



Approval Sheet

客户名称 小吉

(Customer Name)

产品名称 F10-3G Antenna

(Specification)

客户料号 _____

(Customer P/N)

产品料号 _____

(O/I)

送样日期 2025-4-21

Frequency band	2G:900/1800, 850/1900 3G:1/2/5		
Version	A		
RF	Chenmeidui	Confirm	
Structural Engineer	Yangyuzhen		
Customer confirmation			
Date			



Catalogue

1. Project image

2. Test fixture

3. Matching circuit

4. S11 Test electrical performance

4.1 S11 Test Method Description Specification Standards

4.2 S11 Parameter

4.3 S11 Parameter image

5. Power and sensitivity testing

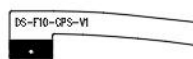
5.1 Test data

6. Structural drawings

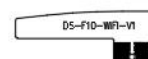
1. Project image (for reference only)



GSM Antenna



GPS Antenna

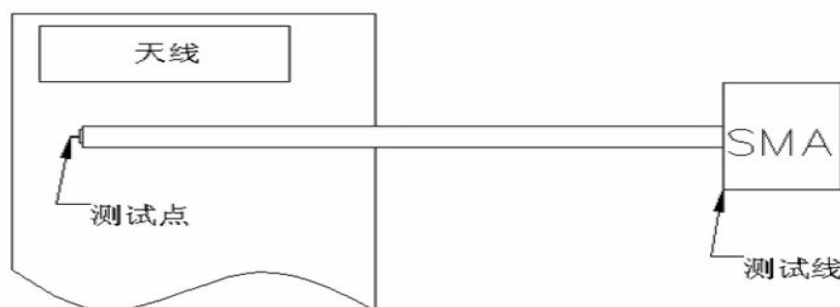


WIFI Antenna

2. Passive Test

Purpose: To test the passive parameters of the antenna as accurately as possible.

Method: This fixture uses a 50 ohm coaxial cable, with one end connected to the test point at the back end of the matching circuit (RF test hole front section) of the mobile phone motherboard, and the other end connected to the SMA connector. As shown in the following figure:

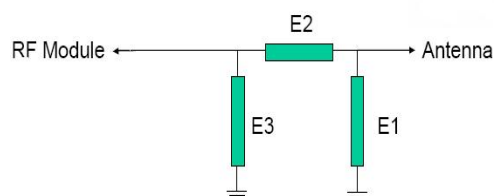


The following table shows the performance test indicators for F10-3G mass-produced antennas:



F10- Antenna				
	Frequency (MHz)	VSWR	Frequency (MHz)	VSWR
Frequency band	Transmitting end		Receiving end	
GSM850/W5	824-849	≤ 3.5	869-894	≤ 3.5
GSM900	880-915	≤ 3.5	925-960/925-960	≤ 3.5
DCS1800	1710-1785	≤ 3.0	1805-1880	≤ 3.0
PCS1900/W2	1850-1910	≤ 3.0	1930-1990/1930-1990	≤ 3.0
WCDMA-1	1920-1980	≤ 3.0	2110-2170	≤ 3.0
W5	824-849	≤ 3.5	869-894	≤ 3.5
W2	1850-1910	≤ 3.0	1930-1990/1930-1990	≤ 3.0

3. Matching circuit



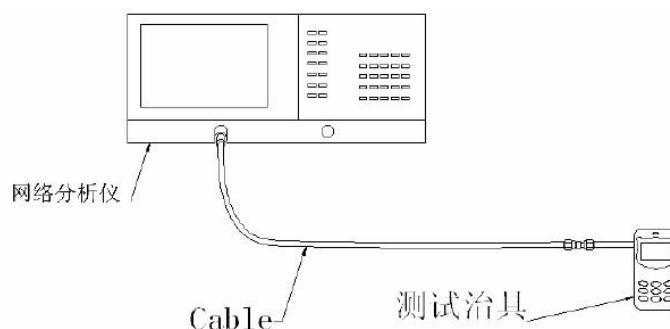
Element	Matching Value
E1	
E2	0
E3	

4. S11Test

4.1 S11Test Method Description Specification Standards

VSWR The testing devices are sequentially connected as follows :
E5071B Network analyzer → 50Ω Coaxial line → 120mm Copper tube → Test fixture.

Treatment of testing fixture: Use a hard cable to lead out the SMA-J connector from the 50 ohm test point of the antenna on the mobile phone PCB, connect it to a copper pipe with a choke ring, and then connect other devices in sequence.





