

acknowledgement

SPECIFICATION FOR APPROVAL

SUPPLIER:	Shenzhen Yishengbang Technology Co., Ltd.
PRODUCT NO.:	2.4G copper tube antenna
SUPPLIER NO.:	SLK-DS-B-388I-G
Huizhi/Ateko NO. :	A755PEX2434L
Huizhi/Ateko DESCRIPTION :	2.4G antenna IPEXwifi single copper tube antenna gain 1.95dBi wire length 355mm±5mm antenna total length 410±5mm gray silver-tin wire

Huizhi/Ateko APPROVAL			SUPPLIER APPROVAL		
QUALITY	R&D	SAFTY	APPROVED	CHECKED	DRAWING
			Position: General Manager	Position: Engineering Manager	Position: Engineer
			name :	name :	name :

company :

CUSTOMER:

address :

ADD:

telephone /TEL :

company :

CUSTOMER:

address :

ADD:

telephone /TEL :

Huizhou Huizhi Technology Co., Ltd.

Huizhou Huizhi Technology Co.,Ltd

3rd Floor, Building C1, Taihong Industrial Park, Daya Bay, Huizhou

Third floor,building C1,Taihong Industrial,Daya Bay,Huizhou

0755-26740460

Shenzhen Dingsheng Optoelectronics Co., Ltd.

Shenzhen Ateko Photoelectricity Co.,Ltd

Building F, Huangpu Runhe Industrial Park, Zhen Tou Road, Huangpu Community, Shajing Street, Baoan District, Shenzhen

Building F,Huangpu Runhe Industrial Park,Zhentou Road,Huangpu Community,Shajing Sub-district,Bao'an District,Shenzhen

0755-81446315

company :

CUSTOMER:

address :

ADD:

telephone /TEL :

Shenzhen Yishengbang Technology Co., Ltd.

Shenzhen Yishengbang Technology Co., Ltd

101, Building C, Shenzhen Hard Technology Industrial Park, Bao'an District, Shenzhen

101, Building C, Shenzhen Hard Technology Industrial Park, Bao'an District, Shenzhen

18025305599

Shenzhen Yishengbang Technology Co., Ltd.
sample INFORMED CONSENT FORM
SPECIFICATION FOR APPROVAL

Company Name: Shenzhen Dingsheng Optoelectronics Co., Ltd.

Material code: A755PEX2434L

Material Name: 2.4G WIFI Antenna IPEX Single Copper Tube Antenna

Recognition date: 2023.7.31

Supplier Name: Shenzhen Yishengbang Technology Co., Ltd.

Supplier specification model: SLK-DS-B-388I-G

acknowledgement

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supplier recognition			Shenzhen Dingsheng Optoelectronics Co., Ltd.		
engineer	examine and verify	ratify	engineer	examine and verify	ratify
Liu Cailiang	Huang Zhen	Lin Meicai			
Seal and signature			Seal and signature		
date	2023.7.31		date		
Instructions: ☐ Accept ☐ Accept with conditions					
Notes (for customer entry):					

Supplier name: Shenzhen Yishengbang Technology Co., Ltd.

Supplier address: 101, Building C, Shenzhen Hard Technology Industrial Park,
Baoan District, Shenzhen

