

Part admission

Part Approval Sheet

Customer Name Customer name:	Dongguan Hankai Electronics Co., LTD
Product model Product Model:	A 22-R
Customer material number	108.01.00567
Risuntek P / N:	A 0
Version Version:	FPC antenna
Part Name Prodcut Name:	BT 2400-FPCB internal Bluetooth
Product Description Description:	headset antenna R
date Date:	2023/9/4

The customer signed
(Customer Signatures)

Our company signed
(Inner Signatures)

Character (QE)	Structure (ME)	Radio frequency (RF)

Address: 12th floor, West Block B, Building 8, Huaqiang Creative Industry Park, Sightseeing Road, Guangming District, Shenzhen

Tel.: 0755-28700082

www.honant.com.cn

catalogue

1. Make / revise the change resume

II. Product drawings

3. Electrical and mechanical properties
description

4. Full-size measurement report

V. The CPK report

Vi. Environmental management material components
expansion table

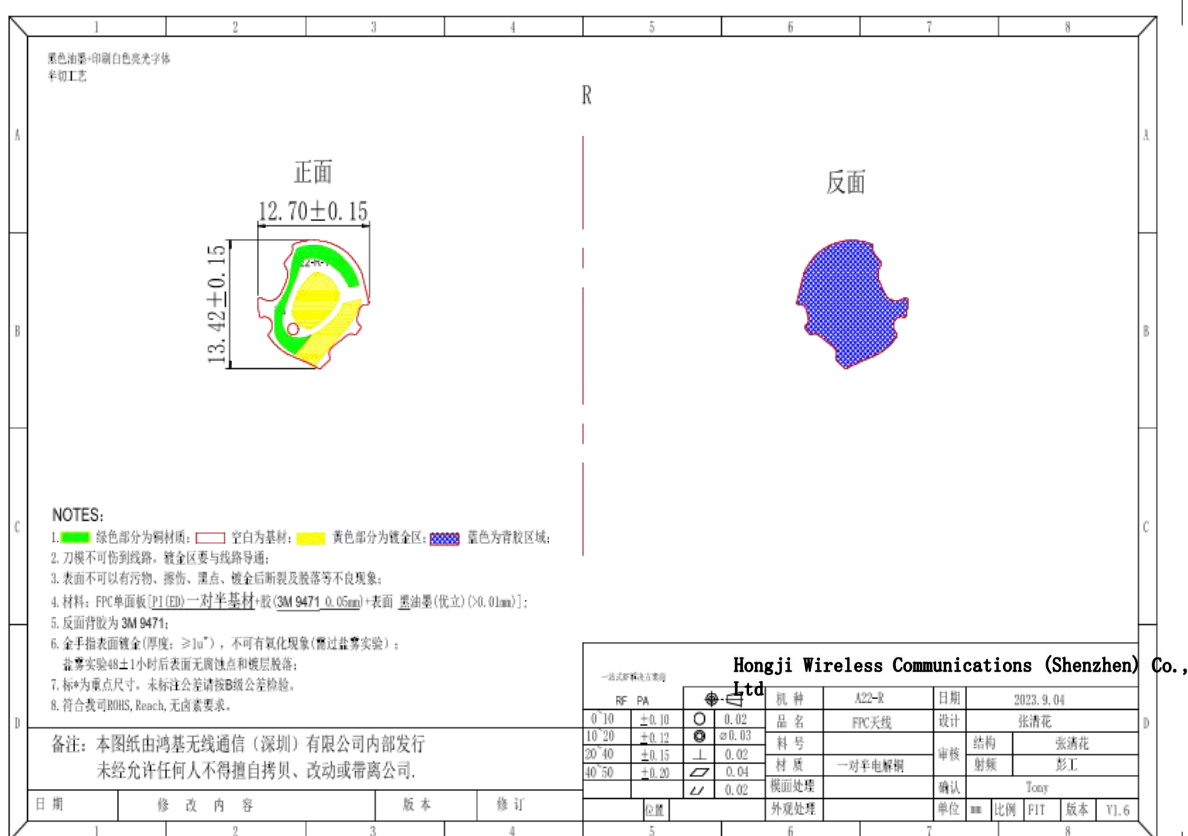
7. Reliability test report

VIII. Packaging specifications

I. Make / revise the change resume

editi on	Revision page	Change time	Change the person	Reason and content of the change	remarks
A 0	—	2023/9/4	Zhang Qinghua	Initial version of the antenna form	
A 1					
A 2					
A 3					
A 4					
A 5					
A 6					

