



# Product specification acknowledgment.

**Shenzhen Maya antenna lab**

**R&D center in ShenZhen**

**The mobilecommunication terminal antenna**

**PRODUCT NAME:** \_\_\_\_\_EL01J11\_\_\_\_\_

**CUSTOMER NAME:** \_\_\_\_\_**aoni**\_\_\_\_\_

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

**Shenzhen Maya communication equipment Co., LTD**

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## 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

## 4. electrical

### 4.1 Test method description and data.

Device name	use
Vector Network Analyzer	S11/Impedance/ Passive Test
Agilent 8960 SP6010	<b>GSM, GPRS, EDGE, CDMA2000, 1xev-do, td-scdma, WCDMA, HSDPA mobile phone mobile communication equipment test.</b>



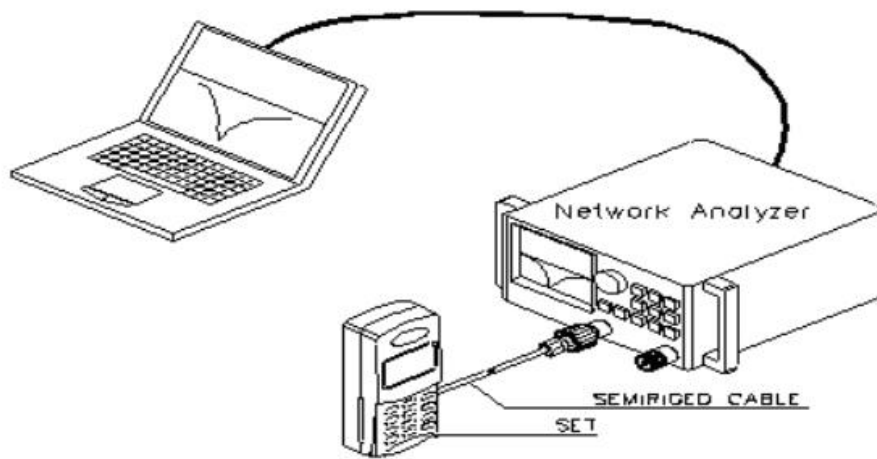
Model:K78

R&S CMU200	
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

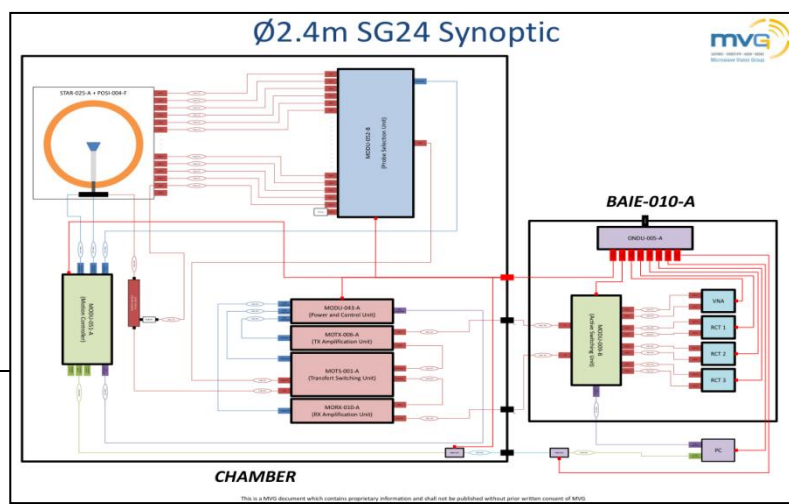
From testing tools, measuring, network analyzer, full waves far field ETS, French MVG SG24LT (Satmio) near field 3 d microwave dark room, the high precision positioning system and its controller and the computer with automatic test procedure test environment: the temperature of  $22\text{ }^{\circ}\text{C} + 3\text{ }^{\circ}\text{C}$ , humidity 60% plus or minus 60% test methods: Using EST or 24 lt 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

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

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:

