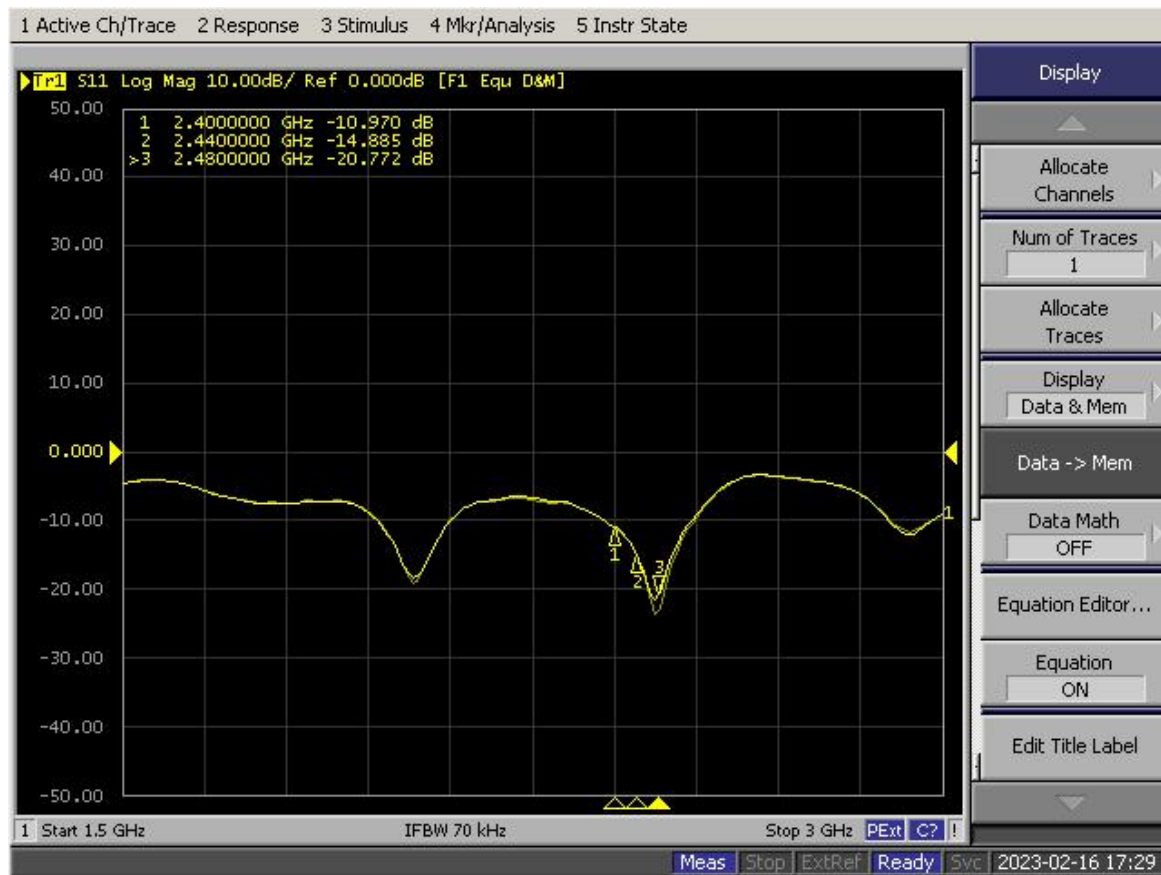
Add: Room 401, West Tower, Building No.211, Tairan Industry & Trade Park, Chegongmiao, Futian District, Shenzhen City, Guangdong Province, P.R. China

