



Product specification acknowledgment.

Shenzhen Maya antenna lab

R&D center in ShenZhen

The mobilecommunication terminal antenna

PRODUCT NAME: _____E95KJ62_____

CUSTOMER NAME: _____**aoni**_____

account party	Development party		
Customer acknowledges	Quality Department	R&D Department	approved by
		ME: RF:	
DATE :	DATE: June 19, 2023		

Shenzhen Maya communication equipment Co., LTD

Site: A second floor, minqing road, minqing road, longhua street, baoan district, shenzhen city.

Tel: 86-755-82916162 Fax: 86-755-82916227



1. aim

For the Production from shenzhen maya communication equipment co., LTD. That camera communication terminal antenna product specifications and test methods for specification, avoid the test conditions, the error caused by different methods

2. Antenna debug design requirement frequency band.

frequency range	Type of antenna
2.4G WIFI	PFIA

3. Product cell phone and sky chart.



Machine figure



The antenna



4. electrical

4.1 Test method description and data.

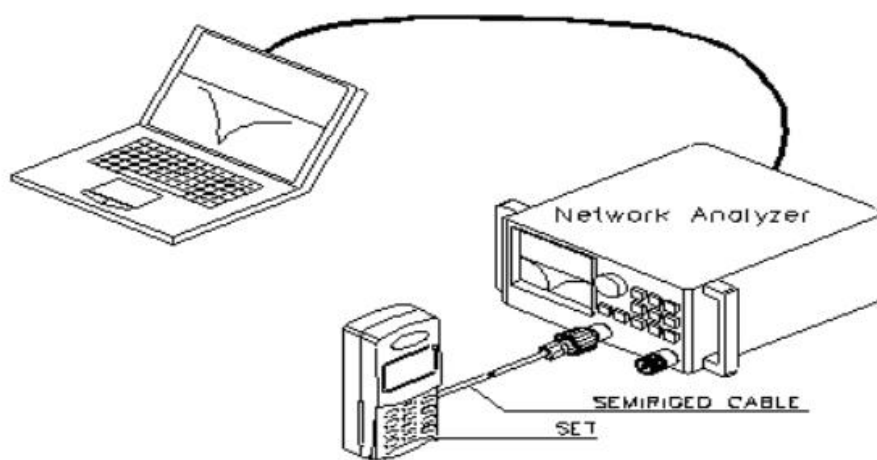
Device name	use
Vector Network Analyzer	S11/Impedance/ Passive Test
Agilent 8960 SP6010 R&S CMU200	GSM, GPRS, EDGE, CDMA2000, 1xev-do, td-scdma, WCDMA, HSDPA mobile phone mobile communication equipment test.
R&S CMW500 MT8820C	Including td-scdma, WCDMA, HSDPA, LTE, WIFI, GPS mobile phone mobile communication equipment test.
Agilent E4438C	Test active GPS
MVG Chamber	Passive Test / OTA active Test / Efficiency/Gain



4.2 Passive Test Report

Test equipment: network analyzer.

Test method: with a 50 ohm CABLE CABLE from the instrument test port is derived, using the calibration after a calibration mechanism of SMA connector, connecting hand records related to the frequency points corresponding return loss and standing wave ratio data.



测试示意图

4.3 Active Test Report

TRP/TIS

From testing tools, measuring, network analyzer, full waves far field ETS, French MVG SG24LT (Satmio) near field 3 d microwave dark room, the high precision positioning system and its controller and the computer with automatic test procedure test environment: the temperature of 22 °C + 3 °C, humidity 60% plus or minus 60% test methods: Using EST or 24 It Satimo system software Test method and calculation of TRP when tested TRP, DUT (Device Under Test) is in a state of maximum transmitted power, including three to choose channel Test, by positioning system control the location of the DUT, with 15 degrees for step length, measuring three dimensional space, the effective radiated power (EIRP) at various points through the average of the integral sphere, computation formula is as follows

