



Shenzhen XINHENG YANG Technology Co., Ltd

SPECIFICATION

Customer Name: Shenzhen Zhongsoft win Technology Co., LTD

Product Model: P4

Customer P/N :

XINHENG YANG P/N: CP. 21. 0000130 / CP. 21. 0000130

NZ. 01. 0000182 / NZ. 01. 0000183

SPECIFICATIONS: 4G+WIFI2. 4GHZ-5. 8GHZ+BT

Production date: 2024-11-12

Sample Version: R1

XINHENG YANG		
FICTION	DQE	R&D
Customer		
PUR	QC	R&D

Manufacturer: Shenzhen Xinhengyang Technology Co., LTD

Address: 1 / F, Building B, Aerospace micromotor Building, No.7 Langshan

No.2 Road, Xili Street, Nanshan District, Shenzhen

Tel: 0755-83600916 Email: xinhengyang1116@163.com

Network address: <https://www.xhy-2008.com>

R & D, production and sales of professional wireless terminal antenna



1、The basic parameters

A. Electrical Characteristics	
Frequency	2400MHZ-2500MHZ 5150MHZ-5850MHZ
VSWR	WIFI-MAIN: <4.0 WIFI-DIV: <5.0
Avg Efficiency	WIFI-MAIN: >38% WIFI-DIV: >30%
Impedance	50 $\pm$ 25 Ohm
Polarization	Linear
Peak Gain	WIFI-MAIN: 2400MHZ: 1.96dBi 5850MHZ: 4.99dBi WIFI-DIV: 2400MHZ: -0.19dBi 5850MHZ: 3.24dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC+Steel sheet black
Cable Type	Generation 4
Connector Type	Φ 0.81 WIFI-MAIN: L=120MM black WIFI-DIV: L=110MM gray
Dimension	/
C. Environmental	
Operation Temperature	- 20 °C ~ + 60 °C
Storage Temperature	- 30 °C ~ + 70 °C

2、Electrical Specification

Those specifications were specially defined for P4 model.