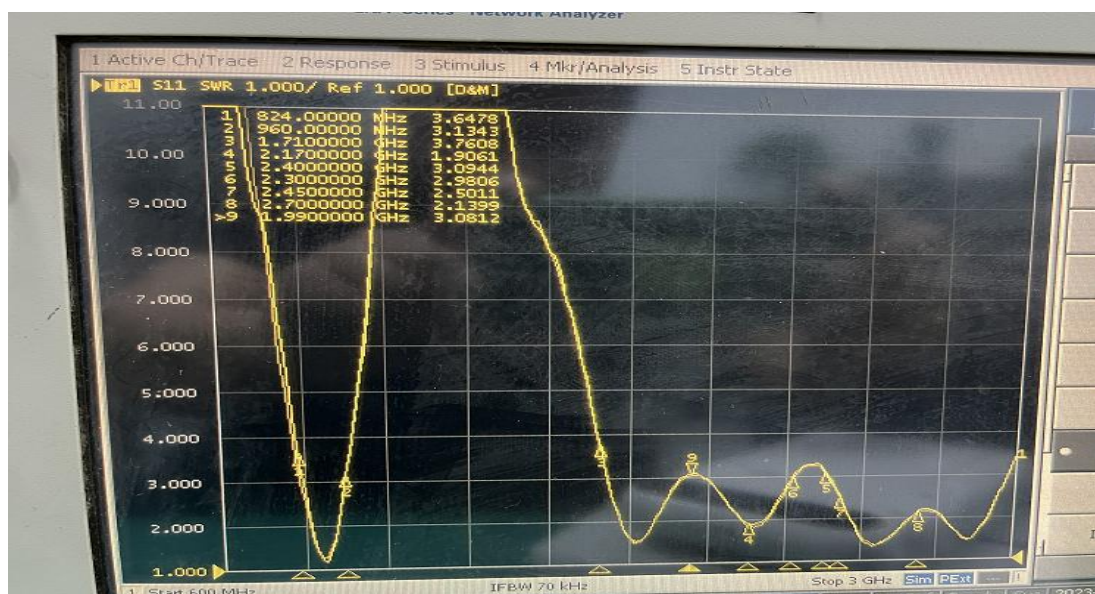
Test diagram

4.2 S11Parameter

The following table shows the standing wave ratio values at the edge frequency points of the ME61 antenna operating frequency band. The waveform diagrams of Return Loss and VSWR obtained from the test are shown in the attachment.

	F10 Antenna				
Frequency(MHz)	824	960	1710	1990	2170
Free space	3.6	3.3	3.7	1.9	2.1

4.3 S11



5. Power and sensitivity testing



5.1 Test data

Model:				天线实现方式：PIFA							单位: dBm	
信道	GSM850			GSM900			DCS1800			PCS1900		
	CH128	CH192	CH251	CH1	CH62	CH124	CH512	CH698	CH885	CH512	CH661	CH810
TRP	26.6	27.03	27.42	27.36	27.25	26.78	23.55	24.3	24.45	25.05	24.58	24.0
TIS			-102.8			-102.7			-103.23			-102.0
信道	WCDMA-850			WCDMA-900			WCDMA-1900			WCDMA-2100		
	CH4357	CH4408	CH4458	CH2937	CH3013	CH3083	CH9662	CH9800	CH9938	CH10562	CH10700	CH10838
TRP	17.69	18.28	18.08				16.08	16.13	16.0	17.87	17.7	17.17
TIS			-1001.53						-101.78			-100.38