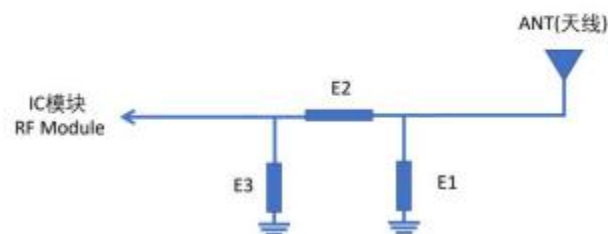
II. Product drawings



3. Electrical and mechanical

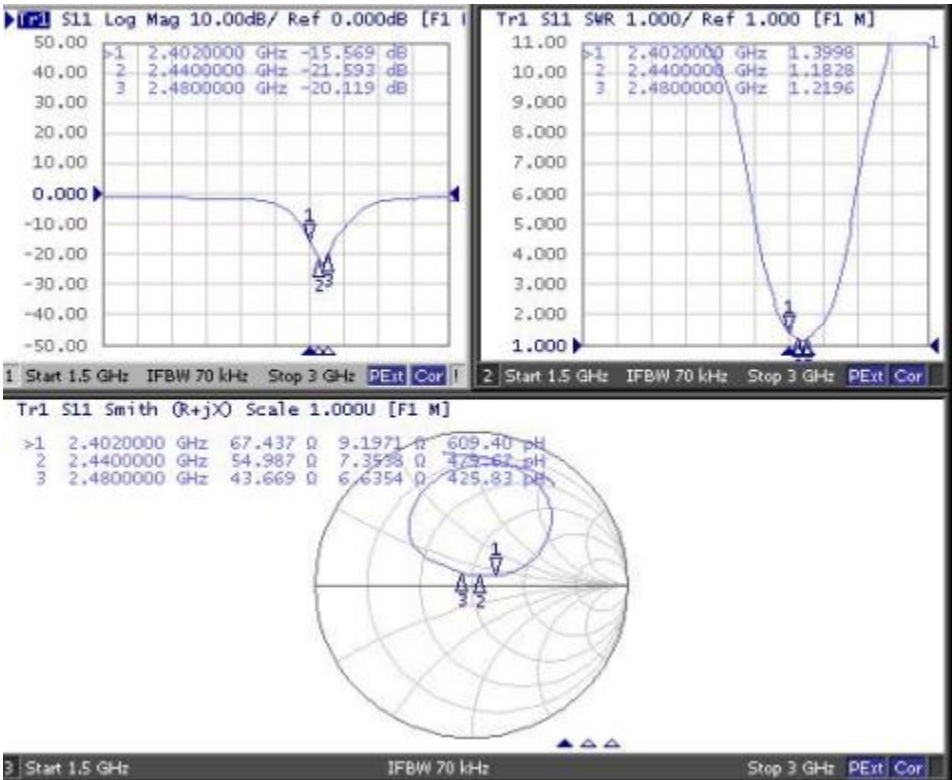
1. Matching the circuit diagram

天线匹配电路说明Antenna circuit matching description



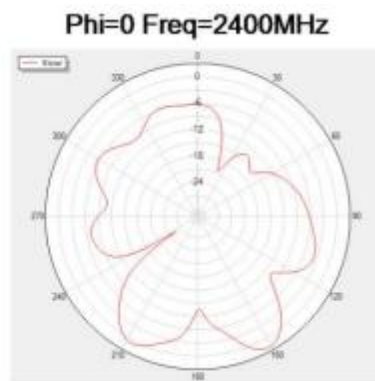
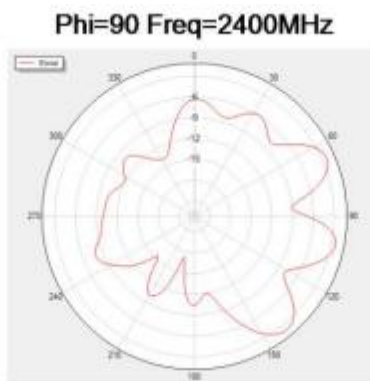
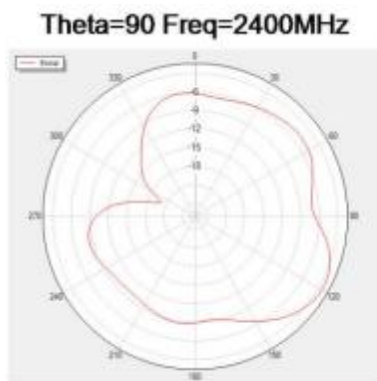
E lement	Valu e
E 1	N /C
E 2	0Ω
E 3	N /C

2, and S 11 parameters



3. Passive efficiency

Freq [MHz]	Gain (dBi)	Efficiency (%)
	free space	free space
2400	0.67	31.01
2410	0.91	32.75
2420	1.1	33.82
2430	1.26	33.93
2440	1.4	33.76
2450	1.45	33.57
2460	1.44	33.54
2470	1.46	33.81
2480	1.78	31.46
2490	1.23	30.04
2500	1.04	29.56



