



Shenzhen Yesheng Communication Technology Co.,Ltd

Specification for built-in Antenna

AI740 Main Antenna/Diversity Antenna/

MK Antenna/GPS-WIFI Antenna

Product Confirmation

Client		Freq-Band	PA:GSM 四频 WCDMA B1-B2-B5-B8 LTE/B1-B2-B3-B4-B5-B7-B8-B17-B19- B28-B41 Modular:GSM 四频 WCDMA B1-B2-B5-B8 LTE/B1-B2-B3-B5-B7-B8-B20-B38-B40 -B41 WIFI2. 4G GPS
Product Name	AI740	Version	YST-V1.0-A
Item Number	YST230620-AI740	Copies	/
Sample type	FPC Antenna	Colour	Black
RF Designer		Structural design	
Department Manager		Date	October 09, 2023

Supplementary notes:

Bulk orders will be produced according to the confirmation, if there is any change, we need to provide the confirmation again before we can produce the goods.

Client confirms:

Customer Item No:

Producer: Ying Jia Bing

aAddress: room 3010-3011, 34 buildings, Shentan industrial zone, Xixiang street, Baoan district, Shenzhen Tel: 0755-22678821 fax: 0755-22678890

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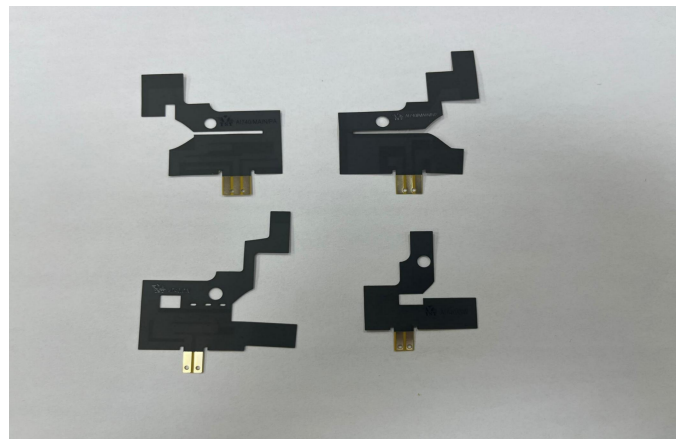
English version 1

1. Antenna

This report mainly describes the performance of Qingyu AI740 built-in antenna, which is mifi. The frequency band used is pa: GSM four WCDMA B1-B2-B5-B8 LTE B1-B2-B3-B4-B5-B7-B8-B17-B19-B28-B41 Module: GSM Quad WCDMA B1-B2-B5-B8 LTE B1-B2-B3-B5-B7-B8-B20-B38-B40-B41 WIFI2.4G GPS, Antenna Class Type is a wholesale antenna.

AI740Antenna diagram

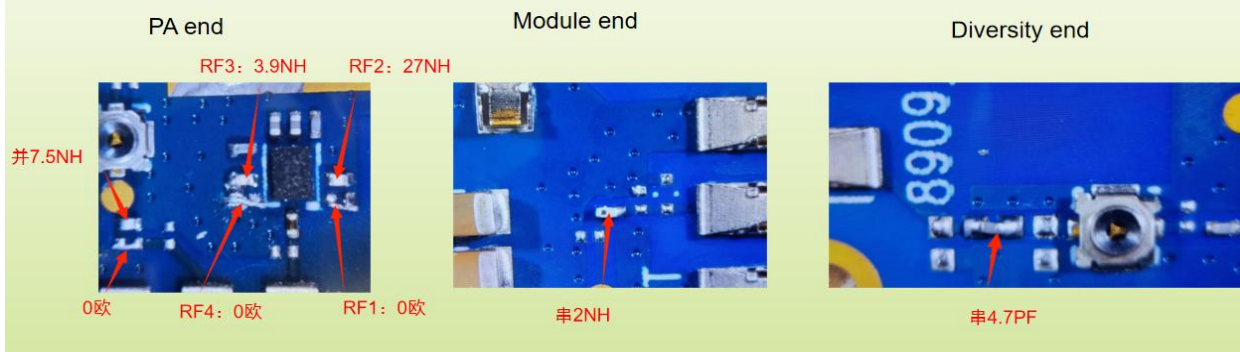
(main antenna + diversity antenna + MK antenna + GPS / WIFI antenna)



1.0 Matching Circuit

High starting point, high technology, high quality and high service

1.0 Matching Circuit



High starting point, high technology, high quality and high service

1.1 tuner Antenna switch logic PA duan

- RF1: DCS-1800 PCS-1900 WCDMA-B1 B2 LTE-B1-B2-B3-B4-B7-B41
- RF2: LTE-B17-B28
- RF3: GSM-850 WCDMA-B5 LTE-B5 B19
- RF4: GSM-900 WCDMA-B8 LTE-B8

2. Specification standard

2.1、 Antenna Composition:

Main Antenna, FPC Black, Screen Printing: YSTAI740 / MAIN / PA.
Diversity Antenna, FPC Black, Screen Printing: YSTAI740 / DIV.
MK Antenna, FPC Black, Screen Printing: YSTAI740 / MAIN / MK.
GPS / WFII Antenna, FPC Black, Screen Printing: YSTAI740 / GW

2.2、 Packing Method

Main line, divided-antenna, MK antenna, GPS / WIFI antenna
full-page shipment, conventional production.

2.3 Test Conditions

The characteristics of FPC need low temperature storage (16--25C),
please pay attention to your company, the matter temperature.

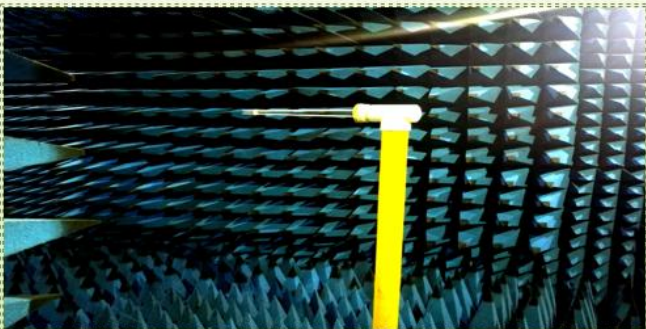
3. Antenna Test

3.1、 Test Environment:

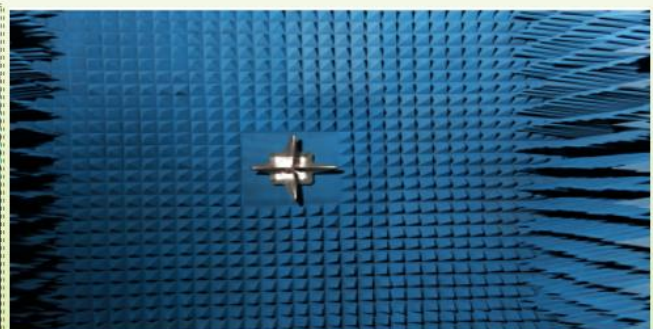
Test was conducted in free space condition (microwave unreflected chamber).