Phone: 18025305599

Phone: 18666299104

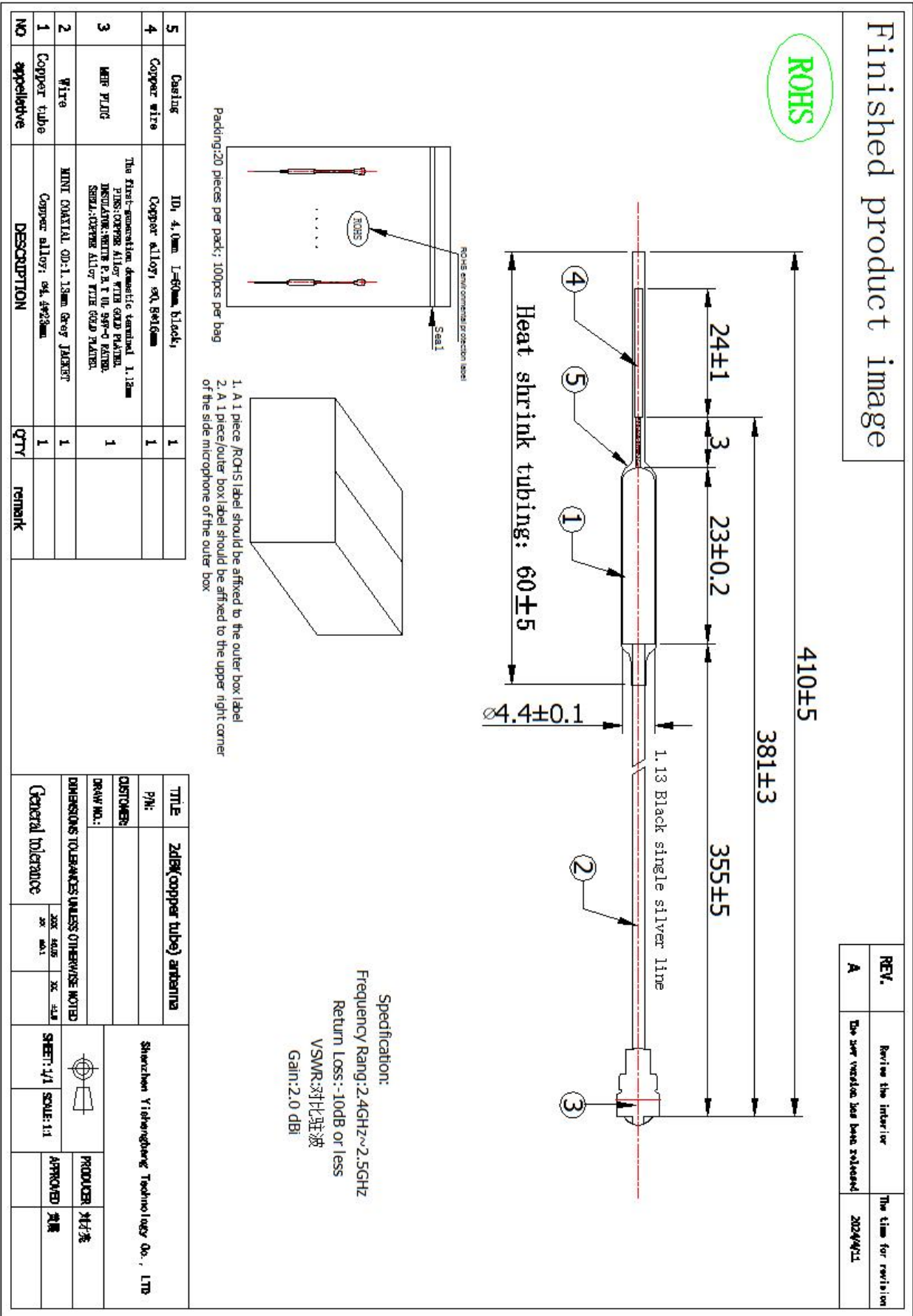
catalogue

1. Customer.....	1
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Revise resume

edition REVISION	Change item DESCRIPTION	date changed DATE
A0	First formulation	2023.7.31