4, with the active OTA data

R	channel	TRP (dBm)	TIS (dBm)
free space	0	6.66	-88.14
	39	7.21	-88.12
	78	6.89	-86.96
R	channel	TRP (dBm)	TIS (dBm)
headform	0	-0.56	-81.79
	39	-0.10	-81.53
	78	-0.57	-80.29

5. CPK Report

Hongji Wireless Communications (Shenzhen), Ltd

Project name (Project)	A 22-R				Customer (Customer)	Dongguan Hankai Electronics Co., LTD				
Description (Part Name)	antenna				Inspected (Valer)	Zhang Qinghua				
Material (Material)	A pair of semi-electrolytic copper				Inches / MM (inch / mm)	mm				
Revision (Version)	A 0				Date (Date)	2023/9/4				
m . Designator (Size No.)	12. 70	13. 42								
Upper Limit (Upper specification limit)	12. 85	13. 57								
Lower Limit (Lower specification limit)	12. 55	13. 27								
1	12. 76	13. 49								
2	12. 73	13. 47								
3	12. 74	13. 45								
4	12. 73	13. 46								
5	12. 76	13. 42								
6	12. 75	13. 44								
7	12. 76	13. 43								
8	12. 71	13. 42								
9	12. 68	13. 48								
10	12. 76	13. 45								
11	12. 75	13. 43								
12	12. 75	13. 49								
13	12. 71	13. 43								
14	12. 71	13. 47								
15	12. 76	13. 49								
16	12. 77	13. 49								
17	12. 77	13. 45								
18	12. 73	13. 42								
19	12. 75	13. 41								
20	12. 71	13. 42								
21	12. 76	13. 40								
22	12. 70	13. 43								
23	12. 75	13. 47								
24	12. 70	13. 48								
25	12. 71	13. 43								
26	12. 76	13. 43								
27	12. 77	13. 48								
28	12. 73	13. 44								
29	12. 73	13. 49								
30	12. 73	13. 41								
31	12. 73	13. 48								
32	12. 74	13. 43								
MAX .	12. 77	13. 49								
MIN .	12.68	13.40								
A VERAGE	12.74	13.45								
S TDEV	0.02	0.03								
C P	2.09	1.85								
Cp k	1.57	1.49								
TOOLING (Measurement tool)	callipers	callipers								

Prepared by Checked by Approved by

(Lay down):Wei-qiang Chen (Examine and verify):Zhang Qinghua Approval: Peng Jianfeng

VI. Environmental Management Material components Deployment
Table The Parts List of Enviromental Management
Substances

Product message: Product Information		Supplier message: Supplier Contact Information	
Zero product name Part name	FPC antenna	Company name: Company Name	Hongji Wireless Communications (Shenzhen) Co., Ltd
Material number Risuntek P/N	108.01.00567	By person / Title Contact Name / Title	Wei-qiang Chen
Supplier item number Supplier's P/N	A 22-R	Date Date: YY / MM / DD	2023/9/4
Manufacturing site Manufacturing site	Dongguan	Email: E-mail address	
total weight Total weight (g)		telephone Tel.No .	13530695290

report tale		Confirm the results	remarks
R	RoHS 2.0	£	Metal provides RoHS 4 items, and other 10 items
R	H F	£	Non-metallic parts are supplied by CI & Br
Q	CP 65	/	Parts coming in contact with the skin
Q	R EACH	/	By the latest SVHC listing
Q	else ()	/	Such as Be, POPs, PFOS / PFOA, etc

nu mb er No.	Customer material number Customer item number	part name Part name	homogen eous material H omogeneo us material	Test Report number Test Report No.	Test Date: Test Date (YY / MM / DD)	test result Test result (ppm)														Test report: Test report	M SDS
						Pb	Cd	H g	Cr 6 +	PBB	P B D E	C I	Br	D E H P	D B P	B B P	D I B P				
1	108.01.00567	base material	Fubon substrate	A 22201201 87101006 E	2023/3/21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	 2023.3.21	 Substrate		
2		printing ink	Excellen t black oil	ETR 23701480	2023/7/13	ND	ND	ND	ND	ND	ND	253	ND	ND	ND	ND	ND	 2023.07.13 ROHS ETR 237014	 MSDS_PS- 800_black		
3		gummed paper	3M 9471	SHAEC 2217569206 SHAEC 2217569208	2023/1/4	ND	ND	ND	ND	ND	ND	212	ND	ND	ND	ND	ND	 9471EG472L E, 9471LE, 9472LE	 9471LE 9472LE white.pdf	 MSDS_3M 9471 white.pdf	
4		gold- plating	Jinyuan star	A 2220470735101001C	2022/10/22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	 2022.10.27 Jinyuan Xinghui Chinese	 Jinyuan Xinghui Chinese	
5		White ink	Sichuan yu	ETR 22A 01347M 01	2022/10/17	ND	ND	ND	ND	ND	ND	591	ND	ND	ND	ND	ND	ND	 ETR 22A 01347M 01150W ROHS_P	 MSDS_25R- 150-white-ink.pdf	

