



SPECIFICATION FOR APPROVAL/产品承认书

Customer Name

客户名称: 途趣（惠州）技术服务有限公司

Customer P/N.

客户料号: E00-LITE0WF00

Product Description

产品描述: TBOX LITE WIFI 2.4/5.8G

BGS P/N


博格斯料号: CLY-050A (RB版)

Manufacturer

制造商: 深圳市博格斯通信技术有限公司

Approve Date

承认日期: 2023年12月18日

BGS Sign and Seal/博格斯签章	Customer Sign and Seal/客户签章
	

Change the content/变更内容	Version/版本	Date/日期
初版	RA	2023/9/19
变更外形线路	RB	2023/12/18

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1. Antenna Specification/ 天线技术参数

1.1: Electrical Specification/ 电气特性	
Freq.Range/ 频段范围 (MHz)	2400-2500; 5150-5850
Impedance/ 阻抗 (Ω)	50
VSWR/ 驻波比	≤ 3.0
Directional/ 辐射方向	Omni directional
Polarization/ 极化方式	Linear
Gain/ 增益 (dBi)	2400-2500: 3.53
	5150-5850: 4.24
1.2: Mechanical Specification/ 机械指标	
Material/ 材质	FPC
RF Cable Type/ 射频线型号	RF0.81
Connector Type/ 连接器类型	二代端子
1.3: Environmental Specification/ 环境指标	
Operation temp/ 工作温度	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
Storage temp/ 储存温度	$+19^{\circ}\text{C} \sim +23^{\circ}\text{C}$