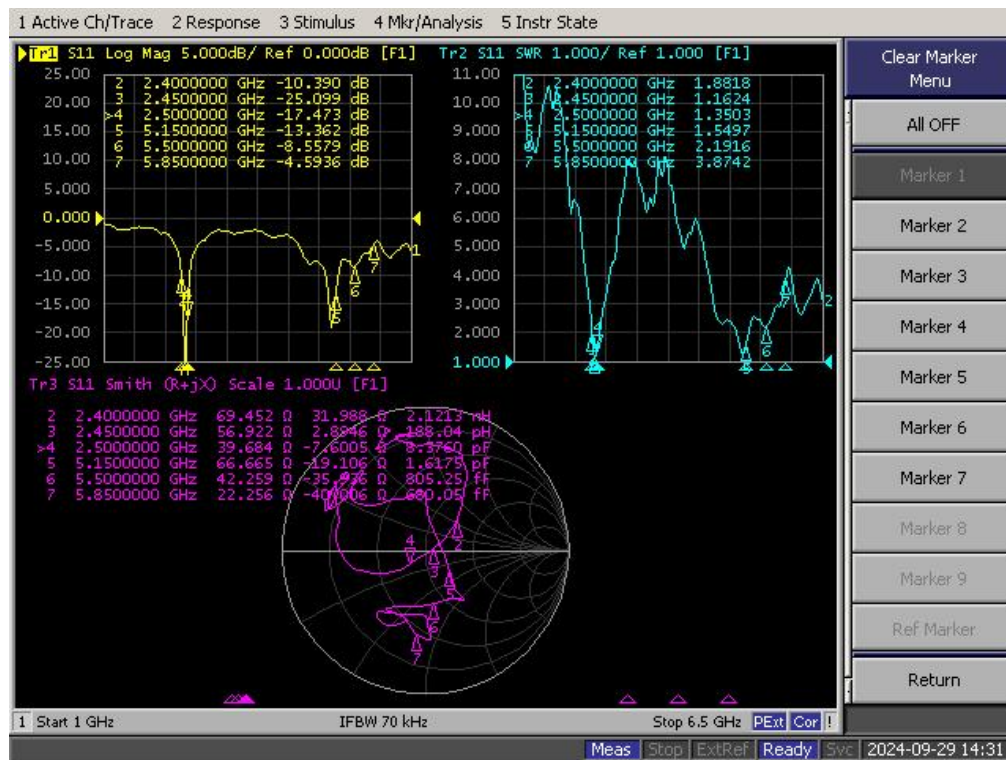
3、VSWR

1 Measuring Method

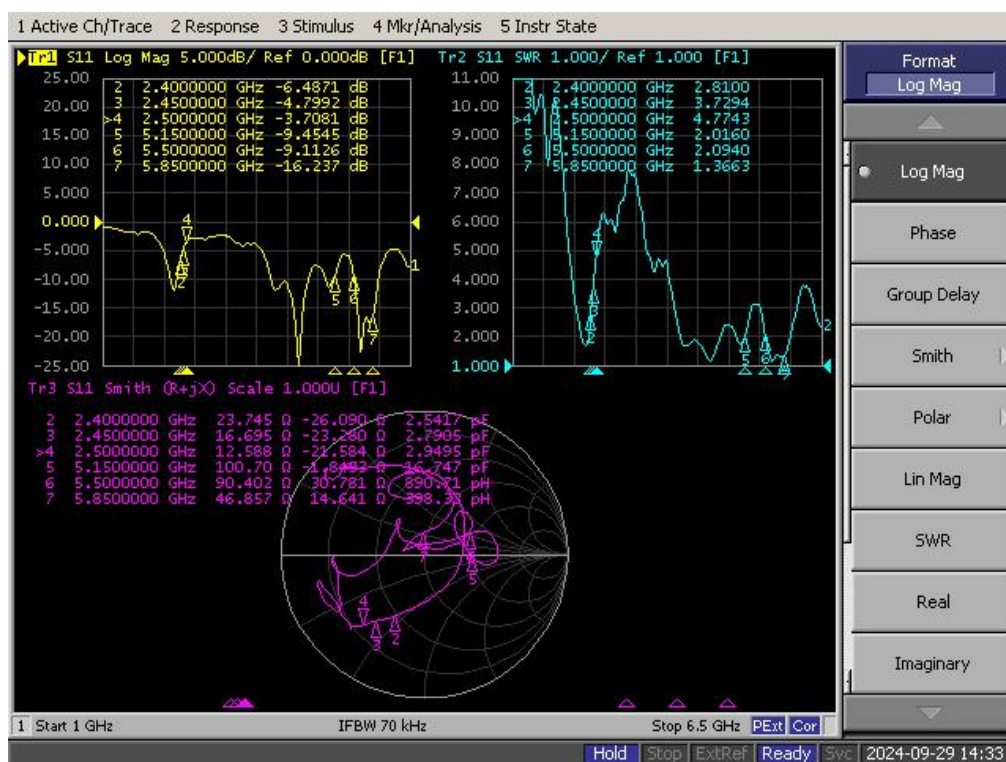
- 1.A 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR
- 2.Keeping this jig away from metal at least 20cm

2 Measurement frequency points and VSWR value

WIFI-MAIN



WIFI-DIV



4、 Anechoic chamber

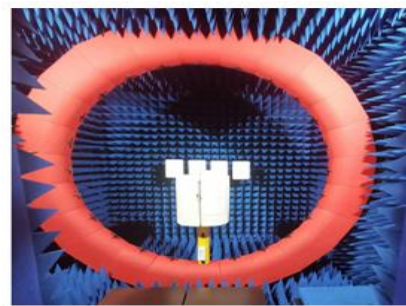
Introduction:

Microwave darkroom and no reflection chamber, absorbing short wave darkroom dark room. Microwave darkroom by electromagnetic shielding room, filtering and isolation, grounding device, the ventilation duct, indoor distribution system, monitoring system, ceiling wave material part. It is based on the wave absorbing material as the lining of the shield room, it can absorb the most of the electromagnetic energy into the six wall is a better simulation of the free space conditions.

The main working principle of microwave anechoic chamber is according to the electromagnetic wave in the medium from the low magnetic guide magnetic direction of propagation rules, absorbing materials to guide the electromagnetic wave using high permeability, through resonance, a substantial absorption of electromagnetic wave radiation energy, by coupling the electromagnetic energy into heat energy.