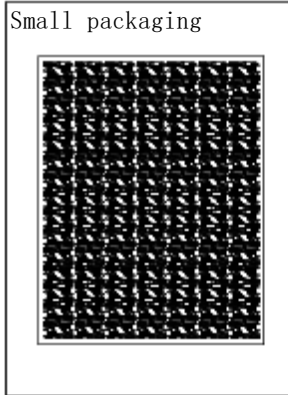
7. Reliability test report

client			Dongguan Hankai Electronics Co., LTD		project name	The A 22-R FPC antenna		
testing time			2023/9/2-2023/9/4		Test the number	5 PCS per test item		
order number	test item	measuring and test instruments	test method			requirement		judge
1	Salt fog experiment	Salt fog experimental machine	The tested product was tested in a salt spray tester containing 5% ± 1% Nacl solution, laboratory temperature 35° , pressure barrel temperature 47° , pressure 1 kgf / cm 2, test 48. The product should be placed 45° . After the test, remove the product, wash and dry for inspection			Appearance after test: appearance is intact and intact with no obvious change. Plating: no peeling, no corrosion. Surface spraying, screen printing: no fall off, no bubbles are judged as qualified		P ASS
2	Hot and cold impact	Constant temperature and humidity box	Place the test product flat in the test machine, set the test conditions, high temperature is 85℃, one cycle test for 24 hours; low temperature is-30℃, test for 2 cycles, and start the test after setting. After the test, recover for 2 hours and remove the product for inspection.			Color, gloss, surface appearance, no change in hardness, no scratching, no cracks, no warping and electrical performance damage. It is judged to be qualified		P ASS
remarks:								
TAB: Chen Weiqiang			Audit: Zhang Qinghua			Approval: Peng Jianfeng		

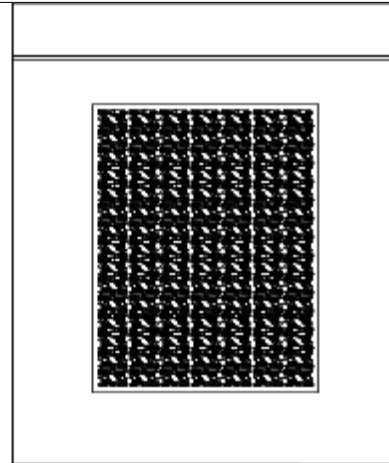
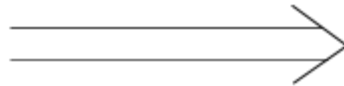
VIII. Packaging (Packing)

P / N:	108.01.00567	product name:	FPC antenna
size of product:	The A 22-R FPC antenna	packing material:	Seal the pockets and cartons
package quantity:	5,000 PCS / package	manner of packing:	5000 pcs / pack, one case 1-16 pack
packing quantity:	80000PCS		

1. Small packaging

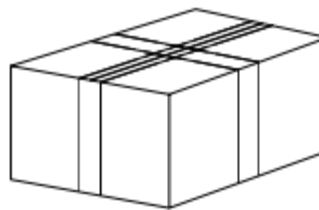
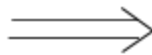
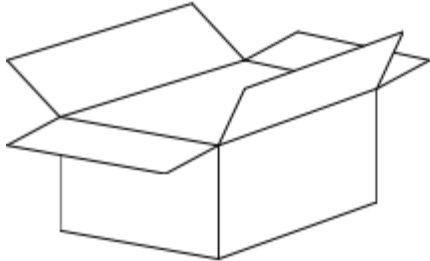


FPC antenna (full plate half cut shipment)? 250*203



PE bag 5000PCS antenna

2. Large packaging



一箱 1-8袋 (5000-80000PCS天线)

3. Note: FPC products are shipped in half cut,
Quantity of small packages: 5000 PCS / bag;
Quantity of large packages: 5000-80000 PCS / box.

4. Precautions

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

4.2 The transportation of products can be land, water, air, transportation should be rain proof;

4.3 Stack requirements: XXX;

(Other example: strictly prohibited to throw, throw, etc...ask)

Formulation: Chen Weiqiang

Audit: Zhang Qinghua

Approval: Peng Jianfeng