

Shenzhen Kaipushen Communication Technology Co., Ltd

Sample approve sheet

Customer: Shengyangshengxue

Item name: PM3

Sample name: BT aerial

Description/color: black

Release Date: 2023/2/13

Supplier confirmed	Make	R&D	Structure	Quality

Customer confirmed	Item	Appearance	Structure	Quality

Conclusion	<input type="checkbox"/> MP use <input type="checkbox"/> Limited use () K
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ROHS

Supplier name: Shenzhen Kaipushen Communication Technology Co., Ltd

Supplier address: 2nd Floor, Building 1, Yulong Building, Longcheng Industrial Zone, No.440, Longguan Avenue, Longhua District, Shenzhen

Tel: 0755-29351613

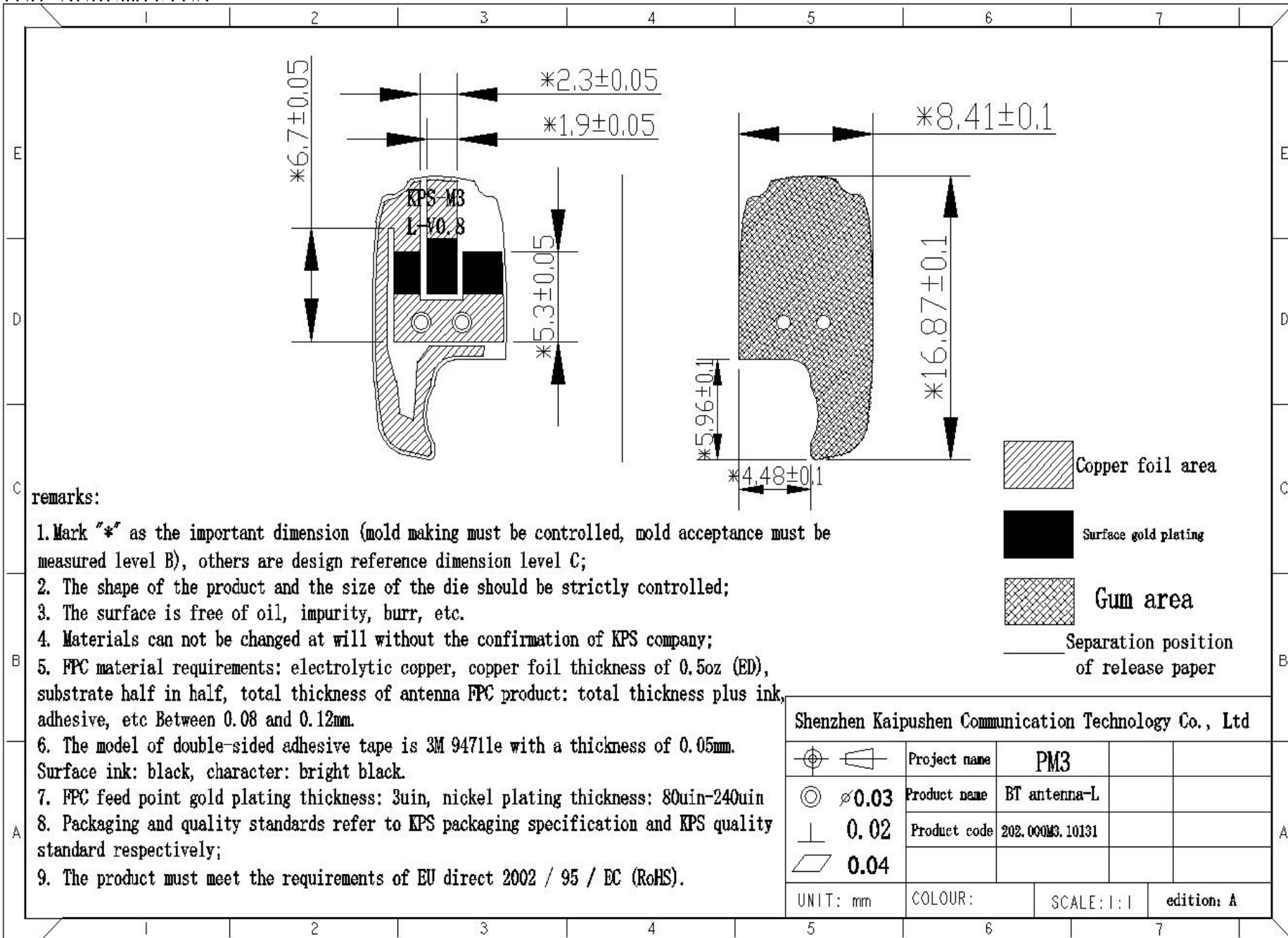
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Contents