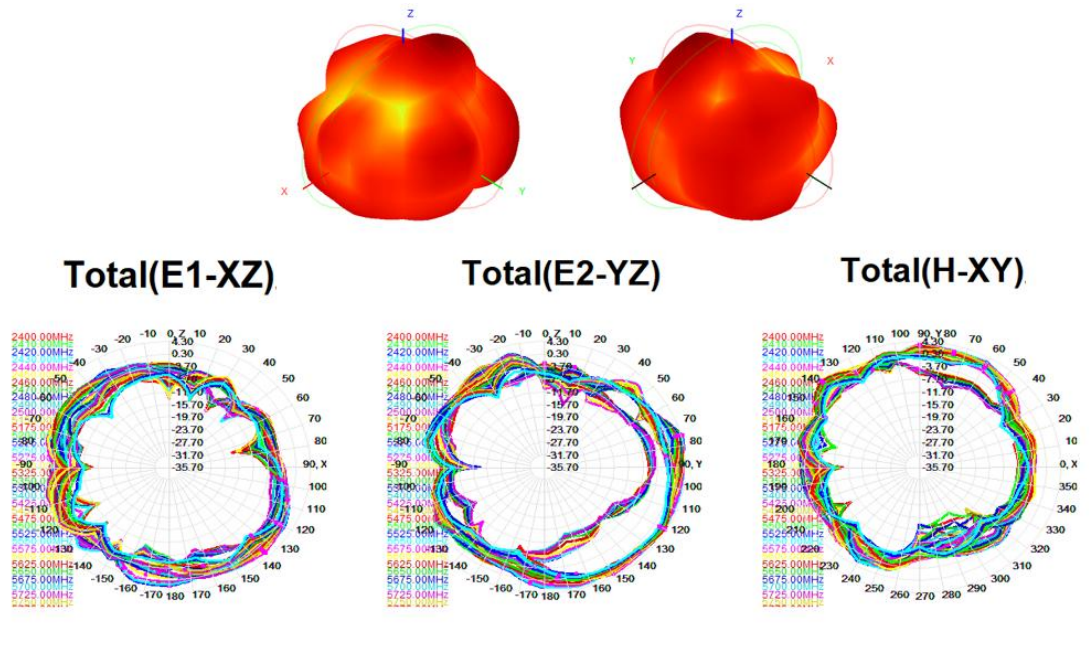
main performance :

Frequency range:400MHz ~ 6GHz ceiling reflected wave loss materials: 400MHz ~ 6GHz is equal to or more than 15dB (microwave absorbing material by composite wave absorbing materials, namely tapered containing carbon sponge suction wave material paste in ferrite)