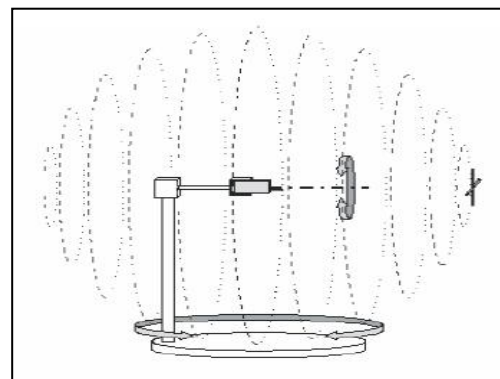
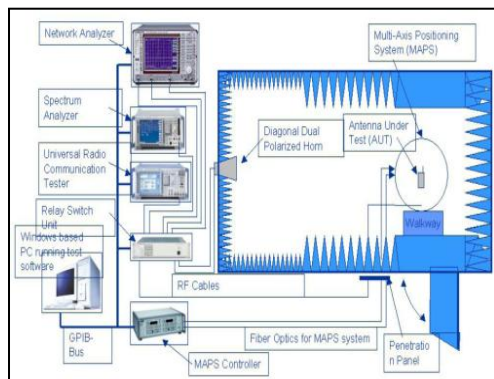
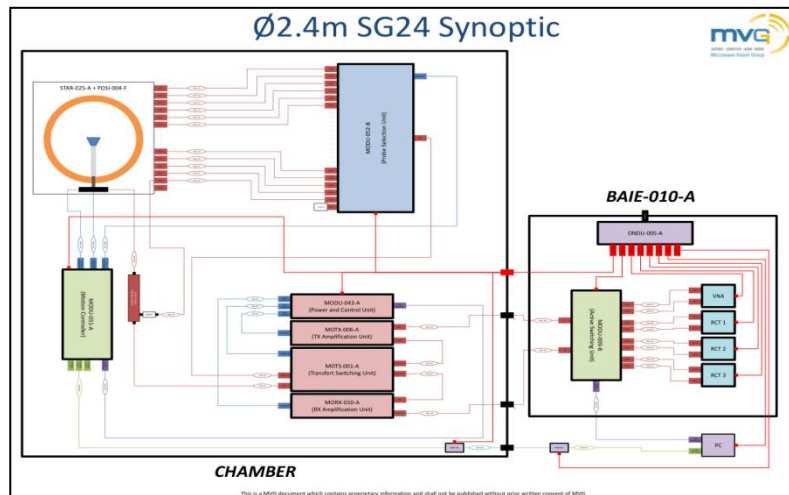
$$TRP \cong \frac{\pi}{2NM} \sum_{i=1}^{N-1} \sum_{j=0}^{M-1} [EiRP_{\theta}(\theta_i, \phi_j) + EiRP(\theta_i, \phi_j)] \sin(\theta_i)$$



Model:K78

In TIS test, the DUT at the maximum transmission power of the state, including three to choose channel test, by controlling the location of the DUT, at 30 degrees for the step length, measuring the three dimensional space each point receiving sensitivity, the average of the sphere by integral calculation, calculation formula is as follows:

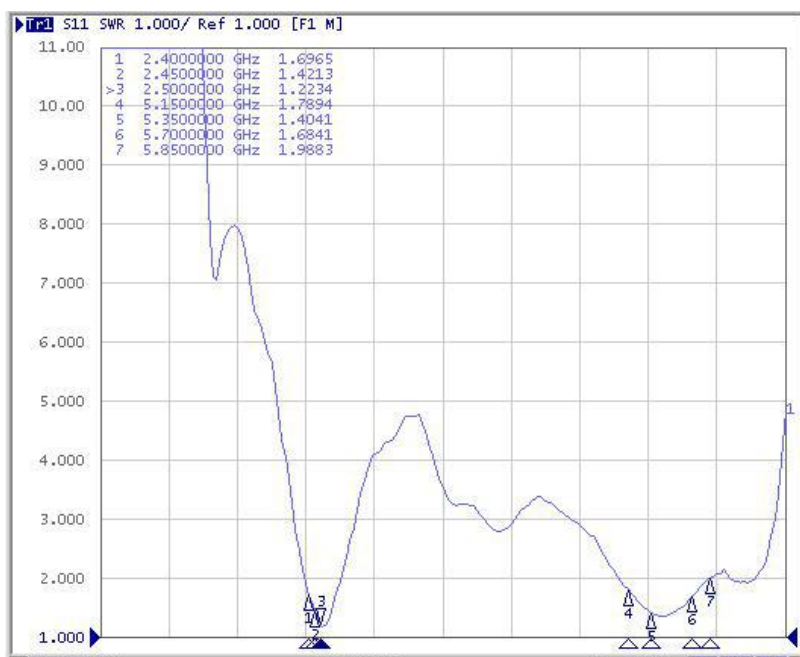
$$TIS \cong \frac{2NM}{\pi \sum_{i=1}^{N-1} \sum_{j=0}^{M-1} \left[\frac{1}{EIS_{\theta}(\theta_i, \phi_j)} + \frac{1}{EIS_{\phi}(\theta_i, \phi_j)} \right] \sin(\theta_i)}$$





