



# Shenzhen Qiyue Optoelectronics Co., LTD

Part of the acceptance book

Qiyue Department material number: AE130024000067

Drawing version: A1

Name: WiFi&BT antenna

Supplier: Shenzhen Yishengbang Technology Co., LTD

Qiyue photoelectric sign and check column:

Admit the chapter	engineering department		
	approval	affirm	undertake

Check board of the vendor:

Admit the chapter	engineering department		
	approval	affirm	undertake
	Lin Meicai	Huang Zhen	Liu Cailiang

Remarks:

1. Please refer to the second page for the details of this statement.
2. When this material is confirmed in mass production, any change shall be effective after following the design change procedures of the Company and approved by the technical center of the Company. Any loss (including any related costs of the corresponding customer) resulting from any change in this procedure shall be at the responsibility of the supplier.

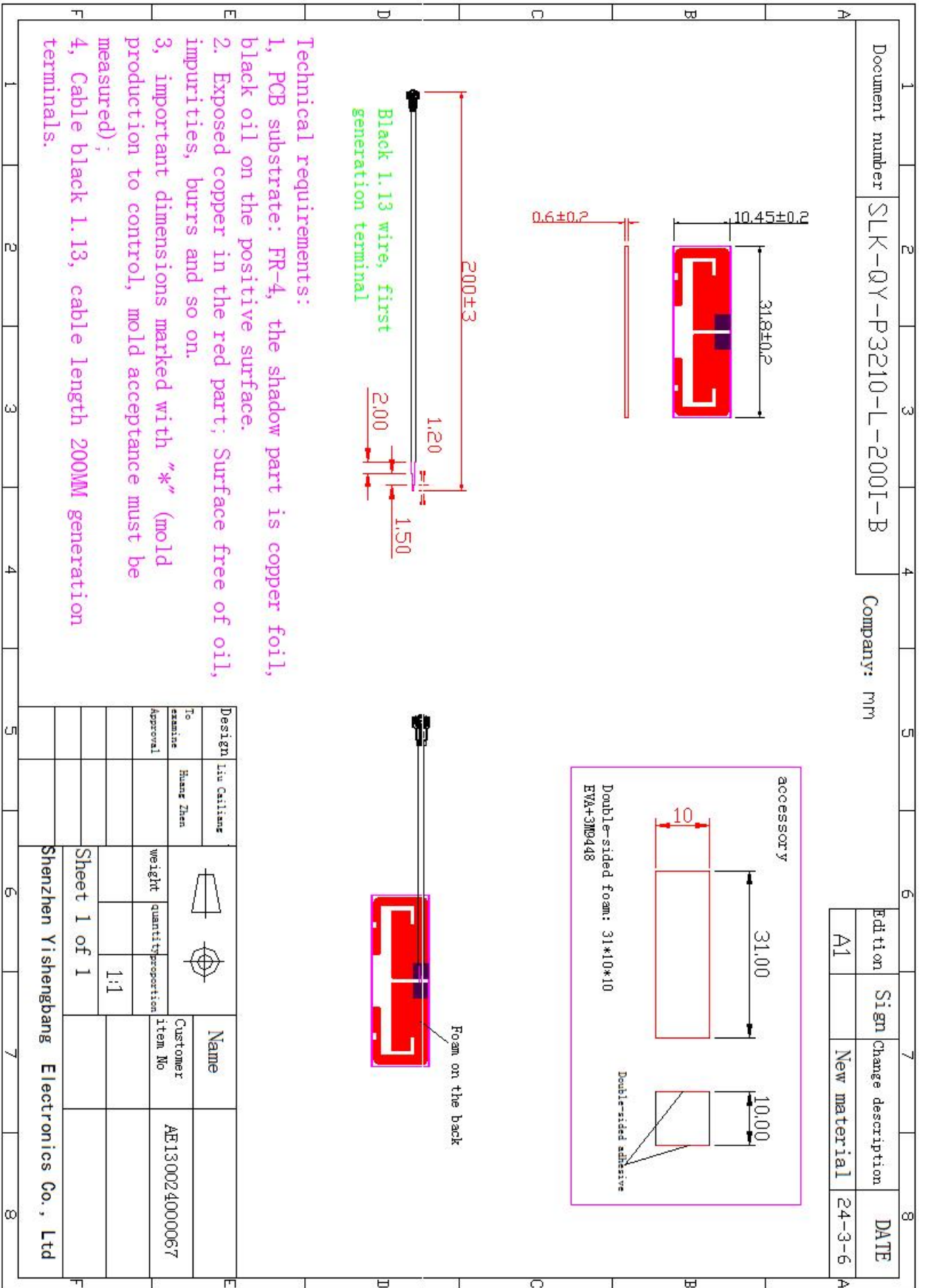


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# 4. Product map file



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**Antenna manufacturer address:** 101, Building C, Gushu Qianwan Hard Science and Technology Industrial Park, Xixiang Street, Baoan District, Shenzhen

**Antenna type:** dipole

## 5. Performance parameters

Main technical specifications	
Frequency Range (MHZ)	2400-2500 5150-5850
Impedance( $\Omega$ )	50
Gain(dBi)	3.02
VSWR	$\leq 1.92$
Admitted Power	10W
Polarization	Linear, Vertical