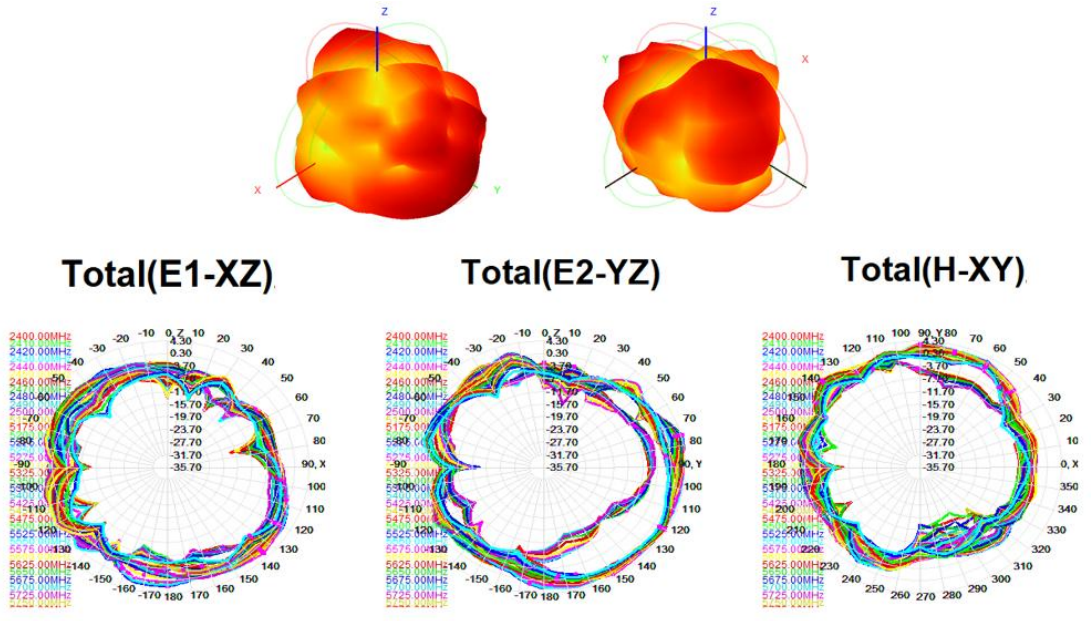


5、Gain table of Antenna

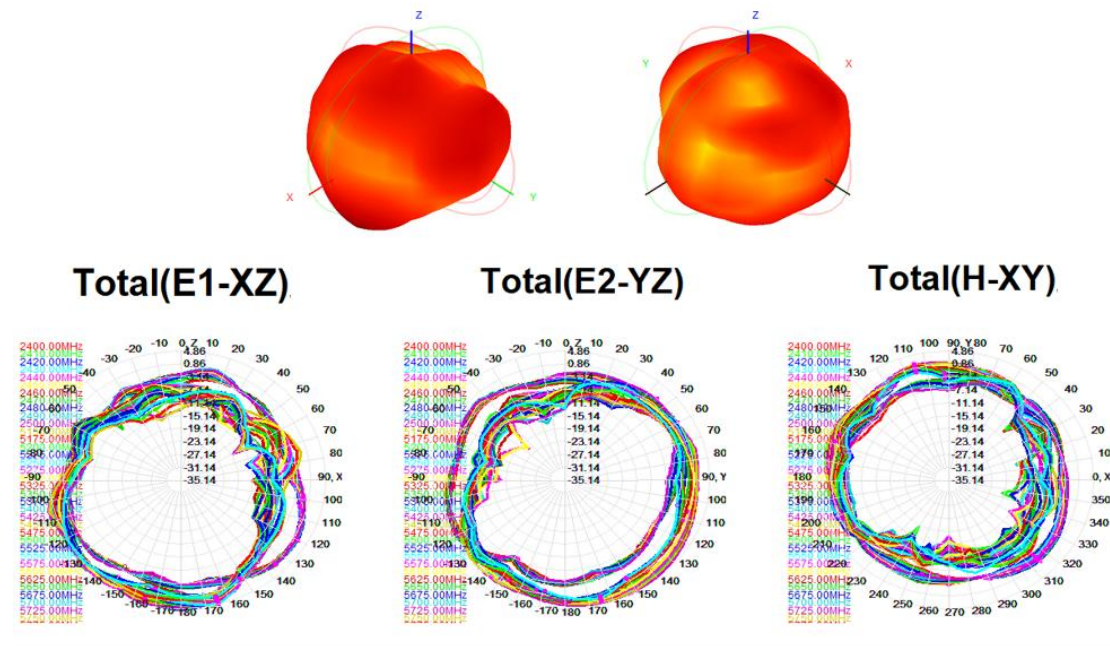
Passive field pattern-WIFI-MAIN-2400MHZ-2500MHZ



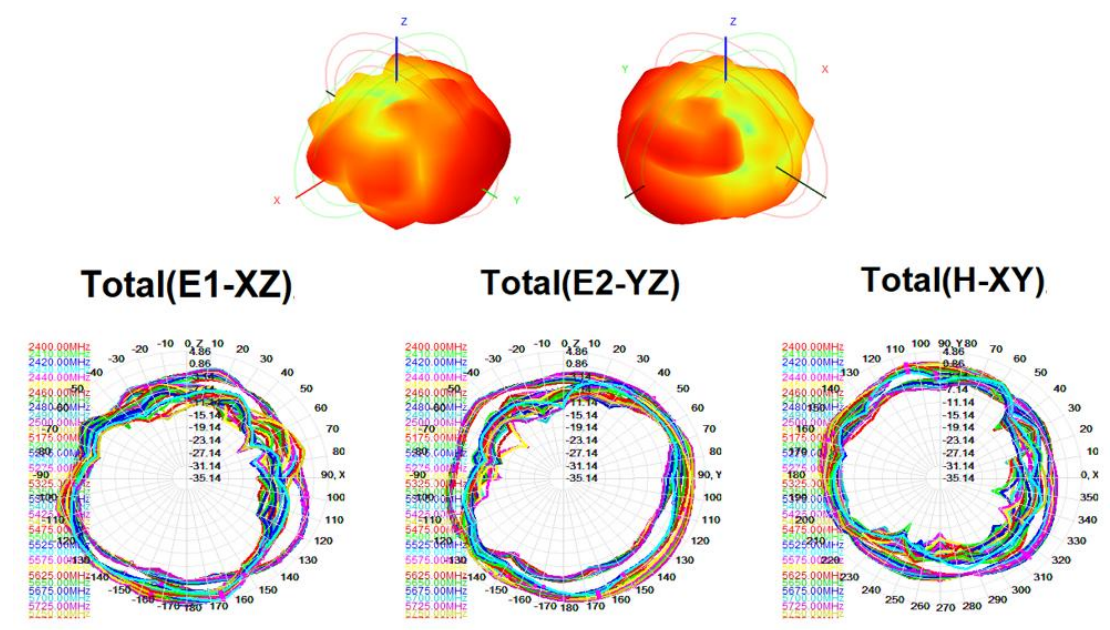
Passive field pattern-WIFI-MAIN-5150MHZ-5850MHZ



