

产品规格书 Product Specification

客户名称 Customer Name: Yao Jin

项目名称 Project Name : A650-MIFI-4G FPC Internal Antenna

规格描述 Product Spec : YG-4G-FPC 45.4×9.3

中科料号 Customer P/N :

版 本 REV : V1.0

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制 作 drawing	审 核 check	批 准 approved
YIAOGONGZHE	WANGYUMEI	JIANGZHENHUAN

客户承认 Customer Approve

审 核 check	批 准 approved	承 认 approval

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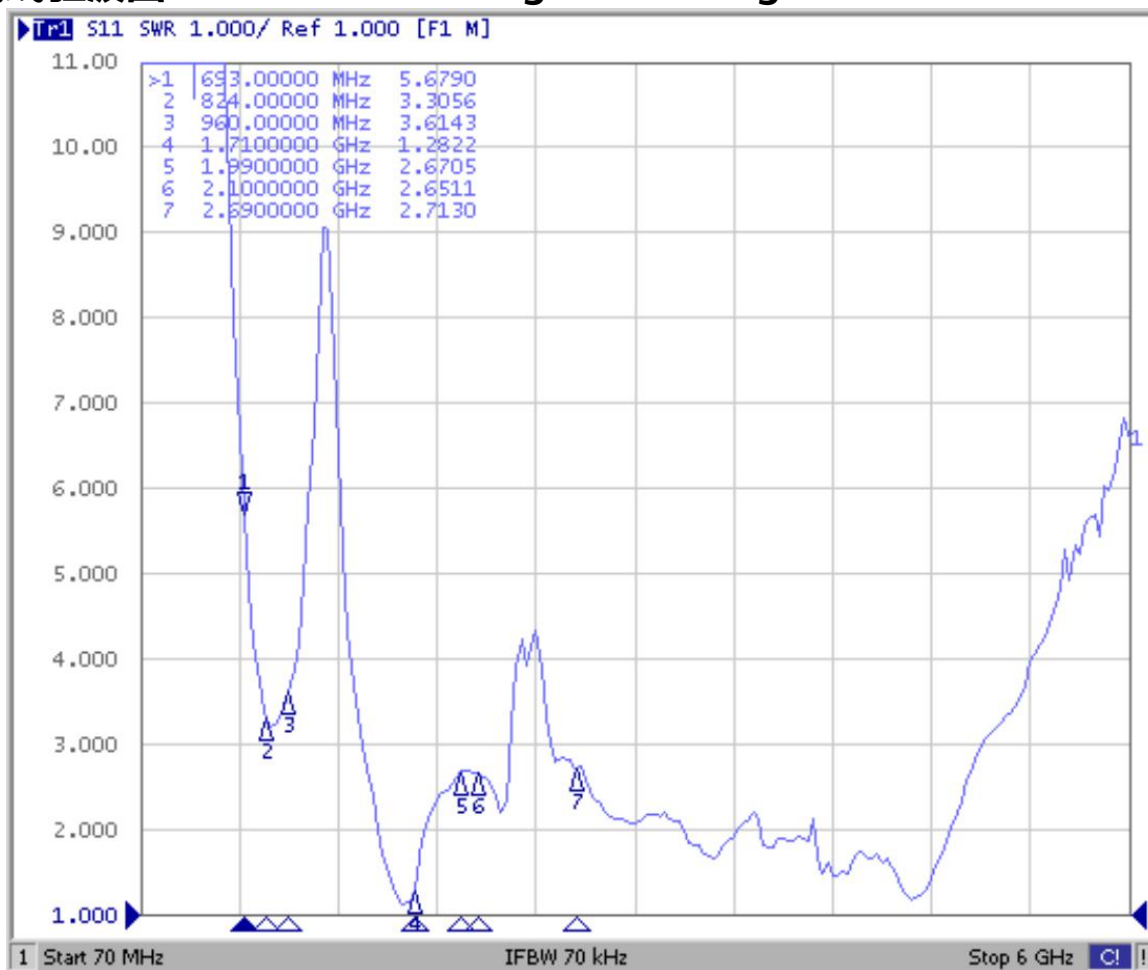
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电性能指标 Electrical Performance Index

工作频率 Working frequency	700-960/1710-2700MHz
增益范围 Gain margin	≤2.37 DBi
输入驻波比 Input VSWR	≤4.0
输入阻抗 Input impedance	50Ω
极化方式 Polarization mode	线极化 linear polarization
辐射方向 Radiation direction	全向 Omnidirectional
连接器型号 Connector model	--
电缆长度 Cable length	--
工作温度 Operating temperature	-40°C ~ +85°C