Satimo 3D Chamber 6×4×4(m)
gilent 8960 8753ES CMW500
twork analyzer-R&S ZVL

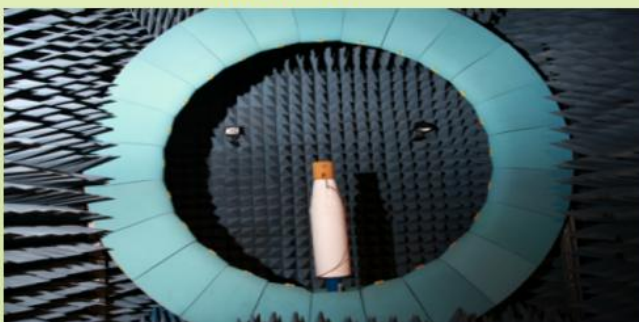
ETS



SATIMO—24



Rodeswatts shielding box





3.2、 The turn of VSWR test equipment connection is:

R&S ZVL work analyzer → test line → Test fixture → actual measurement (See figure) .

3.3、 Gain,efficiency,power (TRP) ,sensitivity (TIS) :

microwave unreflected chamber:

test frequency range 400MHz—6GHz, Quiet zone range is 50cm around, reflectivity less than-50 dB

3.4、 Test instrument

R&S ZVL work analyzer、 Agilent8960 Agilent8753ES CWM500/MT8820C Standard horn antenna etc.

3.5. Points to notea

This recognition is only applicable to AI740 project R & D and commissioning prototype, if the motherboard version changes, software and hardware changes, material Material change or replacement and other details (such as camera, screen, speaker, motor, shell material process change, etc.), Jun must inform our company truthfully,We will submit the data report after testing and verifying the latest complete machine, and your company will confirm again before producing goods. Emergency production for special reasons Abnormal losses are borne by the customer.

4. Test Results lists

In microwave unreflected chamber, the power and sensitivity are listed below:

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4.0 3D Test Data **Module end**

Band	Channel	TRP	TIS	亮屏TIS	Band	Channel	TRP	TIS	亮屏TIS
GSM850	CH128	26.9			WCDMA-2100	CH10560	18.5		
	CH190	27.7				CH10700	19.0		
	CH251	28.0	-100.8			CH10830	19.1	-102.5	
GSM900	CH1	26.0			WCDMA-1900	CH9662	18.3		
	CH62	26.7				CH9800	18.5		
	CH124	27.3	-103.5			CH9938	19.1	-105.2	
DCS1800	CH512	25.6			WCDMA-850	CH4357	17.0		
	CH698	25.4				CH4407	17.8		
	CH885	25.2	-103.8			CH4458	18.2	-103.0	
PCS1900	CH512	24.6			WCDMA-900	CH2937	17.1		
	CH661	24.7				CH3012	16.7		
	CH810	25.1	-104.2			CH3088	16.5	-104.1	

High starting point, high technology, high quality and high service

4.1 3D Test Data **Module end**

Band	Channel	TRP	TIS	亮屏TIS	Band	Channel	TRP	TIS	亮屏TIS
LTE-FDD B1(10MHz)	CH50	18.9			LTE-FDD B7(10MHz)	CH2800	19.3		
	CH300	19.4				CH3100	19.3		
	CH550	19.1	-94.0			CH3400	19.1	-89.0	
LTE-FDD B2(10MHz)	CH650	17.6			LTE-FDD 8(10MHz)	CH3500	16.5		
	CH900	18.2				CH3625	16.5		
	CH1150	17.8	-93.3			CH3750	17.1	-89.5	
LTE-FDD B3(10MHz)	CH1250	16.7			LTE-FDD 20(10MHz)	CH6200	16.2		
	CH1575	16.7				CH6300	17.5		
	CH1900	17.4	-93.4			CH6400	17.8	-83.1	
LTE-FDD B5(10MHz)	CH2450	16.6							
	CH2525	17.4							
	CH2600	17.6	-88.3						

4.2 3D Test Data Module end

Band	Channel	TRP	TIS	亮屏TIS
LTE B38 (20MHz)	CH37850	18.7		
	CH38000	18.9		
	CH38150	18.6	-88.9	
LTE B40 (20MHz)	CH37850	19.1		
	CH39150	19.3		
	CH39550	19.3	-89.9	
LTE B41 (20MHz)	CH40240	19.2		
	CH40620	19.5		
	CH41240	19.2	-89.0	

4.3 3D Test Data PA Duan

Band	Channel	TRP	TIS	亮屏TIS	Band	Channel	TRP	TIS	亮屏TIS
GSM850	CH128	26.8			WCDMA-2100	CH10560	19.5		
	CH190	27.5				CH10700	19.7		
	CH251	27.8	-100.6			CH10830	19.7	-104.6	
GSM900	CH1	26.7			WCDMA-1900	CH9662	19.4		
	CH62	27.7				CH9800	19.0		
	CH124	27.6	-103.1			CH9938	19.9	-104.8	
DCS1800	CH512	26.5			WCDMA-850	CH4357	17.4		
	CH698	26.2				CH4407	17.7		
	CH885	26.1	-105.0			CH4458	18.0	-103.8	
PCS1900	CH512	26.1			WCDMA-900	CH2937	17.6		
	CH661	25.8				CH3012	16.9		
	CH810	26.1	-103.6			CH3088	16.6	-104.2	

4.4 3D Test Data PA Duan

Band	Channel	TRP	TIS	亮屏TIS	Band	Channel	TRP	TIS	亮屏TIS
LTE-FDD B1(10MHz)	CH50	19.1			LTE-FDD B5(10MHz)	CH2450	17.2		
	CH300	19.2				CH2525	18.3		
	CH550	18.6	-95.5			CH2600	18.3	-90.5	
LTE-FDD B2(10MHz)	CH650	19.0			LTE-FDD B7(10MHz)	CH2800	19.2		
	CH900	19.1				CH3100	19.3		
	CH1150	18.8	-94.0			CH3400	19.6	-90.7	
LTE-FDD B3(10MHz)	CH1250	19.5			LTE-FDD 8(10MHz)	CH3500	16.6		
	CH1575	18.8				CH3625	16.2		
	CH1900	19.3	-94.6			CH3750	17.0	-89.2	
LTE-FDD B4(10MHz)	CH2000	19.6			LTE-FDD B17(10MHz)	CH5780	16.3		
	CH2175	18.8				CH5790	17.4		
	CH2350	19.9	-95.8			CH5800	17.6	-88.0	