4.4 Passive data

频率 (GHz)	效率(%)	增益(dBi)	频率 (GHz)	效率(%)	增益(dBi)	频率 (GHz)	效率(%)	增益(dBi)
2.4	66.5	4.3	5.15	44.3	3.1	5.72	44.6	4.8
2.41	66.4	4.4	5.2	48.2	4.6	5.74	45.4	4.8
2.42	66.3	4.5	5.25	50.2	5.2	5.76	51.4	5.5
2.43	70.1	4.5	5.3	44.5	5.4	5.78	51.2	5.7
2.44	70.1	4.2	5.35	42.6	4.9	5.80	52.4	6.0
2.45	71.7	4.4	5.4	43.7	5.2	5.82	53.1	6.1
2.46	75.1	4.4	5.45	46.3	5.6	5.84	51.6	6.4
2.47	75.4	4.1	5.5	51.2	5.9	5.85	49.6	6.0
2.48	76.4	3.9	5.6	50.1	6.0			
2.49	75.3	4.0	5.65	43.5	5.8			
2.50	74.5	4.0	5.7	40.9	5.4			



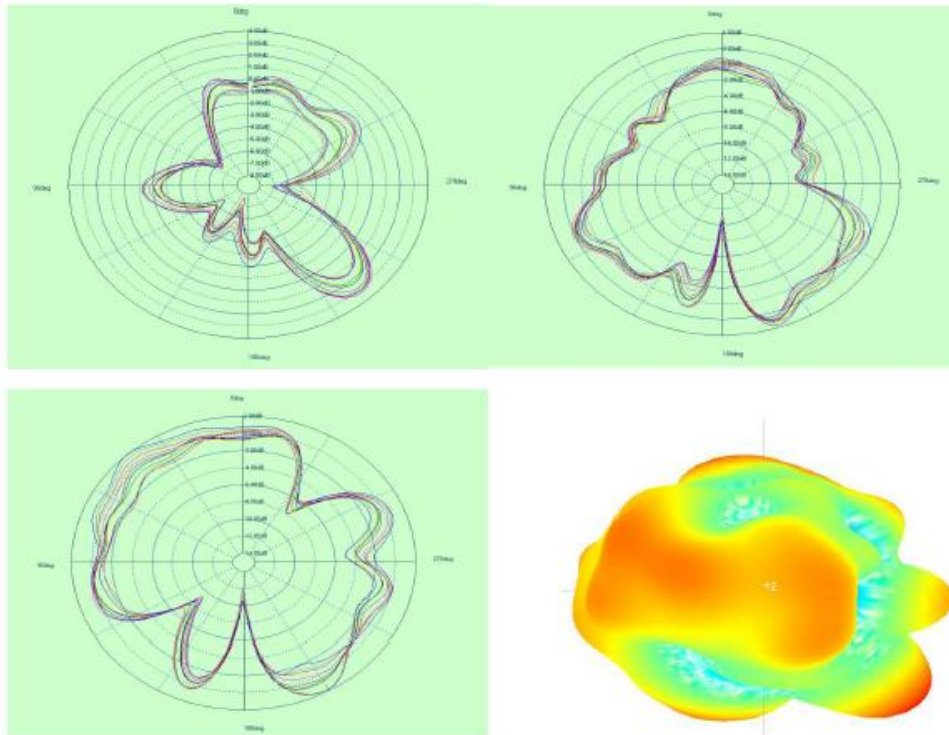
4.5 Active OTA TRP/TIS data

标准	BAND	2.4G-WIFI-B(11Mbit/S)		
WIFI	CHANNEL	L	M	H
	TRP	16.62	17.24	17.38
	TIS	/	/	-81.57
	BAND	5G-WIFI-A(54Mbit/S)		
	CHANNEL	L	M	H
	TRP	14.53	14.84	15.53
	TIS	/	/	-74.07