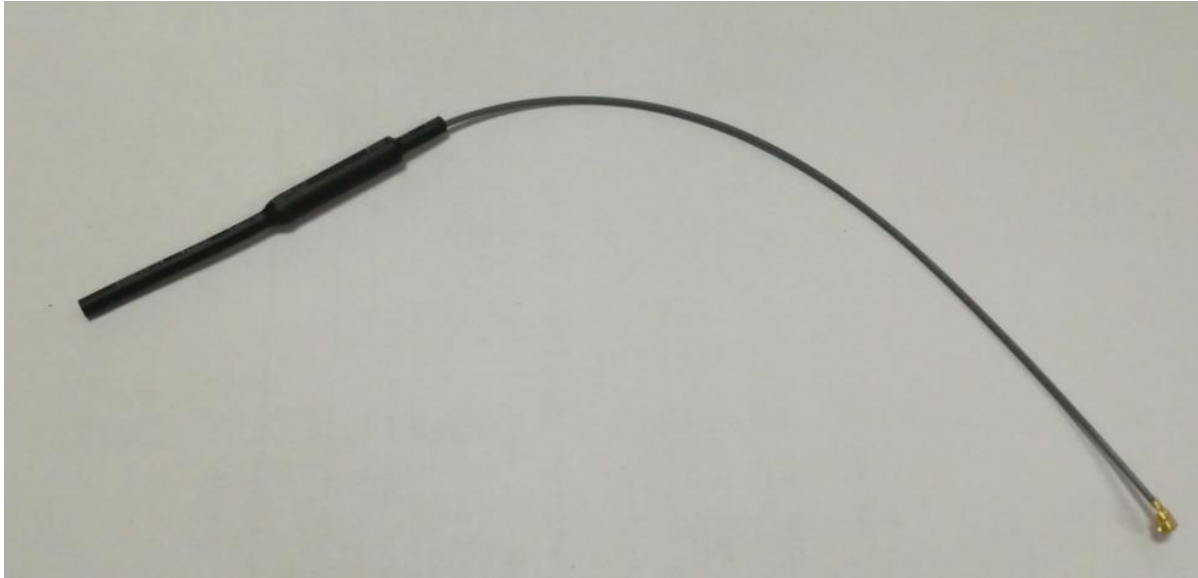
5. Product drawings (unit: mm)



6. Physical images

SLK-DS-B-388I-G

1 2 3 4



Product Code:

(1) Customer:

DS: Shenzhen Dingsheng Optoelectronics Co., Ltd.

(2) Antenna Name:

B: Brass(4.4*23*1.1)

(3) Cable Length:

388I:388*1.13MM, first-generation terminal

(4)Cable Color

G:Grey

7. Bill Of Material

Material Code	SLK-DS-B-388I-G		product name	WIFI antenna
order number	Material name	specifications and models	Qualified Supplier	remarks
1	r-f line	1.13 Black/Gray	Microwave Pass/Higino	
2	terminal	single end terminal	Cai Mei/QifuKang	
3	copper line	copper line	Zhao Hui	
4	copper pipe	copper pipe	Zhao Hui	
5	heat shrink tubing	heat shrink tubing	Wol	