Radiation	Omni-directional
Connector Type	First generation terminal
Physical Properties	
Operating Temp	-20°C~+70°C
Storage Temp	-20°C~+70°C

## VSWR / S11 antenna



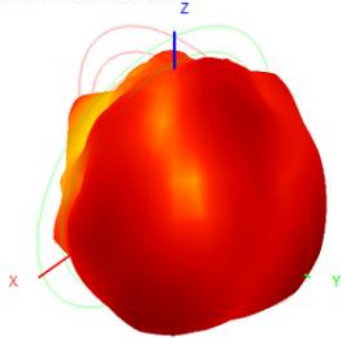
## line loss

wire length (MM)	line loss (dB)	Screening layer coverage
200	0.57	>90%

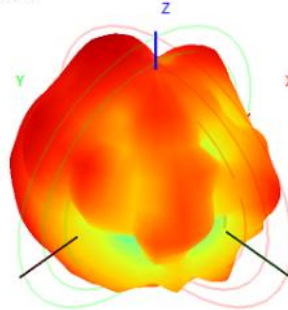
## WiFi&BT antenna Gain/Efficiency /3D

Frequency	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0	5150.0	5350.0	5500.0	5750.0	5850.0
Efficiency	-3.52	-3.75	-3.61	-1.81	-3.33	-3.02	-3.02	-2.95	-2.77	-2.70	-2.74	-3.83	-3.26	-3.29	-3.25	-3.39
Gain (dBi)	1.88	1.75	1.85	2.22	2.04	2.38	2.57	2.59	2.80	3.02	2.97	2.07	2.25	2.21	2.10	2.03
Efficiency	54.43	52.13	53.58	52.43	56.45	59.93	59.88	50.65	62.87	63.75	63.22	41.37	47.21	46.90	47.35	45.84

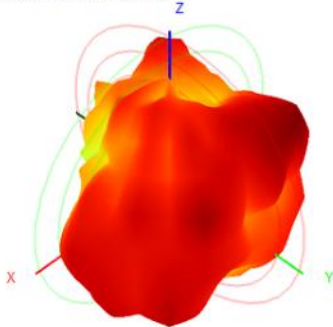
2450.0MHz H+V, Eff: 59.93%



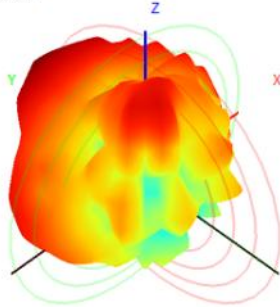
Back View



5850.0MHz H+V, Eff: 45.8%



Back View



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## 6. Reliability report

### 6.1 Key sample size inspection

Date: 2024-3-6

customer name	Shenzhen Qiyue Optoelectronics Co., LTD				
product model	SLK-QY-P3210-L-200I-B				
order number	surface	size			
		PCB length	PCB width	PCB thickness	Cable wire length
1	OK	31.85	10.49	0.59	200
2	OK	31.86	10.47	0.57	200
3	OK	31.85	10.51	0.56	200
4	OK	31.85	10.48	0.58	200
5	OK	31.86	10.48	0.56	200
Note: Size tolerances are according to the drawing specification.					