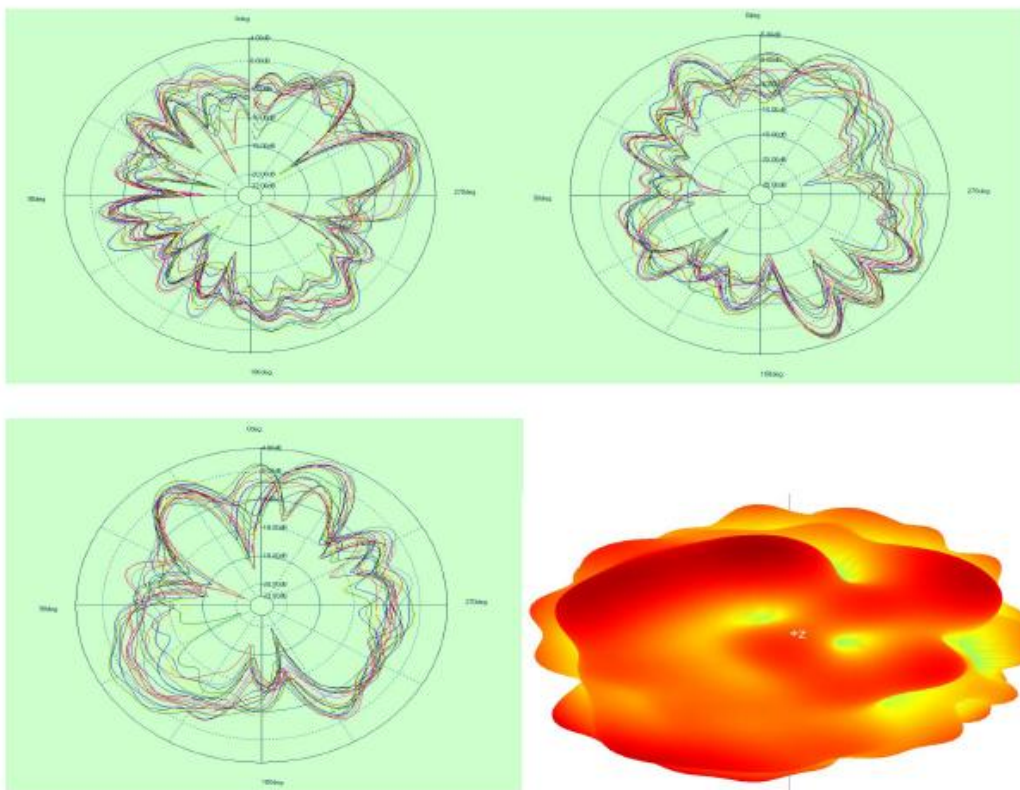


5. directional diagram

WIFI 2.4G

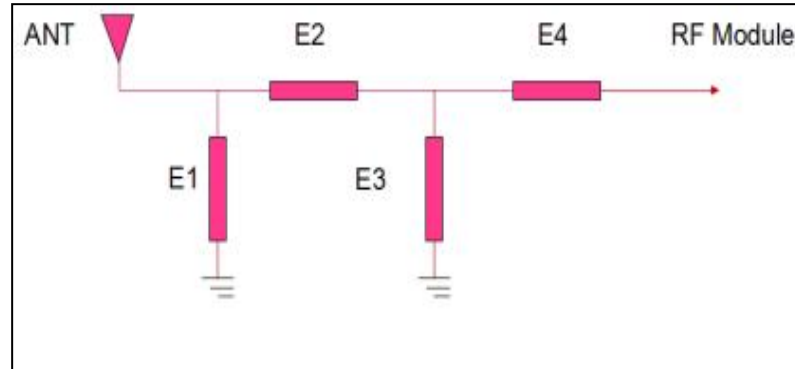


WIFI 5.8G





6. Matching circuit description



BAND	main aeria	triangle	diversity antenna
Element	Value	Value	Value
E1(0402)			
E2(0402)			
E3(0402)			
E4(0402)			