测试报告 Test report

1.天线驻波图 Antenna standing wave diagram

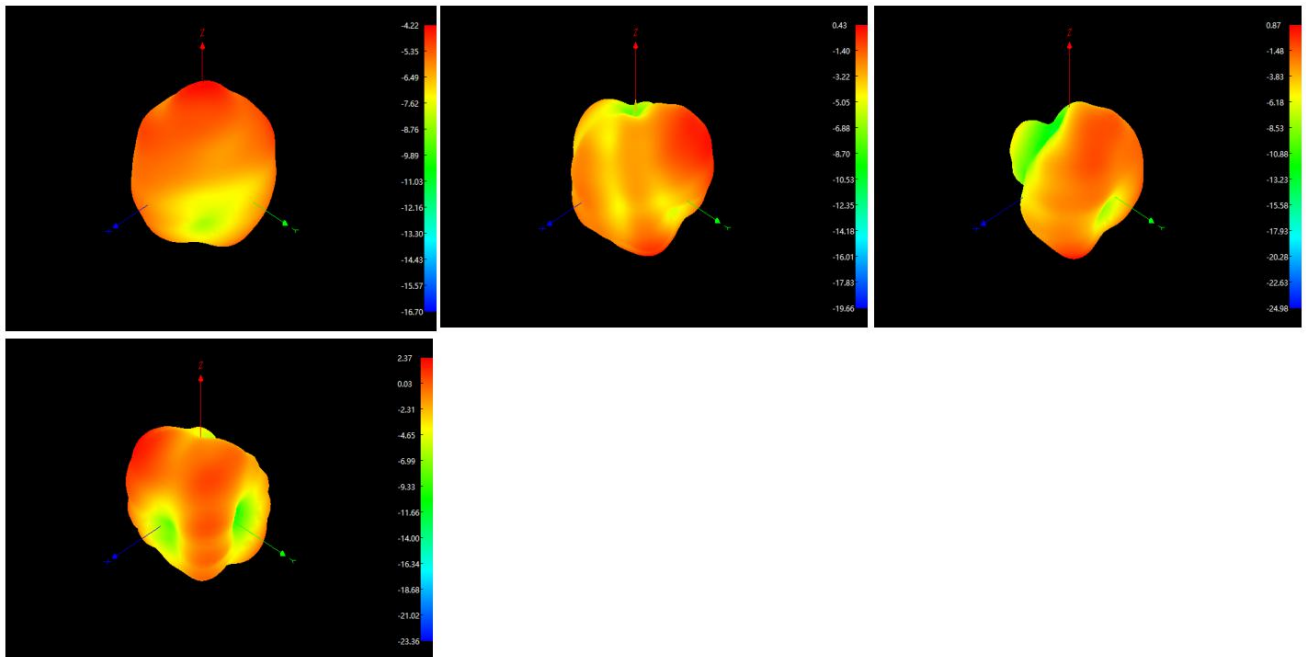


2.天线效率 Antenna efficiency

Frequency/Mhz	Efficiency / %	MaxGain/dBi/Gain
700	10.98	-4.14
710	11.08	-4.74
720	13.57	-4.76
730	13.35	-4.58
740	12.14	-4.22
750	12.91	-5.6
760	11.4	-4.85
770	10.4	-4.65
780	12.5	-3.74
790	14.39	-3.12
800	13.71	-4.71
810	14.03	-3.89
820	13.96	-4.11
830	14.03	-4.27
840	15.7	-4.01
850	15.74	-4.41
860	16.41	-4.49
870	17.34	-4.14
880	18.37	-4.04
890	18.45	-4.04
900	18.84	-4.1
910	18.75	-4.01

920	17.62	-4.65
930	18.28	-4.49
940	17.42	-5.16
950	18.71	-4.63
960	18.58	-4.22
1710	38.28	0.43
1760	24.15	-1.34
1810	25.88	-1.13
1860	29.04	-0.65
1910	29.65	0.36
1960	31.12	0.14
2010	32.66	0.67
2060	29.85	-0.04
2110	31.92	0.87
2160	36.14	1.39
2210	36.06	1.31
2260	24.83	-1.06
2310	14.66	-3.06
2360	13.37	-4.51
2410	18.49	-2.93
2460	28.71	-1.03
2510	37.58	0.37
2560	41.4	1.14
2610	51.76	1.85
2660	58.34	2.37

