



Product specification acknowledgment.

Shenzhen Maya antenna lab

R&D center in ShenZhen

The mobilecommunication terminal antenna

PRODUCT NAME: DK108

CUSTOMER NAME: DUOKE

account party	Development party		
Customer acknowledges	Quality Department	R&D Department	approved by
		ME: RF:	
DATE :	DATE: November 27, 2025		

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
2G	2G:900/1800/850/1900
3G	3G:W1/2/4/5/8/BC0/BC1/BC10
4G	4G:B1/2/3/4/5/7/8/12/13/17/18/19/20/26/28/38/40/41
三合一	GPS/WIFI/BT

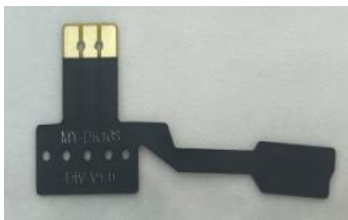
3.Product cell phone and sky chart.



Machine figure



The antenna





4. electrical

4.1 Test method description and data.

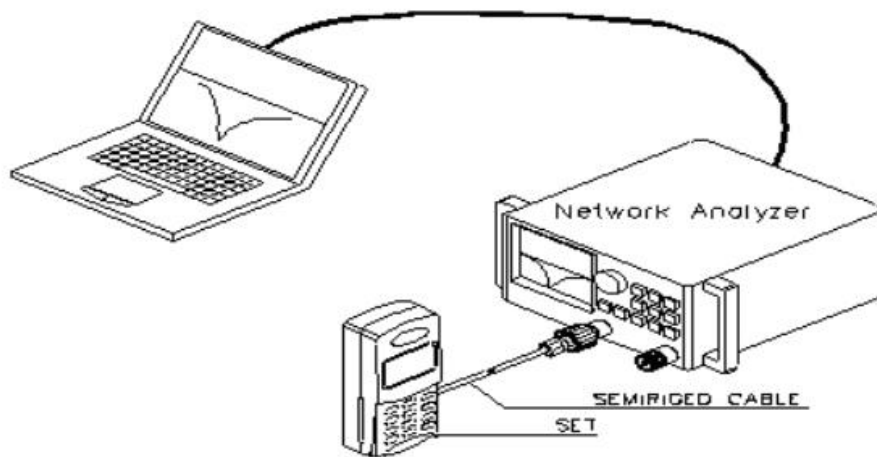
Device name	use
Vector Network Analyzer	S11/Impedance/ Passive Test
Agilent 8960 SP6010 R&S CMU200	GSM, GPRS, EDGE, CDMA2000, 1xev-do, td-scdma, WCDMA, HSDPA mobile phone mobile communication equipment test.
R&S CMW500 MT8820C	Including td-scdma, WCDMA, HSDPA, LTE, WIFI, GPS mobile phone mobile communication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

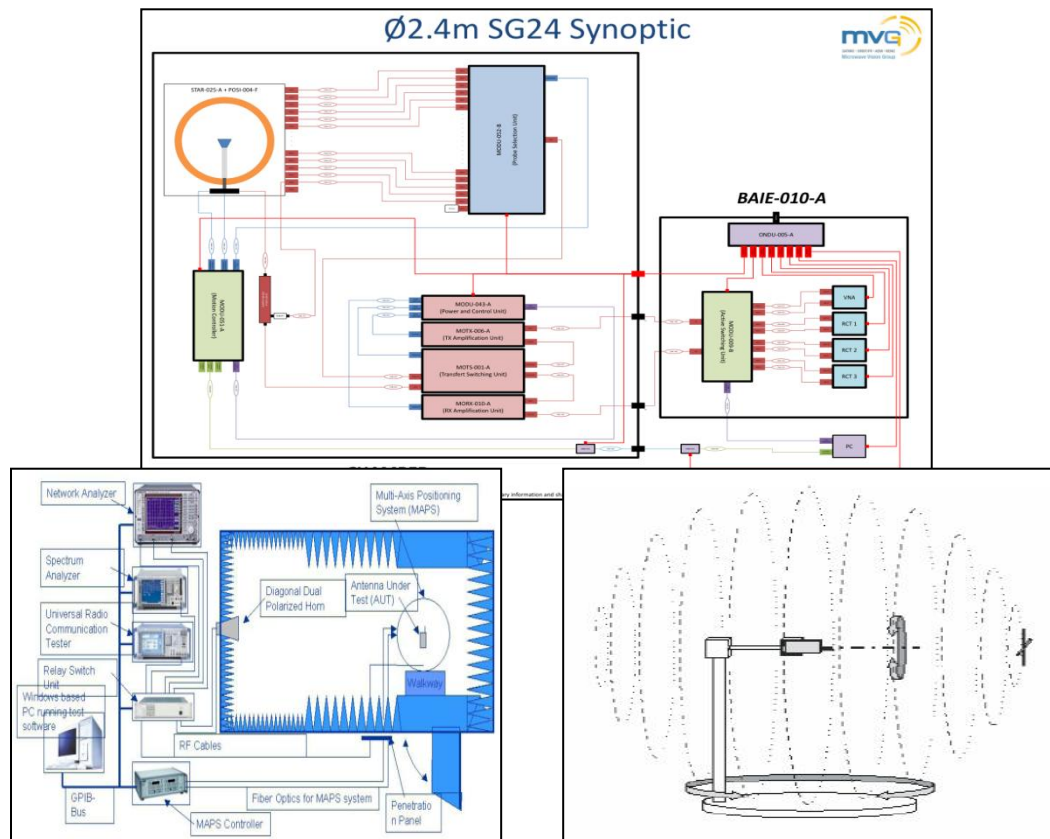
From testing tools, measuring, network analyzer, full waves far field ETS, French MVG SG24LT (Satmio) near field 3 d microwave dark room, the high precision positioning system and its controller and the computer with automatic test procedure test environment: the temperature of $22^{\circ}\text{C} +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