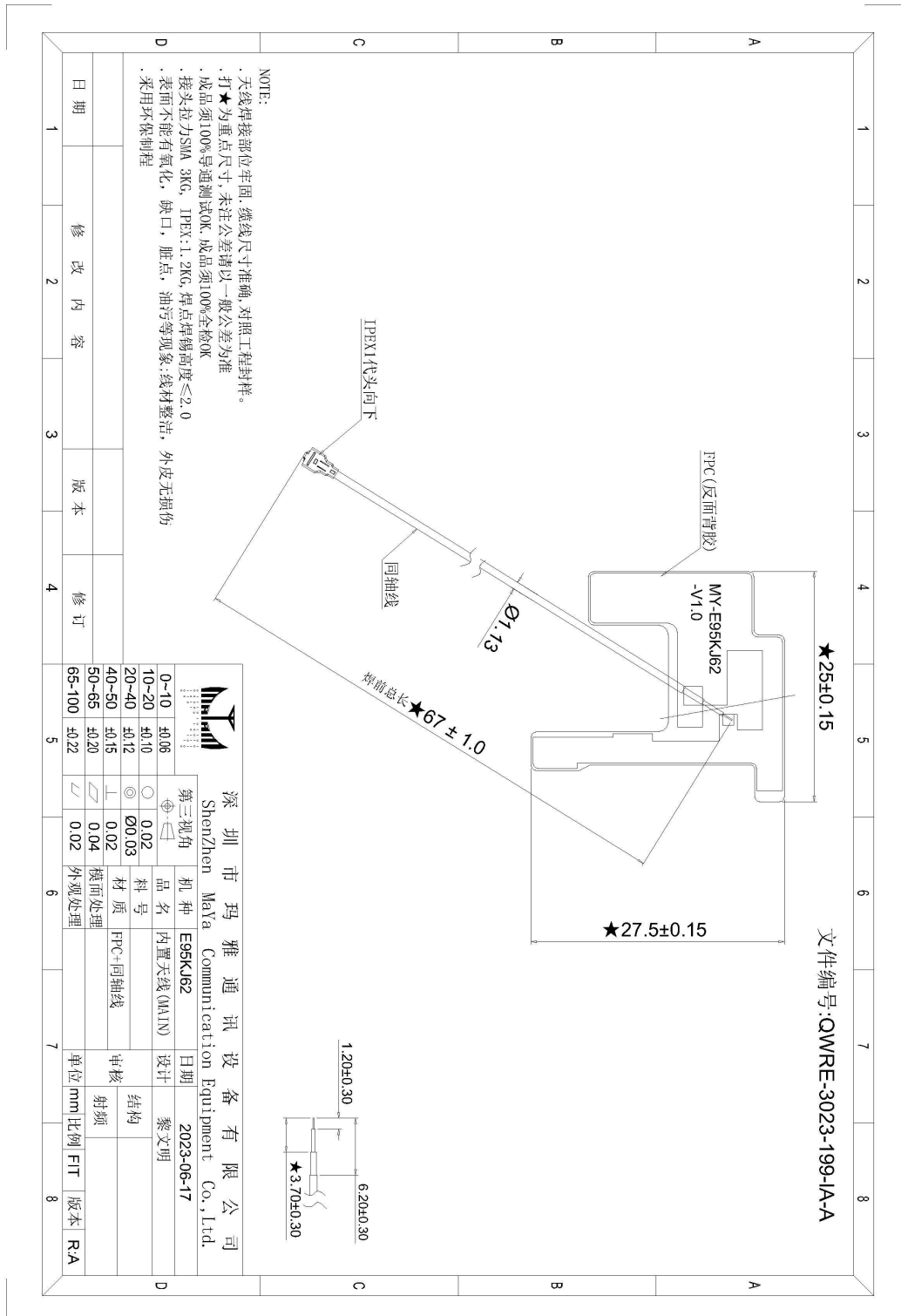
Note: we do not debug the antenna matching circuit.