2.天线方向图 Antenna Pattern



4.OTA 数据/ OTA data

Item	Measurement	Band	Total
1	TRP	FDD_B2(10MHz)	20.51
2	TRP	FDD_B2(10MHz)	20.13
3	TRP	FDD_B2(10MHz)	21.31
4	TIS(RSSI)	FDD_B2(10MHz)	-92.62
5	TRP	FDD_B4(10MHz)	20.11
6	TRP	FDD_B4(10MHz)	19.64
7	TRP	FDD_B4(10MHz)	22.23
8	TIS(RSSI)	FDD_B4(10MHz)	-92.65
9	TRP	FDD_B5(10MHz)	16.64
10	TRP	FDD_B5(10MHz)	15.64
11	TRP	FDD_B5(10MHz)	15.89
12	TIS(RSSI)	FDD_B5(10MHz)	-89.85
13	TRP	FDD_B7(20MHz)	20.41
14	TRP	FDD_B7(20MHz)	18.76
15	TRP	FDD_B7(20MHz)	17.66
16	TIS(RSSI)	FDD_B7(20MHz)	-84.69
17	TRP	FDD_B12(10MHz)	11.33
18	TRP	FDD_B12(10MHz)	12.31
19	TRP	FDD_B12(10MHz)	10.79
20	TIS(RSSI)	FDD_B12(10MHz)	-84.65
21	TRP	FDD_B13(10MHz)	10.75
22	TIS(RSSI)	FDD_B13(10MHz)	-80.89
23	TRP	FDD_B17(10MHz)	10.91
24	TRP	FDD_B17(10MHz)	10.87
25	TRP	FDD_B17(10MHz)	10.45
26	TIS(RSSI)	FDD_B17(10MHz)	-85.56
27	TRP	FDD_B25(10MHz)	21.63
28	TRP	FDD_B25(10MHz)	21.4
29	TRP	FDD_B25(10MHz)	17.57
30	TIS(RSSI)	FDD_B25(10MHz)	-90.85
31	TRP	FDD_B26(10MHz)	14.27
32	TRP	FDD_B26(10MHz)	13.34

33	TRP	FDD_B26(10MHz)	15.27
34	TIS(RSSI)	FDD_B26(10MHz)	-90.4
35	TRP	FDD_B66(10MHz)	19.54
36	TRP	FDD_B66(10MHz)	21.08
37	TRP	FDD_B66(10MHz)	20.62
38	TIS FAST	FDD_B66(10MHz)	-88.31
39	TRP	TDD_B41(20MHz)	21.73
40	TRP	TDD_B41(20MHz)	21.98
41	TRP	TDD_B41(20MHz)	21.87
42	TIS(RSSI)	TDD_B41(20MHz)	-87.72

测试设备及原理 Testing Equipment and Principle

1. 测试设备 Test equipment:

网络分析仪 Network Analyzers :

