



Approval Sheet

客户名称 (Customer Name) Xiaoji Technology

产品名称 (Specification) V10 antenna (GSM /GPS+WIFI+BT/LTE)

客户料号 (Customer P/N) GSM 天线 : V10. D. D24. 007

GPS/WIFI/BT 天线 : V10. D. D24. 018

分集天线 : V10. D. D24. 006

送样日期 (Date) 2025-04-22

BAND	GSM:2.3.5 8/ WCDMA:1,2.4.5.8 LTE: B1,2,3,4,5,7,8.12,17,20,25,26,28.34.38.39.40,41,66		
Version	V1	GSM Change the routing, +V1Version	
RF	Wang zhi bin	Confirm	

Structural confirmation:	Antenna Factory Check	XiaoJi Project selection
1. The external dimensions meet the drawing dimensions		
2. The positioning of the golden finger is OK, ensuring that it can reach the top.		
3. The silk screen font is correct		
4. Color Effect OK		
5. There is no possibility of lifting the golden fingers		
6. The antenna will not block microphone holes, etc;		
7. The antenna will not come into contact with inaccessible areas, resulting in no signal		
8. The bending position has been perforated		
9. R angles are made at all corners to prevent tearing		
10. Important contact positions cannot be connected with conductive fibers!		
If there are any inspection items that our sampling personnel did not check, this acknowledgement letter is invalid. If the antenna factory produces goods without authorization, all responsibilities will be borne by the antenna factory!	Signature	Signature

Dosking MicroElectronics Co.,Ltd

Address: Building 2, Private Enterprise Technology Park, Xili University City, Nanshan District, Shenzhen (Hongji Building), West Block 403
TEL:0755-88602767 FAX:0755-82793883

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

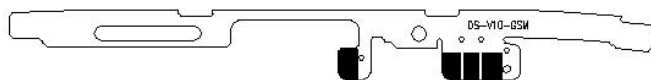
5.1 Test data

5.2 Environmental treatment

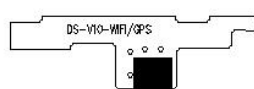
5.3 Auxiliary antenna

6. Structural drawings

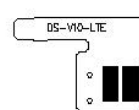
1. Project image (for reference only)



GSM antenna



GPS/WIFI/BT antenna

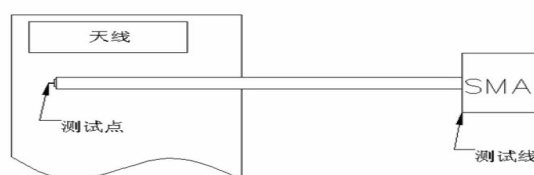


DIV antenna

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 K10D1 mass-produced antennas:

K10D10 antenna				
Frequency band	Frequency (MHz)	VSWR	Frequency (MHz)	VSWR
	Transmitting end		Receiving end	
GSM850	824-849	≤ 3.5	869-894	≤ 3.0
DCS1800	1710-1785	≤ 3.0	1805-1880	≤ 2.5
PCS1900	1850-1910	≤ 2.8	1930-1990	≤ 3.2
WCDMA-2100	1710-1755	≤ 3.5	2110-2155	≤ 3.5
WCDMA-850	824-849	≤ 3.5	869-894	≤ 3.5
WCDMA-1700	1710-1755	≤ 3.5	2110-2155	≤ 3.5
WCDMA-1900	1850-1910	≤ 2.8	1930-1990	≤ 3.2
LTE-FDD-B1	1920-1980	≤ 2.0	2110-2170	≤ 2.0
LTE-FDD-B2	1850-1910	≤ 2.8	1930-1990	≤ 3.2
LTE-TDD-B3	1710-1785	≤ 2.5	1805-1880	≤ 2.5
LTE-TDD-B5	824-849	≤ 3.5	869-894	≤ 3.0
LTE-TDD-B7	2505-2565	≤ 2.0	2625-2685	≤ 2.0
LTE-FDD-B8	880-913	≤ 2.0	930-955	≤ 2.0

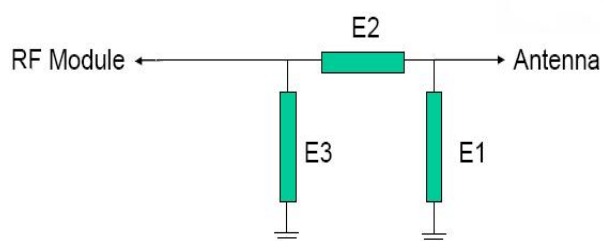
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LTE-FDD-B12	703-710	≤ 2.5	733-740	≤ 3.5
LTE-FDD-B17	709-711	≤ 3.0	739-741	≤ 3.0
LTE-FDD-B20	837-857	≤ 3.5	796-816	≤ 3.0
LTE-FDD-B25	1855-1910	≤ 3.5	1935-1990	≤ 3.0
LTE-FDD-B26	819-844	≤ 3.5	864-889	≤ 3.0
LTE-TDD-B38	2570-2620	≤ 2.0	2570-2620	≤ 2.0
LTE-TDD-B39	1880-1920	≤ 2.5	1880-1920	≤ 2.5
LTE-TDD-B40	2310-2390	≤ 2.0	2310-2390	≤ 2.0
LTE-TDD-B41	2550-2660	≤ 2.0	2550-2660	≤ 2.0
LTE-FDD-B66	1715-1775	≤ 3.5	2115-2175	≤ 3.0

3. Matching circuit



Element	Matching Value
E1	
E2	
E3	

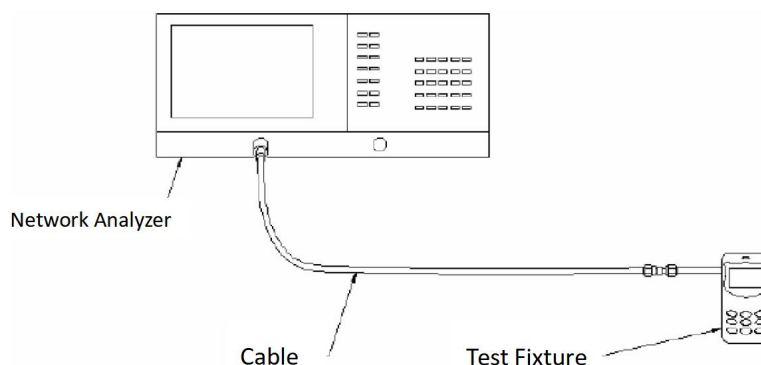
4. S11Test

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.