2. Antenna Picture and Installation Instructions/天线图片及安装说明

2.1: Antenna Picture/天线图片

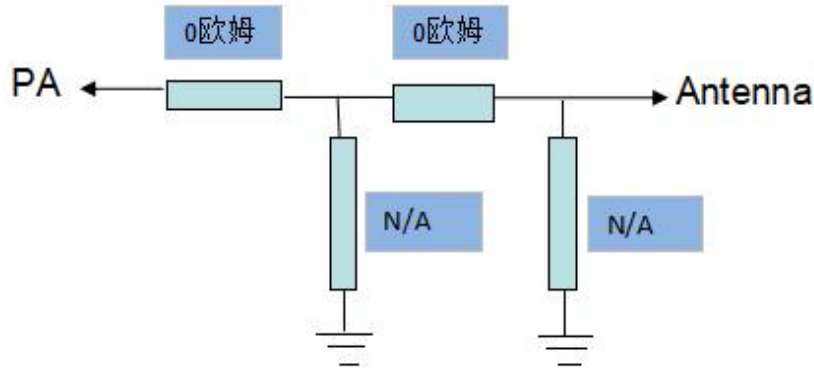


2.2: Installation Instructions/安装说明





3.1: The matching circuits/匹配电路

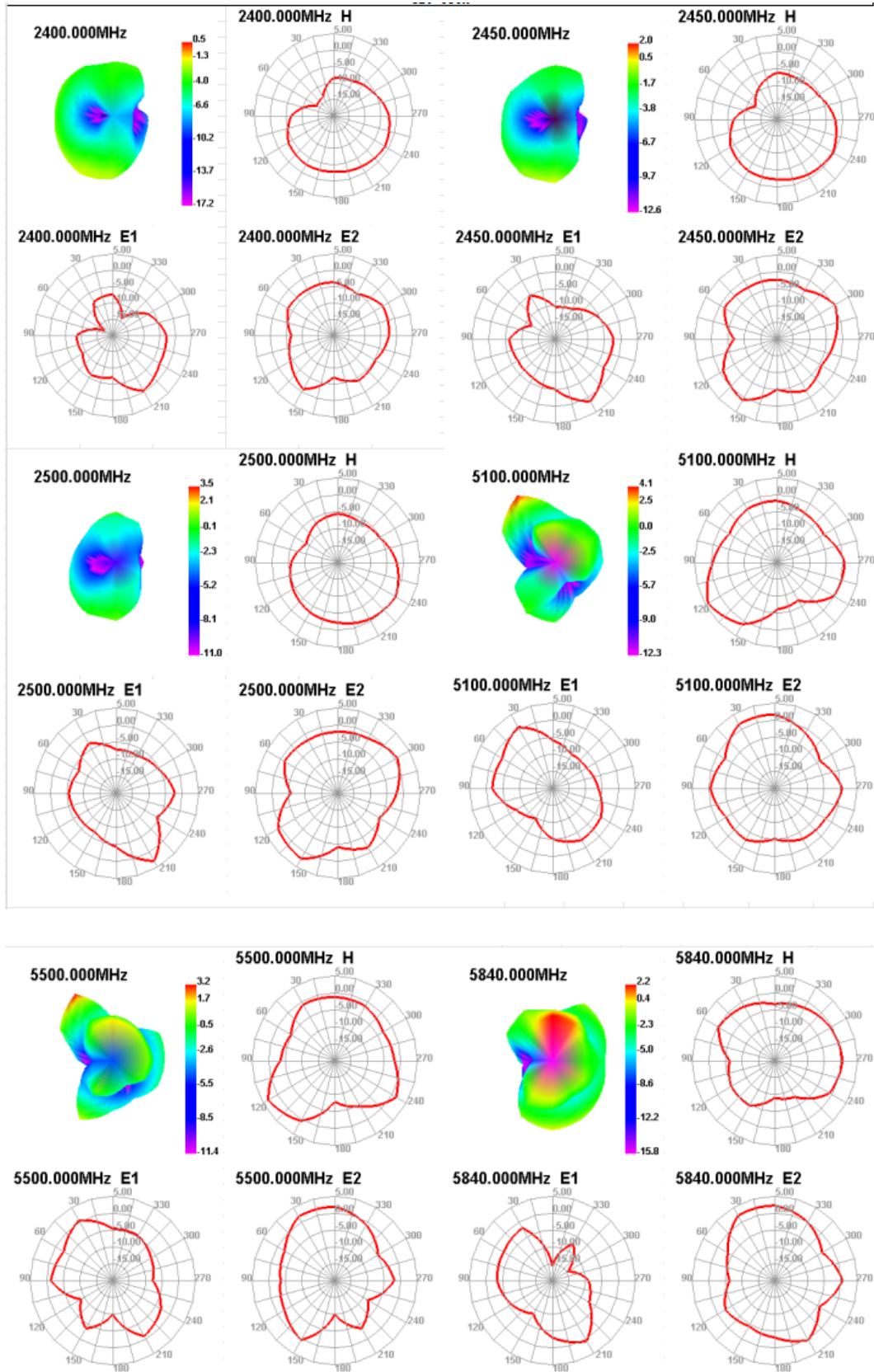


3.2: Antenna efficiency and gain/天线效率与增益

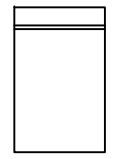
Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
2400	37.46	0.48	5100	49.73	4.12	5520	46.59	3.19
2405	38.82	0.66	5120	47.55	4.14	5540	50.14	2.77
2410	39.75	0.78	5140	47.29	3.96	5560	49.07	2.37
2415	41.38	0.99	5160	48.06	3.98	5580	49.57	2.31
2420	41.82	1.07	5180	48.21	3.99	5600	48.85	2.14
2425	44.64	1.36	5200	50.65	4.03	5620	48.22	1.75
2430	45.02	1.41	5220	51.8	3.87	5640	49.3	1.45
2435	43.63	1.57	5240	53.15	3.89	5660	50.52	1.69
2440	44.34	1.62	5260	51.23	3.85	5680	53.76	1.95
2445	45.23	1.75	5280	51.62	3.83	5700	53.17	2.09
2450	45.12	1.96	5300	52.19	3.78	5720	52.72	2.11
2455	44.67	2.02	5320	52.71	3.89	5740	53.02	2.14
2460	43.02	2.21	5340	53.18	4.14	5760	52.15	2.21
2465	42.35	2.29	5360	54.21	4.24	5780	50.99	2.41
2470	43.07	2.5	5380	52.75	4.1	5800	49.12	2.47
2475	45.81	2.85	5400	52.55	4.13	5820	48.13	2.38
2480	46.81	3.03	5420	52.49	4.24	5840	47.59	2.2
2485	48.63	3.23	5440	49.82	3.89	5860	46.13	2.26
2490	50.02	3.43	5460	50.07	3.75	5880	45.26	2.36
2495	50.02	3.42	5480	48.08	3.46	5900	43.82	1.93
2500	51.18	3.53	5500	44.77	3.18			