4.5 3D Test Data PA Duan

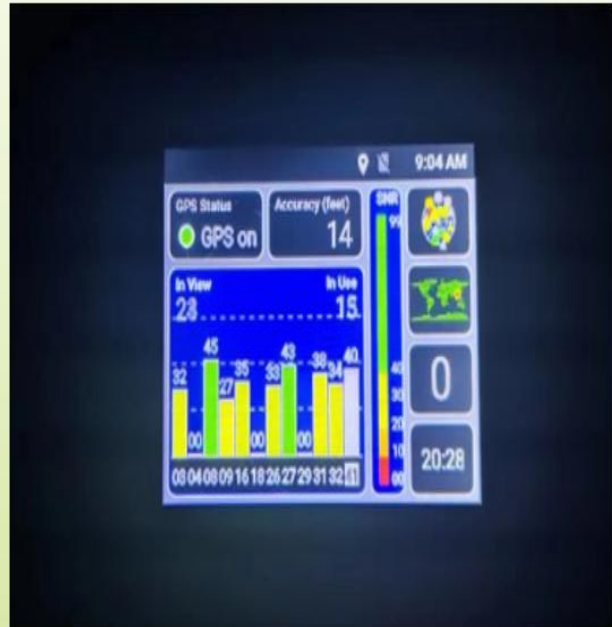
Band	Channel	TRP	TIS	亮屏TIS
LTE-FDD 19(10MHz)	CH6050	16.9		
	CH6075	17.2		
	CH6100	16.8	-88.3	
LTE-FDD 28(10MHz)	CH9260	16.0		
	CH9435	17.2		
	CH9610	17.6	-89.0	
LTE-TDD 41(20MHz)	CH40340	18.5		
	CH40620	18.4		
	CH41140	19.6	-90.2	

4.6

WIFI/GPS Test data

GPS Testing

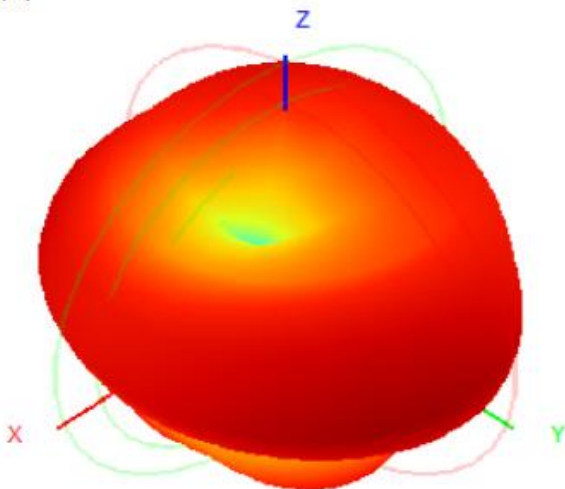
Band	Channel	TRP	TIS
WIFI2.4G-B-11Mbps	CH1	9.0	-82.6
	CH6	9.9	-78.2
	CH11	10.6	-81.4



