

# Shenzhen Yishengbang Technology Co., LTD

## Sample acceptance letter

### SPECIFICATION FOR APPROVAL

The name of the company: Shenzhen MADIGI Electronic Technology Co., Ltd.

The material code: 2. 18. 0285

specifications: NUCRL01

Admitted to date: \_\_\_\_\_

The name of the supplier: Shenzhen Yishengbang Technology Co., Ltd

Supplier standard type number: WIFI MAIN:SLK-MDJ-T4310Z-L-100IV-B

Admit signature					
For acceptance by the contractor			Shenzhen MADIGI Electronic Technology Co., Ltd		
The engineer	The reviewer	approved	The engineer	The reviewer	approved
Shi Lian Chen	Zen Huang	Meicai lin			
Signed and sealed			Signed and sealed		
date	2021-8-29		date		
instructions: <input type="checkbox"/> accept <input type="checkbox"/> Conditional acceptance					
note:					

The name of the supplier: Shenzhen Yishengbang Technology Co., LTD

Supplier address: 608, Building B, Shenzhen Qianwan Hard Technology Industrial Park, Bao 'an District, Shenzhen

telephone: 18025305599

telephone: 18666299104

# WIFI MAIN Antenna (T4310Z)

## 1. Explanation of Product number :

**S L K - M D J - T 4 3 1 0 Z - L - 1 0 0 I V - B**

**1                      2                      3                      4                      5**



Product Code:

(1) Customer:

MDJ:MADIGI

(2) Project:

T4310Z: SLK-MDJ-T4310Z (WIFI MAIN antenna)

(3) Welding Position

L: Left

(4) Cable Length:

100IV: 100\*1.13MM Four generations of original factory terminals

(5) Cable Color

B: Black

## 2. Features

\*Stable and reliable in performances

\*Compact size

\*RoHS compliance

### 3. Applications

- \* IEEE802.11 (a/b/g/n)
- \* Hand-held devices when WIFI (802.11a/b/g/n) functions are needed

### 4. Description

Holy bond's metal antenna series are specially designed for WIFI (802.11 a/b/g/n) applications. Based on Holy bond's proprietary design and processes, this metal antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

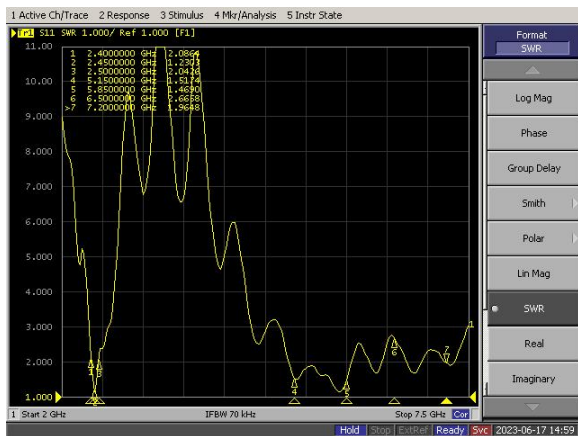
### 5. Electrical Specifications

#### 5-1

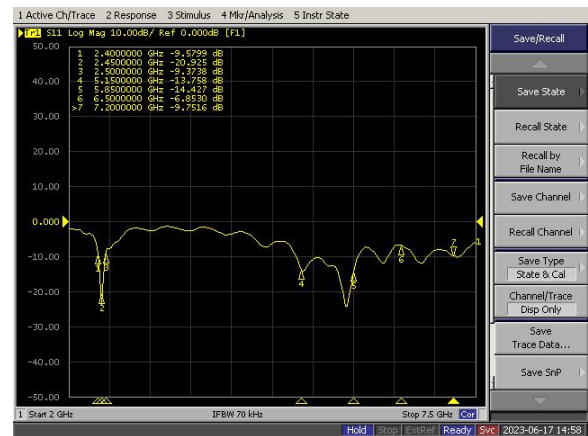
Characteristics	Specifications	Unit
Outline Dimensions	43x10.06x 0.4	mm
Center Frequency	2.4-2.5/5.15-7.2	GHz
Bandwidth(under-10dB return loss)	130min	MHz
VSWR	3max	