8. Material certification

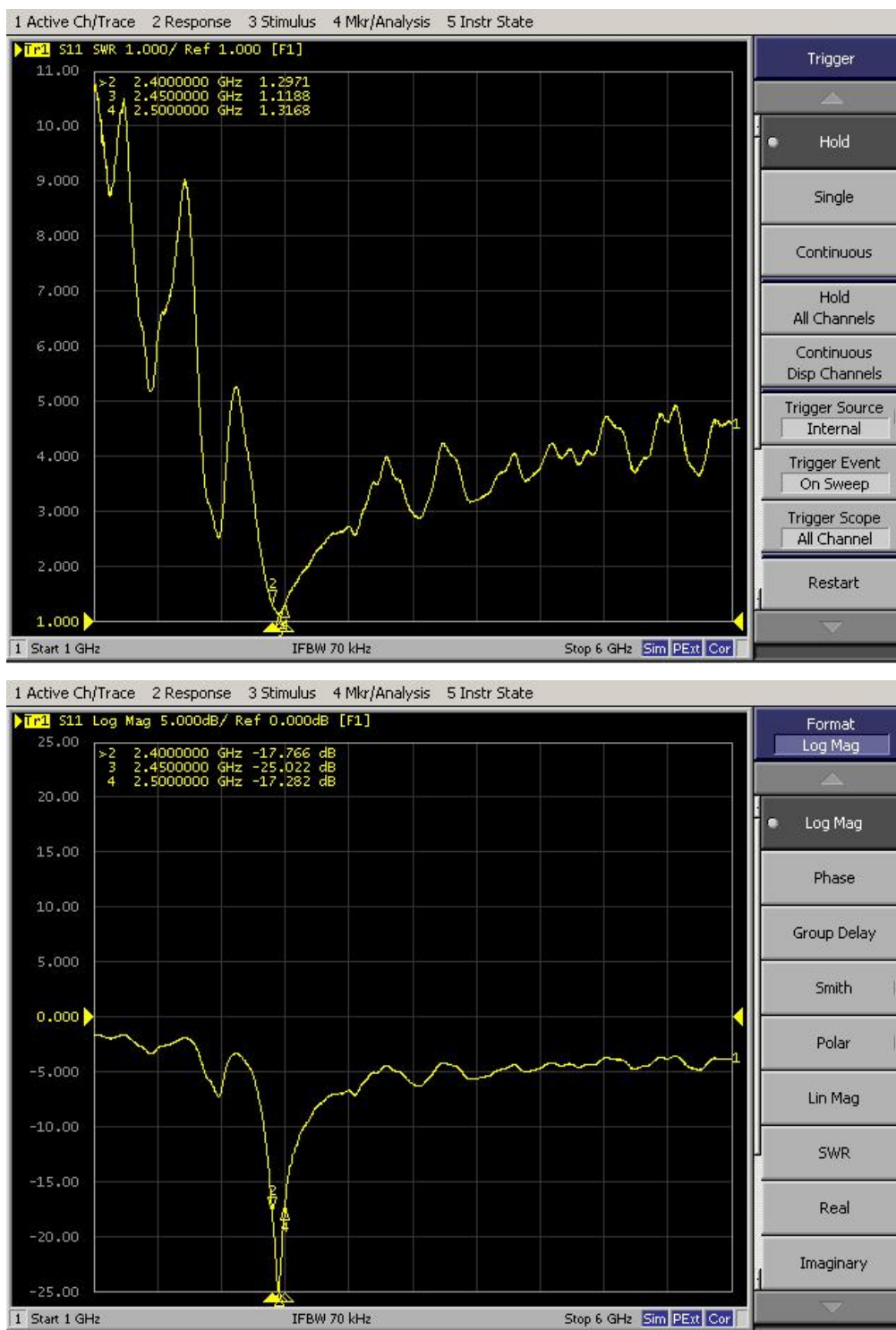
number No.	Material name	description Describe	Testing institution	Authentication code	Report test date	state State
1	copper pipe	copper pipe	SGS	CANEC2300481702	2023/01/18	valid Effective
2	heat shrink tubing	heat shrink tubing	SGS	CANEC2226951412	2022/12/20	valid Effective
3	Tin wire	Tin wire	SGS	CANEC23005192206	2023/07/03	valid Effective
4	RF line	Shielding coverage>90%	SGS	CANEC2301851703	2023/2/22	valid Effective
5	RF1 terminal RF1 generation terminal	Plated nickel layer	CTI	A2220404860101002C	2022/09/17	valid Effective
		gold plate thickness $\geq 1\mu$ m) Gold plating (thickness $\geq$ 1um)	CTI	A2220404860101001C	2022/09/17	valid Effective