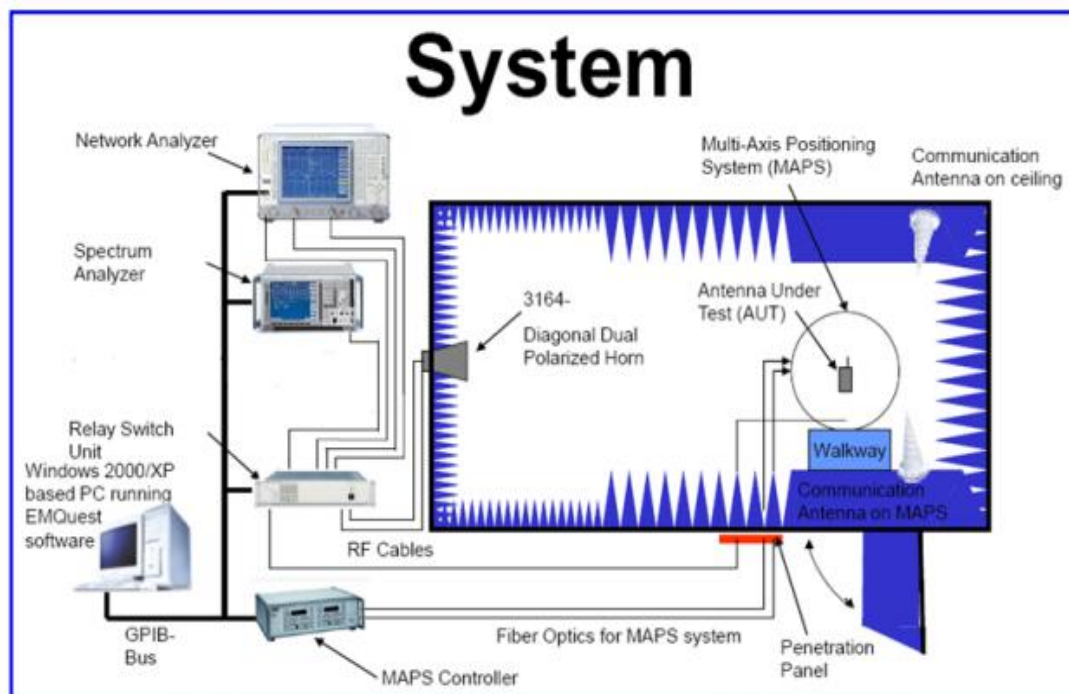
Agilent 8753D 5071B

综合测试仪 Communications Test Set:

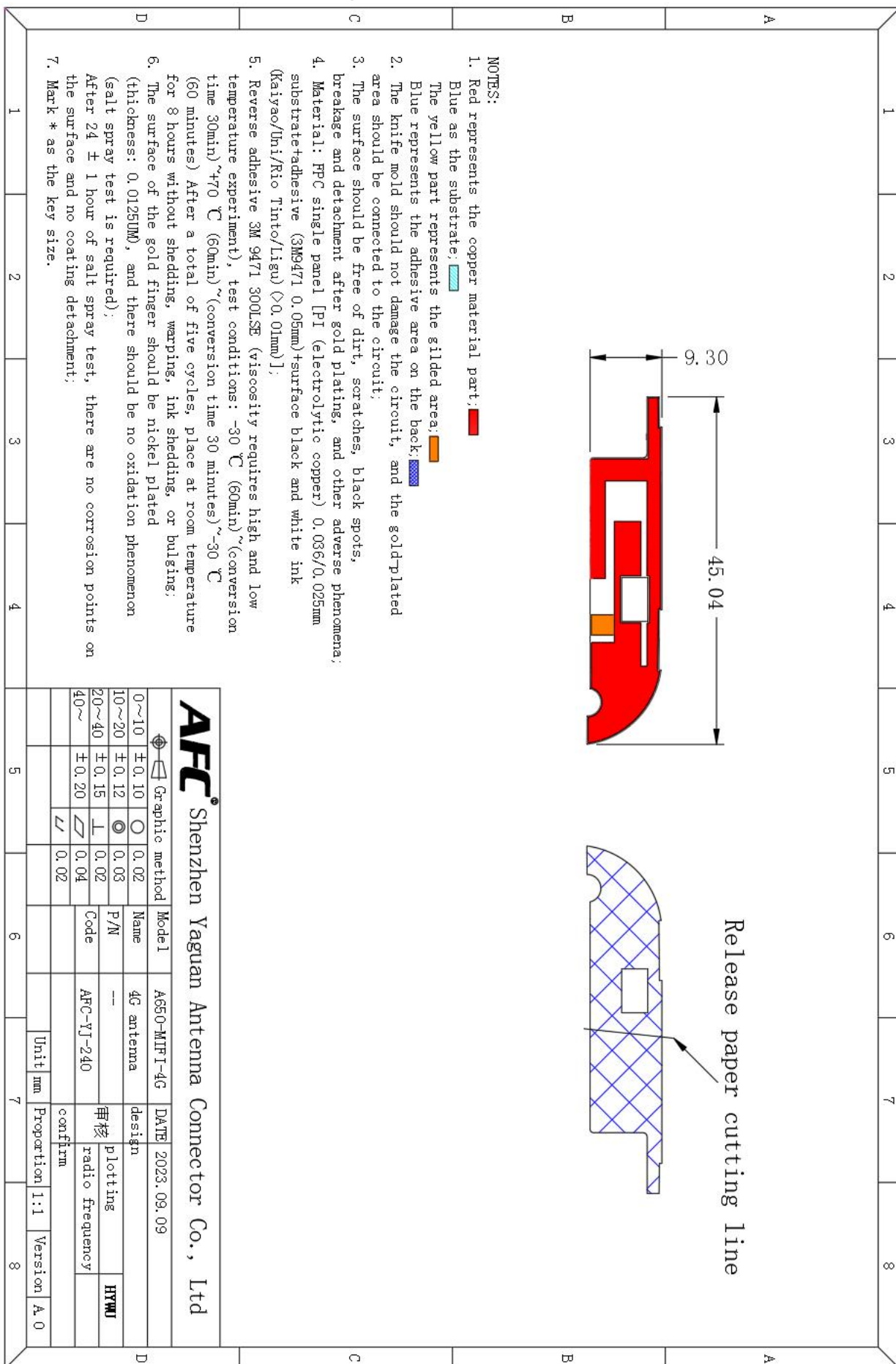
Agilent E5515C CMW500 8820C

3D 暗室测试系统 3D Chamber Test System:

2. 测试原理 Testing Principles:



工程圖紙 Product Drawing



可靠性测试报告 Reliability test report

测试项目 Test items		测试方法 test method	要求 Requirements	结果 result
C1	V. S. W. R. 电性驻波比	设计网路分析仪参数进行测试 Design network analyzer parameters for testing	符合待测物规范 Comply with the specifications of the object to be tested	pass
M1	天线增益 Antenna gain	设计天线暗室参数进行测试 Design antenna darkroom parameters for testing	符合待测物规范 Comply with the specifications of the object to be tested	pass
M2	Vibration 震动	GB / T2423.48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80to 20 Hz3 directions; 2 hours for each direction 振幅 1.5mm; 频率 20~80~20Hz; 3 个方向各 2H	1. No Visual Damage 2. Frequency Tol. ≤5% 无明显外观不良; 频率偏移 ≤5%	pass
M6	Random Drop 跌落	GB / T2423.8-1995 Single: Height: 1.0 Meter; 3 directions; 1 time for each direction 单支天线, 高 1m; 3 个方向各 1 次	1. No parts separated、fracture 2. Frequency Tol. ≤5% 产品无脱落、断裂; 频率偏移 ≤5%	pass
E3	Dimension 尺寸	Inspection of dimension, color, material, package, surface process. 检查尺寸, 颜色, 材料, 包装, 表面处理	Directive DUT specification 符合待测物规范	pass
E4	Temperature and Humidity Chamber 恒温恒湿	GB / T 2423.3-2006 Temp: 80° C / 12 H; -40° C / 12H RH: ≥ 90%; Time: 24H 温度 80° C 测试 12H 转 -40° C 测试 12H; 湿度 ≥ 90%; 时间 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 恢复 2H 后, 无明显外观不良; 频率偏移 ≤5%	pass
E5	Thermal Shock 冷热冲击	GB / T 2423.22 - 2008 - 40° C (30 minutes) to + 80° C (30 minutes); Cycles: 24 - 40° C 测试 30 分 转 80° C 测试 30 分为一个周期; 共 24 周期	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 恢复 2H 后, 无明显外观不良; 频率偏移 ≤5%	pass
R1	Aging test 老化	GB / T 2423.2 - 2008 Temp: 80° C; Time: 24 hours 温度 80° C, 测试 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 無明顯外觀不良; 频率偏移 ≤5%	pass
M1	RoHS	With Reference to IEC 62321:2008 with flow chart 参考 IEC 62321 测试流程	Directive RoHS 2015/863/EU 符合 RoHS 2015/863/EU 标准	pass

包装要求 Packaging requirements

一、标签要求 labeling requirement

采购单号 Purchase Order Number	*****
物料编码 material code	*****
品名规格 Product name and specifications	*****
数量/单位 Quantity/Unit	*****
备注 notes	*****

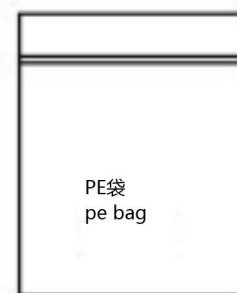
二、装箱要求 Encasement requirements

作业说明 job description:

1. 内包装 inner packing:

产品 100 PCS 一小袋

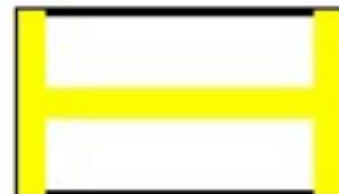
Product 100 PCS per small bag



2. 外包装 external packing:

根据实际数量定数量/箱

Determine quantity/box based on actual quantity



纸箱carton

注意事项 note:

1. 是否要增设隔板、珍珠棉;

Is it necessary to add partitions and pearl cotton;

2. 标签的贴附, 如 ROHS 等;

Labeling, such as ROHS;