#### 5-2.

#### VSWR



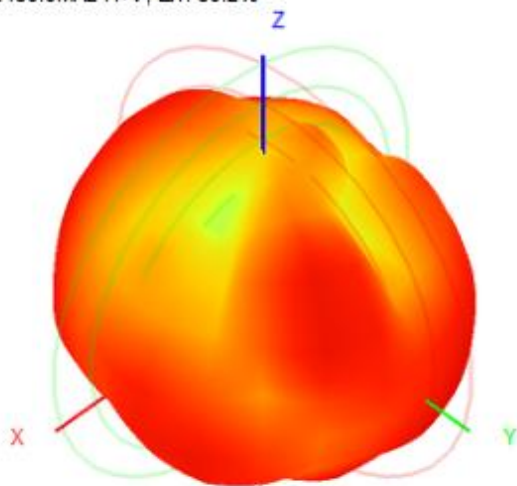
#### S11



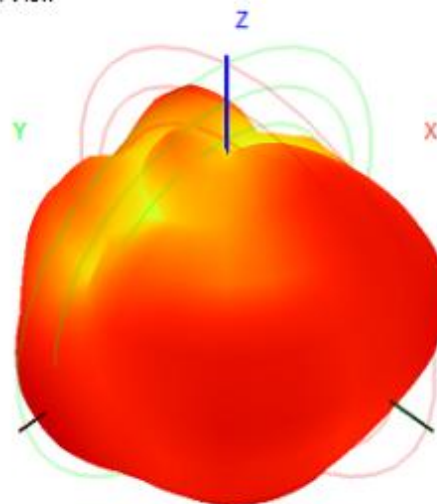
### 5-3.WIFI Antenna Gain/Efficiency/Radiation Pattern of 3D

Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400.0	-5.47	-0.52	28.36
2410.0	-4.75	0.10	33.53
2420.0	-4.12	0.46	38.70
2430.0	-4.02	0.61	39.62
2440.0	-4.05	0.78	39.40
2450.0	-4.18	1.32	38.16
2460.0	-4.15	1.27	38.49
2470.0	-4.60	0.92	34.67
2480.0	-4.57	0.97	34.89
2490.0	-4.89	0.75	32.43
2500.0	-5.51	0.18	28.09
5150.0	-3.79	2.06	41.77
5350.0	-3.67	2.25	42.93
5750.0	-2.83	3.22	52.07
5850.0	-2.41	3.38	57.40
6100.0	-4.18	2.70	38.21
6800.0	-5.65	1.63	27.24
7000.0	-5.81	1.21	26.24

