

Specification of R10 antenna

Customer		Specs	R10
Part Number	AW006-PD005D-021-A0 AW006-PD005D-022-A0 AW006-PD005D-023-A0	Frequency Band	GSM2/3/5/8/W2/4/5/FDD2/4/5/12/17/66/71
Color	Black	Edition	REV:A0
Salesperson		Design	
Structure		Confirm	
Date		Signing Date	
Customer confirmation:			
Join hands to create the future			

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一、Product specification

The report mainly provides the parameter test of R10 antenna performance. The antenna is 4G antenna

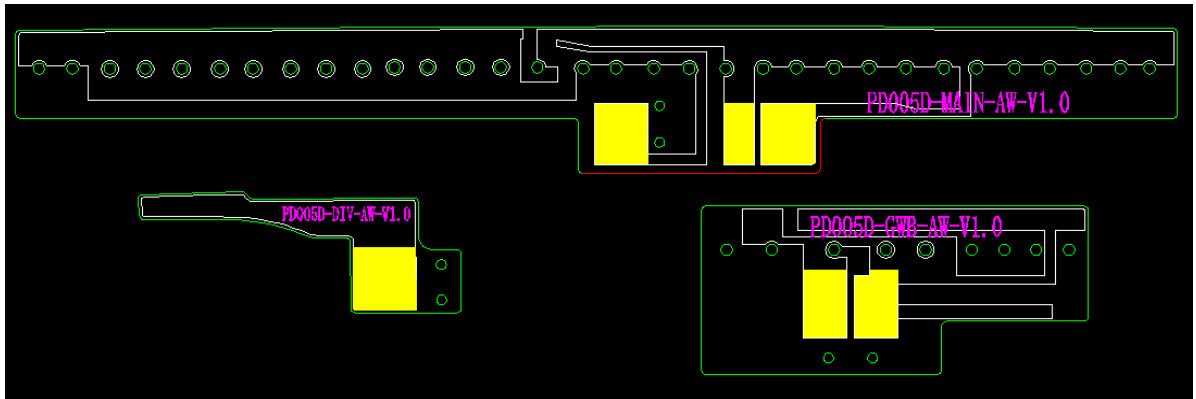


图 1 R10 Ant

二、Electrical performance

1. specification standards

The working frequency band of R10 antenna is 700M~960M and 1700M~2700M the resonance occurs in this frequency band.

2.The matching circuit of the antenna

The structure of the antenna: FPC

(Matching circuit) :

开关分配与匹配:

RF1: GSM 850 DCS1800 PCS1900 FDD B2 B4 B5 B66
WCDMA B2 B4 B5

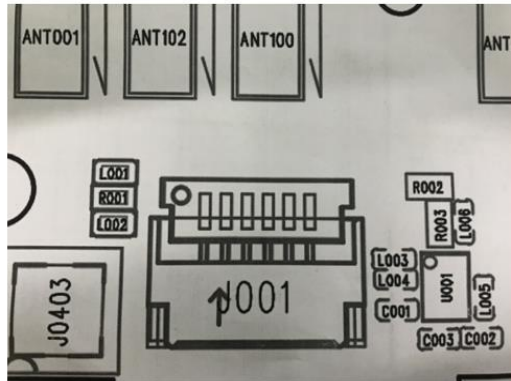
匹配: L003: 0欧姆

RF2: FDD B12 B17 B71

匹配: L004: 33nh

顶针ANT100可以去掉

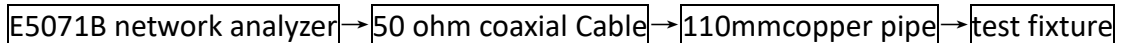
R001: 8.2NH
L001: 0.75PF
L002: 空贴



三、Parameter testing

1. Test setup

The VSWR test device is connected in turn:



Treatment of test fixtures:

