



深圳市宇鸿实业有限公司

Part Approval Sheet

Customer name:	hele
Product Model:	QT21
Risuntek P/N:	10.157.000094
Version:	A
Prodcut Name:	FPC ANT
Description:	ANT FPC QT21-L T ANT Antenna BT+Touch 宇鸿
Date:	2022/9/9

(Customer Signatures)

(PM)	(ME)	(QE)

(Inner Signatures)

(QE)	(ME)	(RF)
杨进	张清花	梁通平

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电话：0755-21031946

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

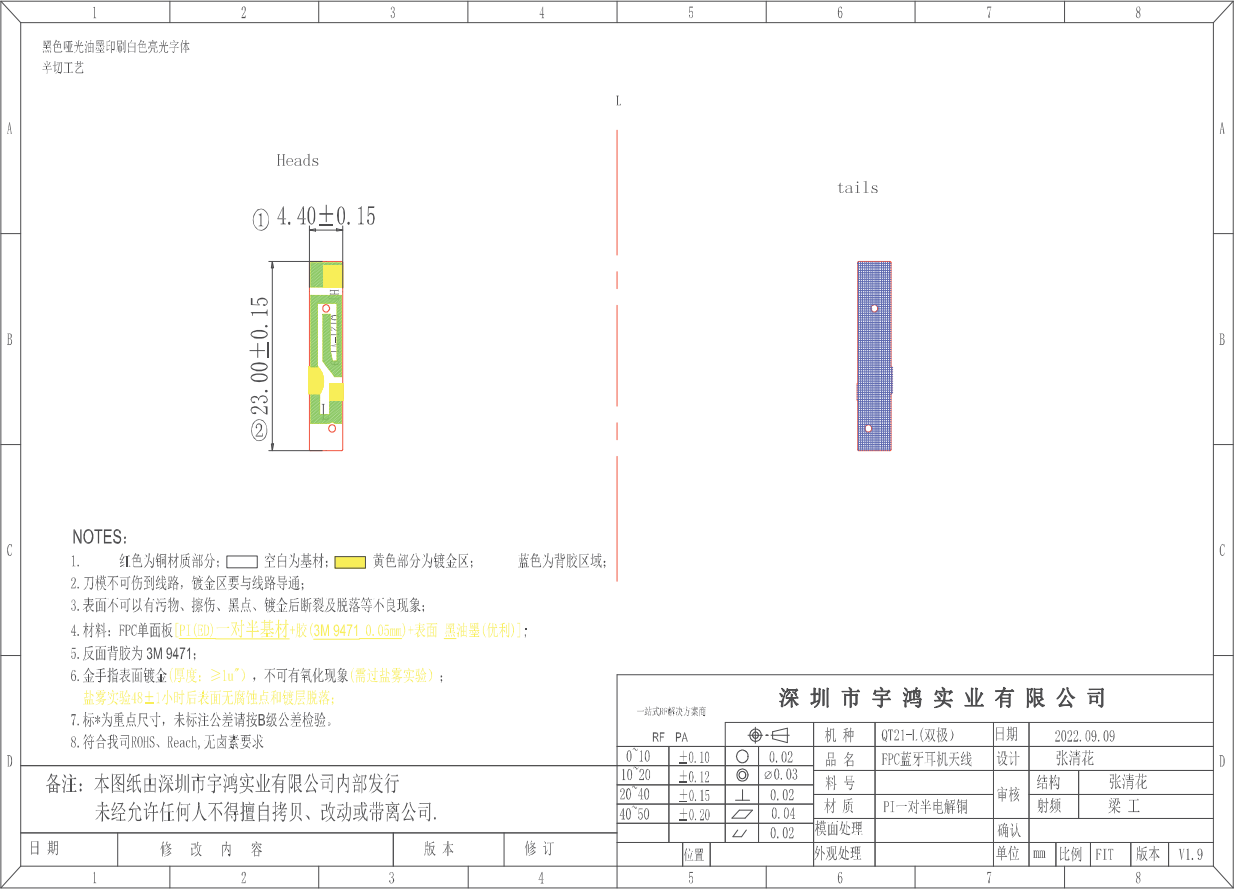
directory

- 一、 Make/revise and change the resume
- 二、 Product drawings
- 三、 Description of electrical and mechanical properties
- 四、 Full scale measurement report
- 五、 CPK report
- 六、 Expansion table of environmental Management
material components
- 七、 Reliability test report
- 八、 Packing specification