Tel: 0755-66630456

Fax: 0755-66630458

Email: sunwin_vip@163.com

WIFI Return Loss



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

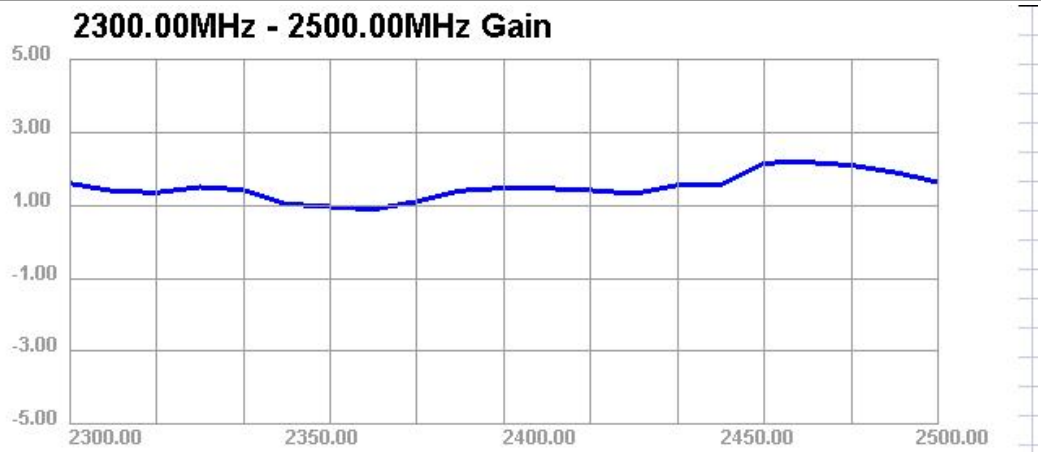
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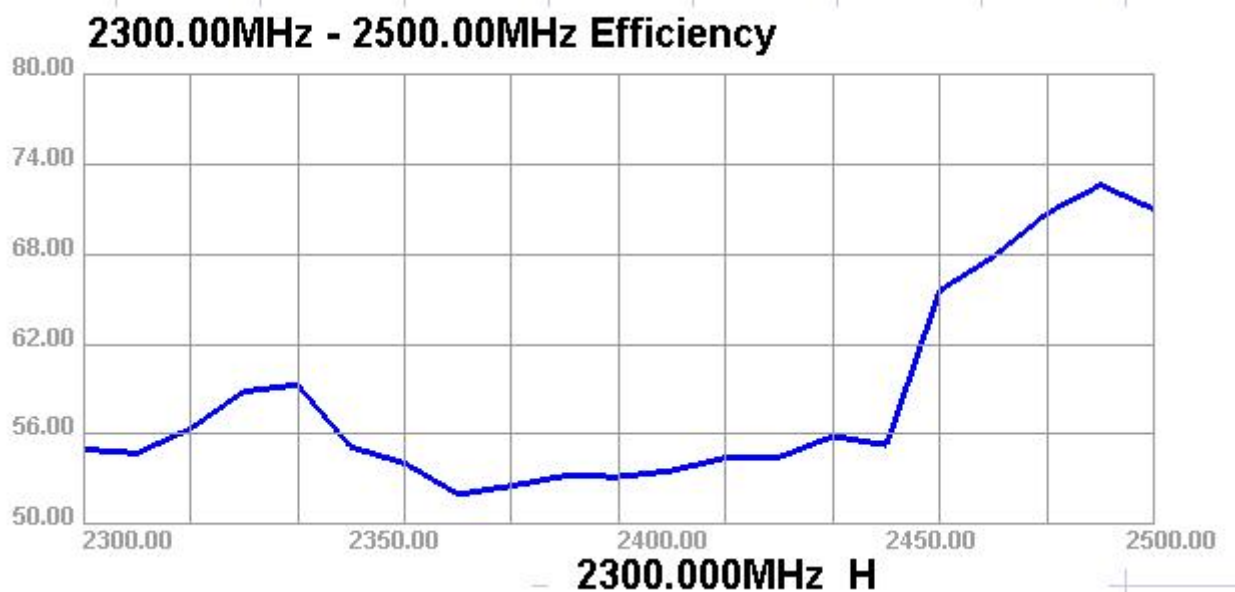
Email: sunwin_vip@163.com