- 1、 Cover
- 2、 Contents
- 3、 ICD Drawing(BT aerial)
- 4、 Electrical and mechanical performance description
- 5、 Full dimensional measurement report
- 6、 QC engineering drawing
- 7、 inspection specification
- 8、 rohs means
- 9、 Salt spray test report
- 10、 High-low temperature test
- 11、 Package

3. ICD schematics



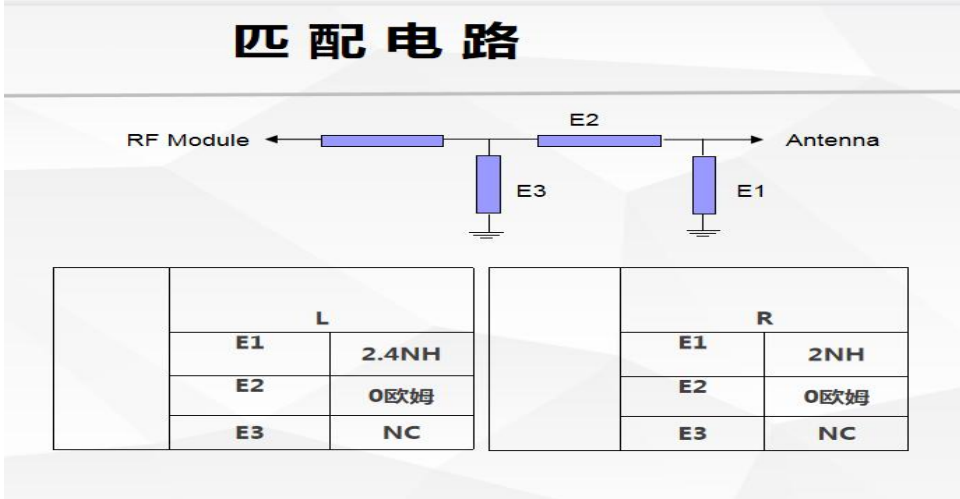
5.1 electrical properties

5.1-1 specification

BT antenna resonates at 2400m-2480m 。

5.1-2 Matching circuit of antenna .

The matching circuit is as follows:



5.2 Standing wave ratio (SWR) test

5.2-1 Test settings

The standing wave ratio (SWR) test device is connected in turn to: E5071B Network analyzer→ 50 ohm coaxial Cable→150 mm long copper tube→Test the fixture。

Test the treatment of fixture: Draw out the SMA-J connector from the PCB antenna at the 50 ohm point with a hard cableConnect with copper tube with choke ring and connect other devices in

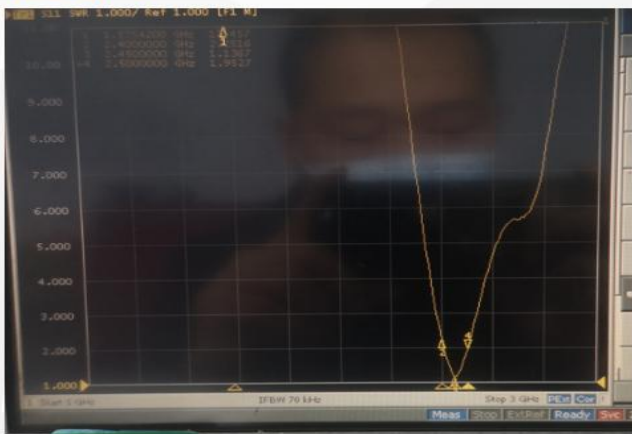
The following table shows the standing wave ratio of the edge frequency points of the working frequency band of the BT antenna:

Fre (MHZ)	2400	2450	2480	
SRW (L)	2.1	1.1	1.9	
Fre (MHZ)	2400	2450	2480	
SRW (R)	2	1.3	2.6	

