



Shenzhen Yuhong Industrial Co., Ltd

# Part specifications

客户名称 Customer name:	Dongguan Hele Electronics Co., Ltd
产品机型 Product Model:	QT27
客户料号 Risuntek P/N:	10.157.000116
版本 Version:	A0
零件名称 Product Name:	FPC antenna
产品描述 Description:	10.74*10.76*0.12mm Long, wide and thick single side adhesive, L/R sharing Supplier: Yuhong
日期 Date:	2023/3/24

(Customer Signatures)

(PM)	(ME)	(QE)

(Inner Signatures)

(QE)	(ME)	(RF)

Address: 1308, Block A, Zhantao Technology Building, intersection of Minzhi Avenue and Gongye West Road, Longhua New District, Shenzhen

telephone: 0755-21031946

<http://www.yuhong-co.com/>

# catalogue

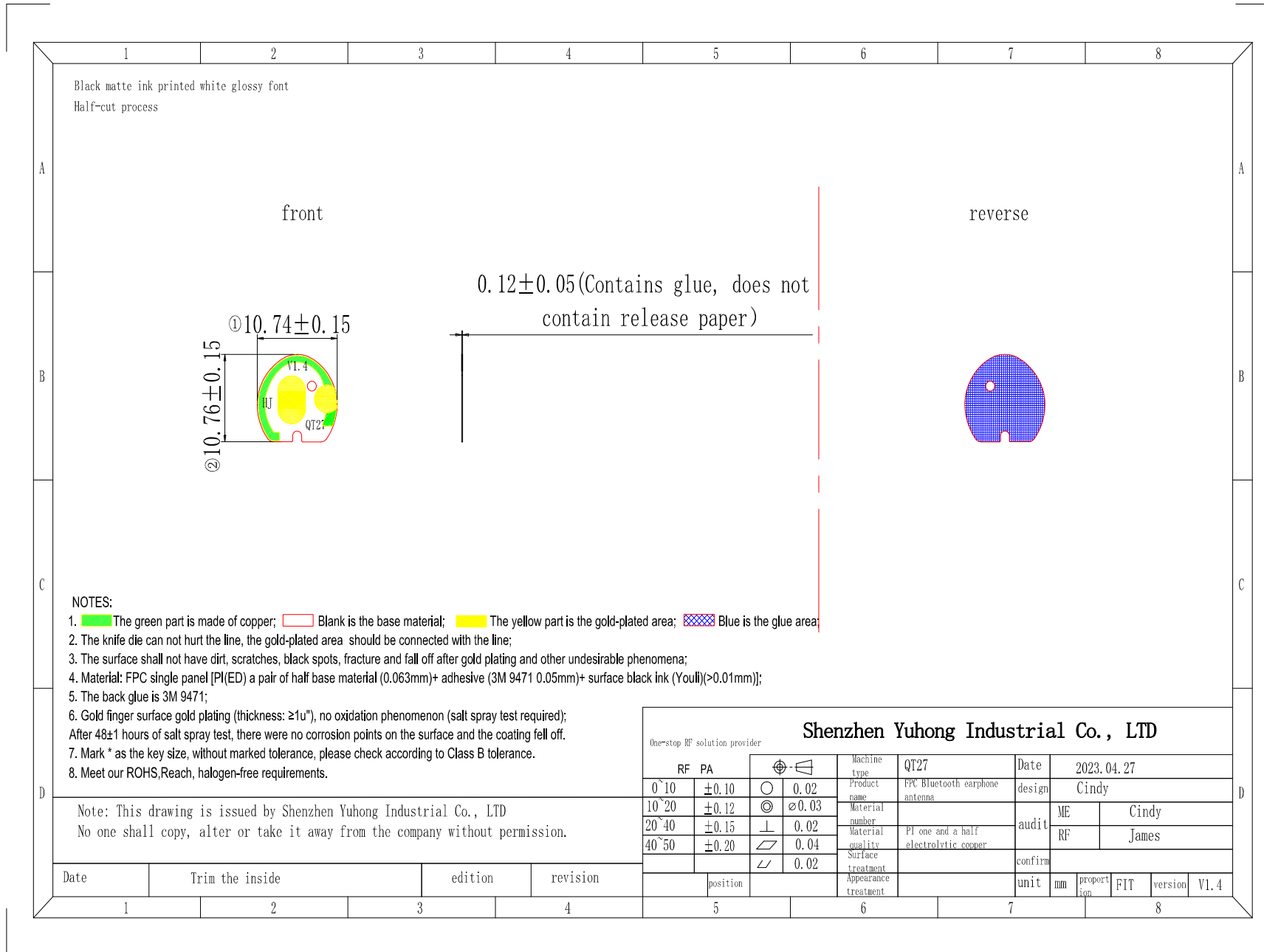
- 一、 Prepare/revise the resume
- 二、 Product drawing
- 三、 Specification of electrical and  
mechanical properties
- 四、 Full scale measurement report
- 五、 CPK report
- 六、 Environmental management material  
component expansion table
- 七、 Reliability test report
- 八、 Packing specification