Tester: Wang Guoxing

Review: Guo Liang



## 6.2 Salt Fog test

test item	Salt Spray Test																			
Product specifications and models	SLK-QY-P3210-L-200I-B	Quantity quantity: 5 PCS																		
Test time: 2024-3-4	Completion time 2024-3-6																			
<b>Test / inspection equipment:</b> 1. HY-60D salt spray tester 2. The HP-8753 ES Network Analyzer																				
<b>Test / Inspection Conditions:</b>  1. The temperature in the salt spray tank is $35 \pm 2^{\circ}\text{C}$ ; the laboratory temperature is $22\text{-}30^{\circ}\text{C}$  2. After 48H spray, 1-2 M L/h sodium chloride concentration is $50 \pm 10\text{g} / \text{L}$ , PH value At 6.5 / 7.2																				
<b>requirement:</b> 1. The electrical test meets the standard requirements: the voltage standing wave ratio test is qualified; 2. The metal surface coating has no oxidation, peeling, crack, separation and other bad; the non-metal part has no discoloration, deformation, debonding, cracking and other bad																				
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 33%;">Sample number</th> <th style="width: 33%;">order of evaluation</th> <th style="width: 33%;">Bad 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	Bad 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																		
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5	qualified	not have																		
<b>Test / inspection judgment:</b> <input type="checkbox"/> qualified <input type="checkbox"/> unqualified <input type="checkbox"/> is not determined																				
<b>Test: Wang Guoxing</b>		<b>Review: Guo Liang</b>																		

### 6.3 Constant temperature and humidity test

test item	Temperature constant humidity test																			
Product specifications and models	SLK-QY-P3210-L-200I-B	Quantity quantity: 5 PCS																		
Test time: 2024-3-4		Completion time 2024-3-5																		
<b>Test / inspection equipment:</b> 1. Program-type constant temperature and humidity test box 2. The HP-8753 ES Network Analyzer																				
<b>Test / Inspection Conditions:</b>  1. Test at room temperature of 25°C and 65% humidity  2. + 80 ± 2°C 85-90% RH / -30 ± 2°C 0% RH 2 h for a cycle time of 24H																				
<b>requirement:</b> 1. The electrical test meets the standard requirements: the voltage standing wave ratio test is qualified; 2. The metal surface coating has no oxidation, peeling, crack, separation and other bad; the non-metal part has no discoloration, deformation, debonding, cracking and other bad																				
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Test / inspection judgment: <input type="checkbox"/> qualified <input type="checkbox"/> unqualified <input type="checkbox"/> is not determined																				
Test: Wang Guoxing		Review: Guo Liang																		

6.4 Tension force test

test item	strain relief test				
Product specifications and models	SLK-QY-P3210-L-200I-B				Quantity quantity: 5 PCS
Test time: 2024-3-5					Completion time 2024-3-5
Test / inspection equipment: 1. Tension test tester					
Test / Inspection Conditions:  1. temperature:18-25°C  2. Humidity of 70% RH					
Test result: Qualified					
condition project	Maintenance force between terminal and RF cable is 1kgf				
Test times	1	2	3	4	5
test result	1.22	1.24	1.21	1.22	1.31
Test / inspection judgment: <input type="checkbox"/> qualified <input type="checkbox"/> unqualified <input type="checkbox"/> is not determined					
Test: Wang Guoxing			Review: Guo Liang		



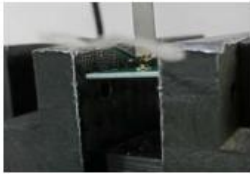

6.5 Pull-out force test

## Test Summary

Un-mating force test (单位: N)