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

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 Active OTA TRP/TIS data

Band	CH	TRP	TIS	Band	CH	TRP	TIS
G900	L	24.64	-100.08	G1800	L	23.72	-102.39
	M	25.4			M	23.34	
	H	25.84			H	23.67	
G850	L	24.07	-100.26	G1900	L	24.27	-102.44
	M	24.80			M	24.35	
	H	25.09			H	23.70	
BC0	L	15.00	-102.45	BC1	L	17.02	-102.84
	M	15.22			M	17.11	
	H	15.66			H	16.88	
BC10	L	15.13	-102.33				
	M	15.38					
	H	15.48					

Band	CH	TRP	TIS	Band	CH	TRP	TIS
WCDMA-B1	L	17.6	-102.91	WCDMA-B5	L	14.46	-103.04
	M	17.02			M	15.03	
	H	17.04			H	15.81	
WCDMA-B2	L	17.05	-101.33	WCDMA-B8	L	14.58	-102.92
	M	17.04			M	15.57	
	H	17.01			H	16.05	
WCDMA-B4	L	16.39	-104.06				
	M	16.44					
	H	16.09					

Band	CH	TRP	TIS	Band	CH	TRP	TIS
LTE B1 10M	L	17.01	-90.98	LTE B5 10M	L	14.72	-90.26
	M	17.29			M	15.96	
	H	16.76			H	16.22	
LTE B2 10M	L	17.28	-91.16	LTE B7 10M	L	18.36	-94.31
	M	17.09			M	18.11	
	H	17.27			H	17.68	
LTE B3 10M	L	16.81	-92.17	LTE B8 10M	L	14.26	-90.83
	M	17.09			M	14.65	
	H	17.17			H	15.22	
LTE B4 10M	L	16.81	-91.8	LTE B12 10M	L	14.08	-92.3
	M	17.08			M	14.7	
	H	17.28			H	15.16	



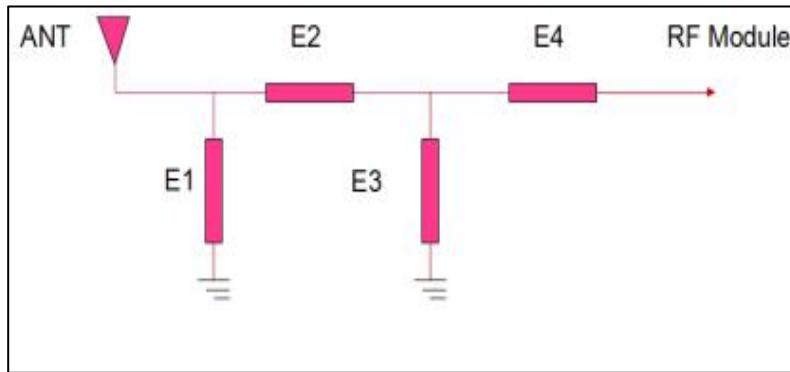
Model:ER02201

Band	CH	TRP	TIS	Band	CH	TRP	TIS
LTE B13 10M	L		-89.04	LTE B20 10M	L	15.37	-89.26
	M	14.66			M	15.69	
	H				H	15.98	
LTE B17 10M	L	15.02	-92.29	LTE B26 10M	L	14.21	-90.47
	M	15.21			M	15.1	
	H	15.52			H	16	
LTE B18 10M	L	14.41	-90.98	LTE B28 10M	L	15.04	-88.09
	M	14.85			M	15.61	
	H	15.05			H	15.37	
LTE B19 10M	L	15.06	-90.48	LTE B66 10M	L	16.84	-90.16
	M	15.69			M	16.47	
	H	15.59			H	16.57	
				LTE B38 20M	L	17.85	-92.03
					M	18.02	
					H	18.11	