9. test report

9-1 Antenna

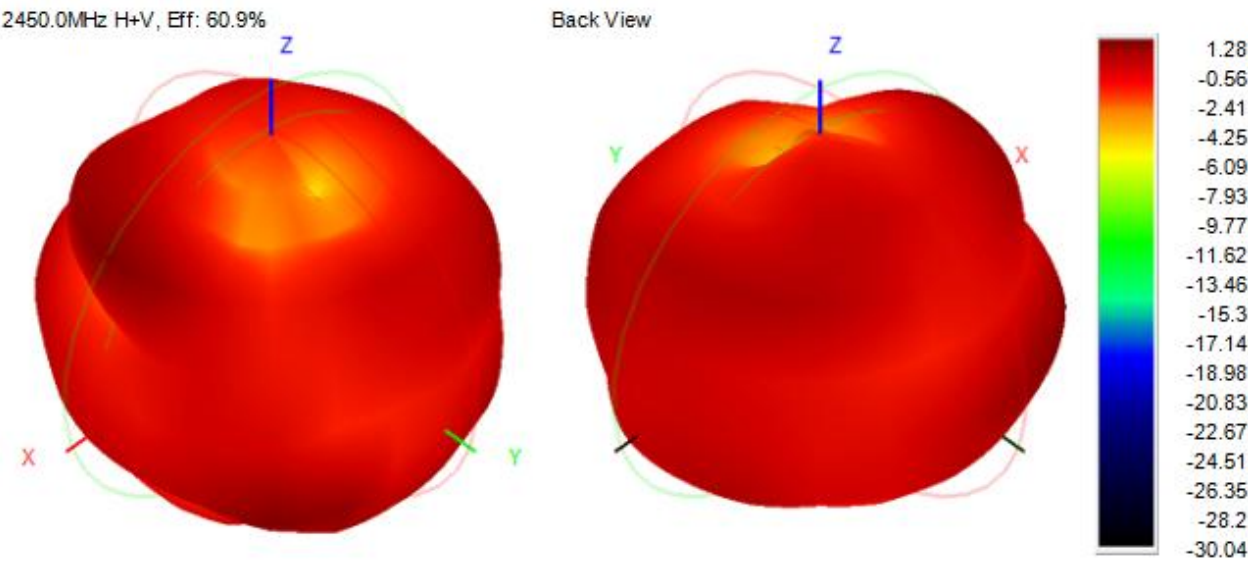
Main technical specifications	
Frequency Range (MHZ)	2400-2500
Impedance(Ω)	50
Gain(dBi)	2 ± 0.5
VSWR	≤ 2
Polarization	Linear
Radiation	Omni-directional
Connector Type	First-generation terminal
Physical Properties	
Antenna cover	Copper
Operating Temp	-20°C~+70°C
Storage Temp	-20°C~+70°C

9-2.VSWR/S11 Antenna



9-3. WIFI Antenna Gain/Efficiency/Radiation Pattern of 3D Antenna

Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-2.51	-2.26	-2.04	-1.92	-2.09	-2.15	-2.10	-2.34	-2.21	-2.26	-2.43
Gain (dBi)	1.29	1.66	1.82	1.95	1.46	1.28	1.58	1.29	1.29	1.30	1.25
Efficiency (%)	56.07	59.50	62.45	64.24	61.76	60.92	61.61	58.39	60.18	59.48	57.15



10. inspection report

10-1 Key Dimension Inspection of Samples

Date: 2023-07-27

customer name	Shenzhen Dingsheng Optoelectronics Co., Ltd.				
product model	SLK-DS-B-388I-G				
order number	surface	size			
		antenna standing wave ratio	length of copper tube	total antenna length	RF line length
1	OK	< 2	23.02	412	388
2	OK	< 2	23.03	411	388
3	OK	< 2	23.03	411	388
4	OK	< 2	23.03	410	389
5	OK	< 2	23.02	411	388
Note: The antenna's standing wave ratio must be <2, with dimensional tolerances conforming to drawing specifications.					