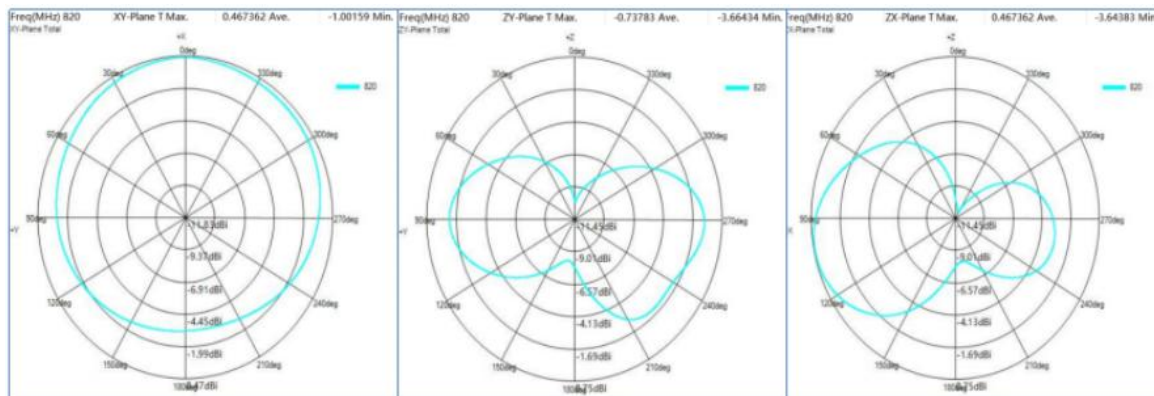
5.2 Antenna gain

Band	增益 (dBi)	Band	增益 (dBi)
GSM850	0.42		
EGSM900	1.45		
DCS1800	0.89		
PCS1900	0.86		
W-Band1	0.95		
W-Band2	0.86		
W-Band5	0.42		