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## 一、Prepare/revise the resume

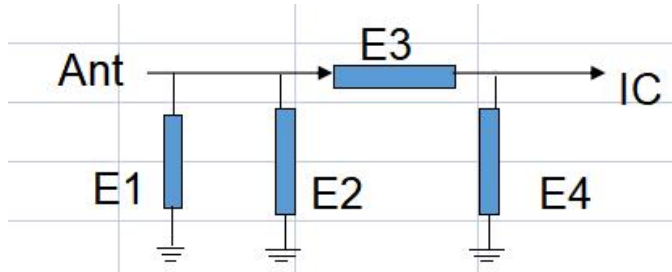
version	Revision page	Change time	Change of person	Reason and content of change	remarks
A0	—	2023/3/24	Cindy	First version of the antenna form	
A1					
A2					
A3					
A4					
A5					
A6					

## 二、Product drawing

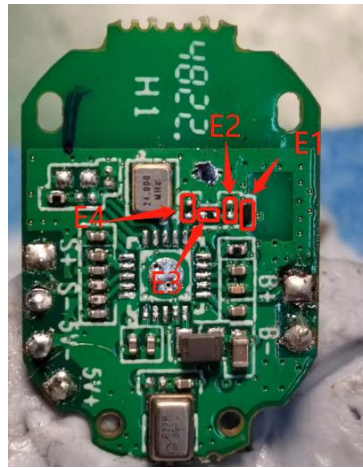


### 三、Specification of electrical and mechanical properties

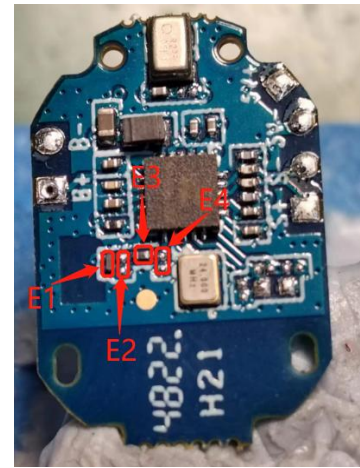
#### 1、Match the circuit diagram



Element	Value
E1	ESD
E2	N/A
E3	0ohm
E4	2PF

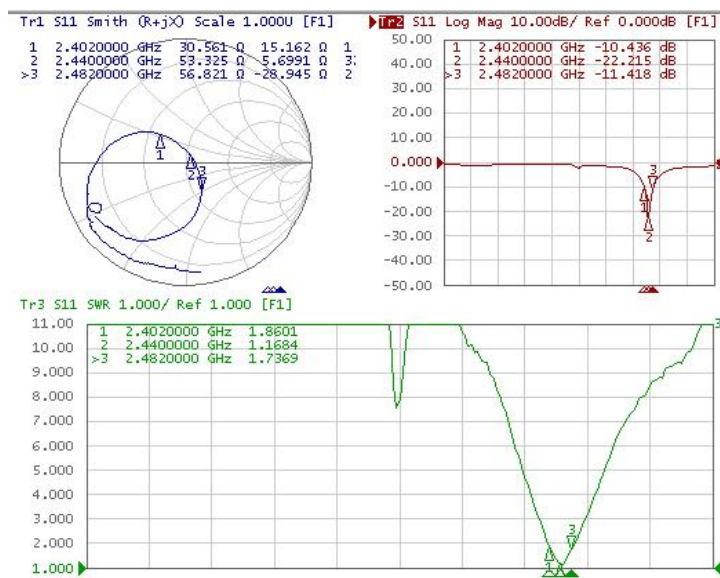


L



R

#### 2、S11 parameter



### 3、Passive efficiency

Freq[MHz]	Gain(dBi)	Efficiency value(dB)	Efficiency
	Free space	Free space	Free space
2400	-3.13	-5.92	25.57
2410	-3	-5.83	26.12
2420	-3.36	-6.12	24.46
2430	-3.26	-5.90	25.7
2440	-2.68	-5.33	29.29
2450	-2.49	-5.15	30.55
2460	-2.12	-4.84	31.84
2470	-2.65	-5.37	29.04
2480	-2.76	-5.48	28.31
2490	-3.34	-6.00	25.12
2500	-3.67	-6.13	24.39

### 4、Active OTA data

L	channel	TRP (dbm)	TRP (dBm)
Free space	0	0.27	-85.72
	39	1.63	-88.22
	78	3.21	-88.83
L	channel	TRP (dbm)	TIS (dbm)
Second generation head die	0	-4.26	-80.8
	39	-3.87	-82.1