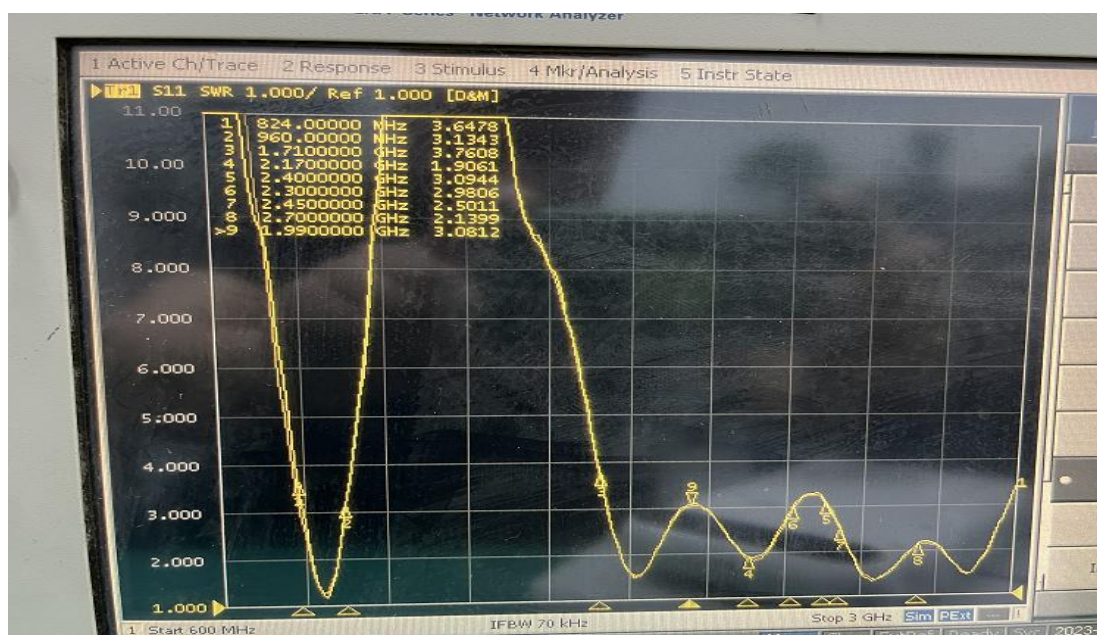
Test diagram

4.2 S11Parameter

The following table shows the standing wave ratio values at the edge frequency points of the K10D1 antenna operating frequency band. The waveform diagrams of Return Loss and VSWR obtained from the test are shown in the attachment.

Loss	K10D10 antenna			
Frequency(MHz)	824	960	1710	2700
Free space	3.6	3.3	3.7	2.1

4.3 S11



S11 Passive parameters

5. Power and sensitivity testing

5.1 Test data

BAND	GSM850			GSM900		
	CH128	CH192	CH251	CH1	CH62	CH124
TRP	24.3	25.4	26.2	26.3	26.1	25.2
TIS			-101.5			-101.7
BAND	DCS1800			PCS1900		
	CH512	CH698	CH885	CH512	CH661	CH810
TRP	24.2	25.1	25.4	25.3	25.1	24.5
TIS			-103.5			-102.4
BAND	WCDMA-2100			WCDMA-1900		
	CH10562	CH10730	CH10838	CH9663	CH9800	CH9938
TRP	17.2	17.5	17.4	17.2	17.4	17.5
TIS			-102.4			-102.3
BAND	WCDMA-850			WCDMA-1700		
	CH4357	CH4408	CH4458	CH1537	CH1638	CH1738
TRP	16.2	16.6	16.5	15.5	15.7	15.6
TIS			-102.4			-102.6
BAND	WCDMA-900					
	CH2937	CH3013	CH3083			
TRP	17.2	17.3	16.3			
TIS			-102.4			
BAND	LTE-FDD-B1			LTE-FDD-B2		
	CH18050	CH18300	CH18550	CH18650	CH18900	CH19150
TRP	17.3	17.5	17.7	17.4	17.6	18.1
TIS			-91.2			-91.2
BAND	LTE-FDD-B3			LTE-FDD-B4		
	CH19250	CH19575	CH19900	CH20000	CH20175	CH20350
TRP	16.1	16.3	16.4	16.3	16.6	16.7
TIS			-91.5			-91.2
BAND	LTE-FDD-B5			LTE-FDD-B7		
	CH20450	CH20525	CH20600	CH20800	CH21100	CH21400
TRP	16.1	16.3	16.4	15.2	15.6	16.1
TIS			-90.2			-91.3

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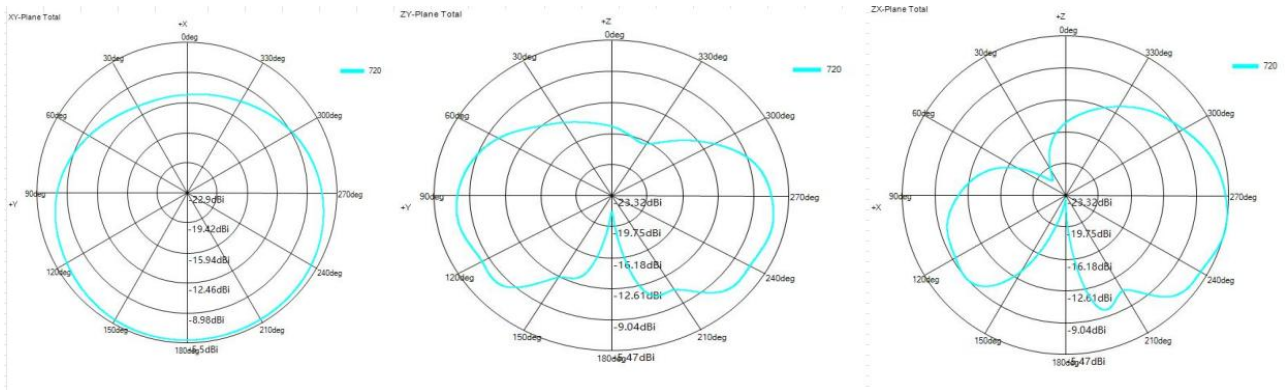
BAND	LTE-FDD-B8			LTE-FDD-B12		
	CH21500	CH21625	CH21750	CH23060	CH23095	CH23130
TRP	17.2	16.6	16.4	15.1	15.3	15.4
TIS			-90.5			-89.7
BAND	LTE-FDD-B17			LTE-FDD-B20		
	CH23780	CH23790	CH23800	CH24200	CH24300	CH24400
TRP	15.2	15.4	15.2	16.1	15.6	16.4
TIS			-89.5			-90.5
BAND	LTE-FDD-B25			LTE-FDD-B26		
	CH26090	CH26365	CH06640	CH26740	CH26865	CH26990
TRP	17.3	17.4	17.6	16.3	16.2	16.4
TIS			-91.5			-91.5
BAND	LTE-FDD-B28			LTE-TDD-B34		
	CH27370	CH27435	CH27610	CH36250	CH36275	CH36300
TRP	15	15.3	15.1	16.2	16.3	16.5
TIS			-90.4			-89.5
BAND	LTE-FDD-B66					
	CH36250	CH36275	CH36300			
TRP	16.2	16.6	16.7			
TIS			-90.5			
BAND	LTE-TDD-B38			LTE-TDD-B39		
	CH37850	CH38000	CH38150	CH38350	CH38450	CH38550
TRP	15.3	16.1	16.5	17.3	17.5	17.2
TIS			-91.3			-91.5
BAND	LTE-TDD-B40			LTE-TDD-B41		
	CH38750	CH39150	CH39550	CH40340	CH40260	CH41140
TRP	16.7	16.5	15.5	15.3	15.7	16.2
TIS			-91.3			-91.4