Project Matching mode	Result		PASS FAIL
	DATA	Pullout force	PASS
Pullout force Initial 4N Min	1	13.68	PASS
	2	13.53	PASS
	3	14.70	PASS
	4	12.59	PASS
	5	10.22	PASS
Pullout force 30 Cycles 2N Min	1	4.06	PASS
	2	3.92	PASS
	3	5.00	PASS
	4	4.46	PASS
	5	5.41	PASS

Test Photo

Initial Pullout force		Initial Result	
30 Cycles Pullout force		30 Cycles Result	

Testing equipment

Serial number	Name	Specification Model	Control Number	Term of validity
1	Plug-and-pull machine	1220S	CCT-NJ-006	2020/8/25

## 7. List of material composition and harmful substances

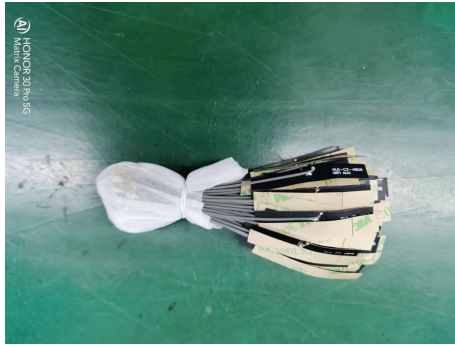
number No.	Material name: Material name	description Describe	Testing institution Testing organization	Certification code Authentication code	Report the test date of Report test date	state State
1	PCB	FR-4	SGS	CANEC23014471406	2023/11/30	valid Effective
2	1.13 RF line	The shield layer coverage is > 90%	SGS	SZXEC23001776704	2023/8/8	valid Effective
4	Tin line Tin wire	Tin line	SGS	SZXEC24000275504	2024/2/20	valid Effective
6	The RF1 generation of terminals	Nickel coating	CTI	A2230400553101002E	2023/8/9	valid Effective
		Gold plating (thickness ≥ 1um)	CTI	A2230400553101001E	2023/8/9	valid Effective
7	3M glue	3M glue	SGS	SHAEC23021627701	2023/12/27	valid Effective

## 8. Composition and description of raw materials

Material code	SLK-QY-P3210-L-200I-B		product name	WiFi&BT antenna
order number	Material name	Specifications and models	Qualified supplier	remarks
1	r-f line	1.13 Black	TianMai	
2	terminal	Generation end	Color beauty	
3	PCB	FR-4	Rich xiang	
4	EVA foam	EVA foam	Xuan into	
<p>pour: Raw materials all comply with RoHS 2.0 and RECAH standards</p>				

## 9. Packaging specification (example)

client:	product:	Color: black
Customer No. :	The company material number:	Date: November 23. 23, 2021



1. Quality Department packages single antenna according to the test instruction.

2. Production line according to 200 PCS  
After full appearance and performance inspection, apply dressing according to 50 PCS. (With a desiccant, with a label).



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

3. Paste labels for packing according to customer label requirements.

Remarks: Inner pack: 200 PCS per pack

Outer packaging: Carton size 480 \* 280 \* 300MM 2400 PCS per box.

(Note) Maniling box size: 280 \* 250 \* 150MM

According to the actual order quantity, the carton size may be different.

According to different customers, make different inner and outer packaging labels.

10. Inspection of finished products

**Shenzhen Yi Sheng Bang technology Co., LTD**  
**Sample inspection report**

Customer name	Qiyue Optoelectr	Order number		Lot number	10
Production date	2024/3/6	Specification and model	SLK-QY-P3210-L-200I-B	Check number	10
item	Check description	determine			
Model number	SLK-QY-P3210-L-200I-B	Up to standard			
appearance	PCB board surface spray black oil, appearance no scratches oil and other bad; PCB identification is correct, characters are not wrong;	Up to standard			
dimension	Antenna length 200MM±3.0, refer to other specifications	Up to standard			
client	1.13 First-generation terminals	Up to standard			
Electrical proper	VSWR≤2	Up to standard			
Inspection mode	<input type="checkbox"/> Spot check		<input checked="" type="checkbox"/> Complete inspection		
Test result	<input checked="" type="checkbox"/> Up to standard		<input type="checkbox"/> Below standard		

Inspector: Wang Guoxing

Review:

Approved by: Guo Liang