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



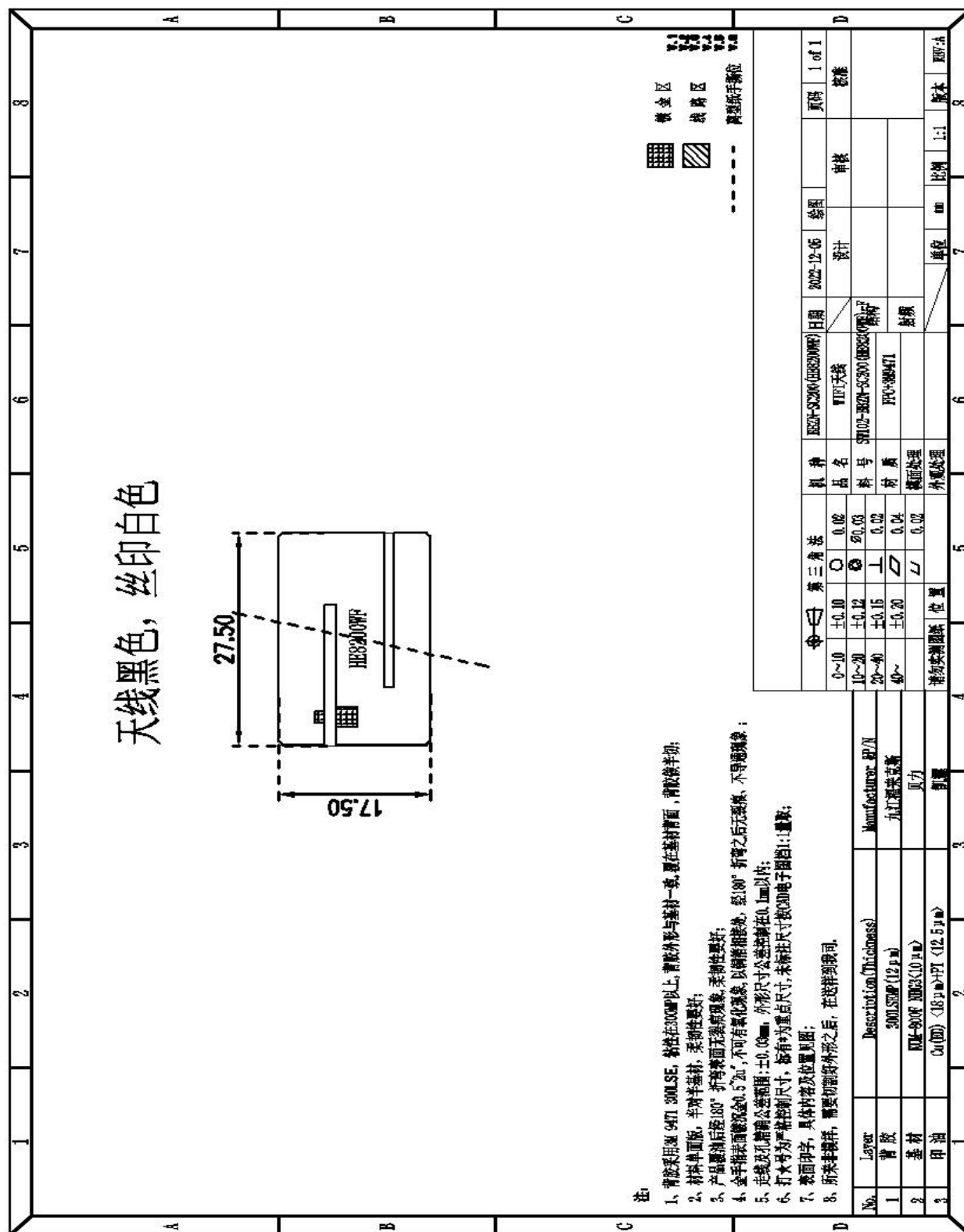
Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2500
Gain	1.47	1.46	1.41	1.32	1.55	1.56	2.16	2.18	2.09	1.63
Effi (%)	39.72	53.6	41.05	49.28	50.39	56.26	31.97	58.71	53.65	67.99