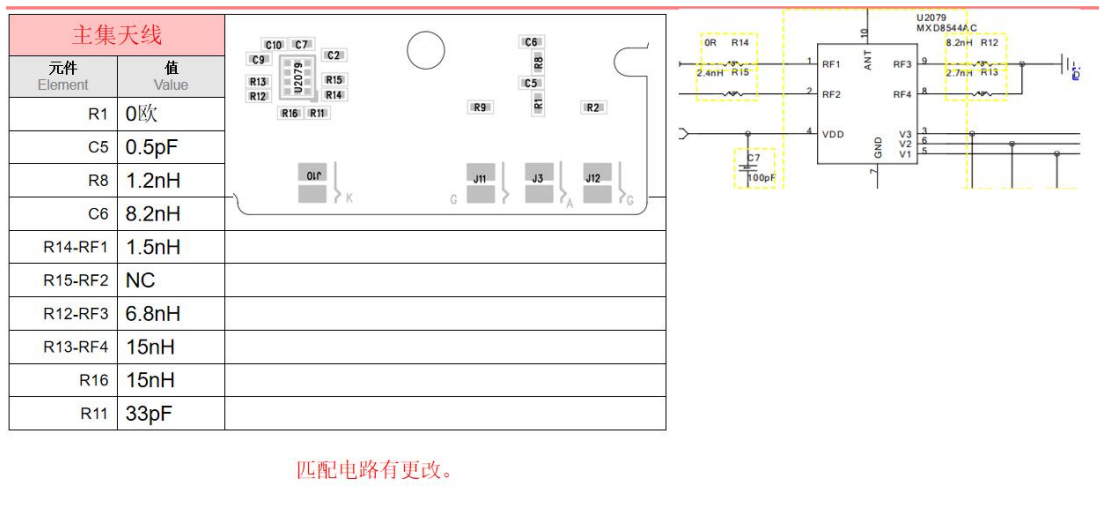
Band	CH	TRP	TIS	Band	CH	TRP	TIS
LTE B40 20M	L	17.72	-90.94	LTE B41 20M	L	17.81	-91
	M	17.33			M	18.12	
	H	17.57			H	18.39	
WIFI-B	1	12.33	-82.25	WIFI-G	1	10.43	-70.25
	7	13.01			7	11.55	
	13	13.68			13	12.02	
WIFI-N	1	10.46	-65.07	WIFI-A	49	10.74	-69.73
	7	11.63			149	11.3	
	13	12.37			165	11.37	
WIFI-AC	49	9.55	-64.04	GPS		41.06	
	149	10.06				-156.12	
	165	10.01					



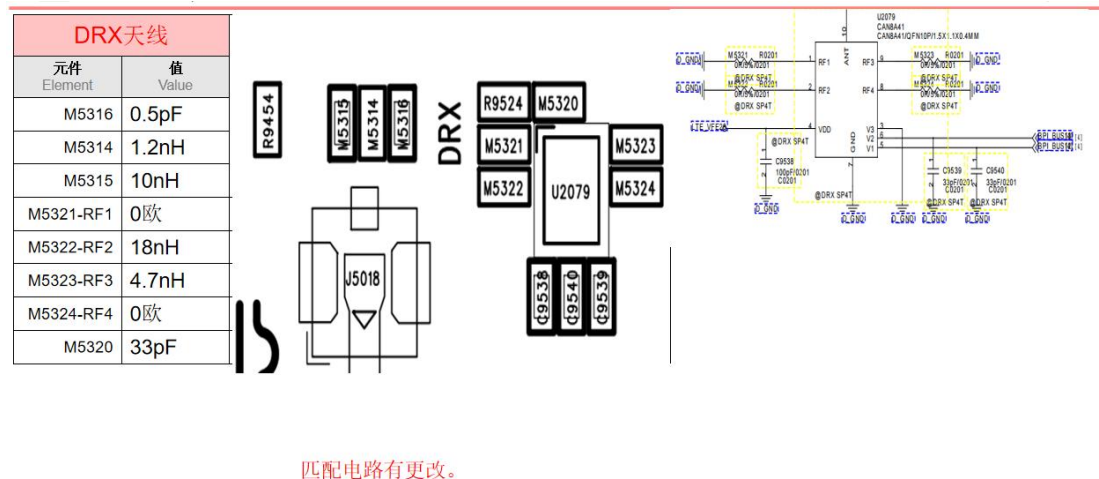
5. Matching circuit description



Note: Our company has not adjusted the antenna matching.