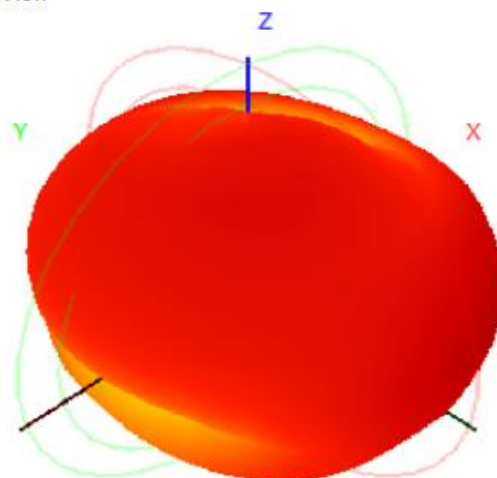
4.7 Direction graph

800MHz-960MHz Module end

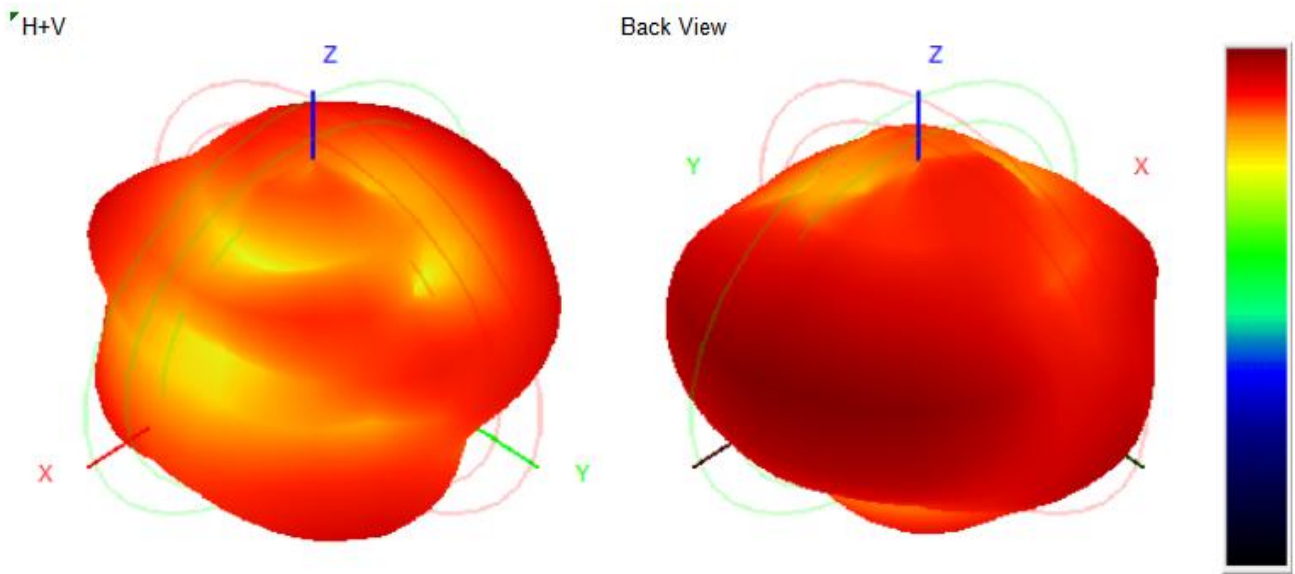
H+V



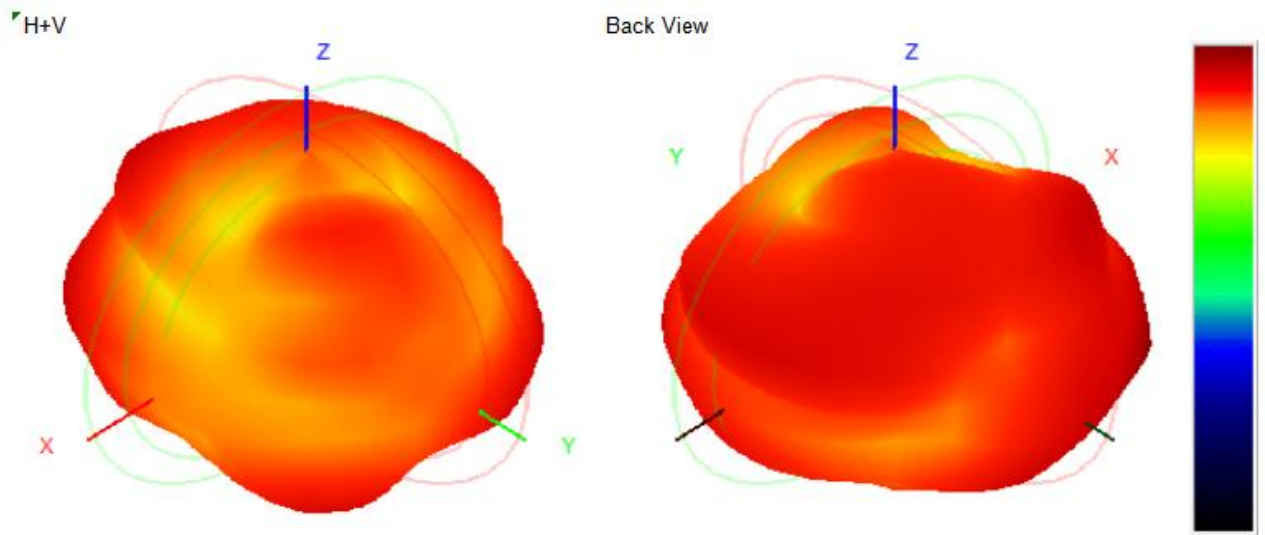
Back View



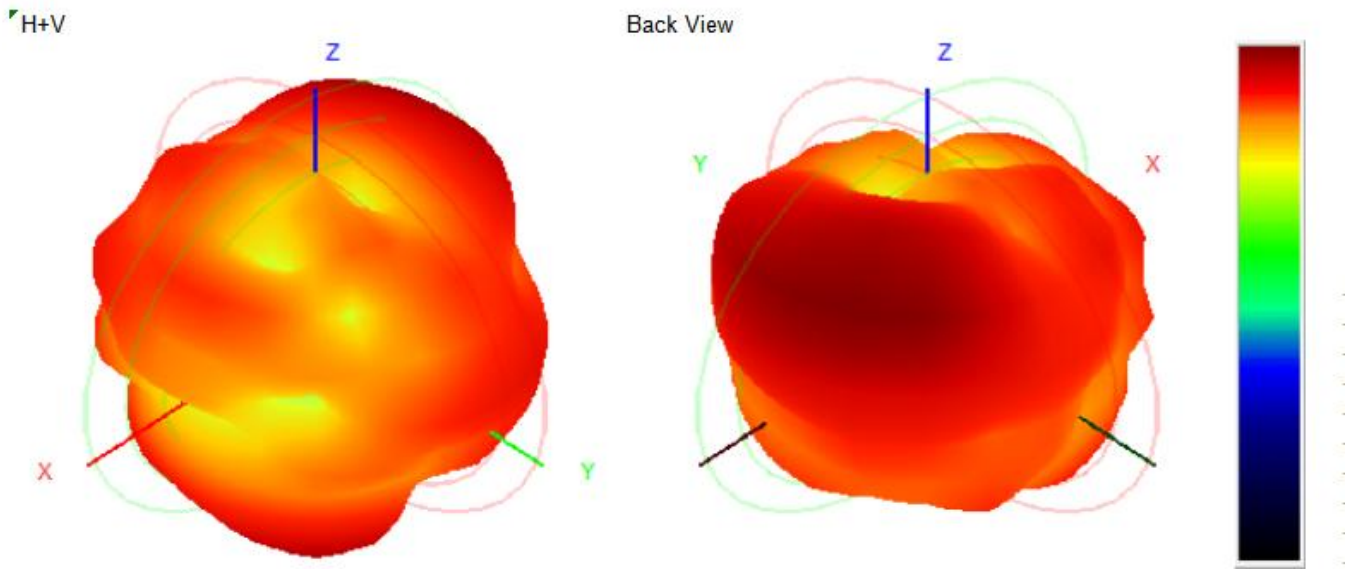
1710MHz-2170MHz Module end



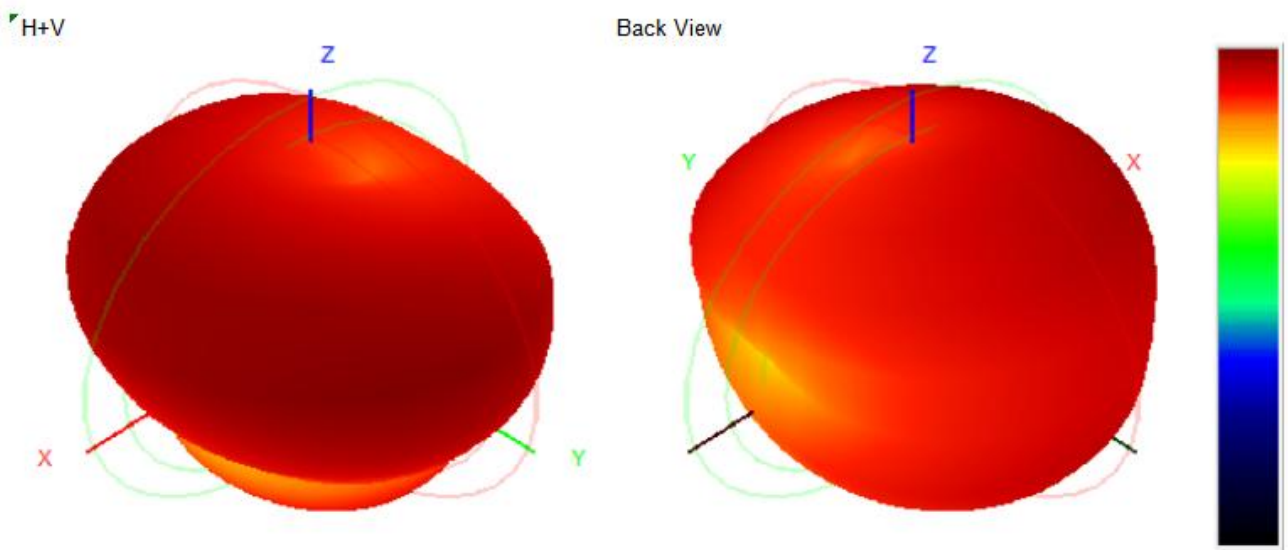
2300MHz-2400MHz Module end



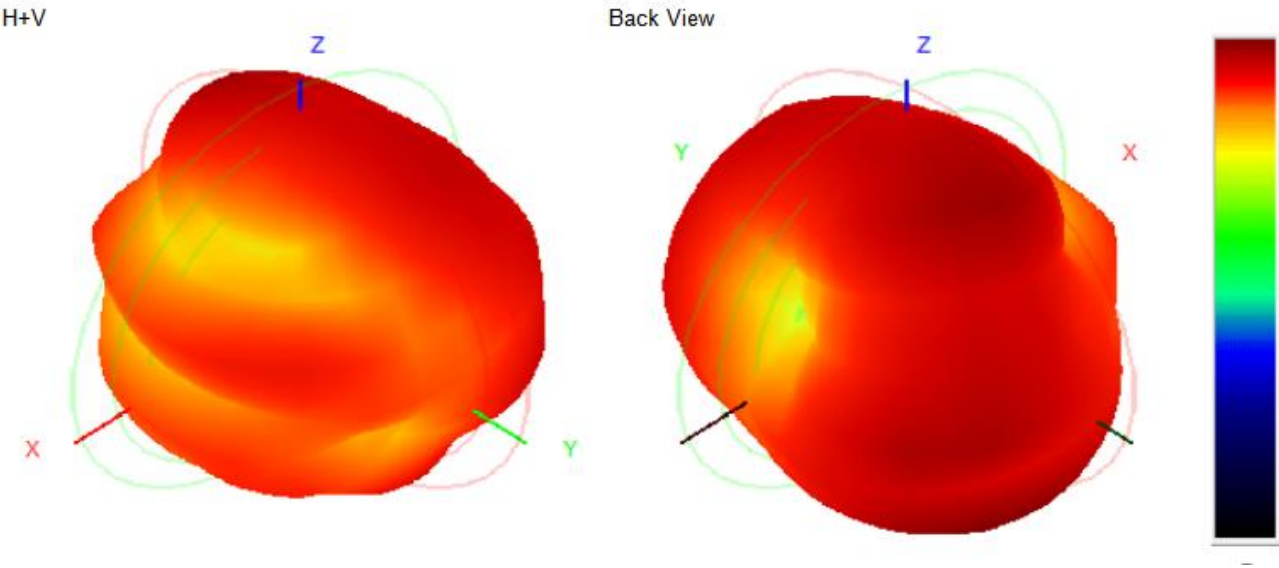
2500MHz-2690MHz Module end



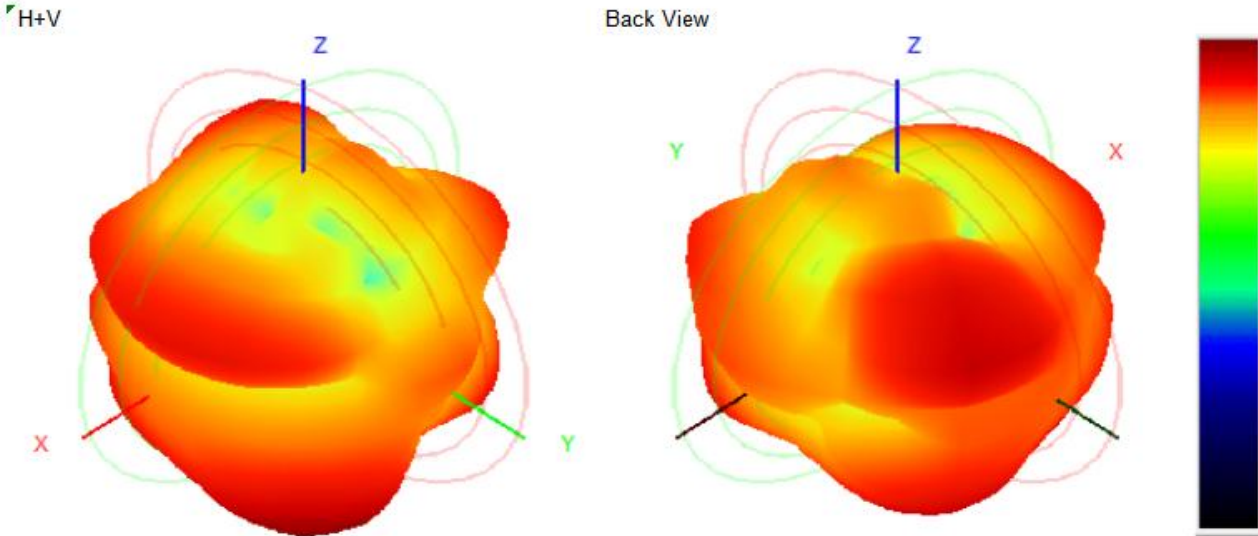
700MHz-960MHz PA Duan



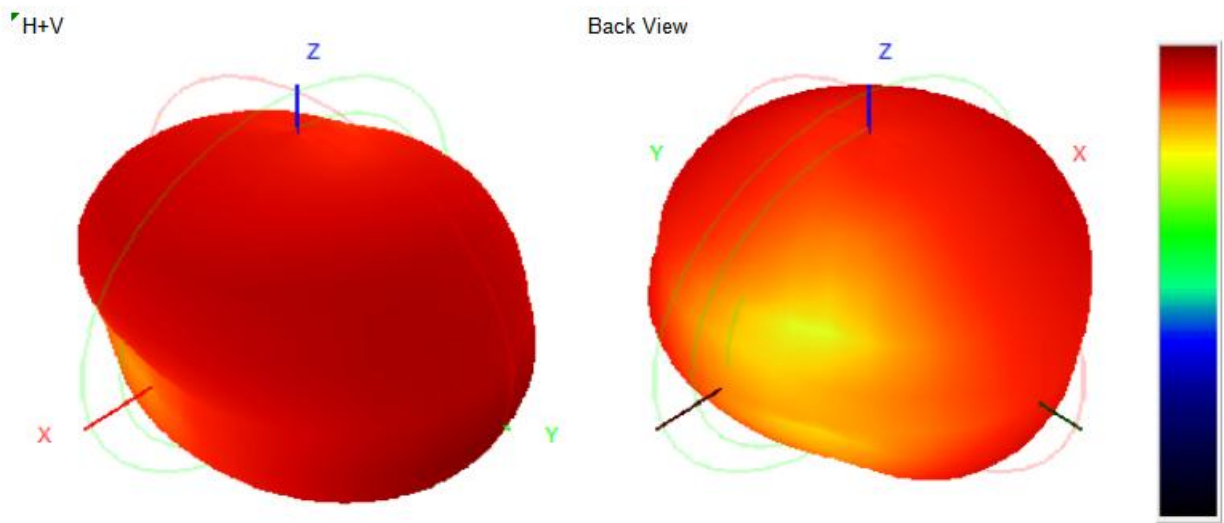
1710MHz-2170MHz PA Duan



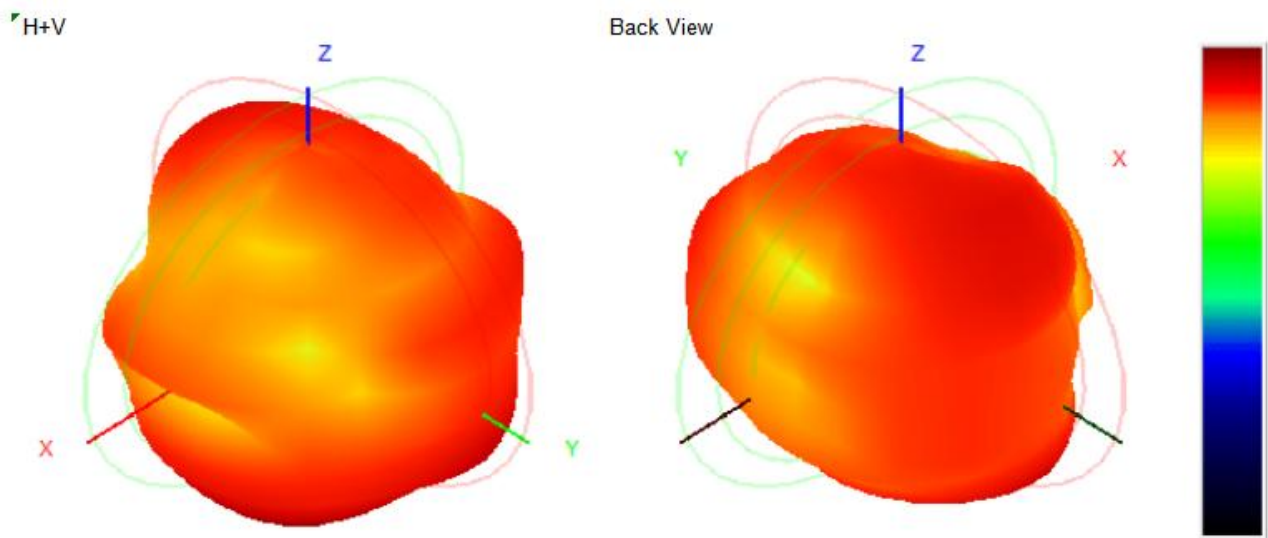
2500MHz-2690MHz PA Duan



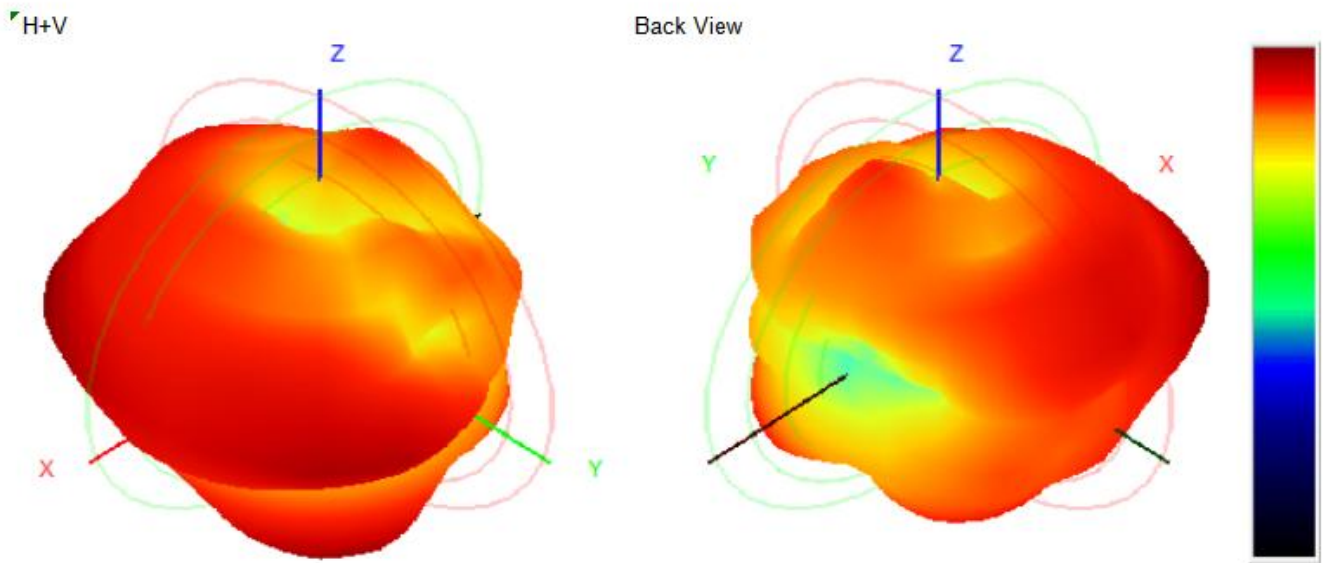
700MHz-960MHz Diversity Antenna



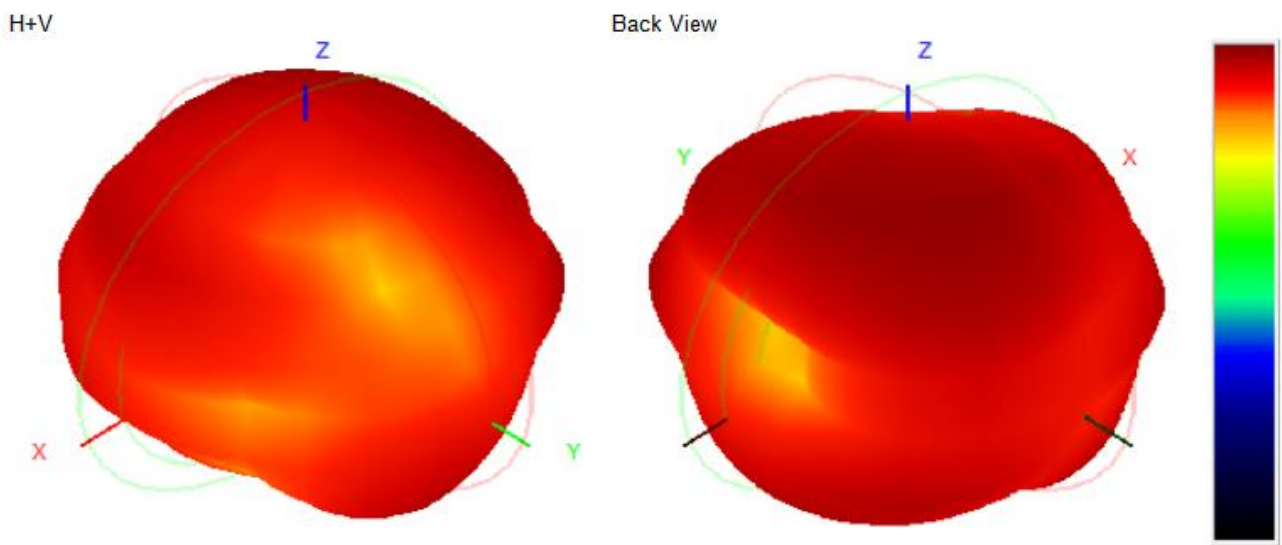
1710MHz-2170MHz Diversity Antenna



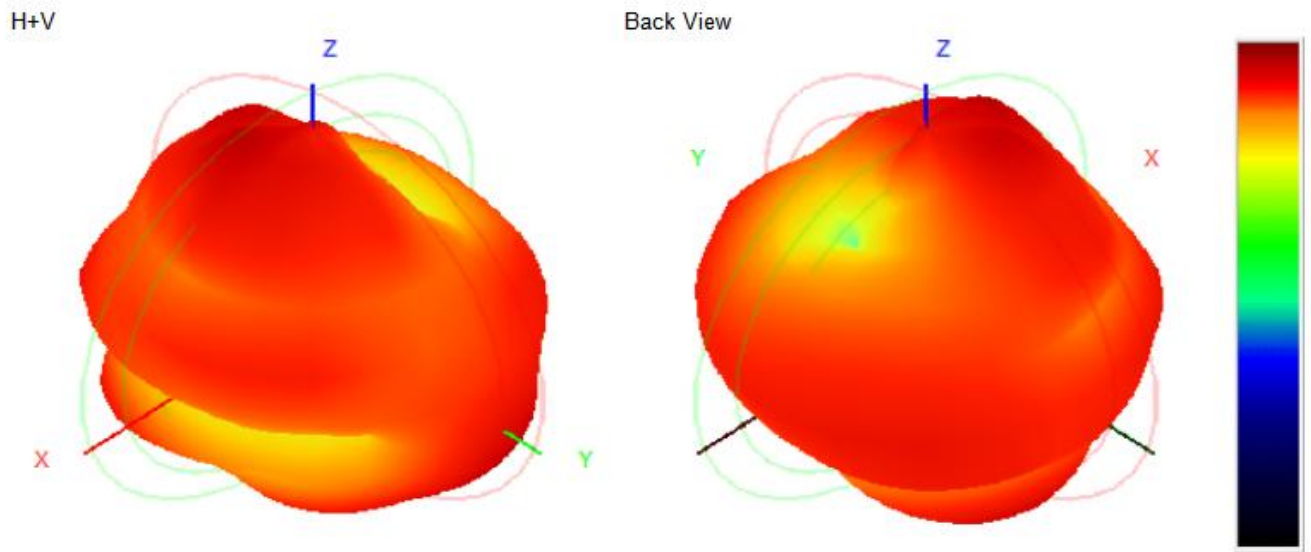
2500MHz-2690MHz Diversity Antenna