5.2 Antenna gain

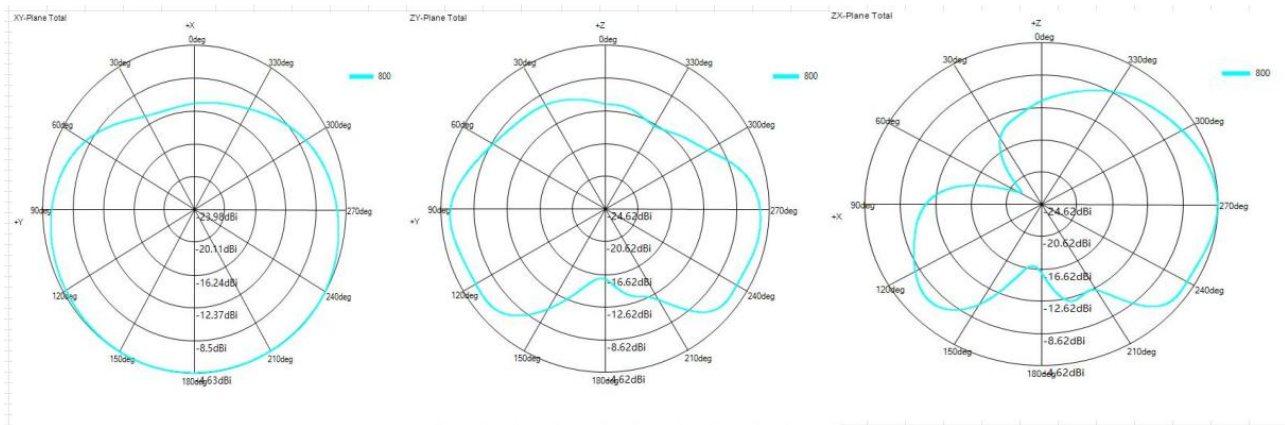
Band	GAIN(dBi)	Band	GAIN(dBi)
GSM850	-1.42	LTE-B17	-1.72
EGSM900	-1.45	LTE-B20	-1.45
DCS1800	0.39	LTE-B25	0.39
PCS1900	0.46	LTE-B26	-1.42
W-Band1	0.55	LTE-B34	0.55
W-Band2	0.56	LTE-B39	0.72
W-Band4	0.46	LTE-B40	0.72
W-Band5	-1.42	LTE-B41	1.07
W-Band8	-1.45	LTE-B28A/B	-1.65
LTE-B1	0.46	LTE-B66	0.39
LTE-B2	0.46	LTE-B38	0.96
LTE-B3	0.39		
LTE-B4	0.35		
LTE-B5	-1.42		
LTE-B7	1.07		
LTE-B8	-1.45		
LTE-B12	-1.72		

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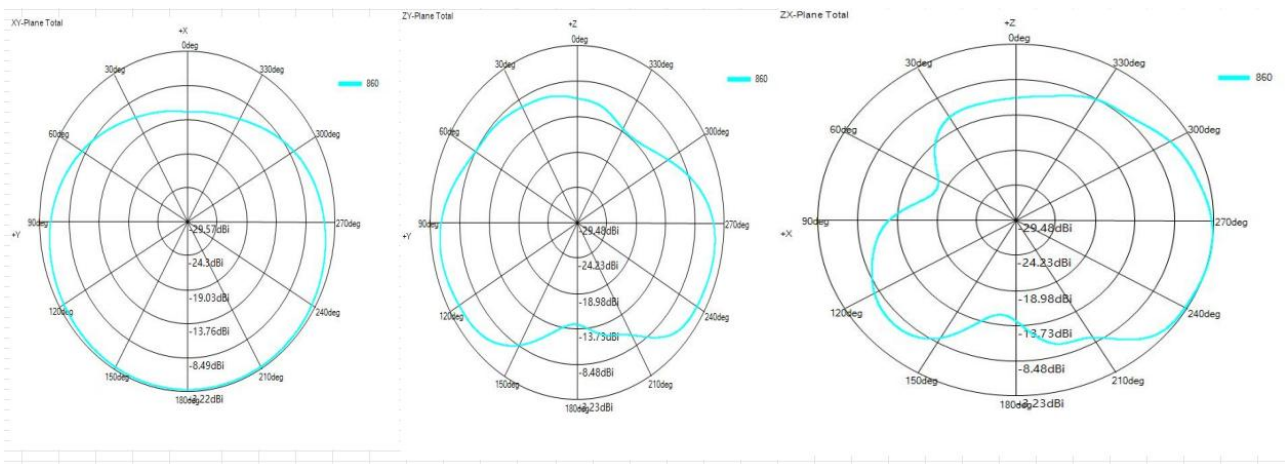
1. 720