匹配电路有更改。



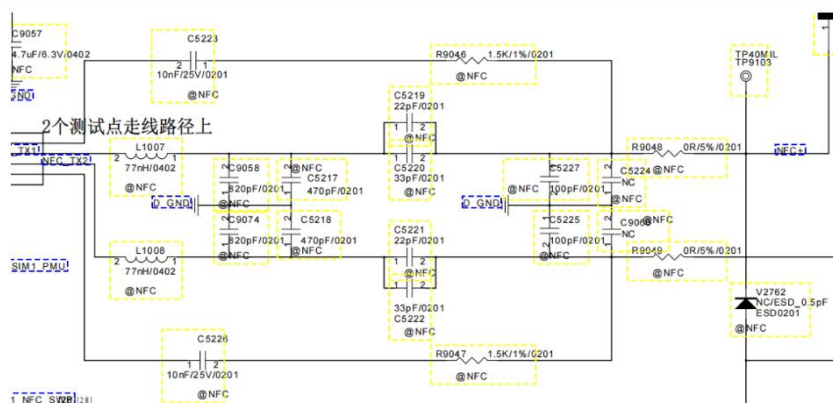
匹配电路有更改。



Model:ER02201

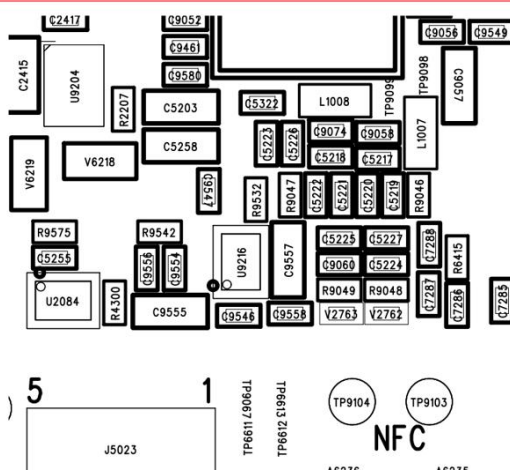
此弹片取消，0欧取消。

NFC原理图



Matching Circuit

元件 Element	值 Value	值 Value
0201	更改前	更改后
C5219	22pF	100pF
C5221	22pF	100pF
C5227	100pF	56pF
C5225	100pF	56pF
C9060	NC	39pF
C5224	NC	39pF

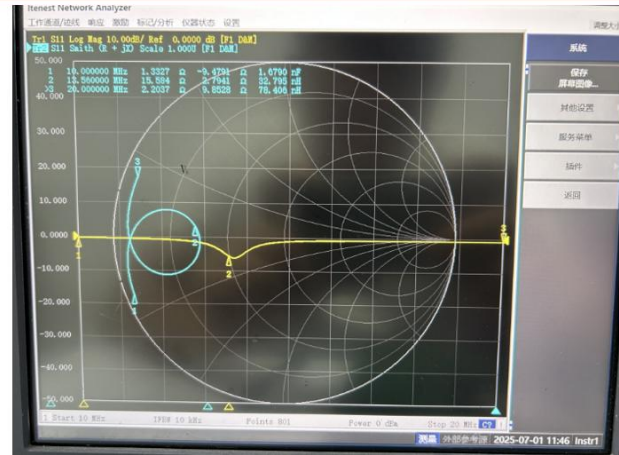




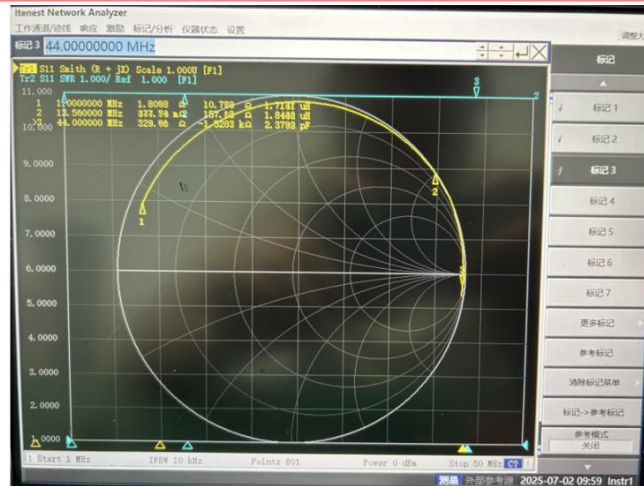
Model:ER02201



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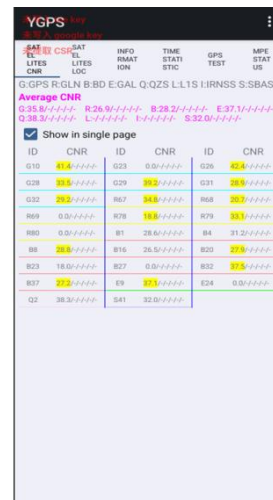


天线本体





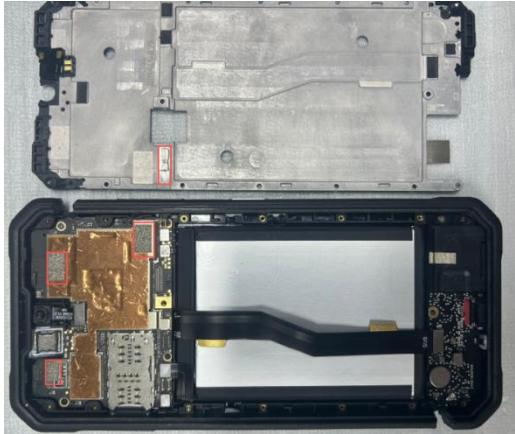
6. NFC/GPS Actual Measurement Data

[illegible]

GPS Actual Measurement Data

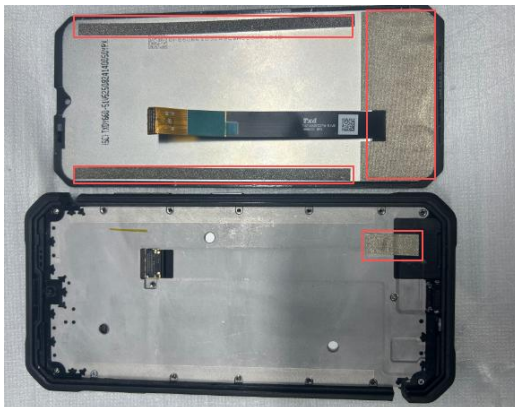


7.Environmental treatment



(1) As shown in the figure: Stick 3 conductive sponges on the mainboard shield cover for grounding with the middle frame.