WIFI



GPS



MK Module end Antenna Gain

One PIFA antenna for GSM /WCDMA / LTE

GSM 850 : Maximum Gain is -1.0dBi

GSM 900 : Maximum Gain is -0.8dBi

DCS1800 : Maximum Gain is 1.1dBi

PCS1900 : Maximum Gain is 1.3dBi

WCDMA Band I : Maximum Gain is 1.4dBi

WCDMA Band II : Maximum Gain is 1.3dBi

WCDMA Band IV : Maximum Gain is 1.1dBi

WCDMA Band V : Maximum Gain is -1.0dBi

WCDMA Band VIII : Maximum Gain is -0.9dBi

LTE Band 1: Maximum Gain is 1.4dBi

LTE Band 2: Maximum Gain is 1.3dBi

LTE Band 3: Maximum Gain is 1.1dBi

LTE Band 5: Maximum Gain is -1.0dBi.

LTE Band 7: Maximum Gain is 1.6dBi.

LTE Band 8: Maximum Gain is -0.9dBi.

LTE Band 20: Maximum Gain is -1.0dBi.

LTE Band 40: Maximum Gain is 1.5dBi.

LTE Band 41: Maximum Gain is 1.7dBi.

PA Duan Antenna Gain

One PIFA antenna for GSM / WCDMA / LTE