2. 800



3. 860

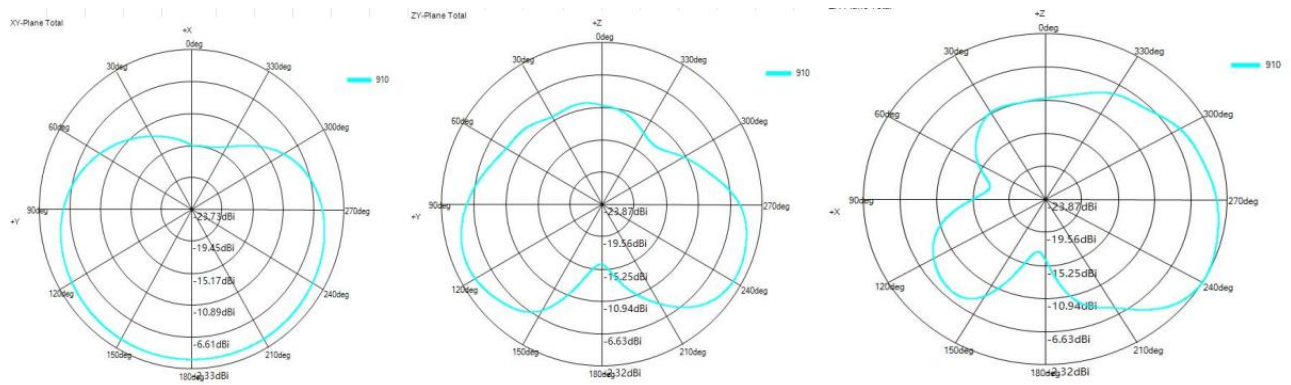


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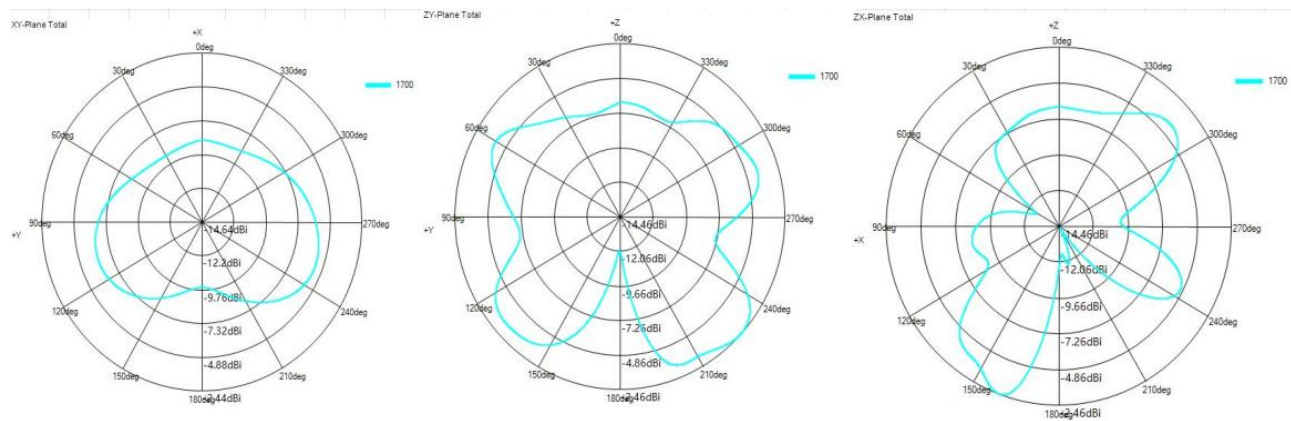
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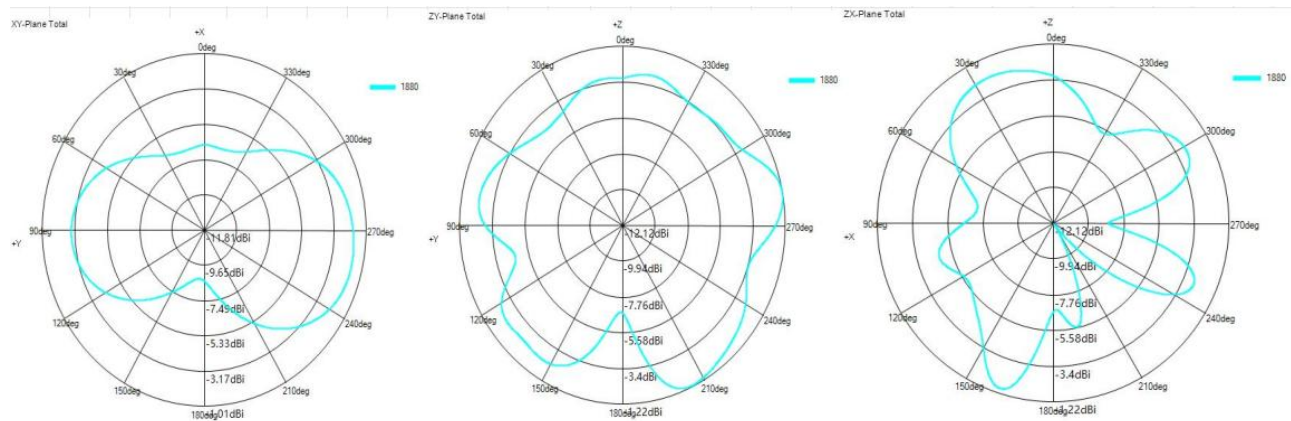
4. 910