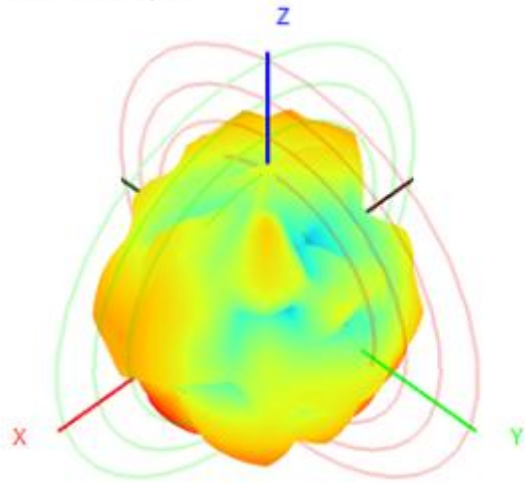
2450.0MHz H+V, Eff: 38.2%



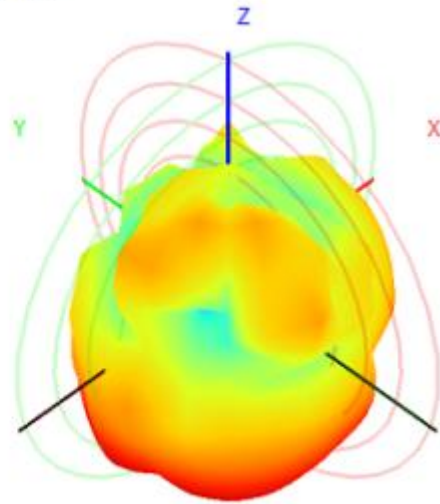
Back View



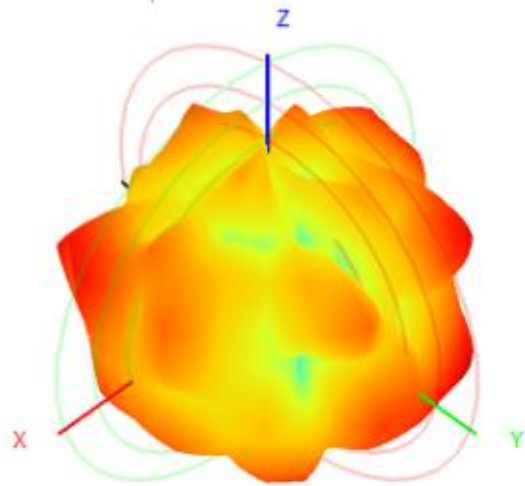
5850.0MHz H+V, Eff: 57.4%



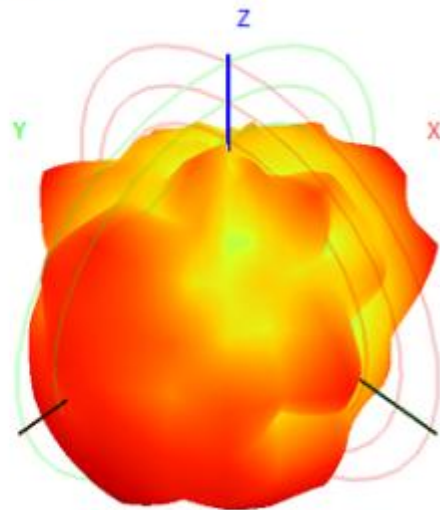
Back View



7000.0MHz H+V, Eff: 26.2%



Back View



## 5.4 Salt spray test

Test item	Salt spray test																			
Product specification model	SLK-MDJ-T4310Z-L-100IV-B	Test quantity: 5PCS																		
Test time: 2023-6-19	Completed: 2023-6-20																			
<b>Test/inspection equipment:</b> 1. HY-60D Salt spray tester 2. HP-8753ES Network analyzer																				
<b>Test/inspection conditions:</b>  1. The temperature in the salt spray chamber is $35\pm 2^{\circ}\text{C}$ . The temperature of the laboratory is $22-30^{\circ}\text{C}$  2. The sedimentation rate of salt spray after 24H spray is 1-2ML/h on an 80cm area. The concentration of sodium chloride is $50\pm 10\text{g/L}$ and the PH value is $50\pm 10\text{g/L}$ It is 6.5/7.2																				
<b>criterion:</b> 1. The electrical test meets the standard requirements: the voltage standing wave ratio test passes; 2. Metal surface coating without oxidation, peeling, crack, separation and other bad; Non-metallic parts without discoloration, deformation, degumming, cracking and other bad																				
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 25%;">Sample number</th> <th style="width: 45%;">Evaluation level</th> <th style="width: 30%;">Bad description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Up to standard</td> <td>no</td> </tr> <tr> <td>2</td> <td>Up to standard</td> <td>no</td> </tr> <tr> <td>3</td> <td>Up to standard</td> <td>no</td> </tr> <tr> <td>4</td> <td>Up to standard</td> <td>no</td> </tr> <tr> <td>5</td> <td>Up to standard</td> <td>no</td> </tr> </tbody> </table>			Sample number	Evaluation level	Bad description	1	Up to standard	no	2	Up to standard	no	3	Up to standard	no	4	Up to standard	no	5	Up to standard	no
Sample number	Evaluation level	Bad description																		
1	Up to standard	no																		
2	Up to standard	no																		
3	Up to standard	no																		
4	Up to standard	no																		
5	Up to standard	no																		
<b>Test/inspection decision:</b> <input checked="" type="checkbox"/> Up to standard <input type="checkbox"/> Below standard <input type="checkbox"/> Leave unjudged																				
Tester: Xinyuan Wang      Audit: Wang Guohang      Approved by: Guo Liang																				