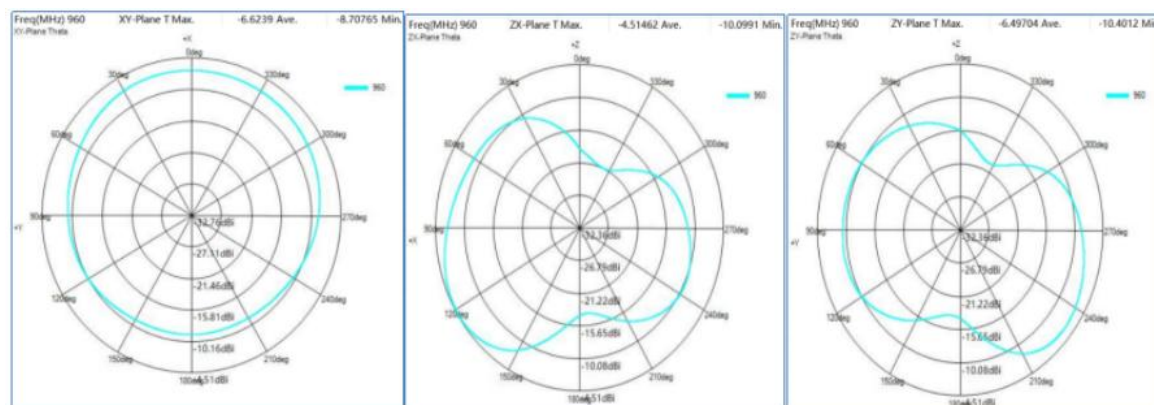


5.3 - 天线 2D 方向图

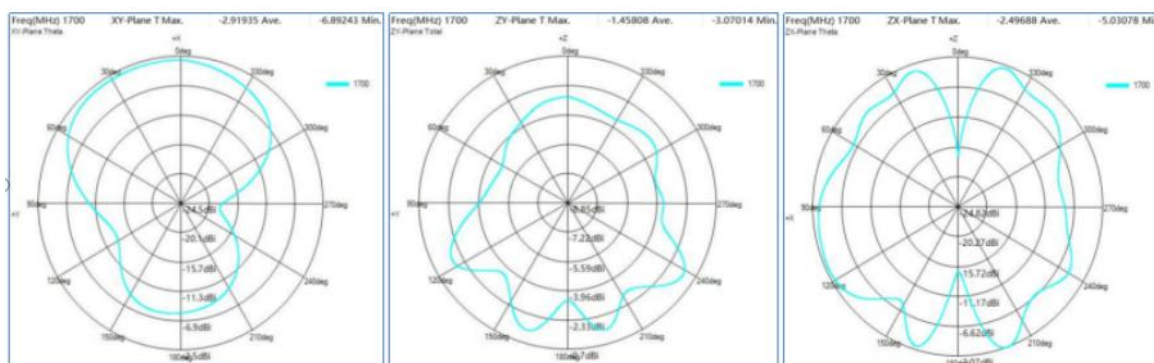
1.800



2.900

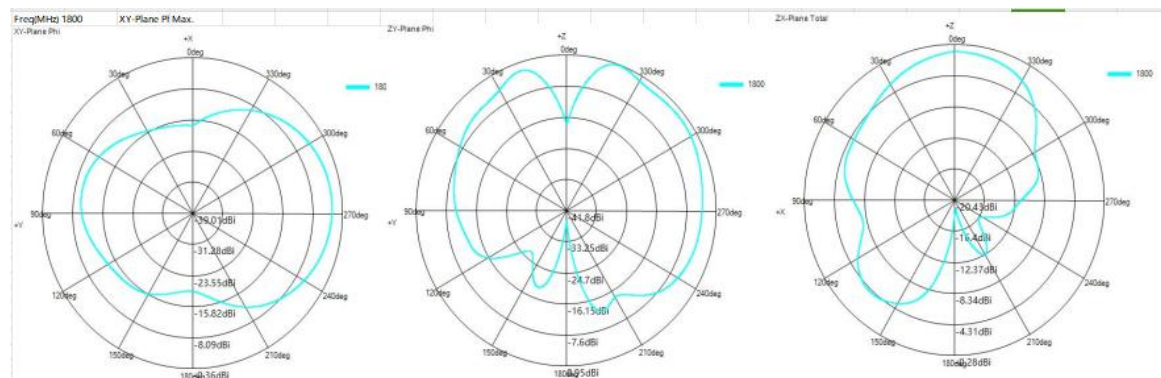


3.1700

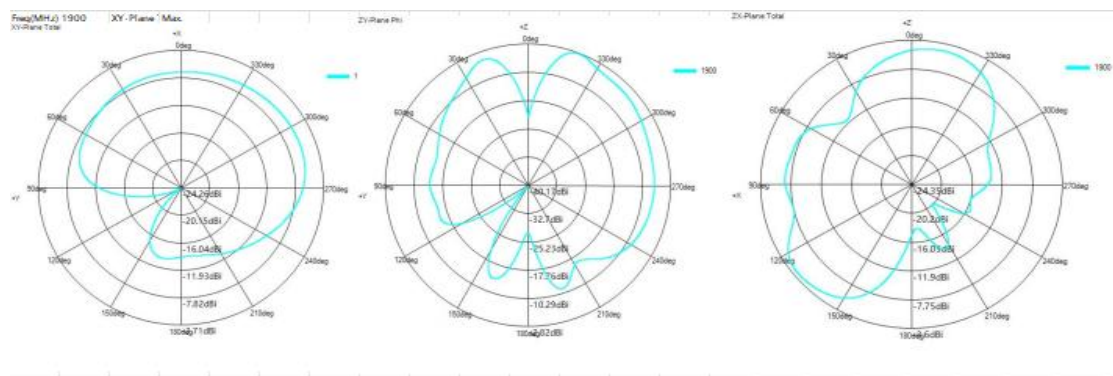




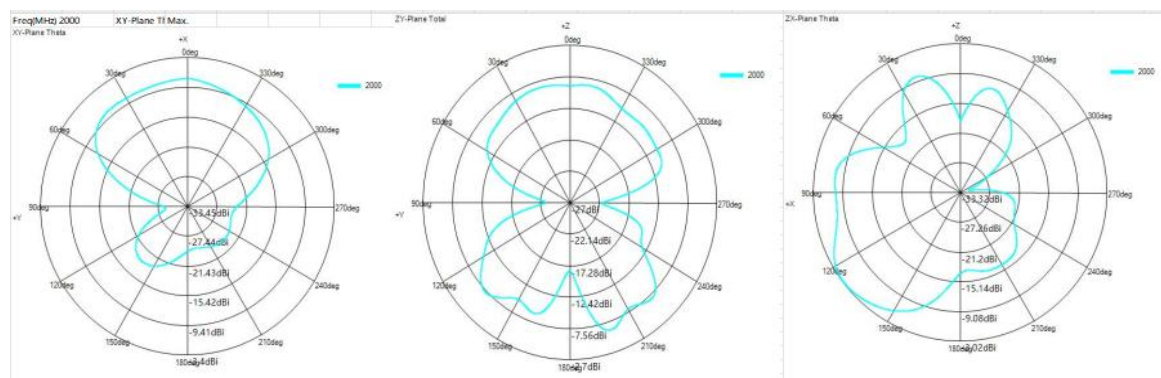
4. 1800



5. 1900

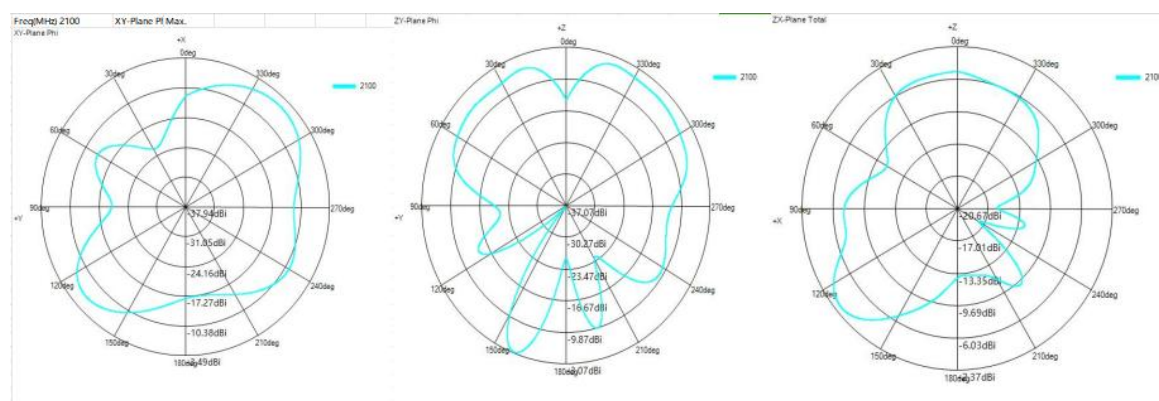


6. 2000

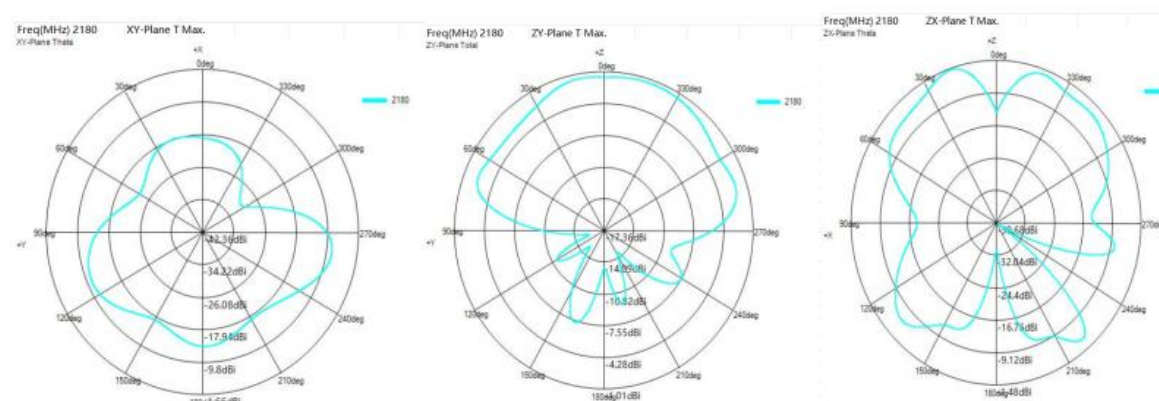




7. 2100



8. 2200



5.4GPS/WIFI+BT Antenna Test

WIFI-2400-2500			GPS-1575		
Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
2400	27.51	-1.81	1555	28.82	-1.33
2420	29.81	-1.71	1565	30.77	-1.07
2440	29.84	-1.61	1575	30.11	-1.56
2460	28.84	-1.77	1585	29.52	-1.42
2480	26.62	-1.66	1595	27.78	-1.16

深圳市德仕勤科技有限公司