Passive field pattern-WIFI-DIV-2400MHZ-2500MHZ



Passive field pattern-WIFI-DIV-5150MHZ-5850MHZ



Passive efficiency gain

WIFI-MAIN (2400MHZ-5850MHZ)							
Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400	-4.11	1.56	38.85	5250	-2.19	4.26	60.34
2410	-3.80	1.73	41.65	5300	-2.47	4.00	56.57
2420	-3.65	1.60	43.17	5350	-2.46	4.72	56.80
2430	-3.39	1.66	45.86	5400	-1.76	4.99	66.65
2440	-3.23	1.64	47.49	5450	-1.83	4.75	65.63
2450	-2.98	1.70	50.37	5500	-2.66	4.42	54.17
2460	-2.74	1.80	53.21	5550	-2.63	4.58	54.60
2470	-2.69	1.92	53.88	5600	-2.75	4.22	53.12
2480	-2.75	1.96	53.03	5650	-3.85	4.06	41.17
2490	-2.89	1.74	51.45	5700	-3.94	3.44	40.36
2500	-3.03	1.68	49.72	5750	-3.49	2.58	44.72
5150	-2.79	3.11	52.56	5800	-3.96	2.65	40.16
5200	-2.83	4.37	52.12	5850	-4.07	2.56	39.16

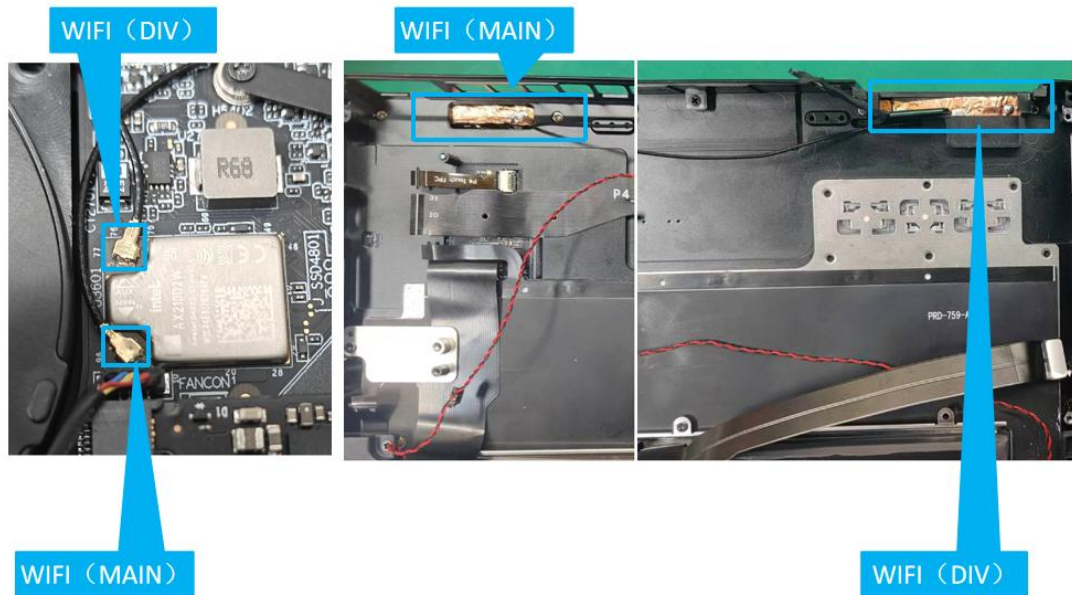
WIFI-DIV (2400MHZ-5850MHZ)							
Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400	-5.00	-0.51	31.65	5250	-2.30	2.99	58.90
2410	-4.84	-0.55	32.84	5300	-2.72	2.67	53.48
2420	-4.80	-0.80	33.11	5350	-2.85	2.81	51.83
2430	-4.73	-0.97	33.64	5400	-2.39	3.08	57.69
2440	-4.68	-0.99	34.03	5450	-2.22	3.16	59.95
2450	-4.59	-0.69	34.79	5500	-2.85	2.00	51.94
2460	-4.57	-0.66	34.89	5550	-2.65	2.51	54.34
2470	-4.68	-0.36	34.05	5600	-2.20	2.55	60.29
2480	-4.82	-0.19	32.98	5650	-2.75	2.35	53.10
2490	-5.16	-0.36	30.49	5700	-2.94	2.47	50.86
2500	-5.33	-0.56	29.29	5750	-2.71	2.22	53.54
5150	-2.70	2.69	53.74	5800	-3.11	2.76	48.81
5200	-2.78	3.24	52.73	5850	-3.98	0.89	39.95