1. Make/revise and change your resume

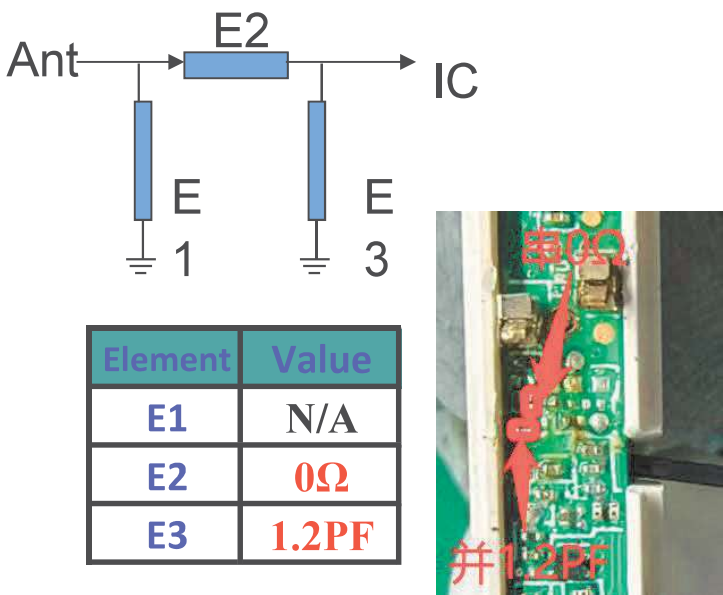
V	page	Change the time	Change a person	Reasons and contents of changes	note
A0	—	2022/9/9	zqh	First version of the antenna form	
A1					
A2					
A3					
A4					
A5					
A6					

2、Second, product drawings

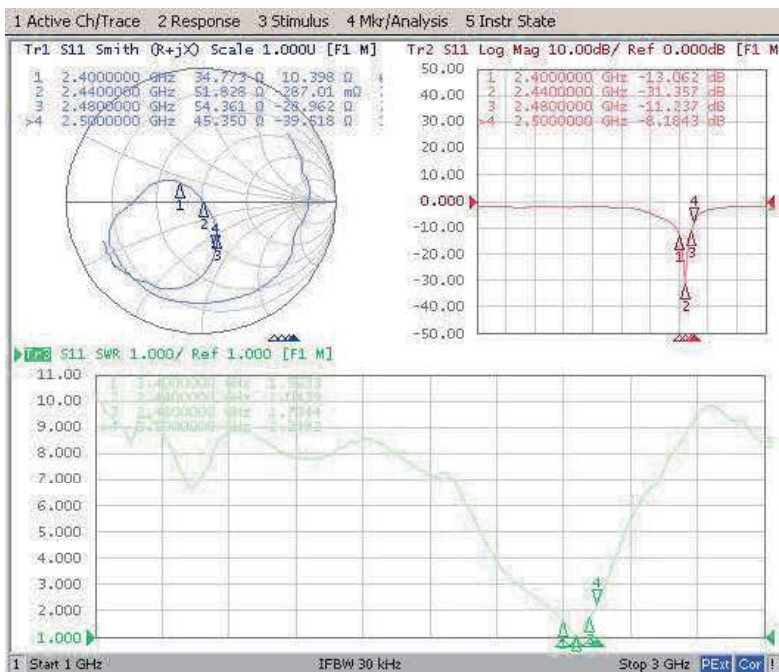


3、Description of electrical and mechanical properties

1、Match the circuit diagram

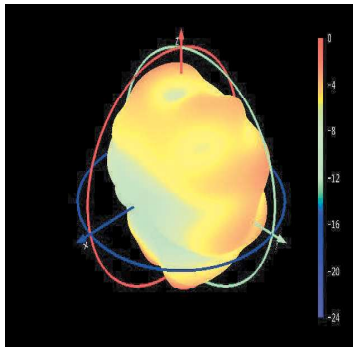


2、S11 parameter

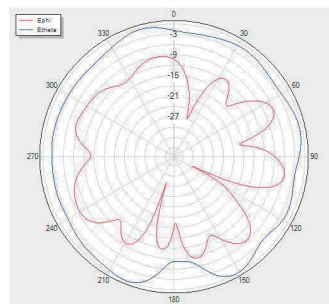


3、efficiency of passive

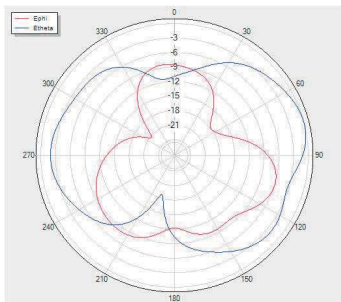
Freq[MHz]	Gain(dBi)	Effic value (dB)	Efficiency
	Free space	Free space	Free space
2400	-0.21	-4.85	32.74
2410	-0.28	-4.93	32.17
2420	-0.27	-4.94	32.07
2430	-0.23	-4.88	32.52
2440	-0.15	-4.79	33.22
2450	-0.09	-4.69	33.95
2460	0	-4.64	34.37
2470	0.03	-4.67	34.14
2480	-0.09	-4.83	32.87



