

R811 Project Antenna Specification

Customer Name: 360

Customer product name: R811 doorbell

Product name: WIFI Antenna

Product specifications: FPC Antenna

material code: 231100292 (Cameraking)

History of Change Content:

Serial Number	version	status	start and end dates	responsible person	page number	remarks
1	first edition	first edition	2023-11-13	Zhong Qiuhong	10	

Supplier acknowledges signature:

Responsible person/date		IQC/date	Check/date	Approval/date
MD	Feng Jiwu	Su Guanfa	Chen Kehong	
RF	He Lei			

The purchaser acknowledges the signature (please send it back after signing):

The judgment result: ☐ Qualified ☐ Unqualified			
Development and Design Engineer/Date	SQE Engineer/Date	Procurement Manager/Date	Development Manager Approval/Date

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1. Overview

1.1 Scope of application

This requirement specifies the antenna technical requirements and material requirement specifications for R811 products. This requirement applies to the selection, testing, and acceptance of R811 antennas.

1.2 Basic project information

Antenna name:	R811 doorbell
Antenna frequency:	BT/WIFI:2.4G-2.5G
Antenna material:	FPC antenna

2. Technical indicators requirements

2.1 Introduction to testing projects and instrument

List	Test items	instrument
Active testing	TRP,TIS	Integrated tester, microwave anechoic chamber

2.2 Active report

2.2.1 Test instructions

Testing tools:

Agilent8960 comprehensive testing instrument, R&SCMW500, full wave far-field ETS darkroom, high-precision positioning system and its controller, and computer with automatic testing program

Test environment:

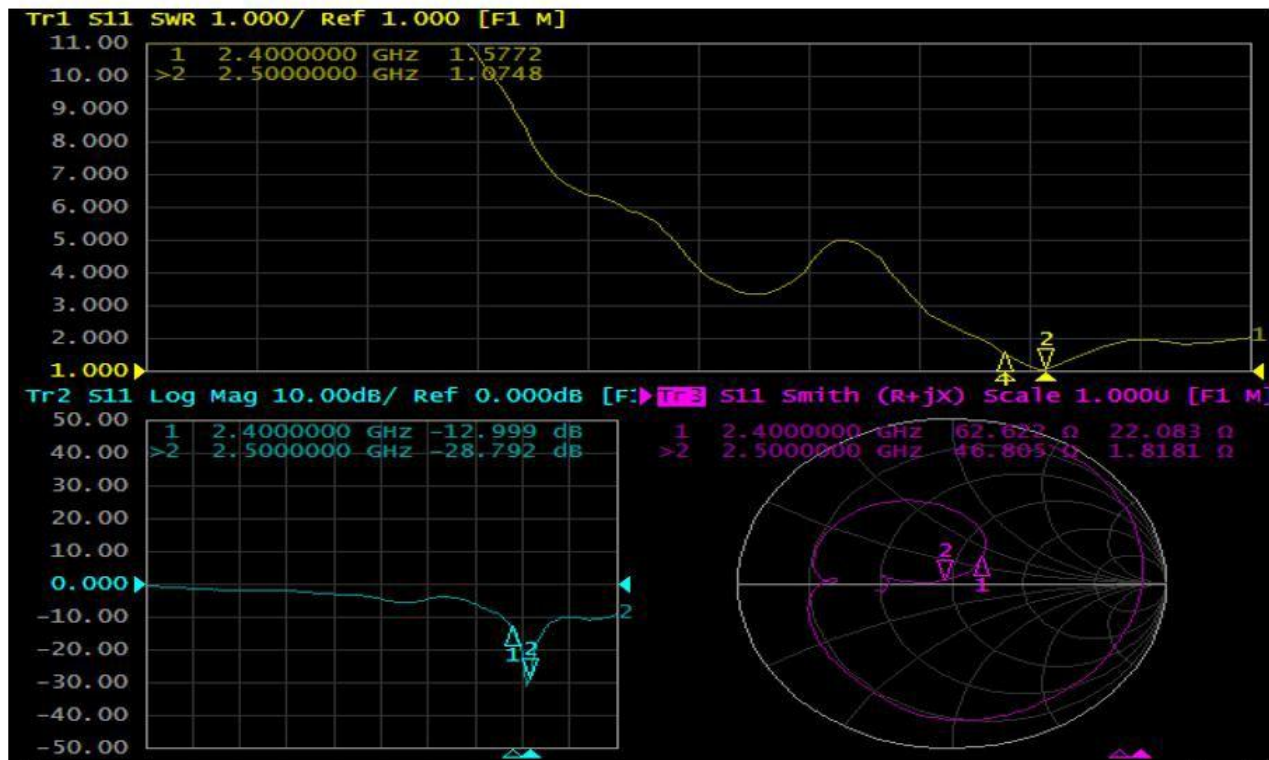
temperature $22\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$, humidity $50\% \pm 15\%$

Test method:

The DUT is fixed at the center position of the turntable with an H-plane, and is on the same horizontal line as the center position of the horn antenna.