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

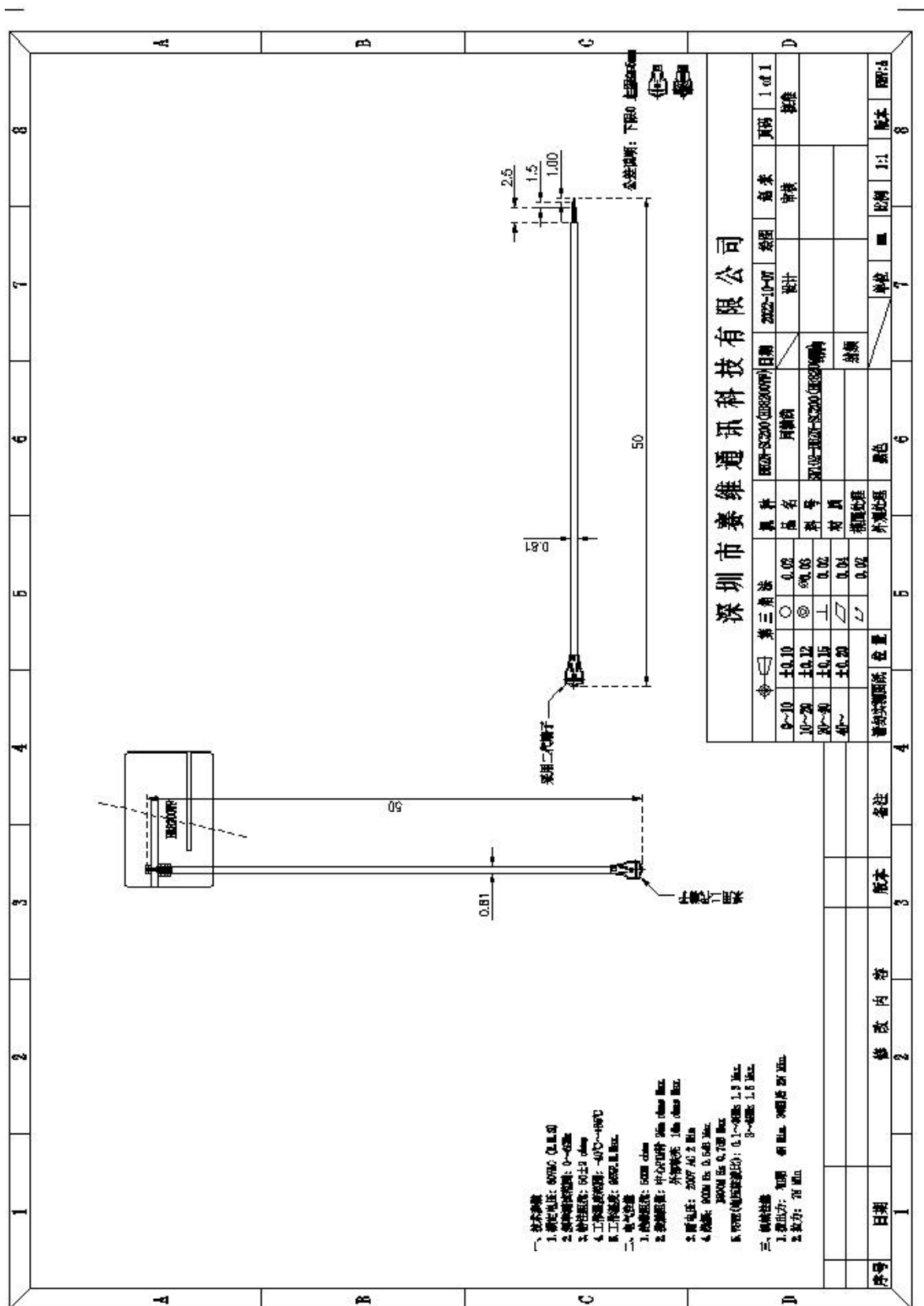
4 Mechanical Properties

WIFI



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

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