10-2 Salt Spray Test

test item	Salt Spray Test																			
Product specifications	SLK-DS-B-388I-G	Quantity: 5PCS																		
Test date: 2023-07-27	Completed on 2023-07-28																			
Testing/inspection equipment: 1. HY-60D Salt Spray Tester 2. HP-8753ES Network Analyzer																				
Test/inspection conditions: 1. The temperature inside the salt spray chamber is $35\pm 2^{\circ}\text{C}$; the laboratory temperature is $22-30^{\circ}\text{C}$. 2. Salt spray deposition rate: After 24-hour spraying, the deposition rate is 1-2 mL/h per 80 cm^2 area, with sodium chloride concentration of $50\pm 10\text{ g/L}$ and pH value. 6.5/7.2																				
requirement : 1. Electrical testing meets standard requirements: the voltage standing wave ratio test is qualified. 2. The metal surface coating shall be free from oxidation, peeling, cracking, separation, or other defects; the non-metallic parts shall be free from discoloration, deformation, delamination, cracking, or other defects.																				
<table border="1"><thead><tr><th>Sample number</th><th>order of evaluation</th><th>Poor description</th></tr></thead><tbody><tr><td>1</td><td>qualified</td><td>not have</td></tr><tr><td>2</td><td>qualified</td><td>not have</td></tr><tr><td>3</td><td>qualified</td><td>not have</td></tr><tr><td>4</td><td>qualified</td><td>not have</td></tr><tr><td>5</td><td>qualified</td><td>not have</td></tr></tbody></table>			Sample number	order of evaluation	Poor description	1	qualified	not have	2	qualified	not have	3	qualified	not have	4	qualified	not have	5	qualified	not have
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1	qualified	not have																		
2	qualified	not have																		
3	qualified	not have																		
4	qualified	not have																		
5	qualified	not have																		
Test/Inspection Result: ☐ Pass ☐ Fail ☐ No Result																				
Test: Wang Guoxing		Review: Guo Liang																		

10-3 Constant Temperature and Humidity Test

test item	constant temperature and humidity test																			
Product specifications	SLK-DS-B-388I-G	Quantity: 5PCS																		
Test date: 2023-07-27		Completed on 2023-07-28																		
Testing/inspection equipment: 1. programmable constant temperature and humidity test chamber 2. HP-8753ES Network Analyzer																				
Test/inspection conditions: 1. Testing conducted at room temperature of 25°C and humidity of 65% 2. +80±2°C 85-90%RH / -30±2°C 0% RH, 2-hour cycle, duration 24H																				
requirement : 1. Electrical testing meets standard requirements: the voltage standing wave ratio test is qualified. 2. The metal surface coating shall be free from oxidation, peeling, cracking, separation, or other defects; the non-metallic parts shall be free from discoloration, deformation, delamination, cracking, or other defects.																				
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5	qualified	not have																		
Test/Inspection Result: ☐ Pass ☐ Fail ☐ No Result																				
Test: Wang Guoxing		Review: Guo Liang																		

10-4 Rally Test

test item	strain relief test					
Product specifications	SLK-DS-B-388I-G					Quantity: 5PCS
Test date: 2023-07-27					Completed on 2023-07-27	
Testing/inspection equipment: 1. Tensile tester						
Test/inspection conditions: 1. temperature : 18-25°C 2. Humidity ≤70% RH						
Test result: passed						
project condition	The holding force between the terminal and the RF cable shall be ≥1kgf					
Test count	1	2	3	4	5	
test result	1.26	1.24	1.27	1.31	1.29	
Test/Inspection Result: ☐ Pass ☐ Fail ☐ No Result						
Test: Wang Guoxing			Review: Guo Liang			

7. manner of packing

Packaging Work Instructions (Example)

client:	Product: Copper tube antenna	Color: black
Customer No.:	The company material number:	date:



1. After inspecting the appearance and performance of a single antenna in accordance with the inspection instructions, the quality department should wrap each antenna with 50PCS.

2. The production line shall carry out packaging operation according to 200PCS per bag.



3. According to the customer's label requirements, attach labels and pack the goods.

4. Seal the box and weigh it, put it into the finished product warehouse, and wait for shipment.

Remarks: Inner packaging: 200 PCS per pack
Outer packaging: carton size 480X280X300MM 10000 PCS per case.
According to the actual order quantity, the carton size may be different.
According to different customers, make different inner and outer packaging labels.

Engineering Department: Liu Cailiang	Quality department: Guo Liang	Approval: Huang Zhen
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