5. 1700



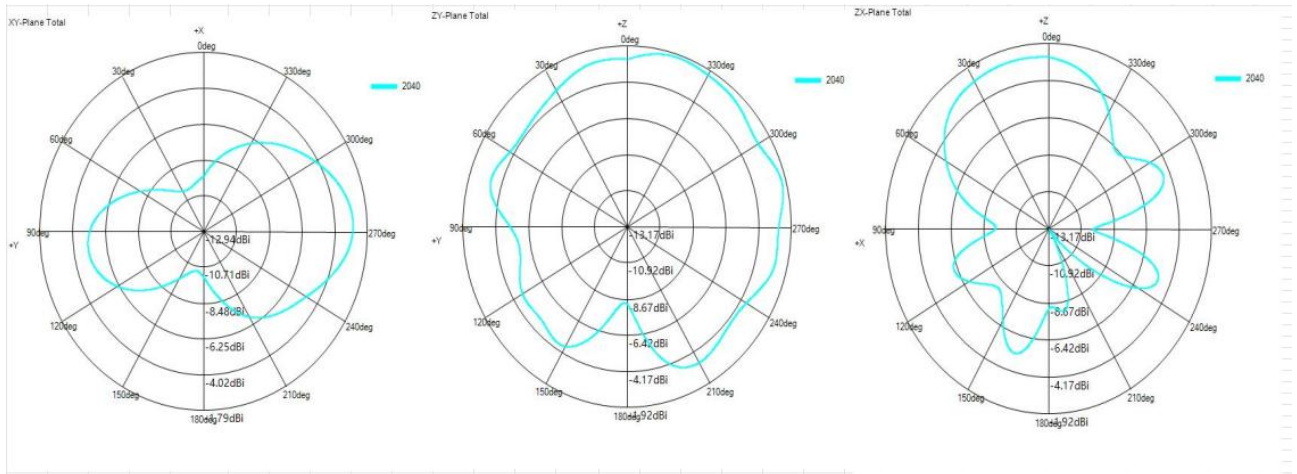
6. 1880



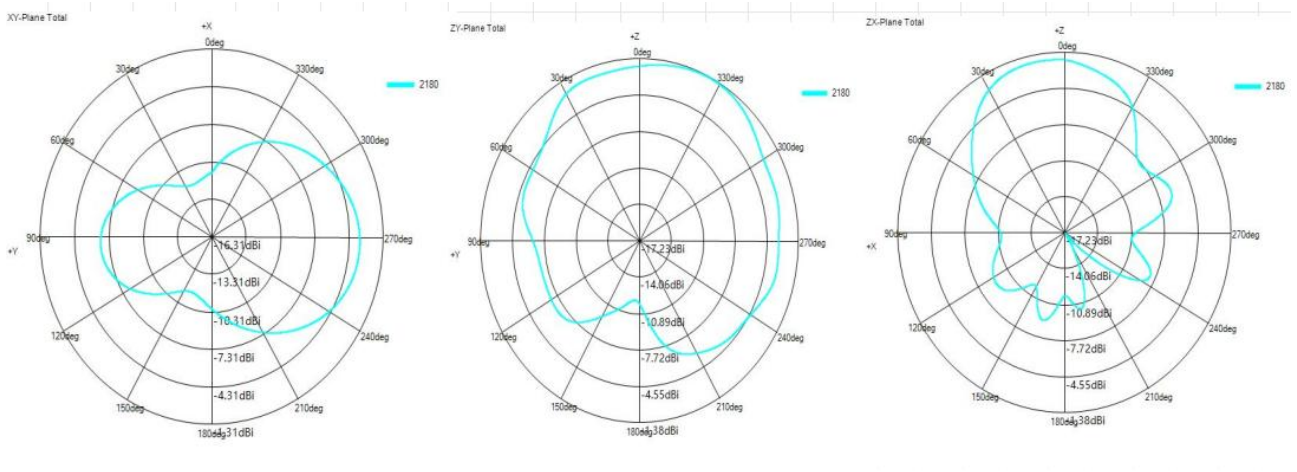
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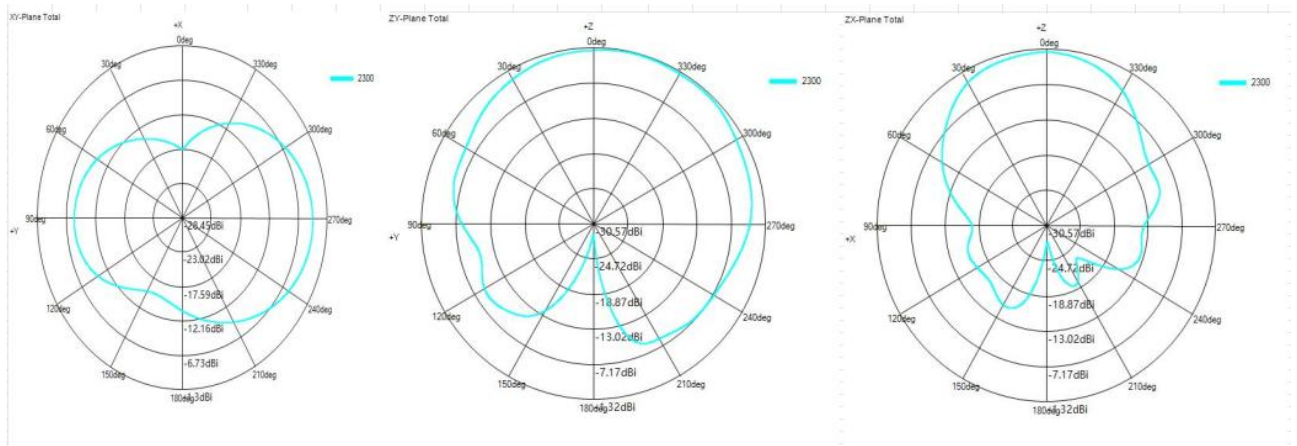
7. 2040