	78	-3.77	-81.46

R	channel	TRP (dbm)	TRP (dBm)
Free space	0	-0.18	-83.95
	39	1.18	-86.24
	78	2.89	-88.54
R	channel	TRP (dbm)	TIS (dbm)
Second generation head die	0	-4.96	-79.33
	39	-3.77	-81.41
	78	-2.31	-82.53

## 5、 Measured effect

Test cell phone	Samsung S6
distance	15 meter
Test site	sidewalk
tester	Su Gong

## 四、Full scale measurement report

	coding		10.157.000116		Part name		FPC antenna		Gauge lattice		QT27 FPC antenna		material		FPC (one and a half pairs of electrolytic copper + black ink)	
	supplier		Yuhong		Measuring tool		Two element, micrometer		Unit of measurement		MM		Date of measurement		2023/3/24	
NO.	DIMENSION	Upper limit	+ TOL.	- TOL.	Lower limit	measured 1	measured 2	measured 3	measured 4	measured 5	measured 6	measured 7	UPPER $\leq$ 100%	LOWER $\leq$ 100%		
QT27	10.74	10.89	0.15	0.15	10.59	10.765	10.752	10.738	10.758	10.746	10.756	10.741	17%	1%		
	10.76	10.91	0.15	0.15	10.61	10.755	10.768	10.772	10.765	10.758	10.764	10.776	11%	3%		
	0.12	0.17	0.05	0.05	0.11	0.130	0.110	0.120	0.130	0.120	0.110	0.130	20%	20%		
Tabulation:aston <span style="margin-left: 200px;">Review: Cindy</span> <span style="float: right;">Date:2023/3/24</span>																