(2) As shown in the figure: Stick a conductive sponge on the middle frame for grounding with the buttons.



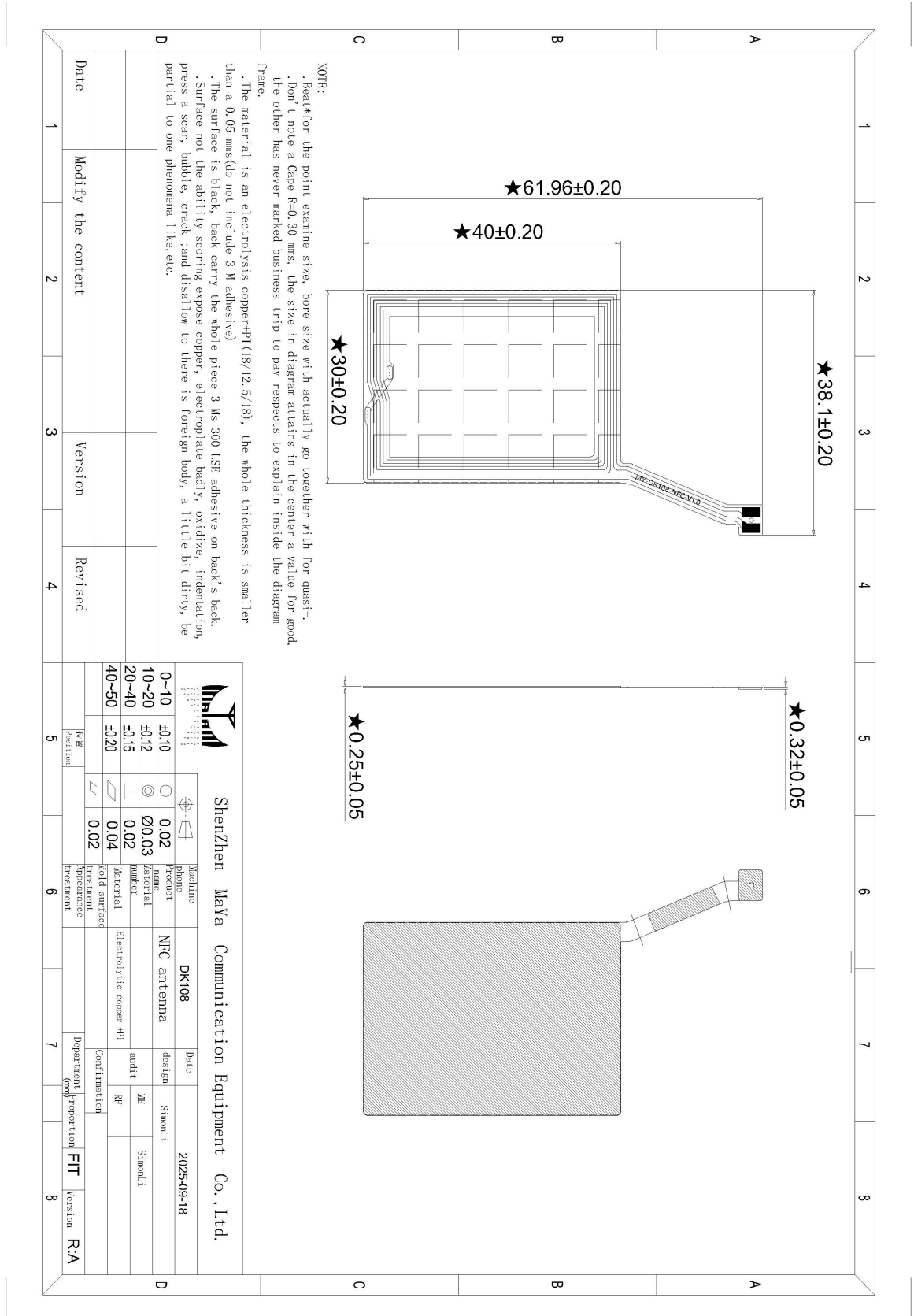
(3) As shown in the figure: Stick conductive sponges on both sides of the screen for grounding with the middle frame.

(4) As shown in the figure: Stick conductive fabric on the screen FPC cable for shielding and grounding.