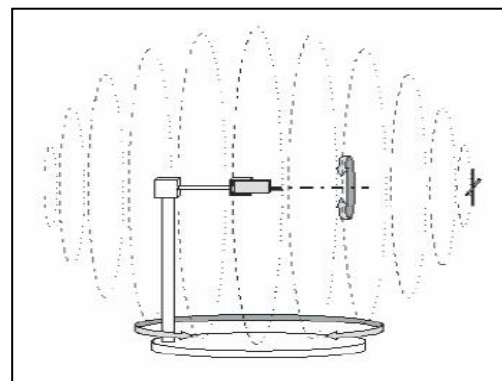
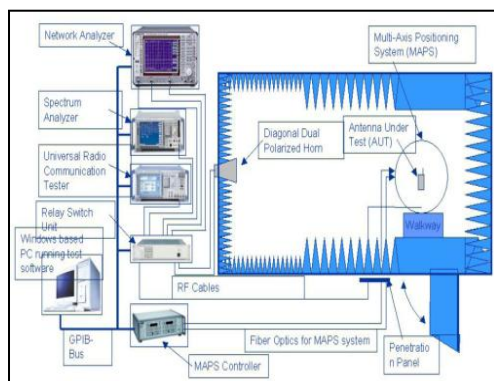
$$TIS \cong \frac{\pi}{\pi \sum_{i=1}^N}$$

日期: 2019.6.20





## 4.4 Passive data





## 无源效率、增益

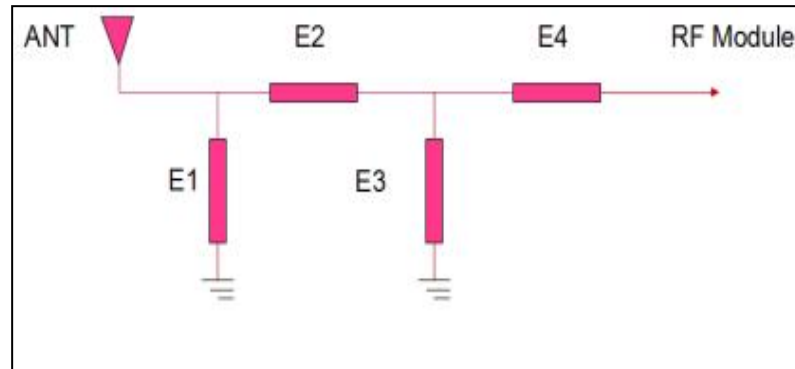
Frequency	Efficiency	Gain . dB
2400000000	55.87%	3.15
2410000000	54.96%	3.12
2420000000	54.52%	3.26
2430000000	55.87%	3.18
2440000000	55.65%	3.20
2450000000	55.14%	3.24
2460000000	56.84%	3.55
2470000000	57.41%	3.57
2480000000	55.85%	3.25
2490000000	54.81%	3.18
2500000000	55.62%	3.12