GSM 850 : Maximum Gain is -1.1dBi

GSM 900 : Maximum Gain is -0.9dBi

DCS1800 : Maximum Gain is 1.2dBi

PCS1900 : Maximum Gain is 1.4dBi

WCDMA Band I : Maximum Gain is 1.5dBi

WCDMA Band II : Maximum Gain is 1.4dBi

WCDMA Band IV : Maximum Gain is 1.2dBi

WCDMA Band V : Maximum Gain is -1.1dBi

WCDMA Band VIII : Maximum Gain is -0.9dBi

LTE Band 1: Maximum Gain is 1.5dBi

LTE Band 2: Maximum Gain is 1.4dBi

LTE Band 3: Maximum Gain is 1.2dBi

LTE Band 4: Maximum Gain is 1.2dBi.

LTE Band 5: Maximum Gain is -1.1dBi.

LTE Band 7: Maximum Gain is 1.6dBi.

LTE Band 8: Maximum Gain is -0.9dBi.

LTE Band 17: Maximum Gain is -1.3dBi.

LTE Band 19: Maximum Gain is -1.1dBi.

LTE Band 28: Maximum Gain is -1.3dBi.

LTE Band 41: Maximum Gain is 1.7dBi.

GPS/WIFI Antenna Gain

One PIFA antenna for GPS/WIFI

GPS : Maximum Gain is 1.1dBi

WIFI : Maximum Gain is 1.4dBi