# 五、CPK Report

Shenzhen Yuhong Industrial Co., LTD













<b>Project nam</b>	QT27			<b>Customer</b>	Dongguan Hele Electronics Co.,Ltd				
<b>Description</b>	antenna			<b>Inspected</b>	Cindy				
<b>Material</b>	One and a half pairs of electrolytic copper plus black ink			<b>Inches/MM</b>	mm				
<b>Revision</b>	A			<b>Date</b>	2023/03/24				
<b>Dim. Designator</b>	10.74	10.76	0.12						
<b>Upper Limit</b>	10.89	10.91	0.17						
<b>Lower Limit</b>	10.59	10.61	0.07						
1	10.78	10.74	0.12						
2	10.75	10.80	0.11						
3	10.76	10.81	0.11						
4	10.73	10.75	0.11						
5	10.72	10.83	0.14						
6	10.77	10.77	0.14						
7	10.77	10.81	0.11						
8	10.78	10.82	0.13						
9	10.79	10.75	0.12						
10	10.80	10.79	0.13						
11	10.81	10.81	0.12						
12	10.73	10.82	0.13						
13	10.78	10.78	0.14						
14	10.72	10.81	0.14						
15	10.78	10.79	0.11						
16	10.79	10.75	0.11						
17	10.77	10.78	0.12						
18	10.78	10.80	0.12						
19	10.76	10.82	0.11						
20	10.72	10.76	0.11						
21	10.75	10.75	0.13						
22	10.72	10.77	0.13						
23	10.79	10.80	0.13						
24	10.76	10.83	0.13						
25	10.79	10.77	0.12						
26	10.81	10.81	0.11						
27	10.77	10.79	0.13						
28	10.78	10.81	0.14						
29	10.81	10.75	0.12						
30	10.75	10.75	0.12						
31	10.79	10.79	0.13						
32	10.81	10.81	0.12						
MAX.	10.81	10.83	0.14						
MIN.	10.72	10.74	0.11						
AVERAGE	10.77	10.79	0.12						
STDEV	0.03	0.03	0.01						
CP	1.87	1.89	1.85						
Cpk	1.52	1.54	1.74						
TOOLING	caliper	caliper	caliper						

Prepared by : aston Checked by : cindy Approved by : jim

## 六、 Environmental management material parts expansion table

Product Information		Supplier Contact Information	
Part name	FPC antenna	Compony Name	Shenzhen Yuhong Industrial Co., LTD
Risuntek P/N	10.157.000116	Contact Name/Title	aston
Supplier's P/N	QT27	Date:YY/MM/DD	2023/3/24
Manufacturering site	Dongguan	E-mail address	
Total weight (g)		Tel. No.	13714345069

Report type		Confirm the result	remarks
<input checked="" type="checkbox"/>	RoHS 2.0	<input type="checkbox"/>	Metal offers 4 RoHS and 10 others Non-metallic parts are provided with CI&Br Parts in contact with skin According to the latest SVHC listing Such as Be, POPs, PFOS/PFOA, etc Article 17, stamped, valid
<input checked="" type="checkbox"/>	HF	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	CP65	/	
<input checked="" type="checkbox"/>	REACH	/	
<input checked="" type="checkbox"/>	other ( )	/	
<input checked="" type="checkbox"/>	MSDS	<input type="checkbox"/>	

No.	Customer item number	Part name	Homogeneous material	Test Report No.	Test Date (YY/MM/DD)	Test result (ppm)												Test report	MSDS	
						Pb	Cd	Hg	Cr6+	PBB	PBD E	Cl	Br	DEHP	DBP	BBP	DIBP			
1	10.157.000116	substrate	Fubon	A2220120187101006E	2023/3/21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	 2023.3.21 A2230108006101	 基材MSDS.pdf	
2		ink	Youri black oil	ETR22705905 ETR22705913	2022/8/5	ND	ND	ND	ND	ND	ND	253	ND	ND	ND	ND	ND	 PS-800 油墨(黑色系列).pdf	 PS-800 ROHS(黑色系列).pdf	 MSDS_PS-800 黑色油墨.pdf
3		Adhesive paper	3M9471	SHAEC2217569206 SHAEC2217569208	2023/1/4	ND	ND	ND	ND	ND	ND	212	ND	ND	ND	ND	ND	 9471LE(9472LE, 9671LE, 9653LE)	 9471LE(9472LE, 9671LE, 9653LE)	 MSDS_3M9471 白色.pdf
4		gilding	Kim Won-sung	A2220470735101001C	2022/10/22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	 2022.10.27 金源星牌RoHS中文	 金源星牌中文版FPC镀镍金层MSDS	
5		White ink	Hiroshi Kawasaki	ETR22A01347M01	2022/10/17	ND	ND	ND	ND	ND	ND	591	ND	ND	ND	ND	ND	 ETR22A01347M01(150W)ROHS中文	 MSDS_ZSR-150 白色文字油墨.pdf	