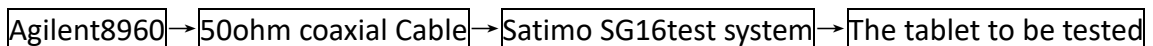
A hard cable is used to lead out the SMA-J connector from the 50 ohm test point of the antenna on the tablet PCB, which is connected with the copper tube with a choke, and then connected to other devices in turn

2. Test result

all going well

四、Setup for active testing

The active test device is connected in turn



1.Test site

AW Microwave anechoic chamber: The test frequency range is 400MHz—6GHz,The range of static zone is 40cm circle,The reflectivity is less than -90 dB

2.Test result

The maximum radiated power and the maximum receiving sensitivity reflect the maximum radiated power and the best receiving performance of the antenna in the whole radiated space.TRP and TIS reflect the average radiated power and average receiving sensitivity of the antenna, that is, the overall receiving performance of the antenna.

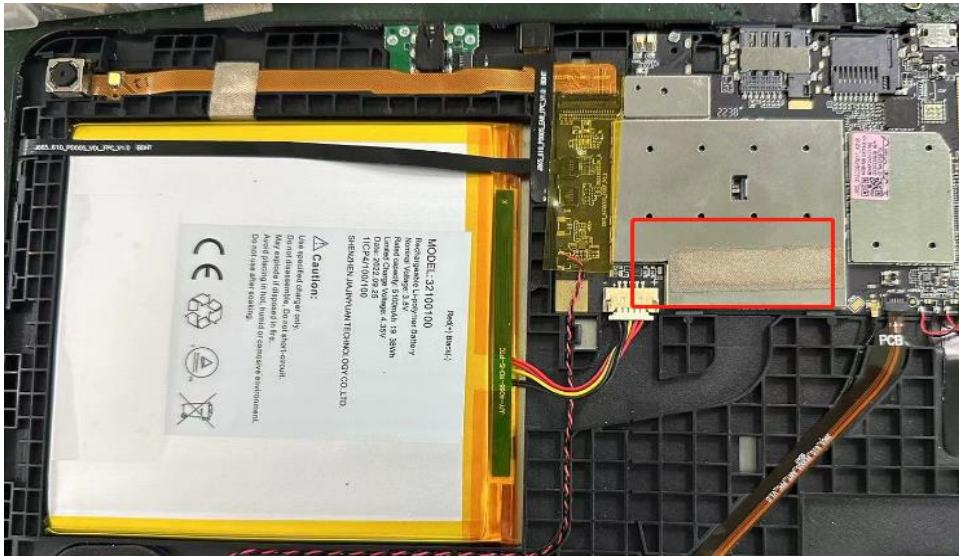
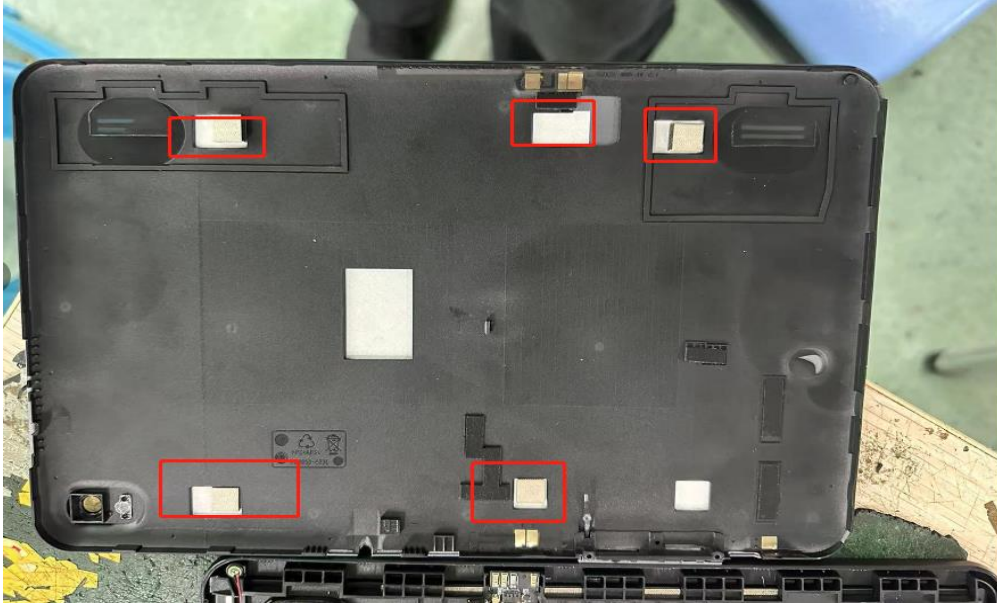
	Channel	TRP (dBm)	TIS (dBm)
FDD B2	L	19.6	
	M	19.6	
	H	19.33	-92.35
FDD B4	L	19.5	
	M	19.85	
	H	19.2	-92.4
FDD B5	L	19.3	
	M	19.38	
	H	19.4	-90.46
FDD B12	L	17.1	
	M	17.2	
	H	17.42	-90.16
FDD B17	L	17.2	
	M	17.24	
	H	17.4	-90.32
FDD B66	L	18.4	
	M	18.65	
	H	18.5	-91.34
FDD B71	L	16.47	
	M	16.7	
	H	16.86	-90.2