## 5.5 Constant temperature and humidity test

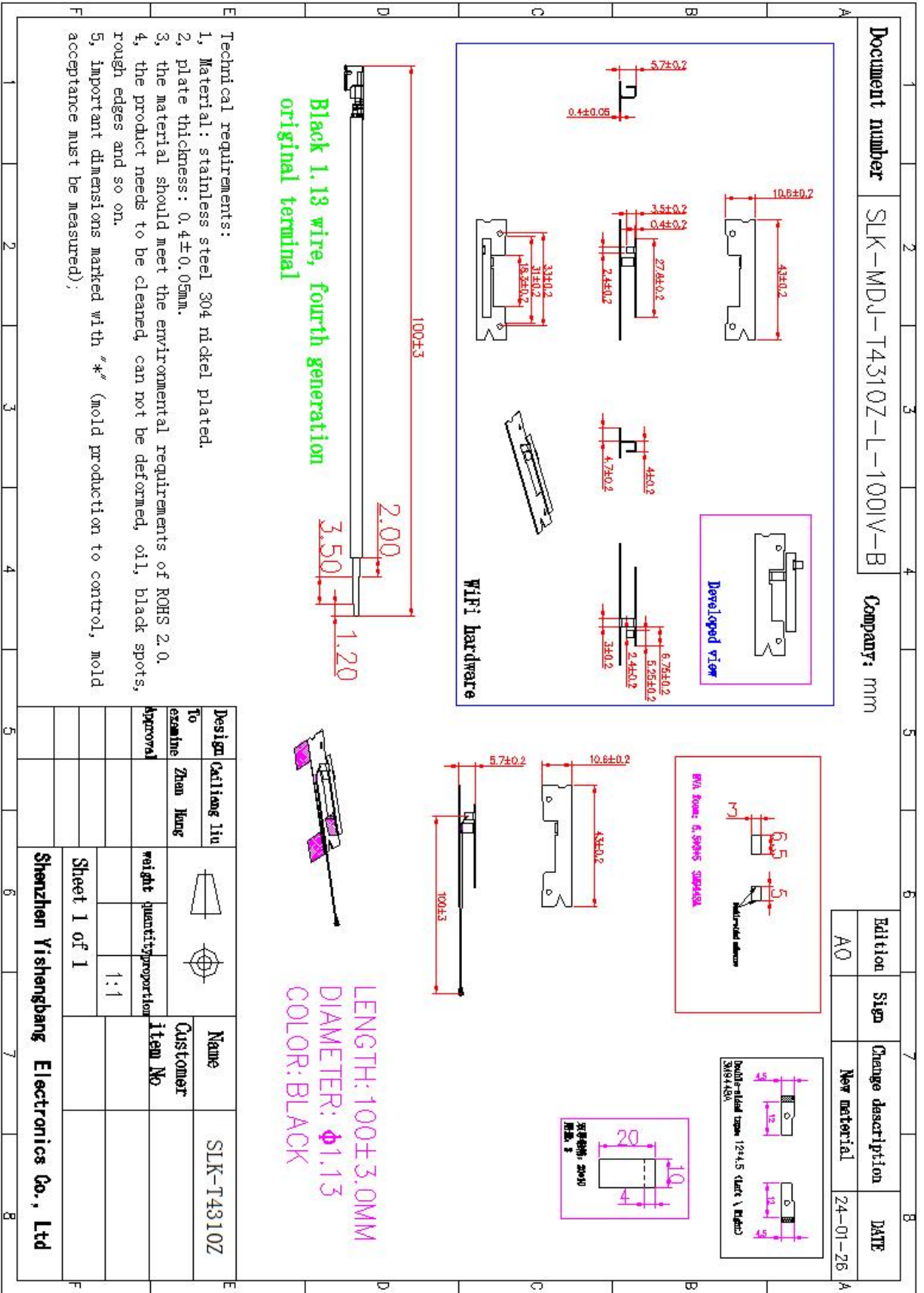
Test item	Constant temperature and humidity test																			
Product specification model	SLK-MDJ-T4310Z-L-100IV-B	Test quantity: 5PCS																		
Test time: 2023-6-19	Completed: 2023-6-20																			
<b>Test/inspection equipment:</b> 1. Programmable constant temperature and humidity test chamber 2. HP-8753ES Network analyzer																				
<b>Test/inspection conditions:</b>  1. Test at room temperature 25°C and humidity 65%  2. +80±2°C 85-90%RH /-30±2°C 0%RH 2 hours a cycle time of 24H																				
<b>criterion:</b> 1. The electrical test meets the standard requirements: the voltage standing wave ratio test passes;; 2. Metal surface coating without oxidation, peeling, crack, separation and other bad; Non-metallic parts without discoloration, deformation, degumming, cracking and other bad																				
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<b>Test/inspection decision:</b> <input checked="" type="checkbox"/> Up to standard <input type="checkbox"/> Below standard <input type="checkbox"/> Leave unjudged																				
Tester: Xinyuan Wang      Audit: Wang Guohang      Approved by: Guo Liang																				