## 4.5 Active OTA TRP/TIS data

标准	BAND	B		
自由空间	CHANNAL	L	M	H
	TRP	15.05	15.18	15.11
	TIS			-81.43
	备注：3D数据			



## 5. 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.

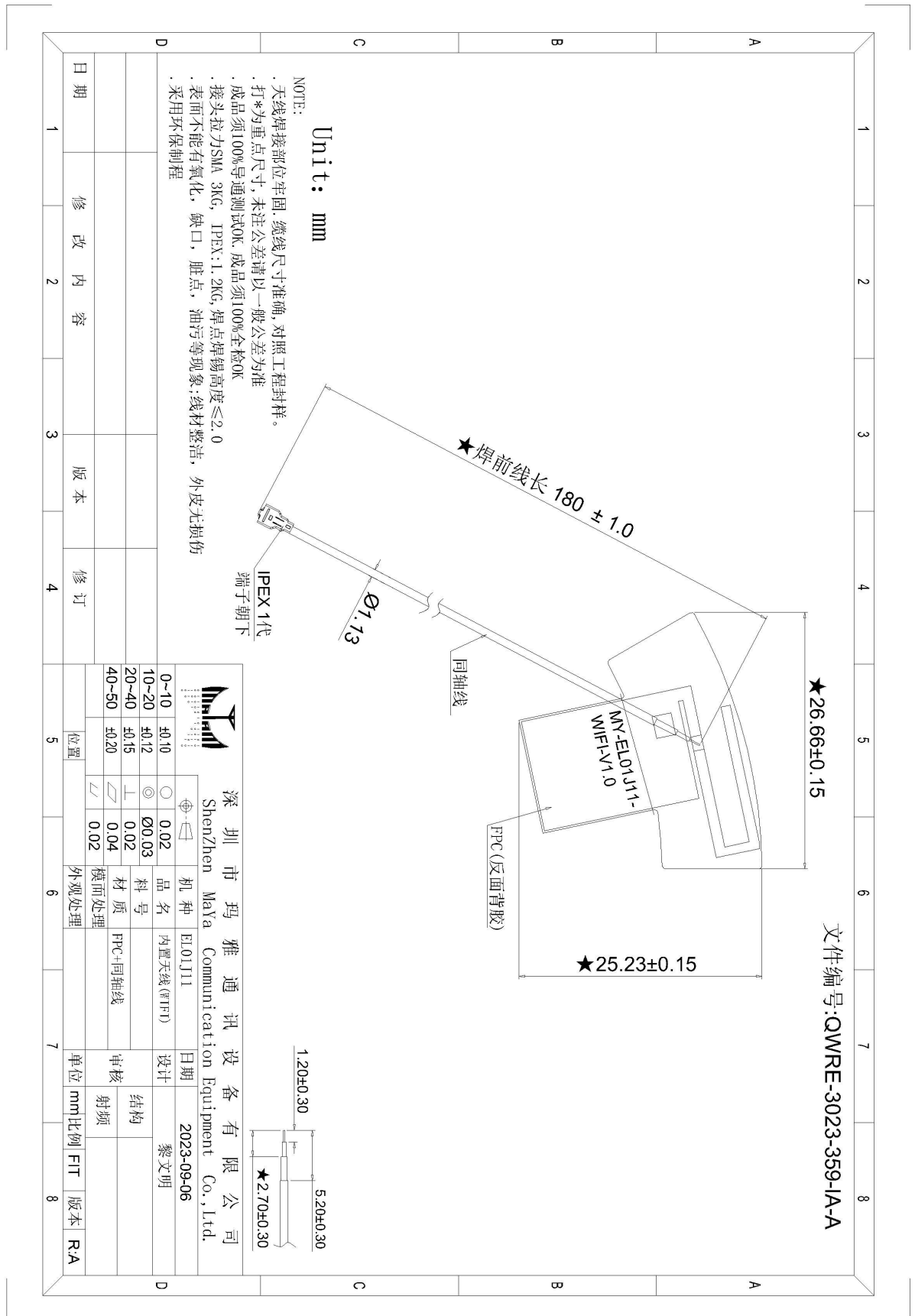
## 6.Environmental treatment



1.天线装配位置。



## 7. structural drawings






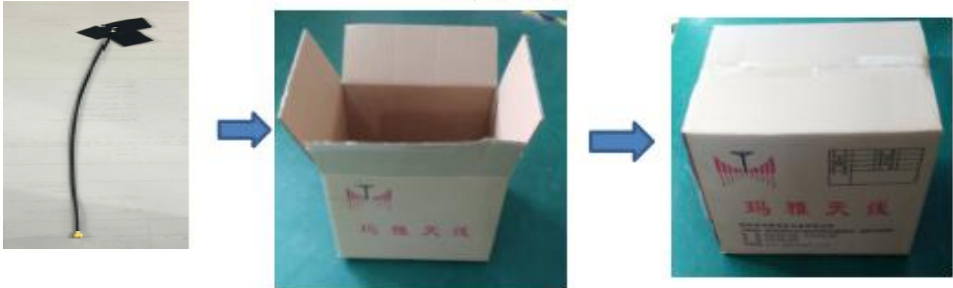


## 8. Quality Control Flow Chart

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] --&gt; B[确认抽样数]     B --&gt; C{包装外观检查}     C -- 合格 --&gt; D[抽样]     C -- 不合格 --&gt; E[ROHS检查]     D --&gt; F[内包装检查]     F --&gt; G[外观及丝印检查]     G --&gt; H[尺寸/性能检]     H --&gt; I[实装检验]     I --&gt; J{结果判定}     E --&gt; J     J -- 合格 --&gt; K[盖IQC PASS章]     J -- 不合格 --&gt; L{各部门会签}     L -- 不合格 --&gt; E     L -- 可让步接收 --&gt; M[贴特采标签]     L -- 可让步接收 --&gt; N[贴不良品标签]     