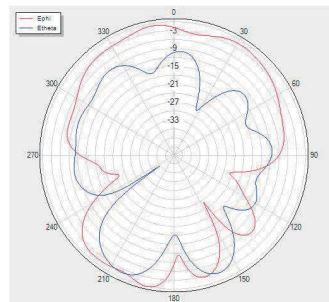
Phi=90 freq=2440MHz



Theta=90 freq=2440MHz



Phi=0 freq=2440MHz



4、 Active OTA data

L	channel	TRP (dbm)	TRP (dBm)
Free space	0	6.88	-88.85
	39	7.55	-90.09
	78	7.57	-90.94
L	channel	TRP (dbm)	TIS (dbm)
second generation head mold	0	-5.63	-79.33
	39	-5.43	-80.65
	78	-5.65	-80.74

5、 measured results

test phone	Samsung S6/ Apple 5S
distance	15M/15M
Test site	Huawei Sidewalk
tester	Liang Tong flat

5、CPK Report

Project name)	QT21-L				Customer	hele			
Description(	antenna				Inspected(	Cindy			
Material(	One half electrolytic copper				Inches/MM()	mm			
Revision(	A				Date(	2022/09/09			
m. Designator(	4. 40	23. 00							
Upper Limit()	4. 55	23. 15							
Lower Limit()	4. 25	22. 85							
1	4. 37	23. 00							
2	4. 38	22. 98							
3	4. 44	22. 97							
4	4. 39	22. 99							
5	4. 41	23. 04							
6	4. 42	22. 99							
7	4. 44	23. 01							
8	4. 43	22. 99							
9	4. 38	23. 04							
10	4. 36	22. 99							
11	4. 38	23. 02							
12	4. 37	22. 98							
13	4. 40	23. 00							
14	4. 40	23. 03							
15	4. 38	23. 02							
16	4. 36	23. 01							
17	4. 43	23. 01							
18	4. 37	23. 04							
19	4. 44	22. 99							
20	4. 36	23. 02							
21	4. 39	22. 96							
22	4. 39	22. 98							
23	4. 39	23. 04							
24	4. 41	22. 97							
25	4. 44	23. 05							
26	4. 38	23. 03							
27	4. 45	23. 03							
28	4. 40	22. 96							
29	4. 37	23. 02							
30	4. 41	22. 99							
31	4. 42	23. 04							
32	4. 40	23. 01							
MAX.	4. 45	23. 05							
MIN.	4.36	22.96							
AVERAGE	4.40	23.01							
STDEV	0.03	0.03							
CP	1.86	1.96							
Cpk	1.84	1.88							
TOOLING	卡尺	卡尺							

Prepared by
() : yangjin

Checked by
() : cindy

Approved by
: longtao

6、The Parts List of Enviromental Management Substances

Product Information		Supplier Contact Information		报告类型		确认结果		备注	
Part name	FPC天线	Compony Name	深圳市宇鸿实业有限公司	☒	RoHS 2.0	☐			
Risuntek P/N	10.157.000094	Contact Name/Title	yangjin	☒	HF	☐			
Supplier's P/N	QT21-L	Date:YY/MM/DD	2022/9/9	☒	CP65	/			
Manufacurering site	dongguang	E-mail address		☒	REACH	/			
Total weight (g)		Tel. No.	13714345069	☒	其它 ()	/			
				☒	MSDS	☐			