## 七、Reliability test report

customer		Dongguan Hele Electronics Co.,Ltd		Project name	QT27 FPC antenna
Test time		2023/3/22---2023/3/24		Number of tests	5PCS for each test item
Serial number	Test item	Testing instrument	Test method	Decision criteria	decision
1	Salt spray test	Salt spray test machine	The tested product was placed into a salt spray testing machine containing 5%±1%Nacl solution for testing. The laboratory temperature was 35° , the pressure barrel temperature was 47° , and the pressure was 1kgf/cm2 at 48 hours. The product shall be placed at 45° . After the test, the product shall be taken out, washed and dried for inspection	Appearance after the test: the appearance is intact without any obvious change. Coating: no peeling, no rust. Surface spraying, screen printing: no shedding, no bubbles judged as qualified	PASS
2	Cold and heat shock	Constant temperature and humidity box	Put the test product on the testing machine, set the test conditions, the high temperature is 85°C, a cycle test for 24 hours; The low temperature was -30°C, two cycles were tested, and the test was started after setting. After the test, recover for 2 hours and take out the product for inspection.	No change in color, luster, surface appearance, hardness, scratch, crack, warping or electrical damage. Judged as good	PASS
remarks					

Tabulation: aston

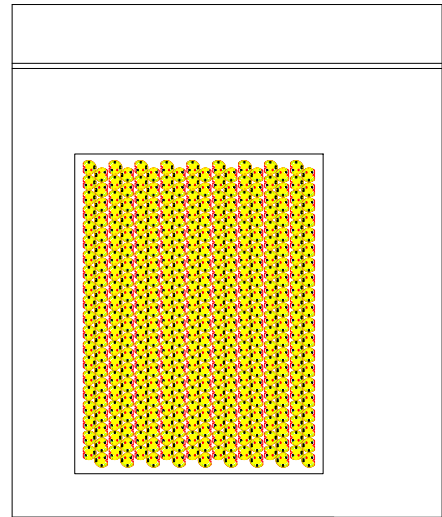
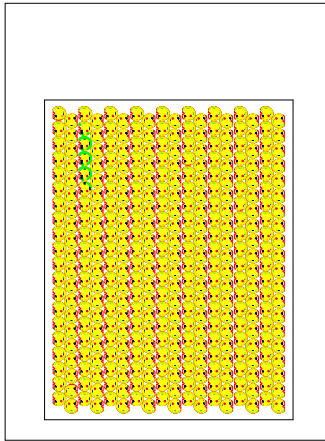
audit: Cindy

approve: Long tao

# 八、Packing

Material number:	10.157.000116	Product name:	FPC antenna
Product specificati	QT27FPC antenna	Packaging material:	Bag seal, carton
king quantiti	5000PCS/package	Packing method:	5000pcs/ pack, 1-16 packs per box
Packing quantity:	80000PCS		

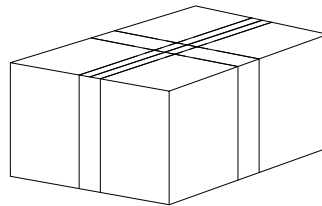
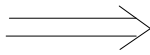
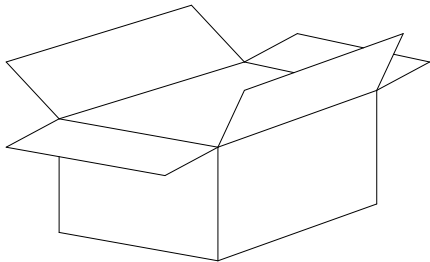
## 1、Small package



FPC antenna (full plate half cut shipment): 250\*211

PE bag 5000PCS antenna

## 2、Large packing



一箱 1-8袋 (5000-8000PCS天线)

3、Note: FPC products are produced in half cut shipment.

Quantity of small packaging: 5000PCS/ bag;

Quantity of large package: 5000-8000pcs/box.

## 4. Precautions

4.1 The storage of products should ensure that the ambient temperature is  $-10^{\circ}\text{C} \sim +24^{\circ}\text{C}$ , the humidity is less than 90%, there is no rain leakage in the warehouse, the ground should be moisture-proof, and the acid mist and salt mist erosion around the warehouse should be avoided. The storage life of the product is 180 days;

4.2 The product can be transported by land, water or air, and should be rainproof during transportation;

4.3 Stacking requirements: XXX;

fabricate: aston

Review: Cindy

Approved by: Long Tao