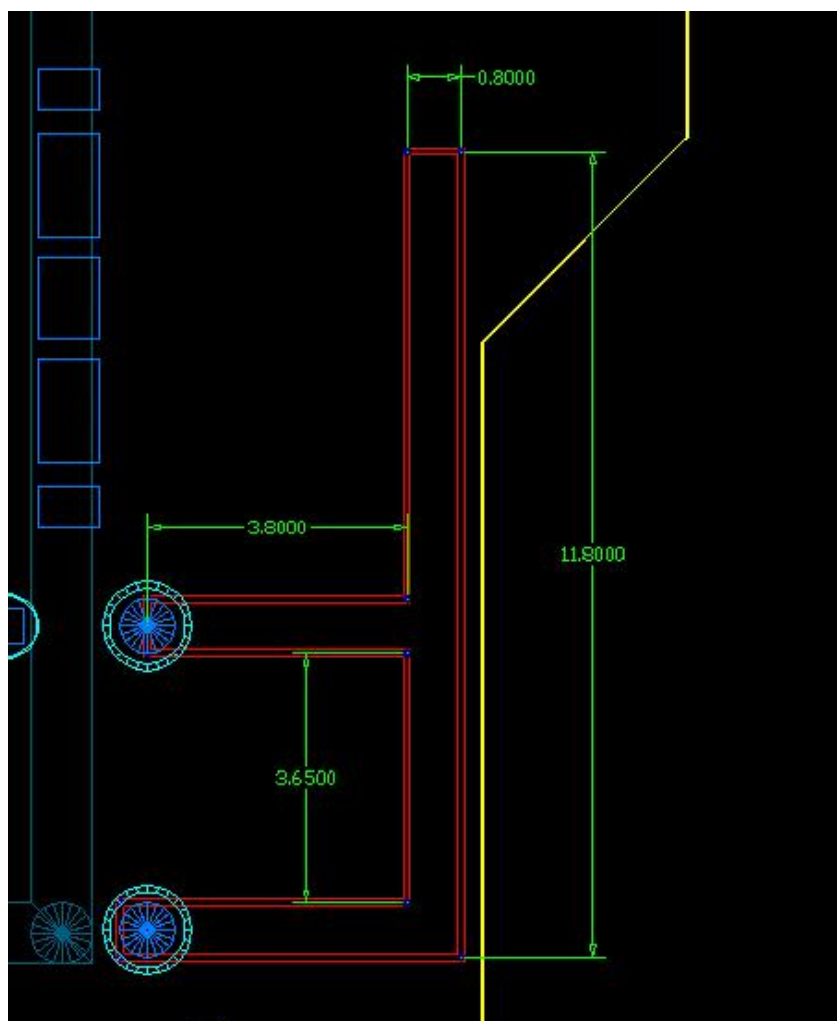
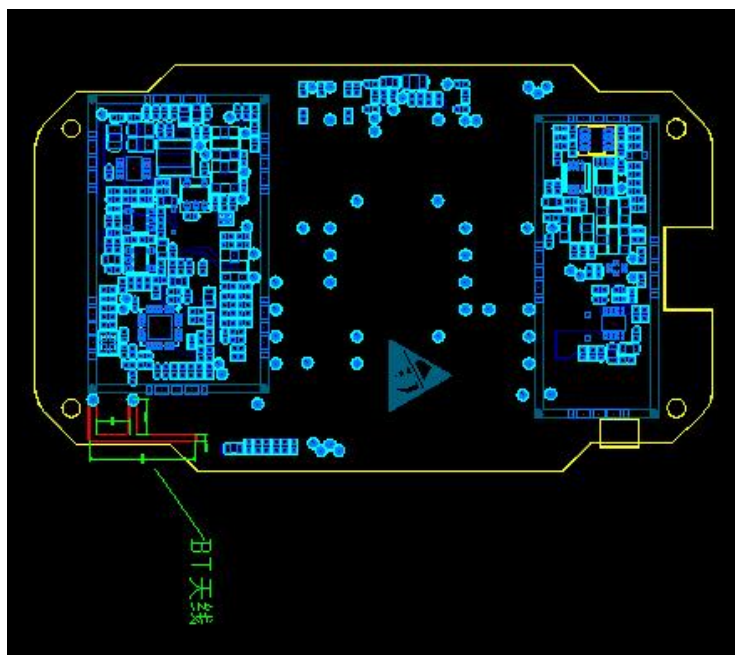
Add: Room 401, West Tower, Building No.211, Tairan Industry & Trade Park, Chegongmiao, Futian District, Shenzhen City, Guangdong Province, P.R. China