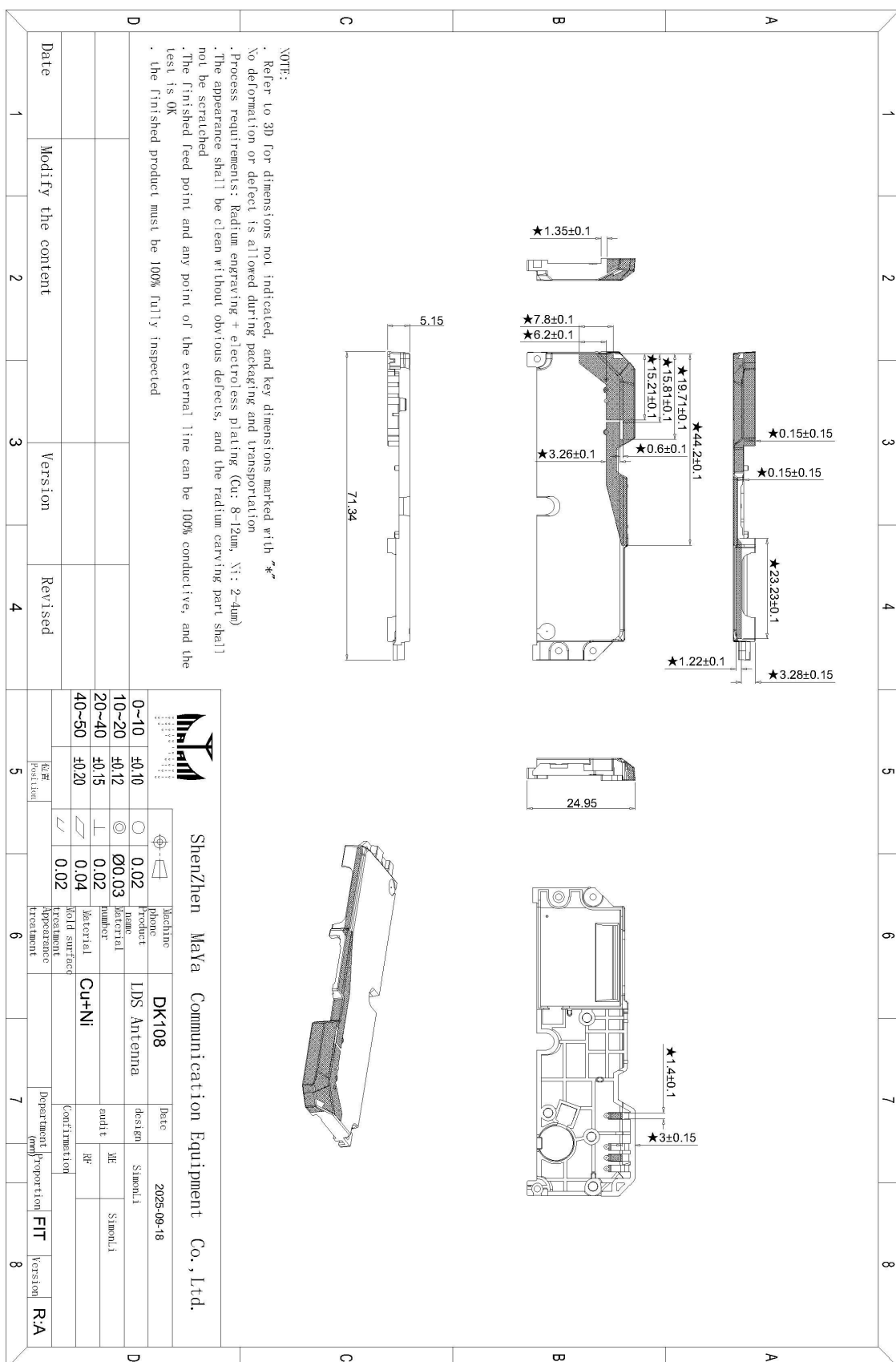
(5) As shown in the figure: Stick conductive fabric on the speaker for grounding between the middle frame and the speaker body.



8.structural drawings



Model:ER02201

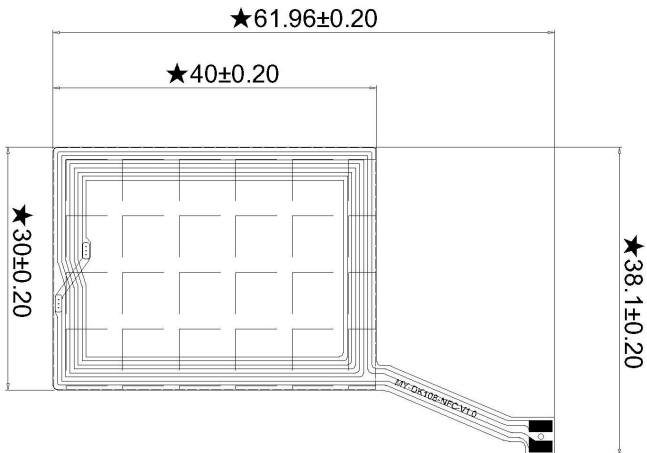


1	2	3	4	5	6	7	8
A B C D							
NOTE: . Req.*for the point examine size, bore size with actually go together with for quasi-. . Don't note a Cape R=0.30 mm, the size in diagram attains in the center a value for good, the other has never marked business trip to pay respects to explain inside the diagram frame. . The material is an electrolysis copper+PI (18/12.5), the whole thickness is smaller than a 0.05 mm(do not include 3 M adhesive) . The surface is black, back carry the whole piece 3 Ms 300 LSF adhesive on back's back. . Surface not the ability scoring expose copper, electroplate badly, oxidize, indentation, press a scar, bubble, crack ;and disallow to there is foreign body, a little bit dirty, be partial to one phenomena like etc.							
★16.84±0.15 ★41.03±0.15 ★17.82±0.15 MY-DK108 -LTE-V1.0							
Shenzhen Maya Communication Equipment Co., Ltd. Machine DK108 Date 2025-09-18 Product name LTE antenna design Simonli Material Electrolytic copper+PI audit JIE Simonli number 0.02 RF hold surface 0.04 confirmation treatment 0.02 approval Appearance Department proportion FIT Version R:A							
1 2 3 4 5 6 7 8 Date Modify the content Version Revised							