7. Environmental treatment

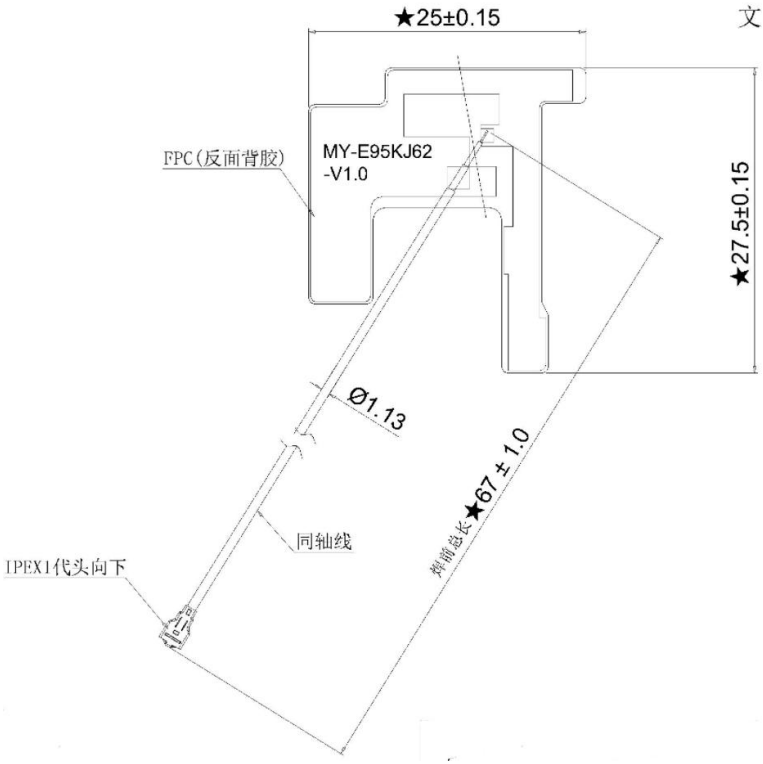
Not changed

8. structural drawings





9. Dimensional Inspection Report

材质	FPC 天线			图 示： 					
项目名	E95KJ62								
出样数量	5 PCS								
出样日期	2023.06.19								
一、外观检查：									
目视检查项目	抽检	检验结果							
1. 表面杂质脏污	5PCS	OK							
2. 溢胶		OK							
3. 废料		OK							
4. 撕裂		OK							
5. 金面氧化		OK							
6. 油墨（黑色）		OK							
二、可靠性测试(随机抽取 5PCS)：									
测试项目	标准	1	2	3	4	5	检验结果		
1. 附着力测试	油墨不可脱落	无	无	无	无	无	OK		
2. 盐雾测试状况	金面无腐蚀	无	无	无	无	无	OK		
3. 耐磨测试	不可漏底材						OK		
4. 丝印内容	MY-E95KJ62-V1.0						OK		
三、尺寸测量(随机抽取 5PCS)：									
部位	基准值(mm)	公差+(mm)	公差-(mm)	1	2	3	4	5	检测结果
1	25	0.15	0.15	24.95	25	24.98	25.05	25.01	OK
2	27.5	0.15	0.15	27.45	27.5	27.48	27.55	27.51	OK
3	67	1.0	1.0	66.50	67	66.7	67.10	67.40	OK
4	3.70	0.30	0.30	3.60	3.80	3.70	3.85	3.75	OK
5									
6									
7									
8									
9									
10									



10. Reliability testing

测试项目	测试仪器	测试条件	判定标准	判定
盐雾测试	盐雾测试实验机	将产品放于盐雾试验机中, 在温度 $35^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 、湿度 $>85\%$ 的密闭环境中, PH 值在 6.5-7.2 范围内, 用 $5\% \pm 1\%$ 的 NaCl 溶液连续喷雾, 将样品用清水冲洗干净, 常温放置 2 小时后检查外观; 测试时间: 48H	表面无锈蚀、镀层剥落、起泡等不良现象, RF 测试通过为合格。(截断面及用橡皮可以擦除的氧化要接受)	OK
高温存储	恒温恒湿箱	在温度为 $75^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 的高温环境存贮 48 小时, 试验完成后在常温环境下放置 2 小时以上后检查产品外观, 并测试油漆的附着力	外观无异常、变色、起泡、涂层脱落、起皱、裂痕、变形、起翘等为异常; 附着力 $\geq 4B$, RF 测试通过为合格。	OK
低温存储	恒温恒湿箱	在温度为 $-30^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 的低温环境存贮 48 小时, 试验完成后在常温环境下放置 2 小时以上后检查产品外观, 并测试油漆的附着力。	外观无异常、变色、起泡、涂层脱落、起皱、裂痕、变形、起翘等为异常; 附着力 $\geq 4B$, RF 测试通过为合格。	OK
高湿高湿	恒温恒湿箱	将天线放入恒温恒湿箱中, 在 60°C 和湿度 95% 环境下, 放置 48H。试验完成后在常温环境下放置 2H 后检查产品外观。	天线表面无裂痕, 明显的变形, 脱落, FPC 无氧化及 FPC 无起翘, 气泡, 起皱等不良; 电性能测试通过为合格。	OK
1 代端子拉力	拉力测试仪	将天线的同轴线分别放入拉力测试仪左右两端固定, 在调整拉力为 1.2KG, 拉力测试仪以每分钟 25 ± 3 毫米的速度测试拉拔力。	外观: 无损伤接触电阻 RF 测试通过为合格。	OK



11. BOM List

项次	品 名	规格/材质/工艺	单位	数量
1	内置天线	MYD01-3023-199-1A	PCS	1
1.1	FPC天线 (MAIN)	JYD02-25×27.5×0.10,CU+PI/T=0.05mm, 黑色, 丝印MY-E95KJ62-V1.0	PCS	1
1.2	同轴线(WIFI)	HLT01-φ1.13×67 CABLE线, IPEX 1代,黑色,剥线1.2/2.5/2.5	PCS	1