Doshing Micro Electronics Co., Ltd

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TEL:0755-88602767 FAX:0755-82793883



2500	25.2	-1.52			
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5.5

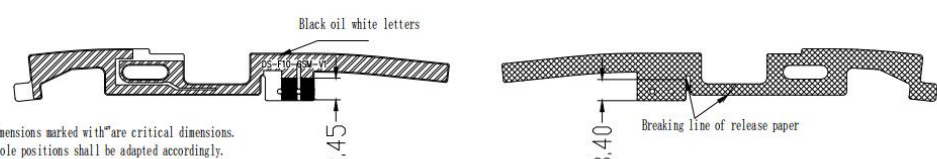
GPS/WIFI I/BT 注:	GPS	Maximum signal strength	Number of received stars	Average positioning time (s)	Weather conditions	
		40	7-12	60-80	晴	
	WIFI	Normal internet distance (m)		Smooth distance for online browsing (m)		
		10-12		10-12		
	BT	Clear call distance (m)				
		10				

The actual test



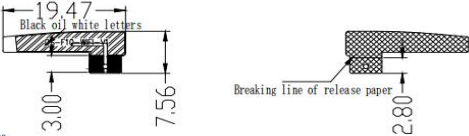


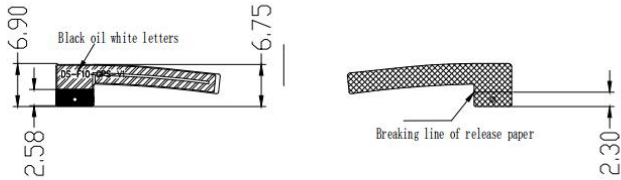
6. Structural drawings

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