WIFI

Test Condition		Free Space	
band	Channel	TRP (dBm)	TIS (dBm)
802.11B 11Mbps	1	11.70	-77.91
	6	10.55	-78.63
	11	12.12	-79.34
802.11G 54Mbps	1	9.74	-70.44
	6	11.66	-68.51
	11	11.93	-66.72
802.11N NCS7	1	10.11	-66.72
	6	11.85	-63.96
	11	12.00	-63.86
802.11A 54Mbps	149	11.60	-70.1
	157	10.93	-71.05
	165	10.53	-71.84

6, Antenna assembly drawing



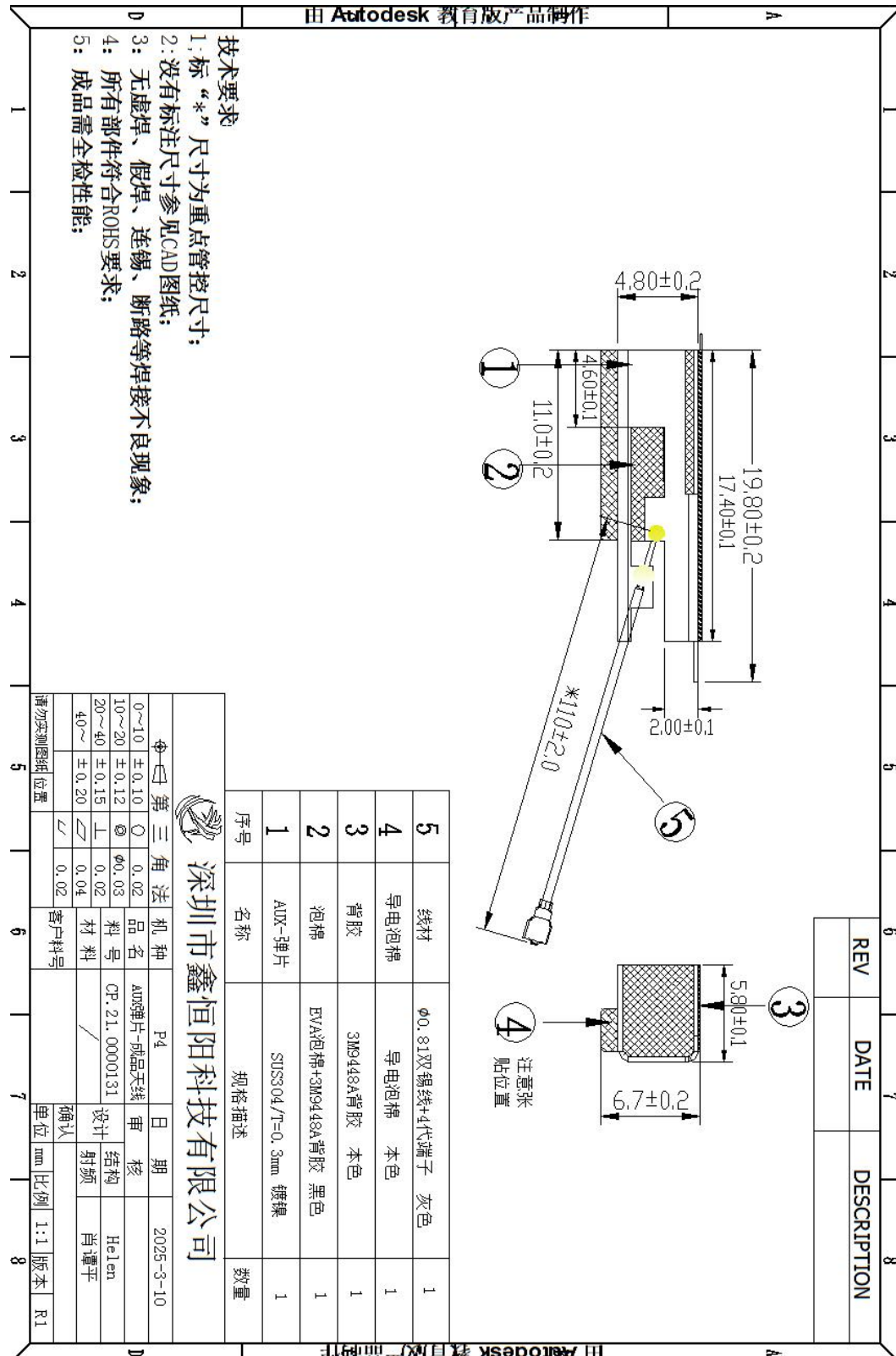
7、 Machine picture

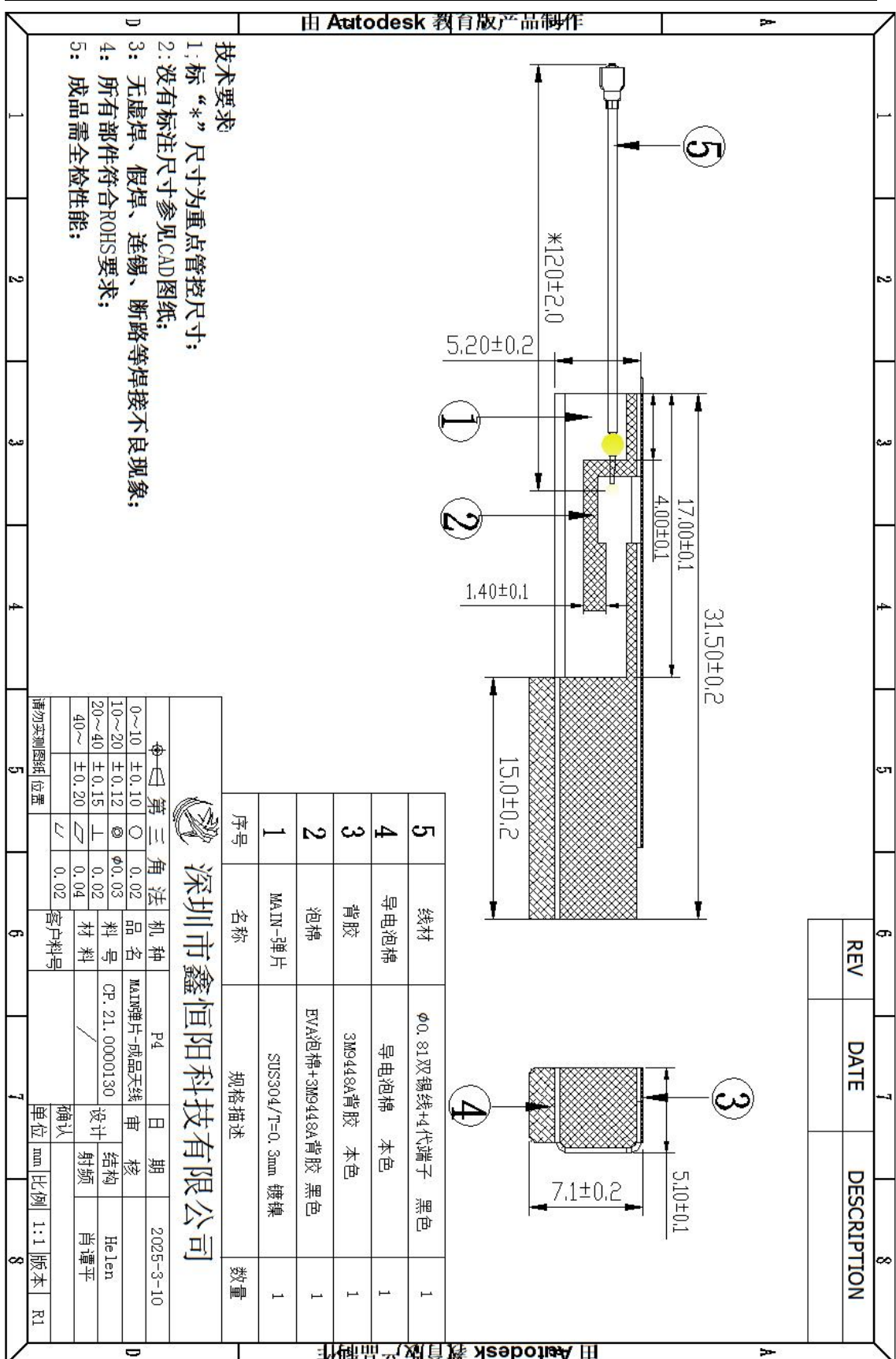


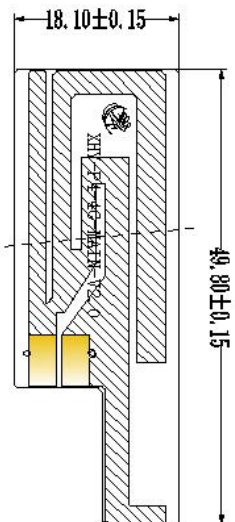
8、 Machine motherboard picture



9、Antenna drawing size







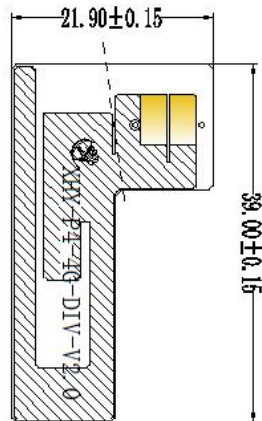

 中国科学院

- 1: 金手指镀金
- 1: 布铜区域
- 2: 基材区域
3. 背胶采用阻 300MS, 粘性在 300MS 以上, 无特别说明, 背胶外形与基材一致, 覆上基材背面, 背胶裁平切;
4. PCB 板用电脑钢, 单面涂, 铜箔为半导基材, 铜箔质量好;
5. 产品覆铜后经 180° 折弯表面无裂纹现象, 柔韧性要好;
6. 金手指表面经 180° 折弯表面无裂纹现象, 柔韧性要好;