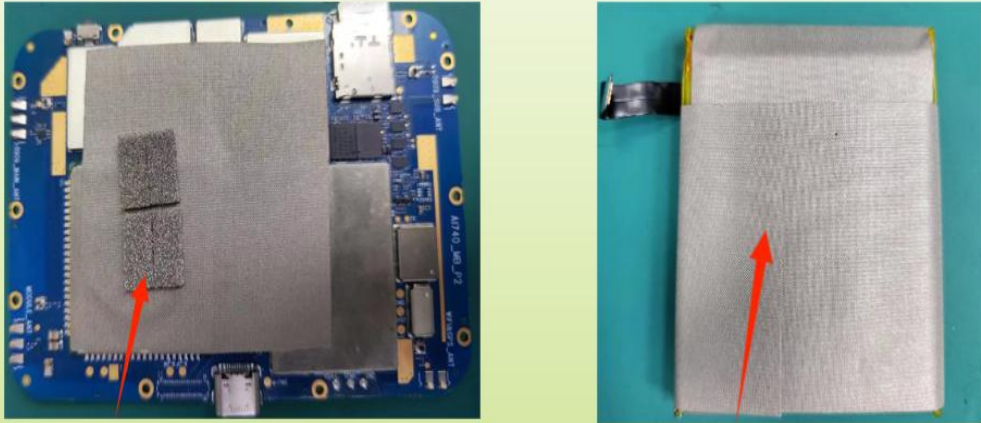
5. Conclusion

This antenna is designed on the basis of the prototype provided by the customer. The electrical performance parameters and structure have met the customer's technical requirements, please confirm! The original antenna matching has been changed.

6. Environmental treatment

High starting point, high technology, high quality and high service

6.0 Environmental treatment matters



Bonding Conductive Cloth to Shield and Battery Grounding with Conductive Foam

Conductive cloth for battery pack

二、Engineering drawing

第三视角	1	2	3	4	5	6						
单位 mm	比例 1:1					角度	0	◎	⊥	↗		
				0~10	10~50	30~50	50~	1°	0.02	0.02	0.03	0.05
				A 0.05	0.10	0.15	0.20	2°	0.03	0.05	0.05	0.08
				B 0.08	0.12	0.18	0.25	3°	0.05	0.08	0.08	0.10
				C 0.10	0.15	0.20	0.30		0.05	0.08	0.08	0.10