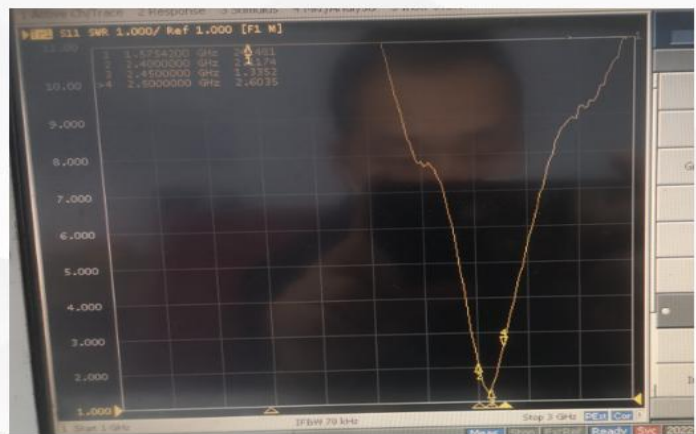
6.2-3 Passive test results



天线波形



L



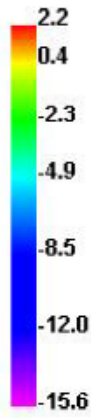
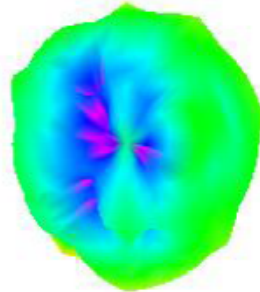
R

Standing wave ratio curve of BT antenna

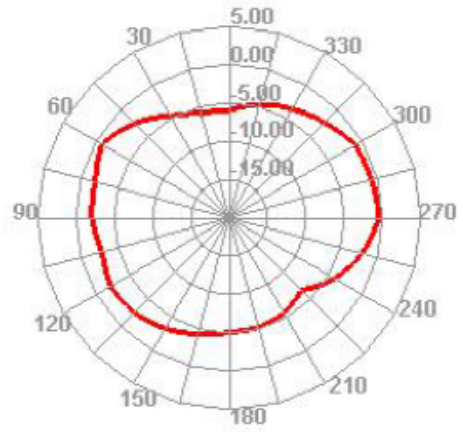
6.2-4 Passive test data of free space machine:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	21.02	-6.77	-3.37
2410	21.88	-6.6	-3.35
2420	22.48	-6.48	-3.34
2430	22.68	-6.44	-3.26
2440	23.58	-6.27	-2.91
2450	24.42	-6.12	-2.98
2460	25.71	-5.9	-2.74
2470	26.72	-5.73	-2.68
2480	25.53	-5.93	-2.87
2490	25.16	-5.99	-2.98
2500	24.03	-6.19	-2.83

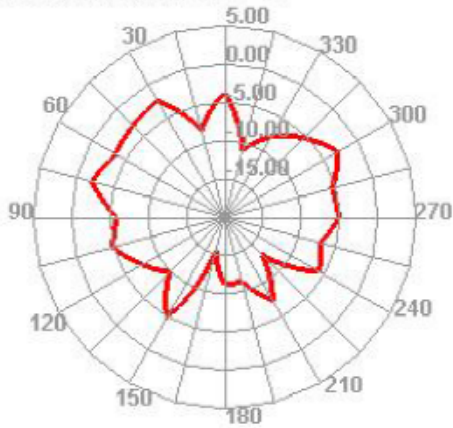
2450.000MHz



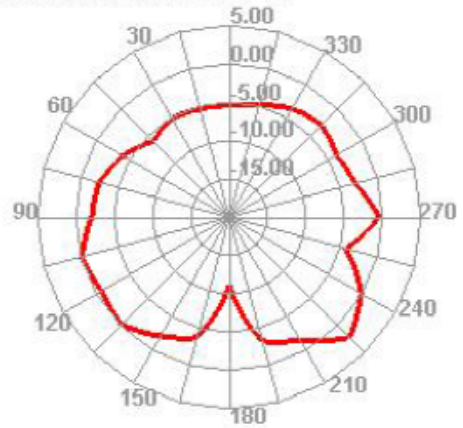
2450.000MHz H



2450.000MHz E1



2450.000MHz E2



Full dimensional measurement report

	Customer	Shengyangshengxue		part name		BT aerial		Qty					Material	Electrolytic copper
	Supplier	Kaipushen		Measure tools		Quadratic		Measure unit		mm			Measure date	2023/1/9
NO.	Size (DIMENSION)	Upper	+ TOL.	- TOL.	Lower	Act mea 1	Act mea 2	Act mea 3	Act mea 4	Act mea 5	Act mea 6	Act mea 7	UPPER \leq 100%	LOWER \leq 100%
1	8.41	8.51	0.10	8.40	8.42	8.43	8.40	8.43	8.42	8.40	8.42	8.40	20%	0%
2	16.87	16.97	0.10	0.10	16.77	16.88	16.87	16.87	16.86	16.85	16.85	16.89	20%	20%
3	8.41	8.51	0.10	0.10	18.80	8.40	8.43	8.40	8.42	8.40	8.40	8.43	20%	10%
4	16.87	16.97	0.10	0.10	16.77	16.87	16.86	16.88	16.87	16.86	16.85	16.85	10%	20%
5														
6														
7														
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11														
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16														
17														
18														