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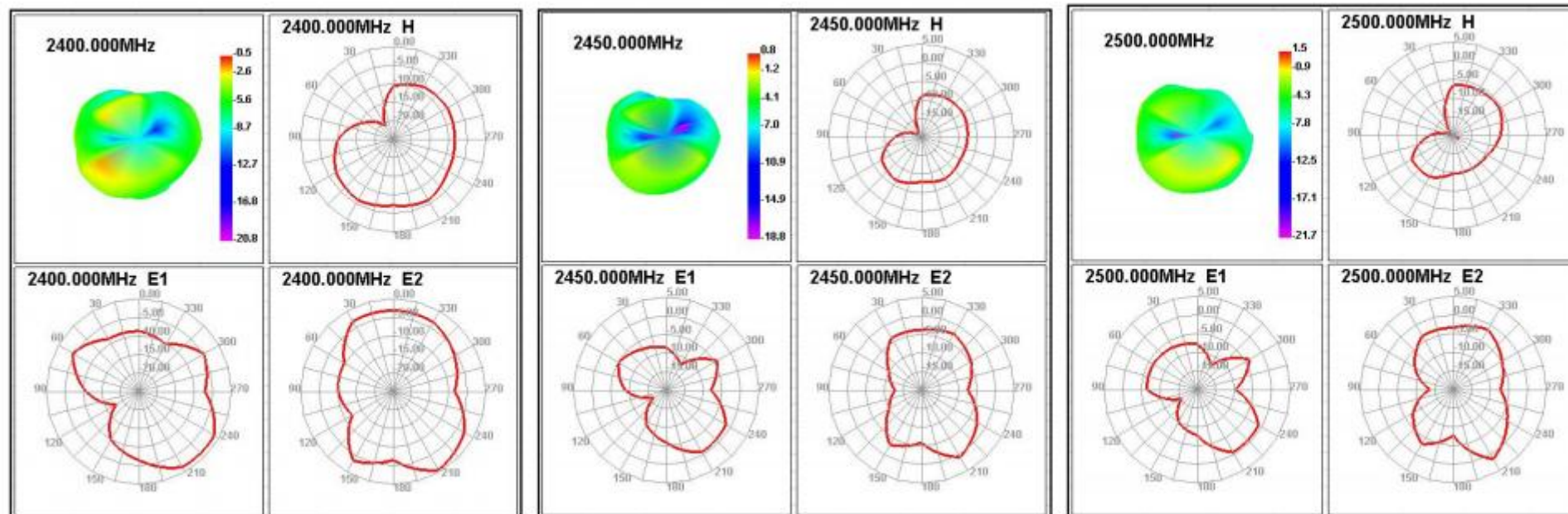
BT