Note: 1. The base material is half to half
2. Gum back 3M 300LSE

48.48

Silk screen
black characters

35.8

Break line of release

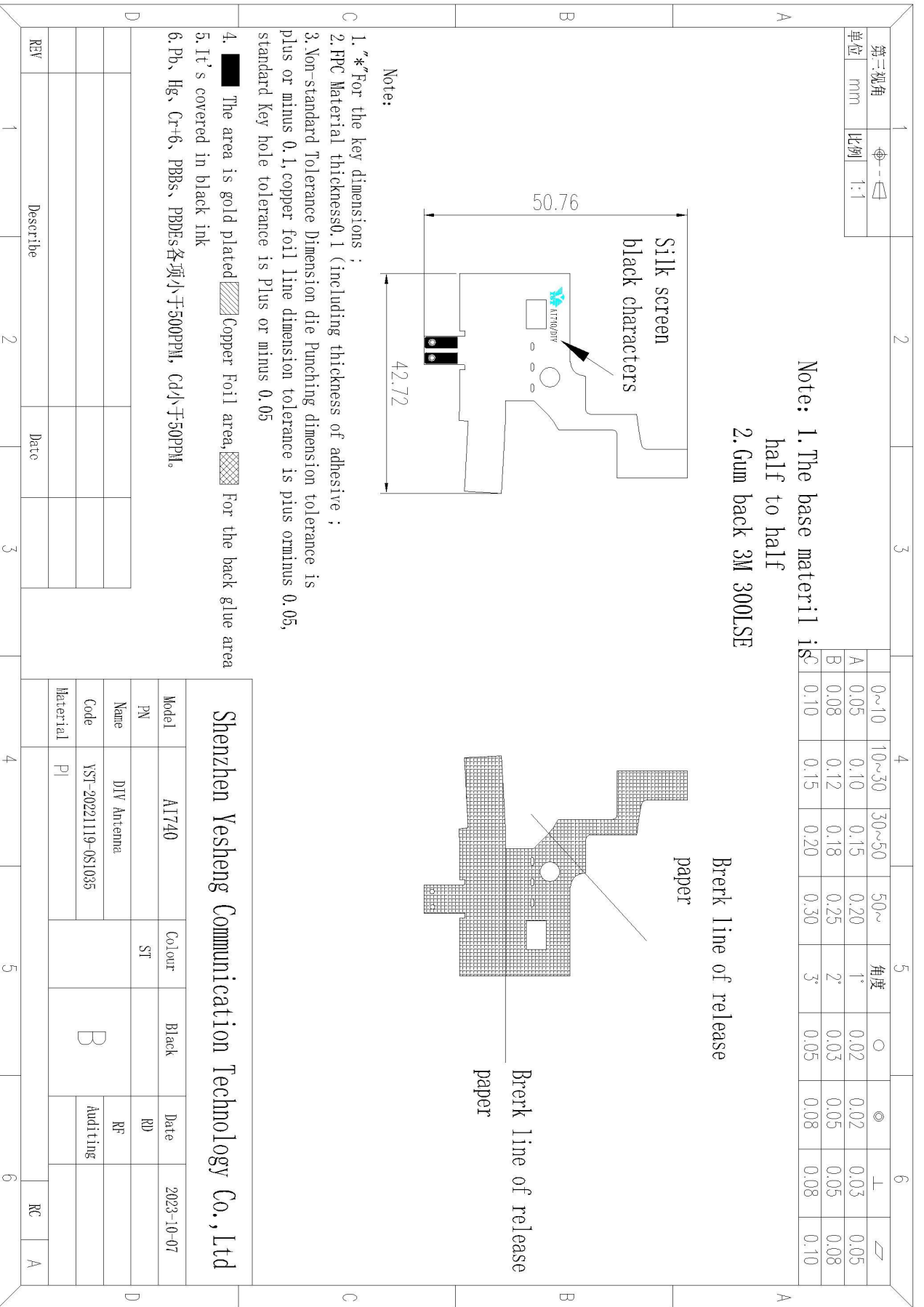
paper

Note:

1. "*"For the key dimensions ;
2. FPC Material thickness 0.1 (including thickness of adhesive ;
3. Non-standard Tolerance Dimension die Punching dimension tolerance is plus or minus 0.1, copper foil line dimension tolerance is plus or minus 0.05, standard key hole tolerance is Plus or minus 0.05
4. The area is gold plated Copper Foil area, For the back glue area
5. It's covered in black ink
6. Pb, Hg, Cr+6, PBBs, PBDEs各项小于500PPM, Cd小于50PPM.

Shenzhen Yesheng Communication Technology Co., Ltd					
Model	A1740	Colour	Black	Date	2023-10-07
PN		ST		RD	
Name	MK Antenna			RF	
Code			B	Auditing	
Material	PI				

REV	Describe	Date			
1	2	3	4	5	6



第三视角	
单位 mm	比例 1:1

Note: 1. The base materil is half to half
2. Gum back 3M 300LSE

	0~10	10~30	30~50	50~	角度	○	◎	┬	
A	0.05	0.10	0.15	0.20	1°	0.02	0.02	0.03	0.05
B	0.08	0.12	0.18	0.25	2°	0.03	0.05	0.05	0.08
isC	0.10	0.15	0.20	0.30	3°	0.05	0.08	0.08	0.10

- Note:
1. "*"For the key dimensions ;
 2. PPC Material thickness0.1 (including thickness of adhesive ;
 3. Non-standard Tolerance Dimension die Punching dimension tolerance is plus or minus 0.1,copper foil line dimension tolerance is plus or minus 0.05, standard Key hole tolerance is Plus or minus 0.05
 4. The area is gold plated Copper Foil area For the back glue area
 5. It's covered in black ink
 6. Pb, Hg, Cr+6, PBBs, PBDEs各项小于500PPM, Cd小于50PPM.

REV	Describe	Date
1	2	3

Shenzhen Yesheng Communication Technology Co., Ltd					
Model	A1740	Colour	Black	Date	2023-10-07
PN		ST		RD	
Name	DIV Antenna			RP	
Code	YST-20221119-0S1035		B	Auditing	
Material	PI				

4	5	6
RC	A	

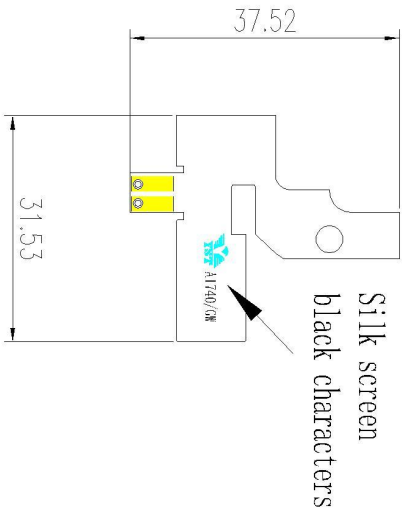
第三视角	
单位	mm
比例	1:1

Note: 1. The base material is

half to half

2. Gum back 3M 300LSE

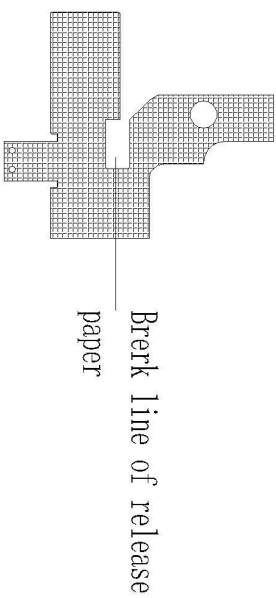
	0~10	10~30	30~50	50~	角度	∅	⊙	⊥	
A	0.05	0.10	0.15	0.20	1°	0.02	0.02	0.03	0.05
B	0.08	0.12	0.18	0.25	2°	0.03	0.05	0.05	0.08
IS	0.10	0.15	0.20	0.30	3°	0.05	0.08	0.08	0.10



Note:

1. "*"For the key dimensions ;
2. FPC Material thickness:0.1 (including thickness of adhesive ;
3. Non-standard Tolerance Dimension die Punching dimension tolerance is plus or minus 0.1, copper foil line dimension tolerance is plus or minus 0.05, standard Key hole tolerance is Plus or minus 0.05

4. The area is gold plated Copper Foil area For the back glue area
5. It's covered in black ink
6. Pb, Hg, Cr+6, PBBs, PBDEs各项小于500PPM, Cd小于50PPM。



Shenzhen Yesheng Communication Technology Co., Ltd

Model	AIT740	Colour	Black	Date	2023-10-07
PN		ST		RD	
Name	GM Antenna			RP	
Code			B	Auditing	
Material	PI				

REV	Describe	Date
1	2	3

4 5 6 RC A