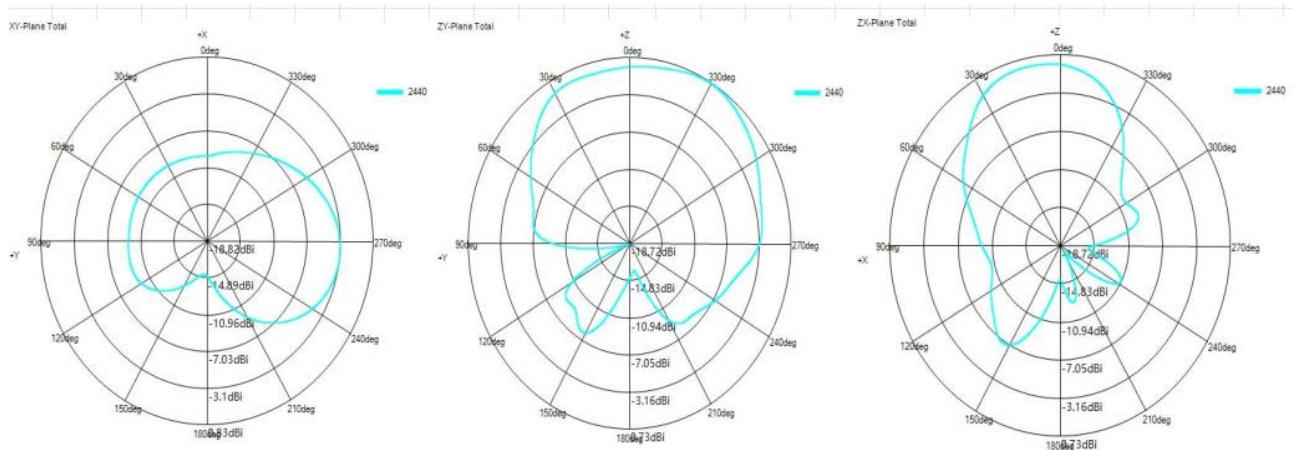
8. 2180



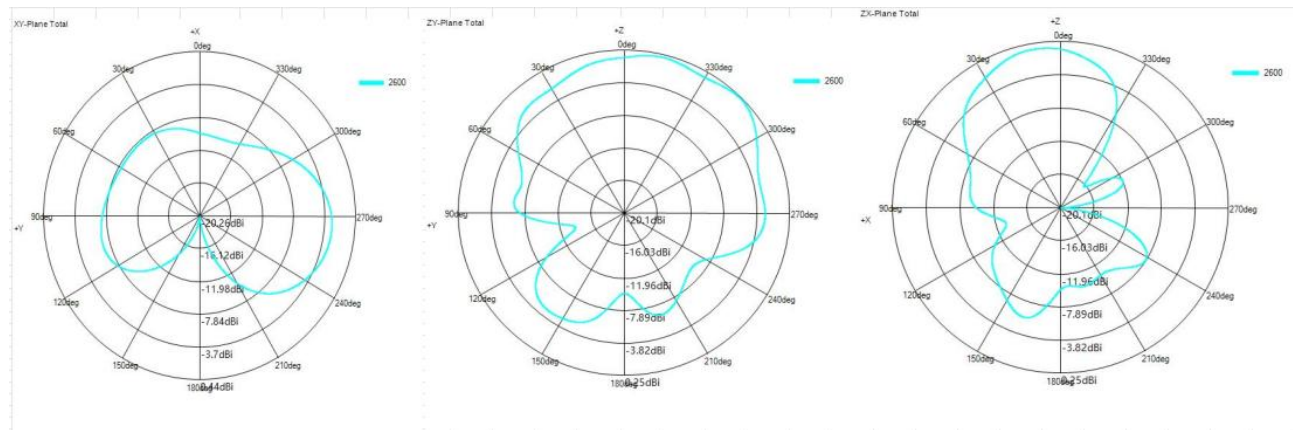
9. 2300



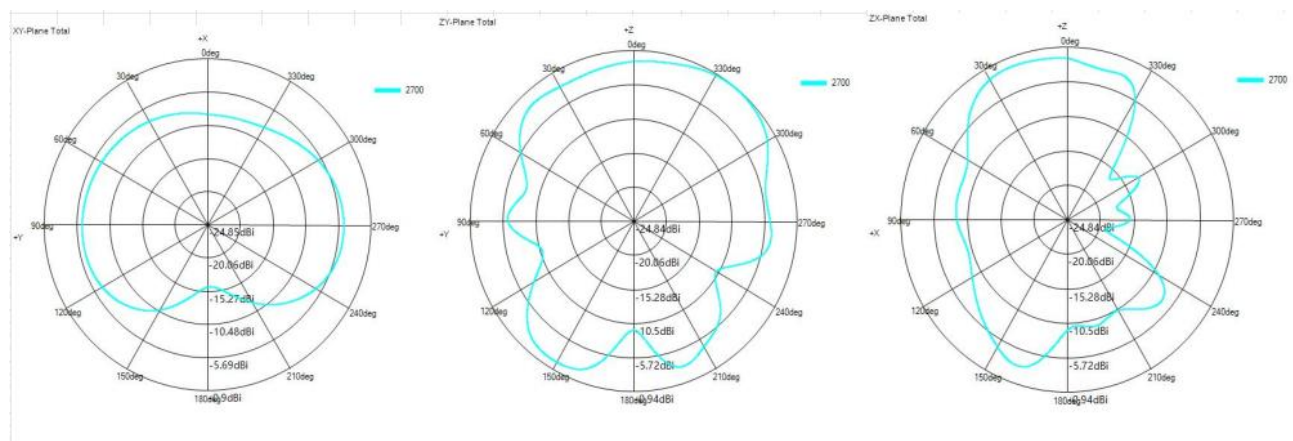
10. 2400



11. 2600



12. 2700

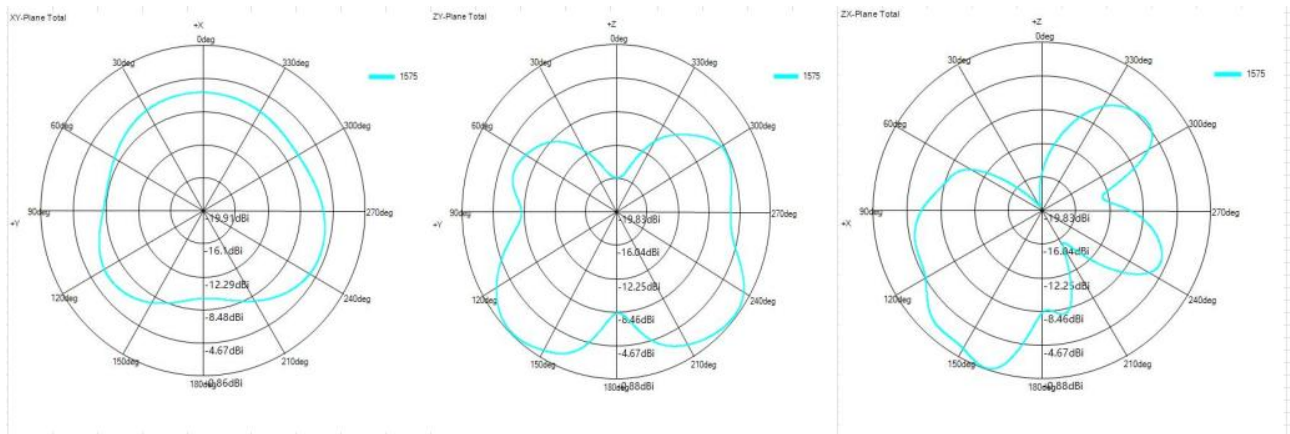


5.4GPS/WIFI+BTAntenna Test

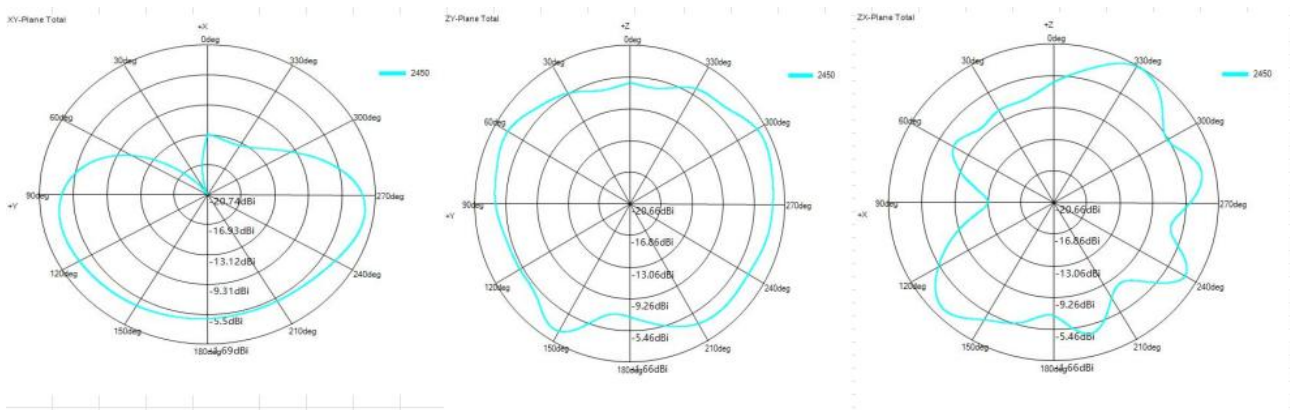
WIFI-2400-2500			WIFI-5150-5850			GPS-1575		
Freq	Effi	Gain	Freq	Effi	Gain	Freq	Effi	Gain
(MHz)	(%)	(dBi)	(MHz)	(%)	(dBi)	(MHz)	(%)	(dBi)
2400	27.51	-1.81	5150	27.52	1.18	1555	28.82	-1.33
2420	29.81	-1.71	5250	28.65	1.1	1565	30.77	-1.07
2440	29.84	-1.61	5350	26.32	0.56	1575	30.11	-1.56
2460	28.84	-1.77	5450	27.24	0.85	1585	29.52	-1.42
2480	26.62	-1.66	5550	28.25	0.99	1595	27.78	-1.16
2500	25.2	-1.52	5650	29.37	0.96			
			5750	30.27	0.93			
			5850	31.15	0.98			