3.3: Directional diagram/天线方向图

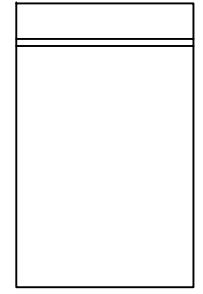


PE Sealed bag/PE封口袋

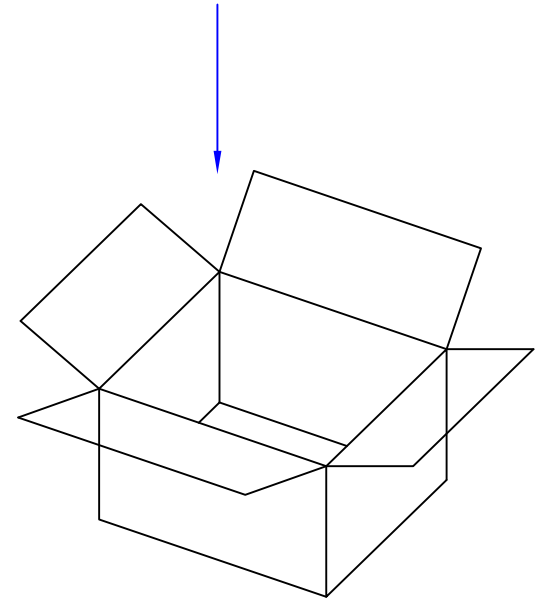


① 100 pcs/ small PE bag (bag size depends on product size)/
100个装一小袋 (包装袋尺寸依产品大小而定)

PE Sealed bag/PE封口袋



② 100 pcs small bag/big PE bag (bag size depends on product size)/
10小袋装一大袋 (包装袋尺寸依产品大小而定)



③ Final packing (carton size depends on product size and quantity)/
最后装箱 (纸箱尺寸依产品大小、数量而定)

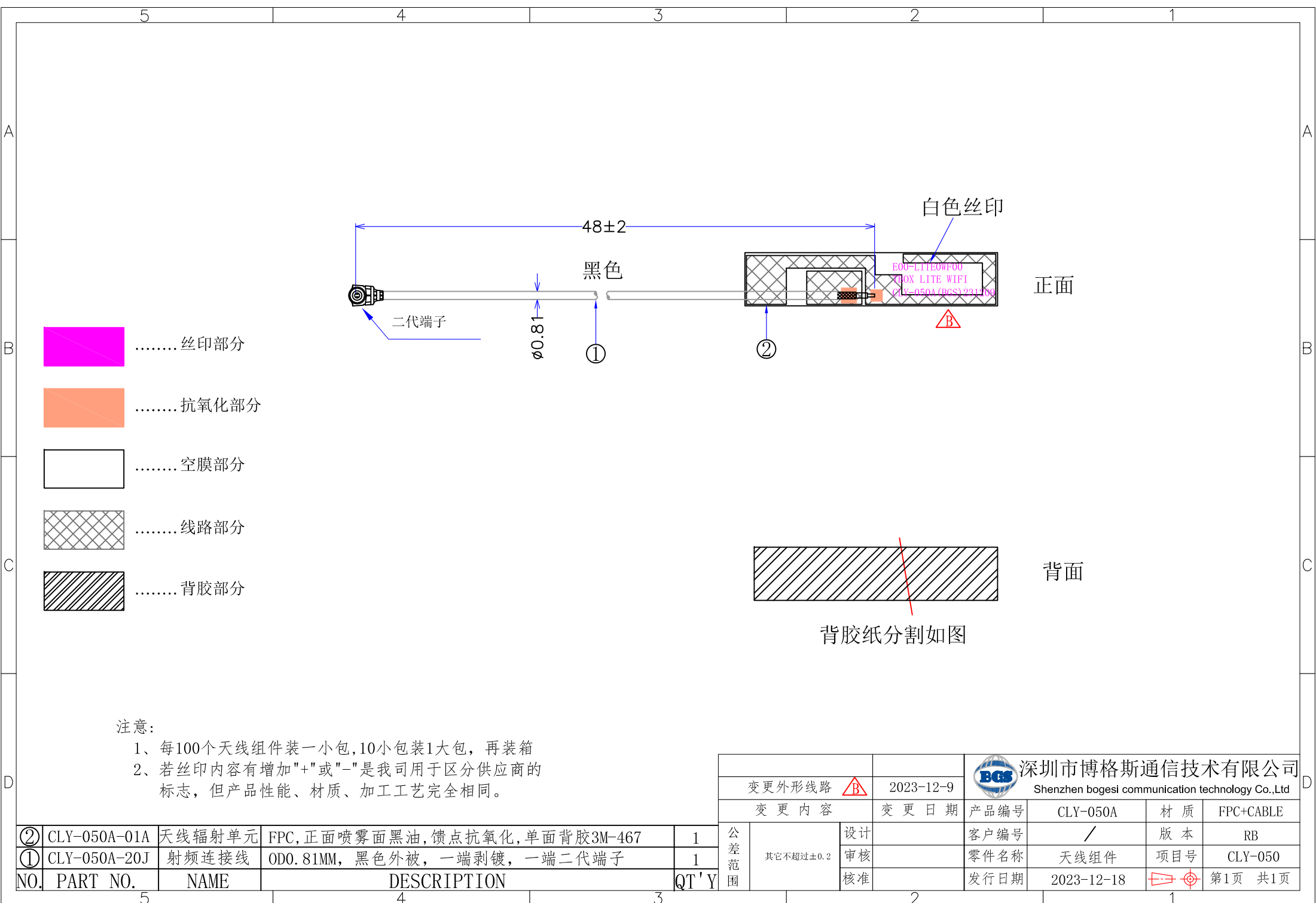
Note:





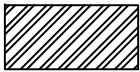
1. 100pcs antenna in one small PE bag ,stick the label;
2. 1000pcs antenna (10 bags*100pcs) in one big PE bag ,stick the label;
3. Put them in the carton and stick the carton marks.

说明:

1. 每100个天线组件装一小包，贴标签；
2. 每1000个（10袋*100个）装一大包，贴标签；
3. 装箱，贴外箱标签。

		 深圳市博格斯通信技术有限公司 Shenzhen bogesi communication technology Co.,Ltd	
Change the content/变更内容	Change the date/变更日期	Package Drawing/包装规范图	
Design/设计			
Approve/审核			
Reviewed/批准		Issue Date/发行日期	Mar, 25 2023
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-  丝印部分
-  抗氧化部分
-  空膜部分
-  线路部分
-  背胶部分

注意:

- 1、每100个天线组件装一小包,10小包装1大包,再装箱
- 2、若丝印内容有增加"+"或 "-"是我司用于区分供应商的标志,但产品性能、材质、加工工艺完全相同。

变更外形线路 		2023-12-9		 深圳市博格斯通信技术有限公司 Shenzhen bogesi communication technology Co.,Ltd		
变更内容		变更日期	产品编号	CLY-050A	材质	FPC+CABLE
公差范围 其它不超过 ± 0.2	设计		客户编号	/	版本	RB
	审核		零件名称	天线组件	项目号	CLY-050
	核准		发行日期	2023-12-18	 	第1页 共1页

NO.	PART NO.	NAME	DESCRIPTION	QT'Y
②	CLY-050A-01A	天线辐射单元	FPC, 正面喷雾面黑油, 镀点抗氧化, 单面背胶3M-467	1
①	CLY-050A-20J	射频连接线	OD0.81MM, 黑色外被, 一端剥镀, 一端二代端子	1



6.ROHS Report/ROHS报告

Product Description 产品描述		TBOX LITE WIFI 2.4/5.8G	BGS P/N 博格斯料号	CLY-050A					Declaration Date 宣告日期	2023/12/18
No. 序号	Part name 部件名称	Homogeneous Material Name 均质材料名称	The homogeneous material contains the value of RoHS restricted substance (ppm) 均质物料内含有RoHS限制物质的量值 (ppm)						Certification number 检测报告编号	Test date 检测日期
			Cd	Pb	Hg	Cr+6	PBB	PBDE		
1	FPC	Electrolytic flexible copper-clad foil substrate 有胶柔性覆铜板	ND	ND	ND	ND	ND	ND	SHAEC23001049106	2023/2/15
2		Solder resist ink/阻焊油墨	ND	ND	ND	ND	ND	ND	ETR23701480	2023/7/13
3		3M glue/3M胶	ND	ND	ND	ND	ND	ND	SHAEC2217569205	2022/12/30
4	Wire 线材	RF coaxial cable/RF同轴电缆	ND	ND	ND	ND	ND	ND	SZxec23001776704	2023/8/8
5	Terminals 端子	Gold plating/金镀层	ND	ND	ND	ND	ND	ND	A2230400553101001E	2023/8/9
6		PBT/胶芯	ND	2.55	ND	ND	ND	ND	ETR23705931	2023/8/4
7		Nickel plating/镍镀层	ND	ND	ND	ND	ND	ND	A2230400553101002E	2023/8/9

Notes:

Material analysis expansion table is similar to our company's machine type BOM, which describes the composition of each material provided by the supplier, and then conducts RoHS control on each component (or the supplier shall conduct RoHS compliance management on his supplier, and provide tripartite inspection certificate).

A complete material analysis expansion table that includes:

1. Material expansion table: component composition decomposition
2. Third-party verification report of each component

说明:

材质分析展开表类似于我们公司的机种 BOM, 就供应商提供的每个物料进行组成说明, 然后就每一种组成进行 ROHS 控制 (或者说供应商要对他的供应商进行 ROHS 符合性管理, 提供每三方检测证明)。

一份完整的材质分析展开表, 它包括:

- 1 材质展开表:零件组成分解
- 2 各组成的第三方验证报告