		Channel	TRP (dBm)	TIS (dBm)
WCDMA B2		L	19.44	
		M	19.33	
		H	19.4	-105.35
WCDMA B4		L	18.4	
		M	18.38	
		H	18.2	-105.4
WCDMA B5		L	19.45	
		M	19.5	
		H	19.5	-104.6
GSM 850		L	28.3	
		M	28.5	
		H	29.42	-104.16
PCS 1900		L	26.7	
		M	25.48	
		H	25.38	-104.34

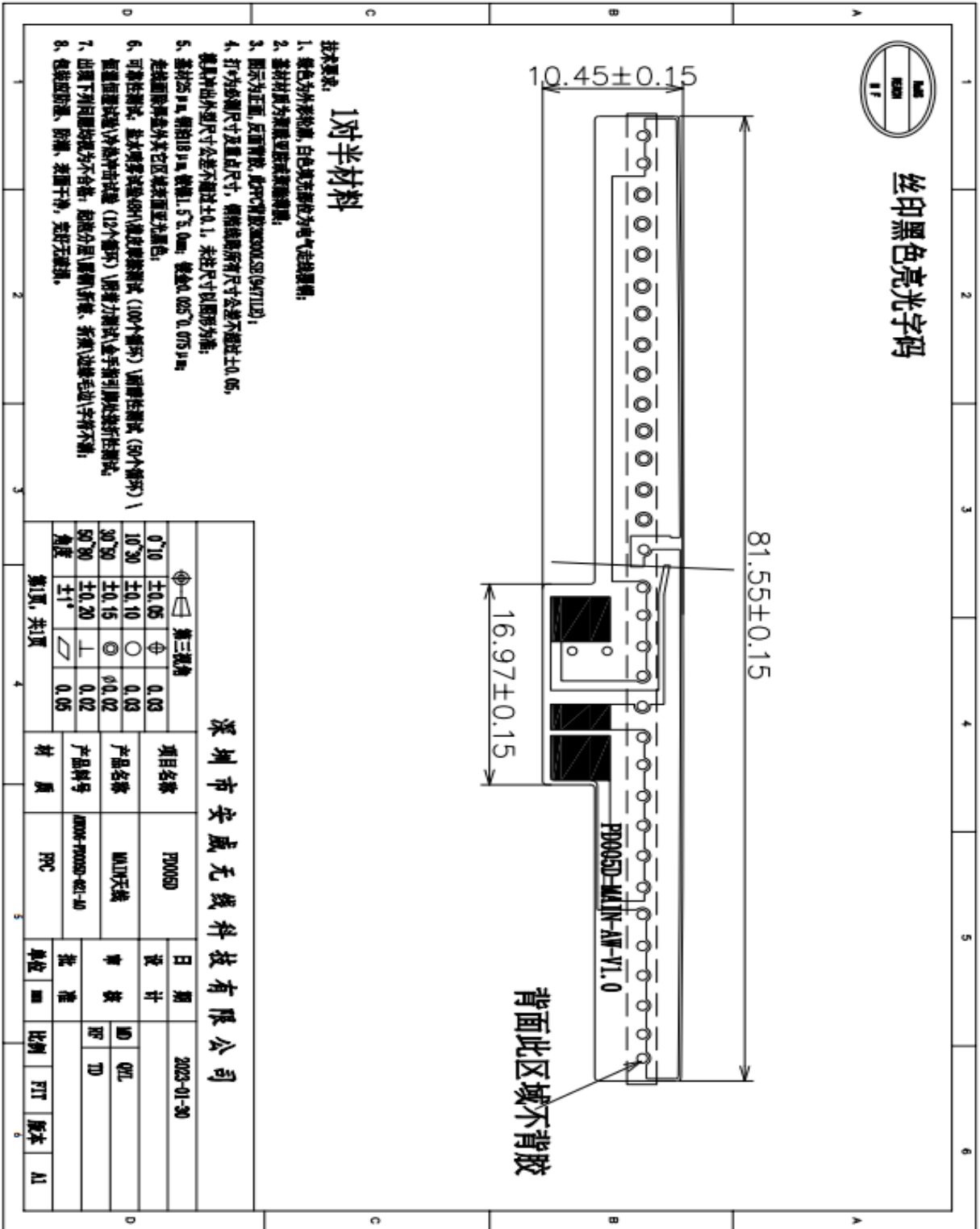
WIFI efficiency:

frequency(MHz)	gain(dBi)	mingain(dBi)	efficiency(dBi)	efficiency(%)
2400	-1.05	-21.21	-5.56	27.82
2450	1.80	-26.56	-4.2	38.04
2500	0.79	-30.43	-4.78	33.25
5100	1.17	-30.89	-6.61	21.84
5200	2.30	-33.38	-5.54	27.90
5300	2.14	-33.15	-5.34	29.21
5500	1.79	-30.43	-4.78	33.25
5700	-0.86	-26.69	-6.85	20.65
5800	-0.22	-28.67	-6.47	22.52

Environmental enrichment:

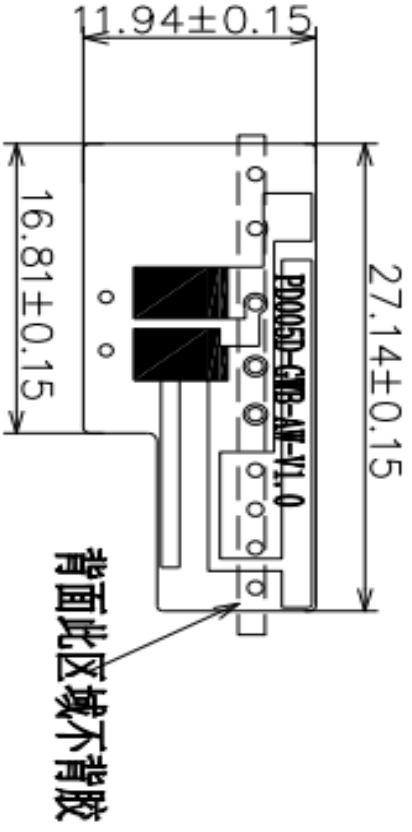


五、structural drawings





丝印黑色亮光字码



1对半材料

- 技术要求:**
1. 绿色为外表封装, 白色填充部位为电气走线覆铜;
 2. 基材材质为聚酰亚胺或玻璃纤维;
 3. 图示为正面, 反面覆胶, 此PCB常放300X300(SM94712B);
 4. 打φ为成型尺寸及重点尺寸, 铜箔线路所有尺寸公差不得超过±0.05, 模具冲切外型尺寸公差不得超过±0.1, 未注尺寸以图形为准;
 5. 基材25 μm, 铜箔18 μm, 微蚀值1.5%~0.9mm; 镀金0.025~0.075 μm;
 6. 走线面除焊盘外其它区域表面无光黑色;
 7. 可靠性测试: 盐雾喷雾试验(96h)或耐腐蚀测试(100个循环) \ 耐冲击测试(50个循环) \ 耐温度试验(冷冲击试验(12个循环) \ 附着力测试(金手指引脚处线性测试);
 8. 出现下列问题均视为不合格: 起翘分层(覆铜)折痕、开裂\边缘毛边\字符不清;
 9. 包装应防潮、防锈、表面干净, 完好无破损。

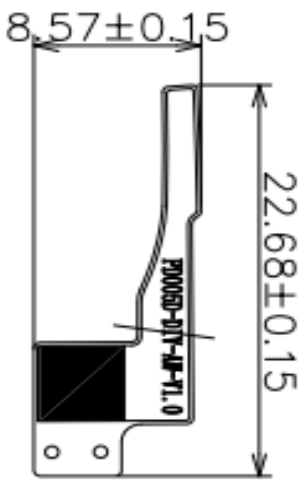
深圳市安威无线科技有限公司