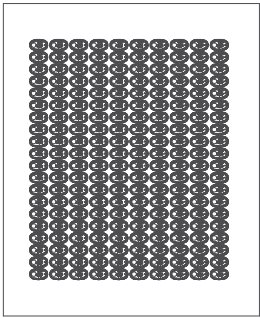
No.	Customer item number	Part name	Homogeneous material	Test Report No.	Test Date (YY/MM/DD)	Test result (ppm)												Test report	MSDS
						Pb	Cd	Hg	Cr6 +	PBB	PBD E	Cl	Br	DEHP	DBP	BBP	DIBP		
1	10.157.000094	Base material		SHAEC2202460504	2022. 2. 21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2		ink	High interest black oil	ETR22705905	2022/8/5	ND	ND	ND	ND	ND	ND	253	ND	ND	ND	ND	ND	 ETR22705905 PSM-800黑色油墨 PSM-800黑色油墨	 MSDS_PS-800黑色油墨.pdf
3		Gummed paper	3M9471LE	CANEC2200386501	2022/1/12	ND	ND	ND	ND	ND	ND	152	ND	ND	ND	ND	ND	 CANEC2200386501 3M9471LE  CANEC2200386502 3M9471LE	 MSDS_3M9471白色.pdf
4		Gold plated		A2210513116101001E / A2210513116102001E	2021/12/10	ND	ND	ND	ND	ND	ND	185	ND	ND	ND	ND	ND	 中芯国际FPC铜焊盘 GBM5079.pdf	
5		White ink		ETR21A04957M01	2021/10/29	ND	ND	ND	ND	ND	ND	625	ND	ND	ND	ND	ND	 ETR21A04957M01 ZSR-150白色油墨	 MSDS_ZSR-150白色油墨.pdf

7. Reliability test report

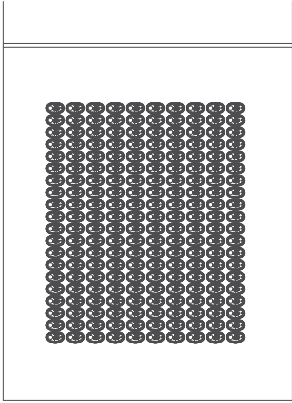
customer			hele	project name	QT21-L FPC天线
test of time			2022/09/06---2022/09/08	Number of tests	5PCS for each test item
	project	Test equipment	test method	Decision criteria	
1	Salt spray test	Salt spray test machine	The tested products were placed in the salt spray testing machine containing 5%±1%Nacl solution. The laboratory temperature was 35° , the pressure barrel temperature was 47° , and the pressure was 1kgf/cm2. The test lasted for 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 test: The appearance is intact without significant change.Coating: no peeling, no corrosion.Surface spraying, screen printing: no off, no bubbles to determine qualified	
2	Cold and hot shock	Constant temperature and humidity boX	Put the test product flat in the testing machine, set the test conditions, high temperature is 85℃, a cycle test for 24 hours;The low temperature was -30℃, and the test was conducted for 2 cycles. The test was started after setting.At the end of the test, the product was removed for inspection after 2 hours of recovery.	There is no change in color, gloss, surface appearance, hardness, scratch, crack, warping or electrical damage. Be judged as qualified	
:					

8. (Packing)			
	10.157.000094	:	FPC ANT
	QT21-L FPC天线	Packaging materials:	Seal pockets, cartons
:	5000PCS/包	packing way:	5000pcs/ package, one box of 1-16 packages
:	80000PCS		

1、Small package

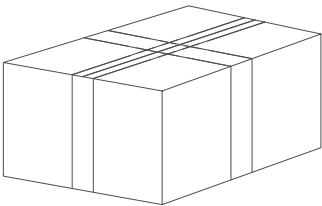
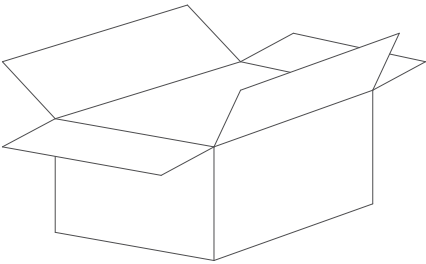


FPC天线(整版半切出货): 250*200



PE袋一袋 5000PCS

2、big package



一箱 1-8袋 (5000-80000PCS天线)

3. Remarks: FPC products are manufactured by half-cut shipment, small package quantity: 5000PCS/ bag; Large package quantity: 5000-80,00pcs/box.		
4. Precautions		
4.1 The storage of products shall ensure that the ambient temperature is -10℃ ~ +24℃, the humidity is less than 90%, there is no leakage in the warehouse, the ground shall be moisture-proof, and acid mist and salt mist erosion shall be avoided around the warehouse.The storage life of the product is 180 days;		
4.2 The products can be transported by land, water or air, and should be protected from rain during transportation;		
4.3 Stacking requirements: XXX;		
拟制: 杨进	审核: 张清花	核准: 龙滔