12. Quality Control Flow Chart

输入	相关单位	流程	输出	相关单位	备注说明
收料单	仓库	<pre>graph TD A[收料单] --> B[确认抽样数] B --> C{包装外观检查} C -- 合格 --> D[抽样] C -- 不合格 --> E[ROHS检查] D --> F[内包装检查] F --> G[外观及丝印检查] G --> H[尺寸/性能检] H --> I[实装检验] I --> J{结果判定} E --> J J -- 合格 --> K[盖IQC PASS章] J -- 不合格 --> L{各部门会签} L -- 不合格 --> E L -- 可让步接收 --> M[贴特采标签] L -- 可让步接收 --> N[贴不良品标签] K --> O[仓库入库] M --> O N --> P[回复不合格品处理单] P --> Q{效果确认} Q -- 合格 --> R[结束] Q -- 不合格 --> L</pre>	待检物料	IQC	
数量/抽样标准	IQC		样本量	IQC	根据收料单确认抽样数量
原物料	IQC		外包装检验结果记录	IQC	1. 确认外包装是否破损，受潮，是否统一； 2. 确认是否有包装贴纸； 3. 供应商名称，物料编码；物料编码等是否清晰可辨；
数量/抽样标准	IQC		样本物料	IQC	1. 抽样数量按照抽样标准； 2. 抽样方式为对角线型或者S型；
物料规格书/检验工具/检验记录表	IQC		检验记录	IQC	1. 在检验记录表的检验依据中必须注明物料所在的产品名称或编码或BOM编码； 2. 所有物料包括样品都要有检验记录； 3. 所有的物料必须依据规格书或书面文档为依据； 4. 所有物料的检验数据必须及时记录；
检验记录/检验标准	IQC		检验记录/不合格品处理单	IQC	1. 对于轻微缺陷依据AQL接受标准自行判定； 2. 对于性能不良，或外观严重不良的项目开不合格品处理单，给品质主管进行确认，并给其他相关部门会签；
不合格品处理单	IQC		不合格品处理单	品质/技术开发/采购	各个部门负责人依据实际情况进行裁决，最终由品质经理判定；
IQA判定标签	IQC		检验后物料	IQC	1. 检验合格物料必须盖QC Pass章到物料外箱及最小包装标签上；特采的贴黄色标签；判退的贴红色标签并要求仓库隔离存放； 2. 对于有不良现象的物料开不良品合格处理单
不合格品处理单	IQC/供应商		厂商回复	IQC/QE确认	1. 给厂商的不合格品处理单要求供应商及时回复，一般限时24小时； 2. 供应商回复太牵强的应判退，重新回复。
检验后的物料	仓库		入库单	仓库	



13.Packaging method

深圳市玛雅通讯设备有限公司					
产品出厂包装要求					
客户	奥尼科技	零件名称	FPC天线	项目名	E95KJ62
使用材料					
序号	名称	规格			
1	封口胶袋				
2	纸箱				
每个封口胶袋内以实际标签数量装产品，外用纸箱包装。					
包装示意图					
					
PE袋装					
审核：黎文明					
制表：罗鹏辉					



14. Certification testing status (Instructions for filling out: If relevant testing certification has been conducted, please check the box in parentheses and indicate the corresponding certification or report number)

- () **UL** 认证或者报告编号: _____
- () **VDE** 认证或者报告编号: _____
- () **CE** 认证或者报告编号: _____
- () **FCC** 认证或者报告编号: _____
- (☒) **ROHS** 认证或者报告编号 : [SHAEC23001049106](#) _____
- (☒) **REACH** 认证或者报告编号: [SHAEC23001049108](#) _____
- () **EMC** 认证或者报告编号: _____
- () **CCC** 认证或者报告编号: _____
- () **SRRC** 认证或者报告编号: _____
- () **其它** 认证或者报告编号: _____
- () **无产品认证**



15. SGS report



检测报告

编号: SHAEC23001049106

日期: 2023 年 02 月 15 日

第 1 页, 共 9 页

客户名称: 苏州蔡伦格蒂电子材料有限公司
客户地址: 江苏省太仓市太平北路 168 号

样品名称: 电解柔性覆铜箔基材
以上样品及信息由客户提供。

SGS 工作编号: SP23-002431
样品接收时间: 2023 年 02 月 09 日
检测周期: 2023 年 02 月 09 日 - 2023 年 02 月 15 日
检测要求: 根据客户要求检测。
检测方法: 见后续页。
检测结果: 见后续页。

检测要求	结论
卤素	见检测结果
欧盟 RoHS 指令 2011/65/EU 附录 II 的修正指令(EU) 2015/863- 铅、汞、镉、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs)、邻苯二甲酸二丁酯 (DBP)、邻苯二甲酸丁苯酯(BBP)、邻苯二甲酸二(2-乙基己基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP)	符合