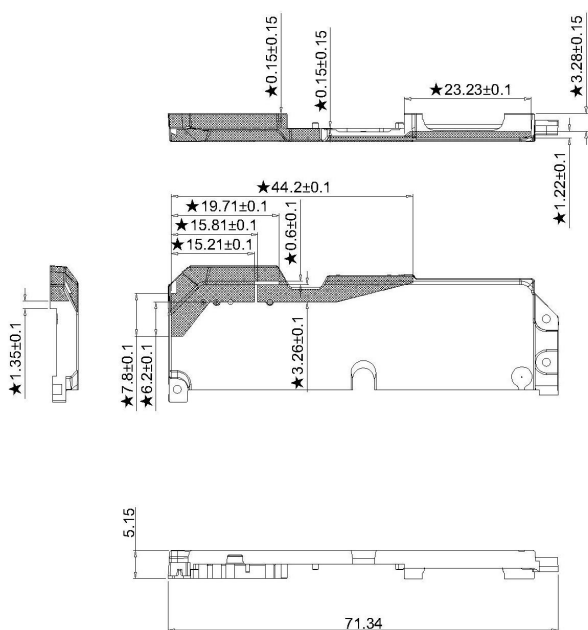
	1	2	3	4	5	6	7	8
A								
B	★15.99±0.15 MY-DK108-GWB-V1-0 ★27.23±0.15							
C	NOTE: .Beatsfor the point examine size, bore size with actually go together with for quasi-. .Don't note a Cape R=0.30 mms, the size in diagram attains in the center a value for good, the other has never marked business trip to pay respects to explain inside the diagram Frame. .The material is an electrolysis copper+PI(18/12.5), the whole thickness is smaller than a 0.05 mms(do not include 3 M adhesive) .The surface is black, back carry the whole piece 3 Ms 300 ISF adhesive on back's back. .Surface not the ability scoring expose copper, electroplate badly, oxidize, indentation, press a scar, bubble, crack ;and disallow to there is foreign body, a little bit dirty, be partial to one phenomena like,etc.							
D	Date	Modify the content	Version	Revised	1 2 3 4 5 6 7 8 位置 Position 数量 Quantity 公差 Tolerance 材料 Material 表面处理 Surface treatment 外观要求 Appearance requirement 检验方法 Inspection method 备注 Remarks Shenzhen Maya Communication Equipment Co., Ltd. DK108 GWB antenna Design Symbols 2025-09-18 audit IEC Symbols Electrolytic copper +PI Confirmation FIT version R/A			



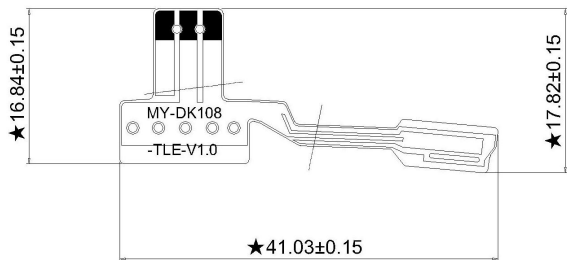
9. Dimensional Inspection Report

material quality	FPC antenna			图 示： 					
project name	DK 108								
The number of samples	5 PCS								
The sample date	2025. 11. 27								
I. Appearance inspection:									
Visually inspect the items		casual inspection	result						
1.Dirty surface		5PCS	OK						
2.Gel			OK						
3.Waste			OK						
4.Rip			OK						
5.Gold surface oxidation			OK						
6.Ink (black)			OK						
二、Reliability test (randomly selected 5PCS):									
test project		standard		1	2	3	4	5	result
1.Adhesion test		The ink does not fall off		not have	not have	not have	not have	not have	OK
2.Salt spray test conditions		The gold surface is corrosion resistant		not have	not have	not have	not have	not have	OK
3.Wear resistance test		Do not leak the substrate							OK
4.Screen-printed content		MY-DK108-NFC-V1.0							OK
三、Dimension measurement (randomly selected 5 PCS):									
position	standard(m m)	common differenc e+(mm)	common differen ce-(mm)	1	2	3	4	5	detect ion result
1	11.7	0.15	0.15	11.71	11.72	11.70	11.73	11.69	OK
2	33.8	0.15	0.15	33.80	33.83	33.82	33.81	33.80	OK
3	30	1.0	1.0	30.10	30.00	30.00	30.10	30.00	OK