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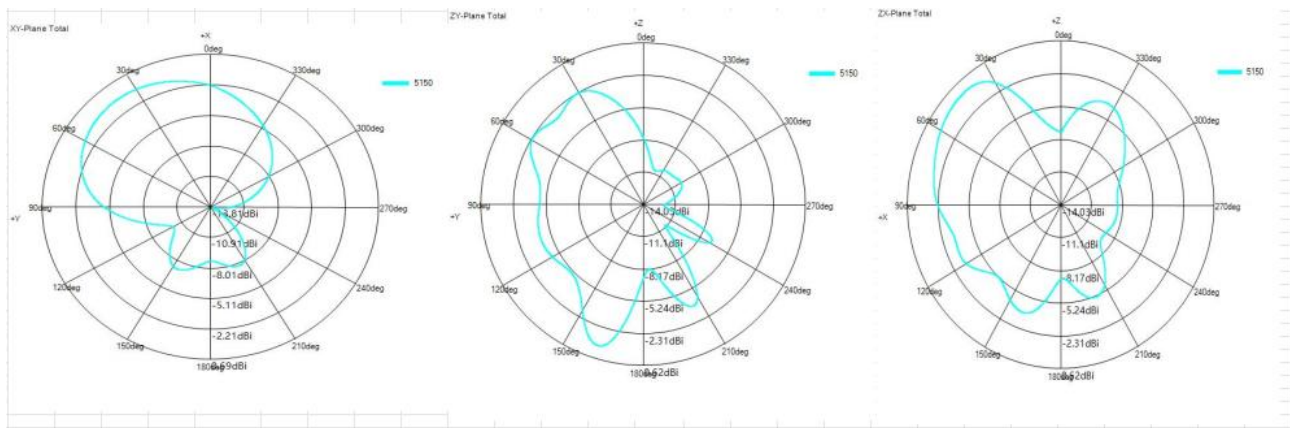
1. 1575



2. 2450



3. 5150

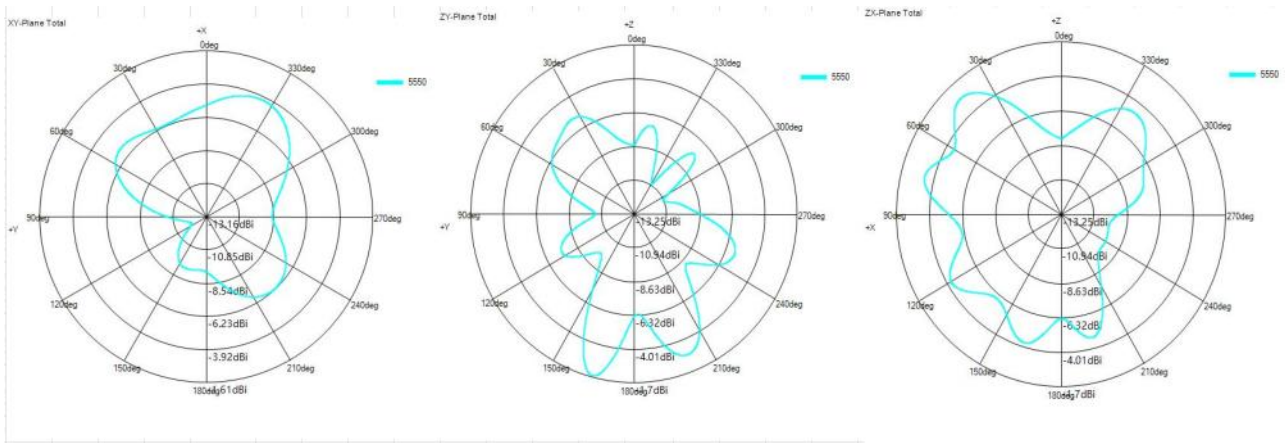


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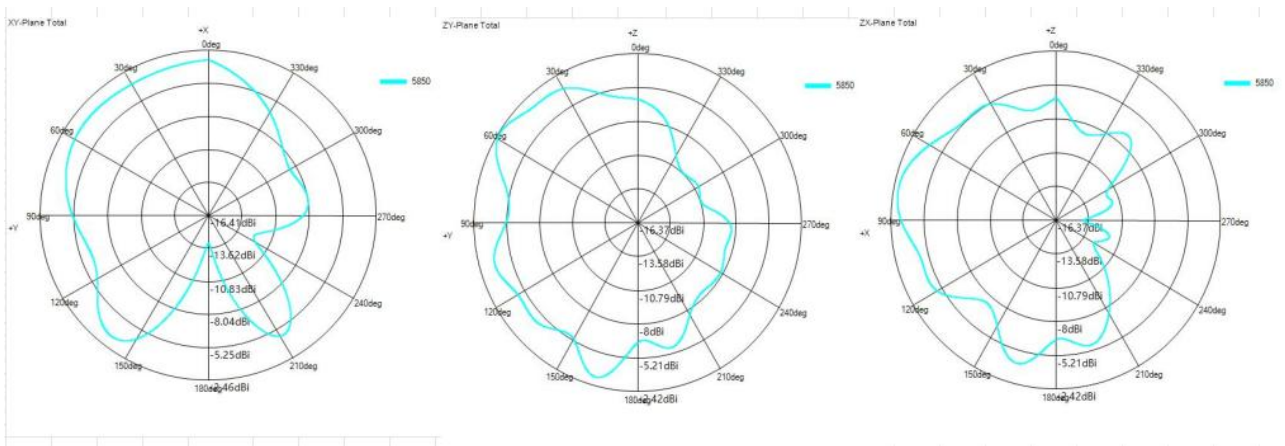
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4. 5550