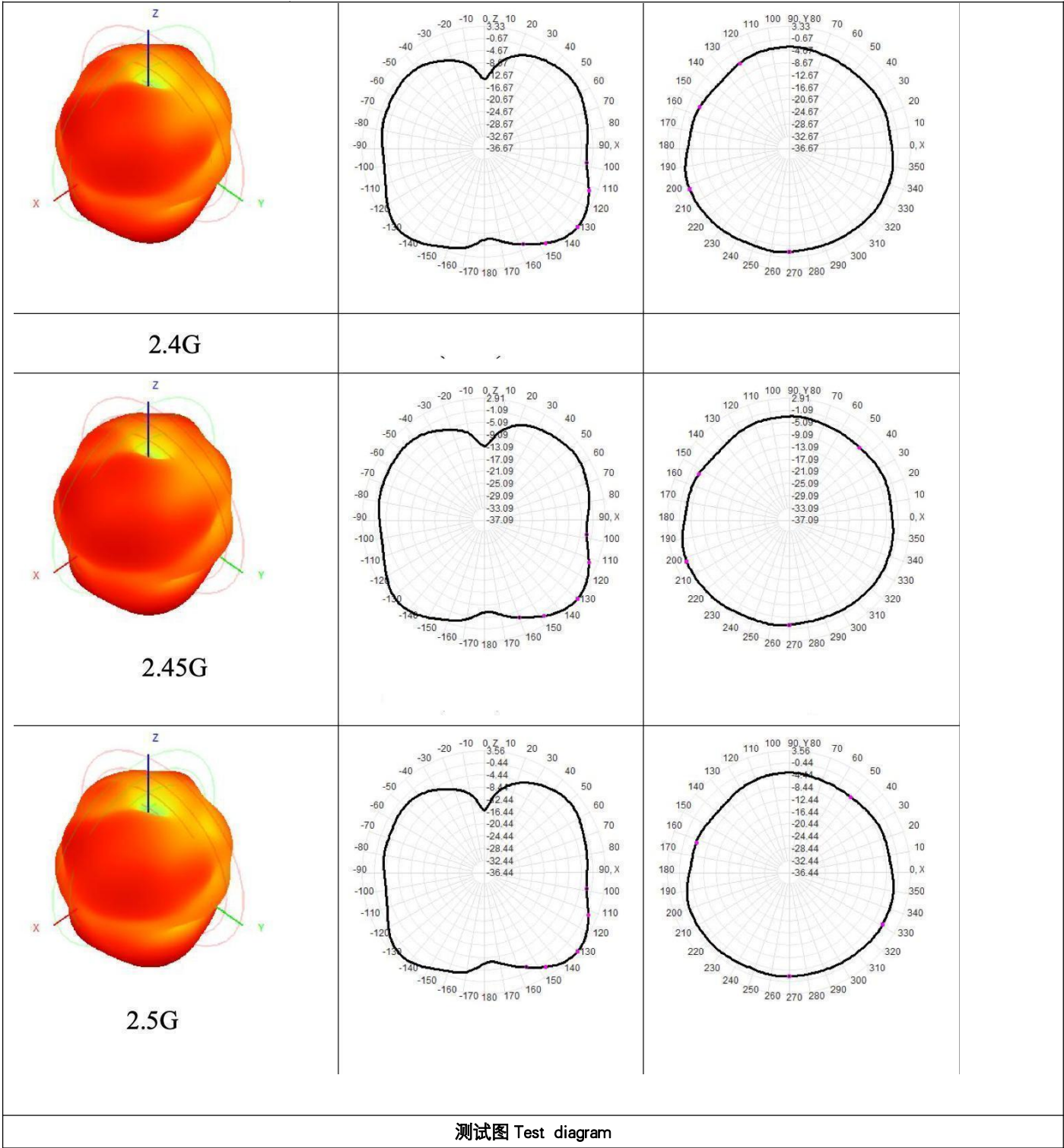
5. Environmental Characteristic

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