Table: Chenjian

Audit: Wuxingtuo

technological process		Control focus		management responsibility	method		Inspection method			corrective action	
Order Number	Main Process	project name	aControl Project	Regulatory standards	person liable	Normal sampling	person in charge	Inspection method	Examines the tool	Record type	Solution
		begin									
1		Receiving	quantity/product name/specifications	《Engineering BOM》 《Material receiving operation instruction》	Material clerk					《Electronic account》	Contact the supplier and issue 《returning note》
2		Incoming inspection	specifications/model/pack	《Engineering BOM》 《Sampling inspection plan》 《IQC incoming material inspection instruction》	IQC	MA=0.25 MI=0.65	IQC	1.visual 2. Machine test 3. sample	Two dimensional vernier caliper	《IQC incoming inspection record》	Inspection: OK, stamped with pass seal. The inspection ng shall be labeled as nonconforming product and issued at the same time 《8D Report Problem Solving Report》, Notify the supplier of return and improve .
3		material	quantity/product name/specifications	《 production instruction》 《Material receiving operation instruction》	Material clerk					《Material requisition and distribution registration form》	
4		pack	pack quantity/indicate	《Finished product packaging operation instruction 》	packager						
5		Delivery inspection	product appearance bad record Dimensional test Bad sign Good product packaging ROHS compliance	《Engineering BOM》 《Sampling inspection plan》 《OQCFinal inspection operation instruction 》	OQC	MA=0.25 MI=0.65	OQC	1.visual 2. Machine test 3. sample	Two dimensional vernier caliper	《OQC finished product inspection record 》	If the number of times of the same type of the same type missing in the daily inspection is greate, OQC issues the 8D report problem solving report to the production manager for analysis and improve
6		delivery	product namespecification quantity delivery note	《Finished product shipping operation instruction 》	Material clerk					《Electronic account》	
	finish										
character	Revision date	Revised content			Revised; Revised By	Acknowledged by	Fiction		auditing		
①											
②							date		date		
③											

Shenzhen cape deep communication
technology co., LTD

file NO

Enactment Date

FPC antenna inspection specification

Page

edition

A0

1. Purpose and purpose: rigorous testing , Control the use of defective products and ensure product quality requirements.

2. applicable scope: FPC aerial.

3. content

item	content	tool	Inspection standards and technical requirements	Defect Description	stratum
packin g	characteris tic	visual	The outer package is clearly labeled, Indicate, product name, specifications , quantity, date.	The identification is not clear and cannot be identified.	MIN
	Matter	visual	Uniform packaging, Clean and tidy, unabroken , No impact on handling , Storage, No wrong installation , mixed.	Inconsistent packaging, Dirty, damp, damaged., Affect handling, Storage.	MIN
appeara nce	surface	visual	FPC is not damaged, Copper Exposed, dehiscence, chromatic aberration, Yijiao, Gold finger is free of oxidation and brittle crack.	FPC is damaged, Copper Exposed, dehiscence, chromatism, rubber overflowing ,Oxidation of golden finger, Brittle crack.	MAJ
structu re	measurement	vernier caliper	Board size (dimensions) Same as template	The size is different from the sample .	MAJ
	Material	sample plate	Same as template.	Material is different from template .	MAJ
perform ance	Electroplat e	electro plating Machine	Golden finger degree golden brightness, coverage rate 100%	The gold plating is not bright, or the gold plating coverage is low.	MAJ
	forced jointing	chassis	FPC is pasted on its enclosure consistent with the preset pasting position. None.	FPC is pasted on its enclosure, Inconsistent with the preset pasting position , More or less .	MAJ

Formulate :

auditing :

Approve:

RoHS restricted substance composition questionnaire

Information of supplied products												
Customer name	Description of Material/model	entry name	manufacturer						Green material identification			
Shengyangshengxue	BT aerial	PM3	Shenzhen Kaipushen Communication Technology Co., Ltd						/			
Product composition information												
Order Number	part name	Specification	component supplier	Third party test report		Content of restricted substances PPM						remarks
				date for	number	(Pb)	(Cd)	(Hg)	(Cr ⁶⁺)	(PBB)	(PBDE)	
1	adhesive	/	3M	2022.1.3	CANEC2200386501	○	○	○	○	○	○	
2	base material	/	Kwai lungeti	2022.3.3	SHAEC202460504	○	○	○	○	○	○	
3	cElectroplate	/	Rongfeng	2022.4.15	2220136788101001	○	○	○	○	○	○	
4	Solder mask black oil	/	Youli	2022.8.5	ETR22705905	○	○	○	○	○	○	
5	Text white oil	/	Chuanyu	2022.10.29	ETR21A04957M01	○	○	○	○	○	○	

written by: Wuxintuo

Filled by: Department: Quality

Salt spray test report

Date: 2023年01月 08日

Item	pm3-BT aerial	Customer	Shengyangshengxue
Supplier	Shenzhen Kaipushen Communication Technology	National Test	GB/T 2423.2-2008
Sample situation	Sample qty: 5PCS		
	Base material:Half to one-third electrolytic copper with glue	Coating: Gold plated $\geq 3U''$	
Test time	2023年01月07日9时00分至2023 年01月09日 9时 00 分 共计 48 H		
Test type:	<input checked="" type="checkbox"/> NSS	<input type="checkbox"/> ASS	<input type="checkbox"/> CASS
Test condition	Salt solution: 5%		PH:7.0
	Chamber temp: 35° C		Relative humidity: 85%
	Spray way: <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> intermittent		Compressed air pressure: 1kg/cm ²
	Salt spray sedimentation rate: 1- 2ml/80cm ² /h		Fog fluid collection: 1.4ml/80cm ² /h
	Test cycle: __1__cycle		Spray time: 48 h
Test results	Appearance after test:appearance intact, without obvious change		
	Coating: no spalling, no rust		
	Surface spraying, silk screen: no falling off, no bubbles.		

Explanation:

1、Salt spray test operating standards in accordance with the People's Republic of China national standard GB/T2423.17-2008 implementation.

2、The test piece results are determined according to the national standard GB/T6451-02 of the People's Republic of China.

Operator by/date: Jian Chen

Approved by/date: : Wu Xingtuo 2022.01.09

High-low temperature test record

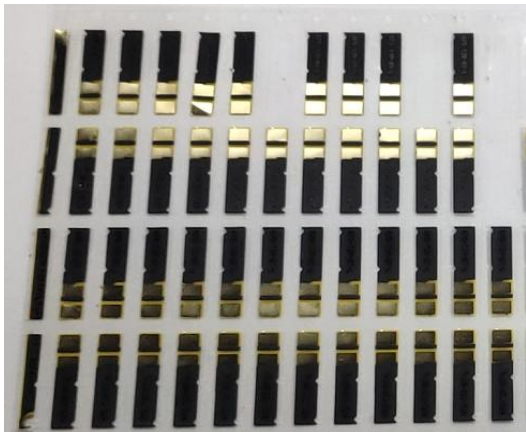
Product name	PM3	Customer name	Shengyangshengxue	
Test qtu	6 pcs	Test date	2023/1/7	
Cycle number	1	Time	48H	
TestCondition:				
High temp: + <u>60</u> degree Humidity: <u>90</u> % RH				
Low temp: - <u>20</u> degree				
Test time: high temp: <u>48</u> H low temp: <u>48</u> H				
Test item	Uncycled test		Cycled test	
No	After high temp	After low temp	After high temp	After low temp
1	OK	/		
2	OK	/		
3	OK	/		
4	OK	/		
5	OK	/		
6	OK	/		
After test deficiency:				
Reason analysis:				
Improvement measures:				
Test results: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail				

Operator by/date: Jian Chen

Approved by: Wu Xingtuo

包装方式 (Packing)

Customer:	Shengyangshengxue	Material name:	PM3-BT aerial
packing qty:	one carton	Packing material:	Carton
Qty/carton:		Packing way :	Ziplock bag



Picture 1: Single package



Picture 2: Packing way



Picture 3: Packing view (front, side, top)



Picture 4: packing label

Note: If you need to fit the antenna processing, according to the shell factory blister tray packaging shipping!

Fiction : Wu Xingtuo

auditing: LiMinghui