

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

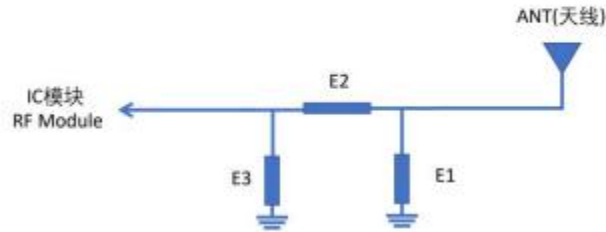
I. Make / revise the change resume

edition	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					

3. Electrical and mechanical

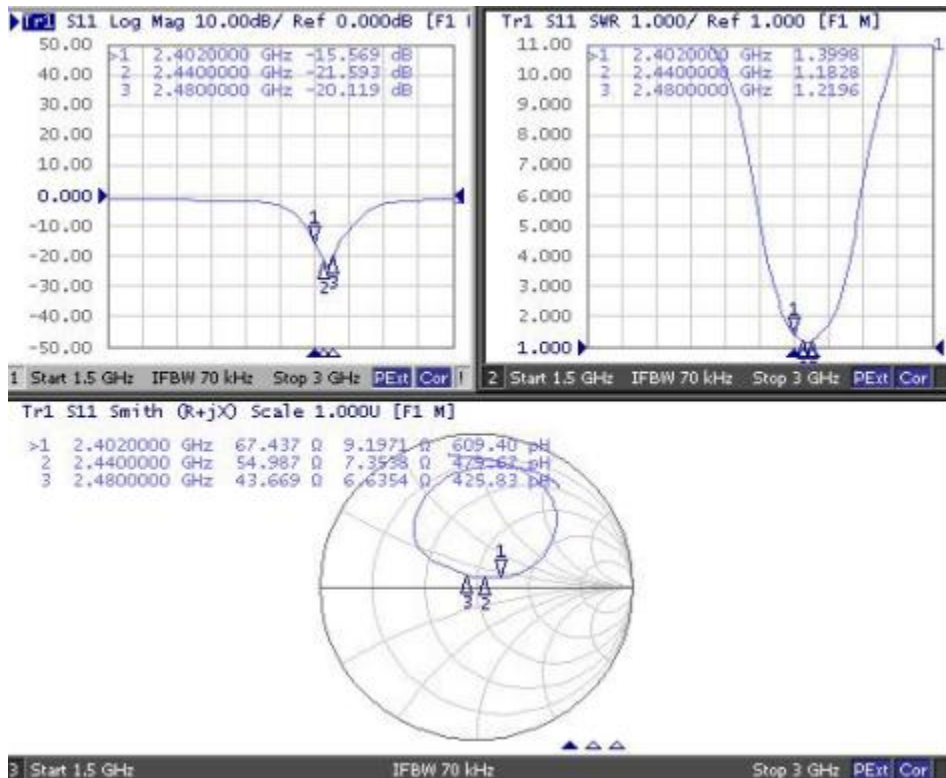
1. Matching the circuit diagram

天线匹配电路说明 Antenna circuit matching description



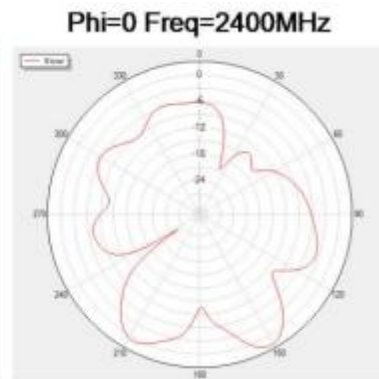
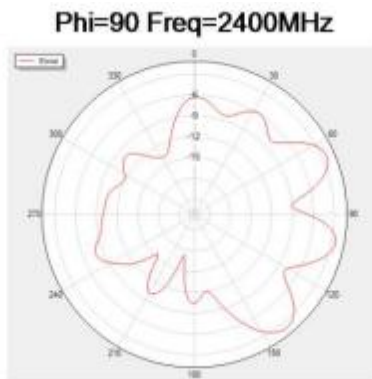
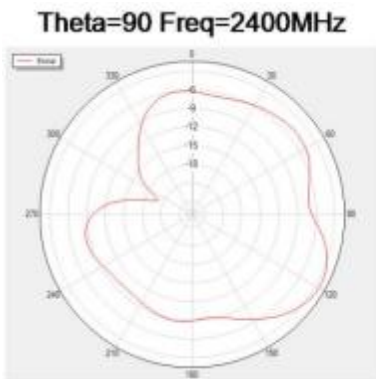
E lement	Value
E 1	N / C
E 2	0Ω
E 3	N / C

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

IV. Full-size measurement report

IV. Full-size measurement report														
NO .	encodi ng	108.01.00567		part name	FPC antenna			specifica tions	The A 22-R FPC antenna				material	FPC (12 / 50)
	supplie r	Hon Gai		survey tools	Two dimension, micrometer			measur ent unit	M M				The date of measur ement	2023/9/4
	size (D IMENSIO N)	super ior limit	+ TOL .	- TOL .	lower limit	Measure d 1	Measure d 2	Measure d 3	Measure d 4	Measure d 5	Measure d 6	Measure d 7	UPPER \cong 100%	LOWER \cong 100%
A 22- R	12.70	12.85	0.15	0.15	12.55	12.716	12.709	12.711	12.689	12.695	12.686	12.706	11%	9%
	13.42	13.57	0.15	0.15	13.27	13.415	13.436	13.428	13.407	13.411	13.402	13.445	17%	12%
Table making: Zhang Qinghua		Review: Peng Jianfeng					Date: 2023 / 9 / 4							

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

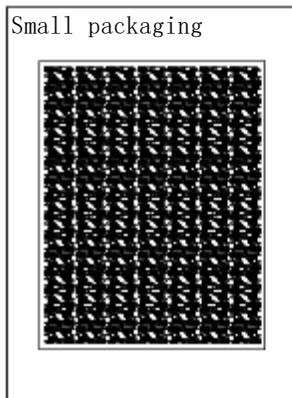
7. Reliability test report

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	

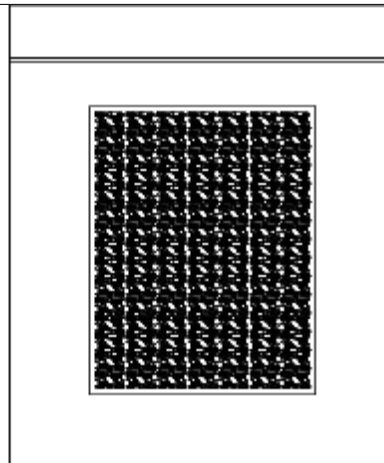
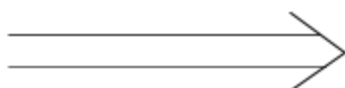
VIII. Packaging (Packing)

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

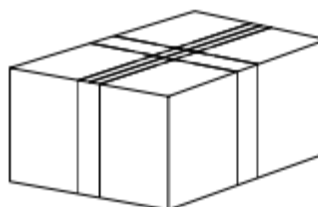
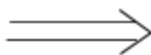
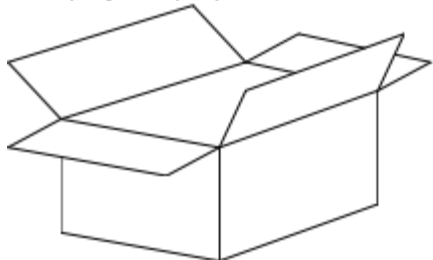


FPC antenna (full plate half cut shipment)? 250*203



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