K --&gt; O[仓库入库]     M --&gt; O     N --&gt; P[回复不合格品处理单]     P --&gt; Q{效果确认}     Q -- 合格 --&gt; R[结束]     Q -- 不合格 --&gt; 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	



## 9. 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	零件名称	FPC天线	项目名	ELD1J11
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里装产品，外用纸箱包装。					
包装示意图					
					
审核：黎文明		制表：罗鹏辉			

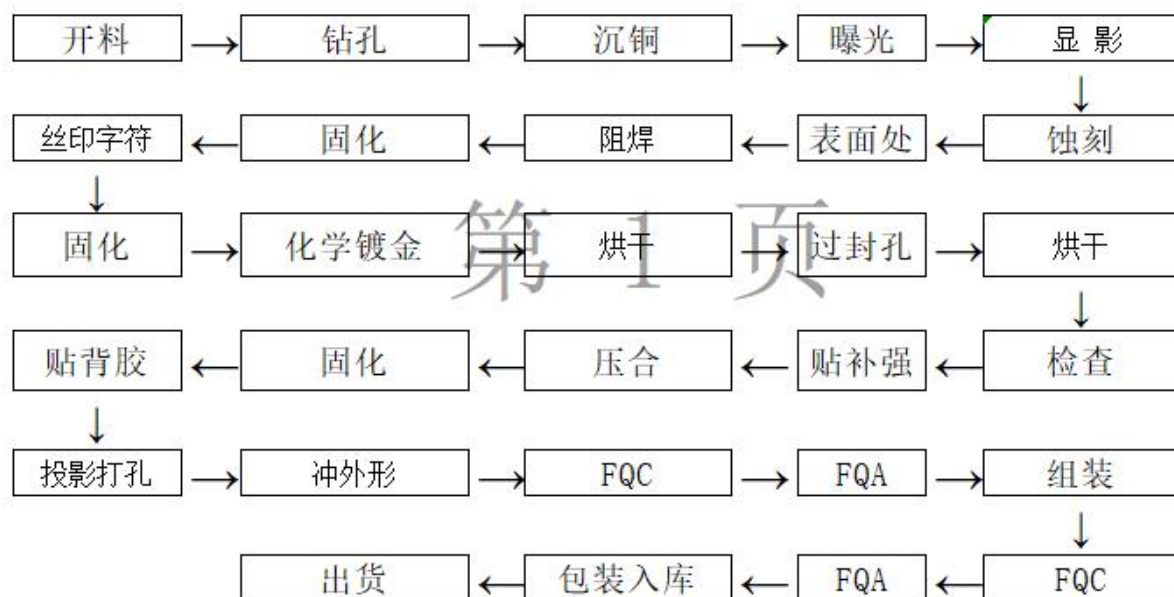


**10. Certification testing status** (Instructions for filling out: If relevant testing certification has been conducted, please check the box in parentheses and indicate the corresponding certification or report number)

- ( ) **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**



## 11. Process flowchart





## 12.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