## 5.6 Tension test

Test item	Tension test																												
Product specification model	SLK-MDJ-T4310Z-L-100IV-B			Test quantity: 5PCS																									
Test time: 2023-6-20	Completed: 2023-6-20																												
Test/inspection equipment: 1. Tension tester																													
Test/inspection conditions:  1. Temperature: 18-25°C  2. Humidity $\leq$ 70%RH																													
Test result: Passed																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; text-align: center;">item</td> <td colspan="5" style="text-align: center;">Maintenance force between the terminal and the RF cable <math>\geq</math>1kgf</td> </tr> <tr> <td style="text-align: center;">Conditions</td> <td colspan="5"></td> </tr> <tr> <td style="text-align: center;">Number of tests</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">Test result</td> <td style="text-align: center;">1.22</td> <td style="text-align: center;">1.18</td> <td style="text-align: center;">1.24</td> <td style="text-align: center;">1.27</td> <td style="text-align: center;">1.26</td> </tr> </table>						item	Maintenance force between the terminal and the RF cable $\geq$ 1kgf					Conditions						Number of tests	1	2	3	4	5	Test result	1.22	1.18	1.24	1.27	1.26
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Test/inspection decision: <input checked="" type="checkbox"/> Up to standard <input type="checkbox"/> Below standard <input type="checkbox"/> Leave unjudged																													
Tester: Xinyuan Wang      Audit: Wang Guohang      Approved by: Guo Liang																													



# 6. Antenna Dimensions (unit: mm)



## 8. Material composition and harmful substances table

No.	Material name	Describe	Testing organization	Authentication code	Report test date	State
1	FPC	Copper-clad substrate	SGS	CHAEC23001049108	2023/2/15	Effective
		Nickel coating	CTI	A2230400553101002E	2023/8/9	Effective
		3M adhesive	SGS	SHAEC2217569403	2023/1/4	Effective
2	Solder wire	Solder wire	SGS	SZXPC23000078404	2023/2/21	Effective
3	RF line	The coverage rate of the shield layer is > 90%	SGS	SZXEC23001776704	2023/8/8	Effective
4	terminal	Nickel plating	CTI	A2230400553101002E	2023/8/9	Effective
		Gold coating (Thickness $\geq$ 1um)	CTI	A2230400553101001E	2023/8/9	Effective
5	Stainless steel 304	SUS304	SGS	SZXEC23000381402	2023/3/29	Effective

## 9.Outgoing Quality Control

# Shenzhen Yi Sheng Bang technology Co., LTD

## Sample inspection report

Customer name	MADIGI	Order number		Lot number	10
Production date	6月20日	Specification and model	SLK-MDJ-T4310Z-L-100IV-B	Check number	10
item	Check description	determine			
Model number	SLK-MDJ-T4310Z-L-100IV-B	Up to standard			
appearance	Antenna appearance is free from scratches and oil stains	Up to standard			
dimension	Antenna bus length 100MM±3.0	Up to standard			
	The iron piece antenna is long 43MM±0.2	Up to standard			
	Iron piece antenna wide 10.6MM±0.2	Up to standard			
client	1.13 Fourth generation terminals	Up to standard			
Electrical property	Standing wave by one	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

examine :