通标标准技术服务(上海)有限公司
授权签名

胡敏

Dora Hu 胡敏
批准签署人

scan to see the report



08ECB3EF



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

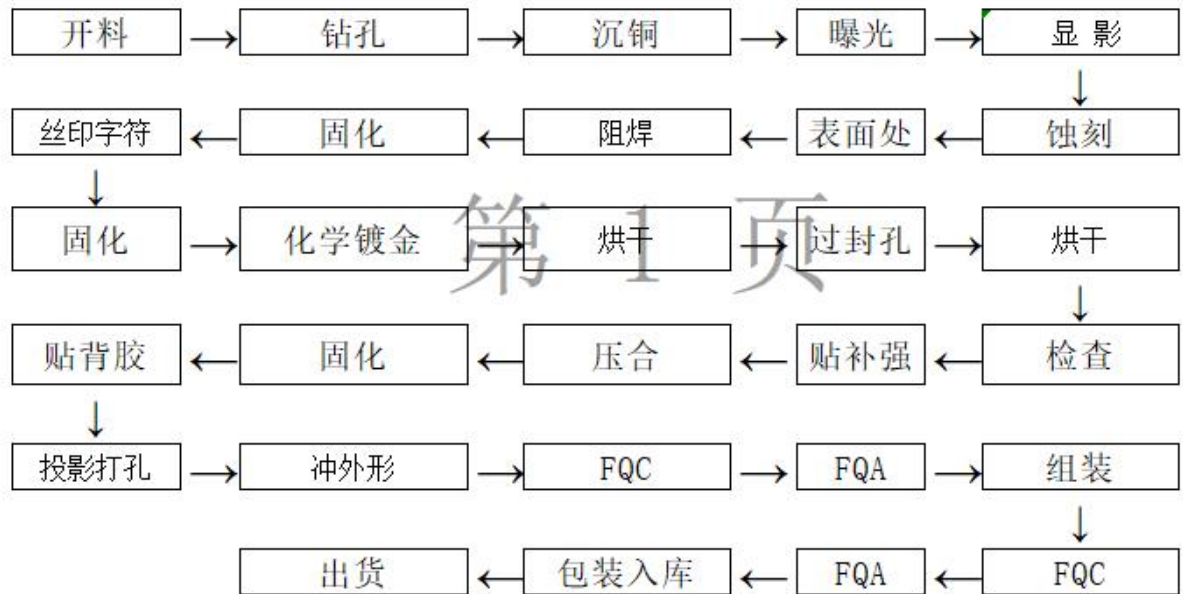
Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755) 8367 1443, or email: CN.Doccheck@sgs.com

3rd Building No.899 Yishan Road Xuhui District, Shanghai China 200233 1E&E (86-21) 61402553 1E&E (86-21) 64853678 www.sgs.com.cn
中国·上海·徐汇区宜山路899号3号楼 邮编: 200233 1HL (86-21) 61402584 1HL (86-21) 61158889 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



16. Process flowchart





17.Warning Sign

1. The section on performance and structure validation

★Please confirm the appearance and performance of the product before you sign the acknowledgement.

★Please be sure to provide the final mass production trial production machine to our company or take back our company verification before mass production

★As the product of this acknowledgement is a highly sensitive object, please be sure to keep the testing machine for follow-up

★As this product is a custom-made object, the use of the targeted, customers in material replacement or for non-designated items, please be sure to change the material or non-designated items of the machine sent to our company to verify the radio-frequency performance, otherwise, may cause the use state and the design state inconsistent serious hidden danger, to our company sealed debugging sample function confirmation, ensure our company debugging sample function completely normal, prevent function abnormal to the antenna performance error caused by the antenna performance

2. About product storage

★As this product has printing ink on the surface, adhesive on the back and electroplate, please make sure the temperature is between 23 ° c-27 ° C and the relative humidity is below 60% during storage or transportation, no strong acid, no sulfur, no oxygen storage or transport environment

★As the product back glue on the environment requirements are more stringent, please customers must be received after the product, in the product quality guarantee period to ensure the reliability of the product

3. Tips for using the product

★Due to the special structure of this product, please use this product must be in full contact with the pasted objects, and pasted objects must not be residual chemicals (release agent, etc.) or as far as possible do not use the raw materials with release agent, to ensure that the product is in good working condition, please clean the surface of the pasted article before using the product to ensure that there is no chemical residue on the surface of the pasted article

4. Statement of Quality Assurance for this product

★This product quality guarantee period is 12 months, if your use and storage environment to meet the above requirements, in the valid guarantee period of any quality problems, and determined that our products are abnormal, our company can provide free replacement services, after 12 months, our products provide life-long consultation and paid replacement services

★This product is a special custom device, please receive the product must within 3 working days of the product quantity confirmation