第三级角		项目名称		PD005D		日期		2023-01-30	
0°/10	±0.05	φ	0.03	产品名称	GNB天线	设计		比例	1:1
10°/30	±0.10	○	0.03	产品料号	AW006-F0005D-02-10	审核	QYL	版本	A1
30°/50	±0.15	◎	0.02	材质	FR4	批准	TD		
50°/80	±0.20	⊥	0.02						
角度	±1°	∇	0.05						

第1页, 共1页



丝印黑色亮光字码



1对半材料

技术要求:

1. 颜色为外表棕黄, 白色填充部位为电气走线黑棕;
2. 基材材质为聚酰亚胺或玻璃纤维;
3. 图示为正面, 反面背放, 此PCB背放300X300(S2/S2/S2/S2);
4. 打穿为必须尺寸及重点尺寸, 铜箔线路所有尺寸公差不能超过±0.05, 模具冲出外型尺寸公差不能超过±0.1, 未注尺寸以图形为准;
5. 基材25 μm, 铜箔18 μm, 铜厚1.5 μm, 镀金0.025 μm, 0.075 μm;
6. 走线面除开盘外其它区域表面更亮黑色;
7. 可靠性测试: 盐雾喷雾试验(48h) \ 液滴腐蚀测试(100个循环) \ 耐腐蚀测试(50个循环) \ 恒湿恒湿试验(冷冲击)试验(12个循环) \ 附着力测试(金手指引脚处) \ 折弯性测试;
8. 出现下列问题均视为不合格: 起皮分层(翘起) \ 折痕、折裂 \ 边缘毛边 \ 字符不清;
9. 包装应防湿、防潮、表面干净, 完好无破损。

深圳市安威无线科技有限公司

第三视角		项目名称		F00050		日期		2023-01-30	
0°/10	±0.05	Φ	0.03	产品名称	D1T天线	设计	WD	QYL	
10°/30	±0.10	○	0.03	产品料号	AW004-F00050-4B-Y1.0	审核	WD	TD	
30°/50	±0.15	◎	0.02	材 质	FR4	批 准			
50°/90	±0.20	⊥	0.02	材 质	FR4	单 位			
角度	±1°	∇	0.05	材 质	FR4	比 例	1:1	版 本	
				材 质	FR4	比 例	1:1	版 本	