4. 5850



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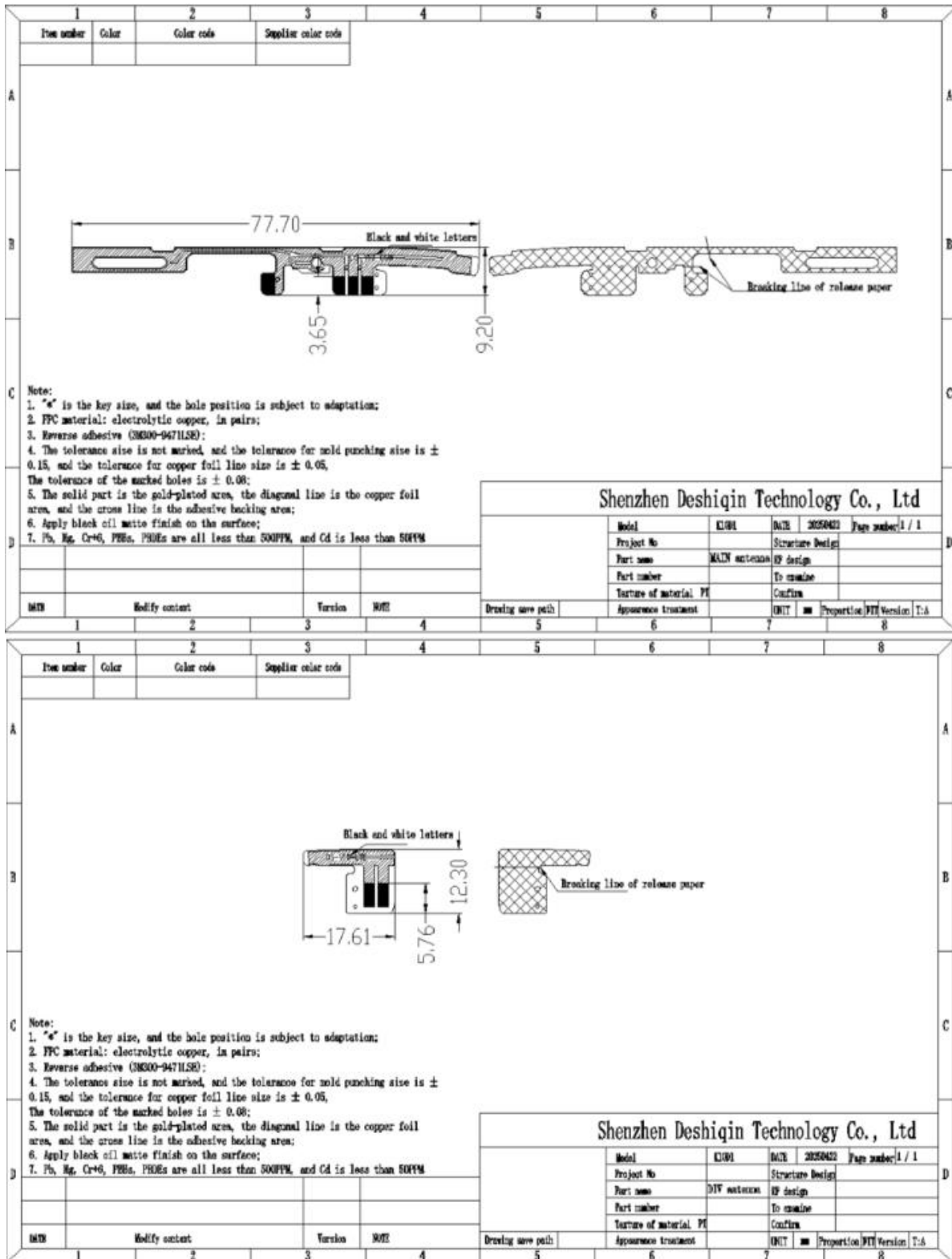
GPS	Maximum signal strength	Number of received stars	Average positioning time (s)	Weather conditions
	41	12	90-120	Sunny
WIFI	Normal internet distance (m)		Smooth distance for online browsing (m)	
	12-15		10-12	
BT	Clear call distance (m)			
	10-12			

The actual test

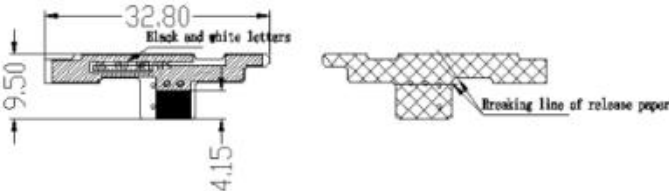
Average CNR ☒ Show in single page

ID	CNR	ID	CNR	ID	CNR	ID	CNR
G3	25.2/-/-	G10	26.6/-/-	G16	35.5/-/-	G25	29.8/-/-
G26	36.4/-/-	G27	0.0/-/-	G28	37.0/-/-	G29	38.3/-/-
G31	31.3/-/-	G32	41.2/-/-	R69	19.1/-/-	R70	0.0/-/-
R71	40.7/-/-	R73	25.3/-/-	R74	0.0/-/-	R80	27.4/-/-
B1	23.1/-/-	B2	0.0/-/-	B3	0.0/-/-	B4	24.6/-/-
B5	0.0/-/-	B6	24.0/-/-	B7	26.7/-/-	B8	23.5/-/-
B9	17.1/-/-	B10	0.0/-/-	B13	28.3/-/-	B14	24.9/-/-
B19	0.0/-/-	B20	32.1/-/-	B27	0.0/-/-	B28	0.0/-/-
B30	0.0/-/-	B32	0.0/-/-	B36	26.7/-/-	B37	32.5/-/-
B38	0.0/-/-	B39	0.0/-/-	B40	0.0/-/-	B46	0.0/-/-
B48	0.0/-/-	B56	0.0/-/-	Q2	34.0/-/-	Q3	0.0/-/-
Q4	35.0/-/-	Q7	0.0/-/-	S40	0.0/-/-		

6. Structural drawings



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1	2	3	4	5	6	7	8																												
Item number	Color	Color code	Supplier color code																																
A							A																												
B							B																												
C	Note: 1. "φ" is the key size, and the hole position is subject to adaptation; 2. PPC material: electrolytic copper, in pairs; 3. Reverse adhesive (3M300-9471LSQ); 4. The tolerance size is not marked, and the tolerance for mold punching size is ± 0.15, and the tolerance for copper foil line size is ± 0.05, The tolerance of the marked holes is ± 0.08; 5. The solid part is the gold-plated area, the diagonal line is the copper foil area, and the cross line is the adhesive backing area; 6. Apply black oil matte finish on the surface; 7. Pb, Hg, Cr+6, PBBs, PBDEs are all less than 500PPM, and Cd is less than 50PPM						C																												
D	<table border="1"> <thead> <tr> <th colspan="4">Shenzhen Deshiqin Technology Co., Ltd</th> </tr> </thead> <tbody> <tr> <td>Model</td> <td>YISN</td> <td>DATE</td> <td>20250422 Page number: 1 / 1</td> </tr> <tr> <td>Project No</td> <td></td> <td>Structure Design</td> <td></td> </tr> <tr> <td>Part name</td> <td>Case in one column</td> <td>3D design</td> <td></td> </tr> <tr> <td>Part number</td> <td></td> <td>To examine</td> <td></td> </tr> <tr> <td>Texture of material</td> <td>PI</td> <td>Confirm</td> <td></td> </tr> <tr> <td>Appearance treatment</td> <td></td> <td>NET 30</td> <td>Proportion: P/D Version 1:1</td> </tr> </tbody> </table>						Shenzhen Deshiqin Technology Co., Ltd				Model	YISN	DATE	20250422 Page number: 1 / 1	Project No		Structure Design		Part name	Case in one column	3D design		Part number		To examine		Texture of material	PI	Confirm		Appearance treatment		NET 30	Proportion: P/D Version 1:1	D
Shenzhen Deshiqin Technology Co., Ltd																																			
Model	YISN	DATE	20250422 Page number: 1 / 1																																
Project No		Structure Design																																	
Part name	Case in one column	3D design																																	
Part number		To examine																																	
Texture of material	PI	Confirm																																	
Appearance treatment		NET 30	Proportion: P/D Version 1:1																																
DATE	Modify content	Version	NOTE	Drawing date path																															
1	2	3	4	5	6	7	8																												