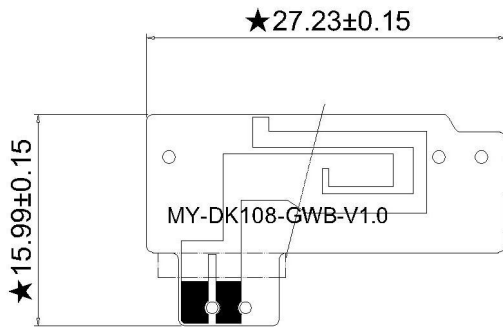


material quality	LDS antenna			图 示： 					
project name	DK 108								
The number of samples	5 PCS								
The sample date	2025. 11. 27								
I. Appearance inspection:									
Visually inspect the items	casual inspection	result							
1.Dirty surface	5PCS	OK							
2. Gel		OK							
3. Waste		OK							
4. Rip		OK							
5. Gold surface oxidation		OK							
6. Ink (black)		OK							
二、Reliability test (randomly selected 5PCS) :									
test project	standard			1	2	3	4	5	result
1.Adhesion test	The ink does not fall off			not have	not have	not have	not have	not have	OK
2.Salt spray test conditions	The gold surface is corrosion resistant			not have	not have	not have	not have	not have	OK
3.Wear resistance test	Do not leak the substrate								OK
4.Screen-printed content				/					OK
三、Dimension measurement (randomly selected 5 PCS) :									
position	standard(m m)	common differenc e+ (mm)	common differen ce- (mm)	1	2	3	4	5	detect ion result
1	44.20	0.10	0.10	44.22	44.20	44.21	44.20	44.22	OK
2	0.60	0.10	0.10	0.61	0.62	0.61	0.59	0.58	OK
3	3.26	0.10	0.10	3.26	3.22	3.25	3.24	3.26	OK



material quality	FPC antenna			图 示： 					
project name	DK 108								
The number of samples	5 PCS								
The sample date	2025. 11. 27								
I. Appearance inspection:									
Visually inspect the items	casual inspection		result						
1. Dirty surface	5PCS		OK						
2. Gel			OK						
3. Waste			OK						
4. Rip			OK						
5. Gold surface oxidation			OK						
6. Ink (black)			OK						
二、Reliability test (randomly selected 5PCS):									
test project	standard		1	2	3	4	5	result	
1. Adhesion test	The ink does not fall off		not have	not have	not have	not have	not have	OK	
2. Salt spray test conditions	The gold surface is corrosion resistant		not have	not have	not have	not have	not have	OK	
3. Wear resistance test	Do not leak the substrate							OK	
4. Screen-printed content	MY-DK108-TLE-V1.0							OK	
三、Dimension measurement (randomly selected 5 PCS):									
position	standard(m m)	common differenc e+(mm)	common differen ce-(mm)	1	2	3	4	5	detect ion result
1	16.84	0.15	0.15	16.85	16.83	16.85	16.84	16.82	OK
2	17.82	0.15	0.15	17.83	17.81	17.83	17.82	17.82	OK
3	41.03	0.15	0.15	41.06	41.01	41.03	41.02	41.03	OK



material quality	FPC antenna			图 示： 					
project name	DK 108								
The number of samples	5 PCS								
The sample date	2025. 11. 27								
I. Appearance inspection:									
Visually inspect the items	casual inspection	result							
1. Dirty surface	5PCS	OK							
2. Gel		OK							
3. Waste		OK							
4. Rip		OK							
5. Gold surface oxidation		OK							
6. Ink (black)		OK							
二、Reliability test (randomly selected 5PCS) :									
test project	standard	1	2	3	4	5	result		
1. Adhesion test	The ink does not fall off	not have	not have	not have	not have	not have	OK		
2. Salt spray test conditions	The gold surface is corrosion resistant	not have	not have	not have	not have	not have	OK		
3. Wear resistance test	Do not leak the substrate						OK		
4. Screen-printed content	MY-DK108-GWB-V1. 0						OK		
三、Dimension measurement (randomly selected 5 PCS) :									
position	standard(m m)	common differenc e+(mm)	common differen ce-(mm)	1	2	3	4	5	detect ion result
1	15.99	0.15	0.15	15.98	15.98	15.99	16.00	15.99	OK
2	27.23	0.15	0.15	27.23	27.25	27.23	27.25	27.22	OK
3									



10.Certification test status

(fill in the instructions: if there are relevant test certification, please mark in brackets and indicate the corresponding identification Certificate or report number)

- ☐ UL certification or report number:
- ☐ VDE Certification or Report number:
- ☐ CE Certification or Report number:
- ☐ FCC Certification or Report number:
- ☒ R O HS Certification or Report Number: [No .NGBML 2105022606](#)
- ☒ REACH Certification or report number: [No. NGBML 2105023708](#)
- ☐ EMC Certification or Report Number:
- ☐ CCC Certification or Report Number:
- ☐ SRRC Certification or Report number:
- ☐ Other certification or report number:
- ☐ No product certification



11.BOM



深圳市玛雅通讯设备有限公司
ShenZhen MaYa Communication Equipment Co.,Ltd.

BOM表

Item	SpecificationMaterialCraft	Unit	Quantity
FPC Antenna(NFC)	HHD01-62*38*0.25mm, Black, Silk Screen: MY-DK08-NFC-V10	PCS	1
FPC Antenna(DIV)	FKR01-27*16*0.10mm, Black, Silk Screen: MY-DK108-DNV-V10	PCS	1
FPC Antenna(GWB)	FKR01-41*16*0.10mm, Black, Silk Screen:MY-DK108-GWB-V10	PCS	1
Small LDS Antenna	ZRD03-71*25*5mm, Cu8-12umNt2-4um	PCS	1
Small Board Bracket	KGD01-71*25*5mm, LDS, Black	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 -- 可让步接收 --> M[贴特采标签] L -- 不合格 --> 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.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