Approved by: Guo Liang

# 10.CPK

CPK				
Part Number			Component	WIFI Antenna
Spec	SLK-MDJ-T4310Z-L-100IV-B		Material	metal+Cable
Supplier	Shenzhen Yishengbang Electronics Co., Ltd		Easurement tool	Quadratic element/straightedge
Measurement Unit	mm		Easurement date	2023.6.20
Dim. Designator	1	2	3	4
Nominal	100.00	43.00	10.60	
+ Tolerance	3.00	0.20	0.20	
- Tolerance	-3.00	-0.20	-0.20	
Upper Limit	103.00	43.20	10.80	
Lower Limit	97.00	42.80	10.40	
1	100.00	43.02	10.64	
2	100.00	43.05	10.62	
3	100.00	43.02	10.61	
4	100.00	42.90	10.64	
5	100.00	43.04	10.59	
6	100.50	43.04	10.57	
7	100.50	43.01	10.65	
8	100.00	43.02	10.62	
9	100.00	43.02	10.63	
10	100.00	43.05	10.65	
11	100.00	43.07	10.65	
12	100.00	43.02	10.59	
13	100.00	42.95	10.58	
14	100.00	43.01	10.61	
15	100.00	43.03	10.66	
16	101.00	43.04	10.64	
17	100.00	42.96	10.63	
18	100.00	42.97	10.58	
19	100.00	43.07	10.54	
20	100.00	43.02	10.64	
21	100.00	43.04	10.62	
22	100.00	42.96	10.66	
23	100.00	42.98	10.67	
24	101.00	43.03	10.62	
25	100.00	43.02	10.64	
26	100.00	43.07	10.59	
27	100.00	42.94	10.55	
28	100.00	42.98	10.54	
29	100.00	42.93	10.64	
MAX.	101.00	43.07	10.67	
MIN.	100.00	42.90	10.54	
AVERAGE	100.10	43.01	10.62	
STDEV	0.28	0.04	0.04	
CP	3.58	1.51	1.84	
Cpk	3.45	1.44	1.69	
Edited by: Wangguoxing	Approved by: Guoliang		Date: 2023.6.20	

# 11.Full size report

## 全尺寸测量报告Dimension Report

ON	编码 Code	供应商 Supplier	零件名称 Component	测量工具 Measuring Tool	规格 Spec							材料 Material	测量日期 Measurement date	material+Cable				
					WPI Antenna	二次元和直尺			测量单位 Measurement Unit									
		Shenzhen Yishengbang Electronics Co., Ltd		+ TOL.	- TOL.	实际 Test 1	实际 Test 2	实际 Test 3	实际 Test 4	实际 Test 5	实际 Test 6	实际 Test 7						
1	尺寸 (DIMENSION)																	
	RF line length 100MM					103.00	3.00	3.00	97.00	100.00	100.00	100.00	100.00	100.00	100.50	100.50		
2	metal length 43.00					43.20	0.20	0.20	42.80	43.02	43.05	43.02	42.90	43.04	43.04	43.01		
3	metal width 10.6					10.80	0.20	0.20	10.40	10.64	10.62	10.61	10.64	10.59	10.57	10.65		
4																		
5																		
6																		
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15																		

制表Edated by: Wangguoxing

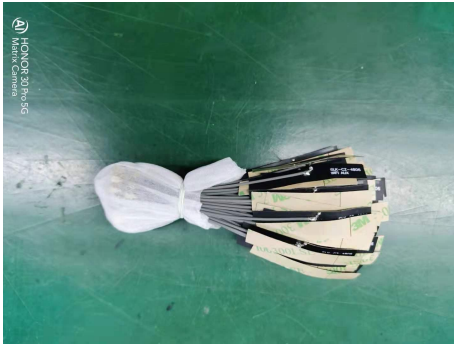
审核Approved by:Guoliang

日期date: 2023. 6. 20

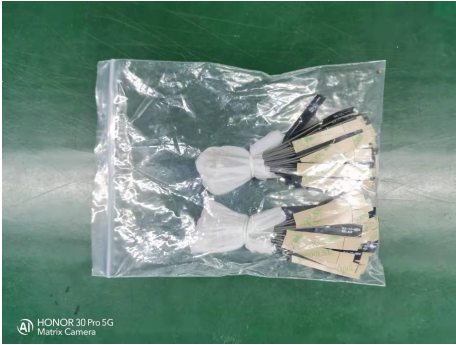
# 12.Packing

## Packing job Description (Example)

client:	product:	colour:
Customer part number:	Part number (P/N): <b>SLK-FM-2813-M-290I-W</b>	date: 2021.11.23



1. The quality department shall conduct a full inspection of the appearance and performance of a single antenna according to the inspection instructions, and bind each antenna with 50PCS.



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



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



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

Note:

Inner packing: 200PCS per pack

Outer packing: Carton size 380X380X180MM 4000PCS per box.

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

According to different customers, make different internal and external packaging labels.