7. 走线及孔间距公差范围: $\pm 0.05\text{mm}$, 外形尺寸公差按规格 1mm 以内;
8. 未标注尺寸按 3D 电子图注: 1:1 量取;
9. 未开模产品打样时样品要用激光切割, 如要用手工切割, 要注意外形要切割准一些, 已开模产品打样时外形需要用模具冲切;
10. 所有来样材料, 需要切图对外形尺寸, 在送样到我司;
11. 表面印字, 具体内容及位置见图

手撕位

FPC黑色覆盖膜 丝印亮黑色字码

深圳市鑫恒阳科技有限公司						
第三角法		机种	P4	日期	页码	I of 1
Φ	± 0.10	品名	4G-PPC	设计	Helen	审核
$\varnothing$	± 0.12	料号	NZ.01.000.082	工程	Helen	
$\angle$	± 0.15	材质	电解铜半导电(2B30)	频率	TSR	
$\perp$	± 0.20	表面处理	镀金 0.50	确认		
∇	0.02	外观处理	黑色覆黑膜	单位	mm	比例 1:1 版本 BPT-3.6



注:

- 1: 金手指镀金
1: 布铜区域
2: 基材区域

- 3、塑胶采用300.025, 粘性在3000以上, 无特别说明, 塑胶外形与基材一致, 覆在基材背面, 背胶做半切;
4、FPC材料用无焊锡, 单面胶, 铜箔为半切半基材, 柔性要好;
5、产品覆铜后做180°折弯, 折弯表面无裂纹现象, 柔性要好;
6、金手指表面镀金3~5μ, 不可有氧化现象, 以铜箔相接处, 经180°折弯之后无裂纹, 不导电现象, 非原件可不电镀;
7、走线及孔槽公差范围: ±0.03mm, 外形尺寸公差控制在0.1mm以内;
8、未标注尺寸按20mm于图1:1量取;
9、未开模产品打样外形需用激光切割, 如果用手工切割, 要注意外形要切割准一些, 已开模产品打样外形需用模具冲切;
10、所求非原件, 需要切割好外形之后, 在选择到我司;
11、表面印字, 具体内容及位置见图

手撕位

FPC黑色覆盖膜 丝印亮黑色字码

深圳市鑫恒阳科技有限公司

第三角法		机种		P4		日期	2024-11-12	页码	1 of 1
0~10	±0.10	○	0.02	品名	DIV-FPC	设计	MeIen	审核	
10~20	±0.12	◎	0.03	料号	NZ.01.0000163	工程	MeIen		
20~40	±0.15	⊥	0.02	材质	电解铜/半切半/300.025	审核			
40~	±0.20	∇	0.04	表面处理		射频	TSR		
请列详细图纸位置		外观处理	黑色覆盖膜	单位	确认	比例	1:1	版本	REV.A



10、ROHS

Antenna CP. 21. 0000130 / CP. 21. 0000130 NZ. 01. 0000182 /
NZ. 01. 0000183 meets RoHS requirements.

11、 Product packing instructions

A. packing should meet the moistureproof, vibration, pressure and mildew proof, etc.

B. the smallest packing unit logo must have the manufacturer trademarks, product model, name, code and quantity.

C. in the attached packing list, certificate of approval, and the factory inspection report.

*****END*****