The positioning system enables the DUT to rotate throughout the entire sphere, achieving high-precision three-dimensional positioning. Each RF instrument, turntable controller, and PC with automatic testing software communicate through the GPIB interface.

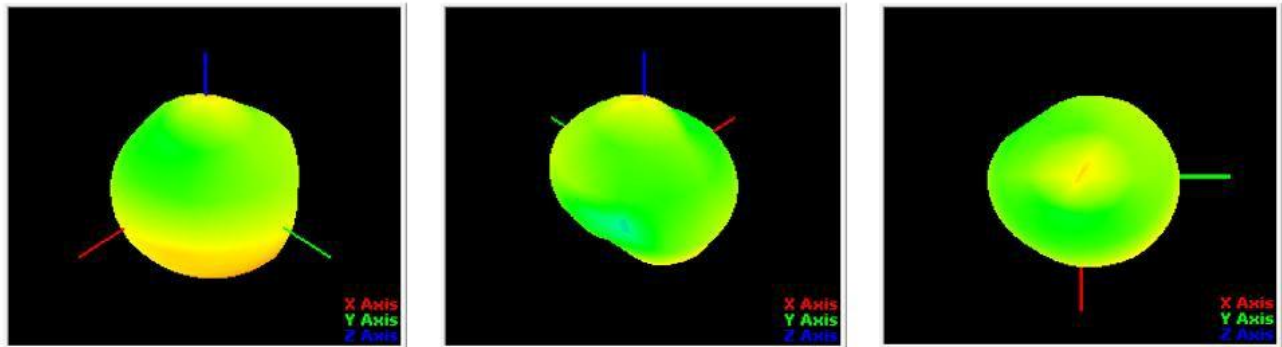
2.2.2 WIFI/BT Antenna (image file LOGMAG+VSWR+SMITH)



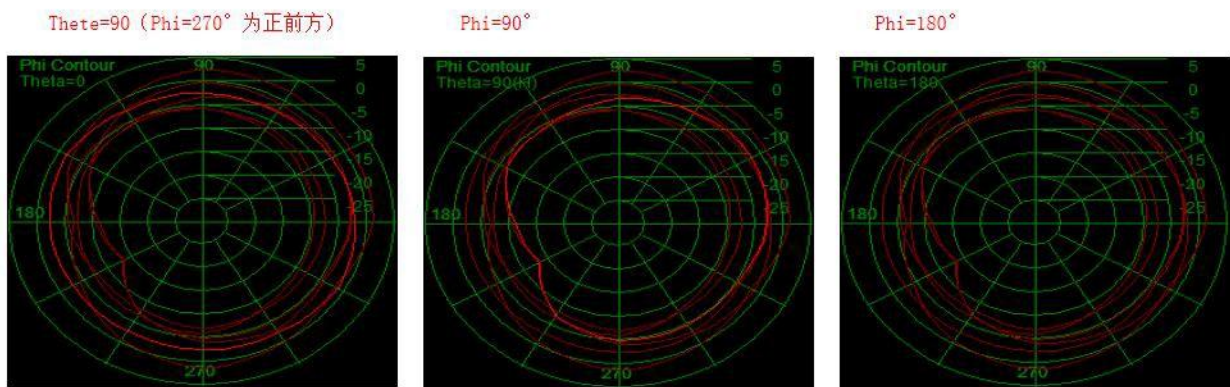
2.2.3 WIFI/BT antenna efficiency and gain

Passive Test For 2400MHz~2500MHz				
Freq	Effi	Effi	Gain	
(MHz)	(%)	(dB)	(dBi)	
2400	44.5%	-3.52	1.64	
2410	45.3%	-3.44	1.78	
2420	46.6%	-3.32	1.87	
2430	47.9%	-3.20	2.03	
2440	48.4%	-3.15	2.17	
2450	52.1%	-2.83	2.38	
2460	50.5%	-2.97	2.29	
2470	49.7%	-3.04	2.26	
2480	48.1%	-3.18	2.17	
2490	47.3%	-3.25	2.07	
2500	45.2%	-3.45	1.79	

2.2.4 Passive antenna parameters -2.4G apple diagram



2.2.5 Passive antenna parameters -2.4G Directional pattern

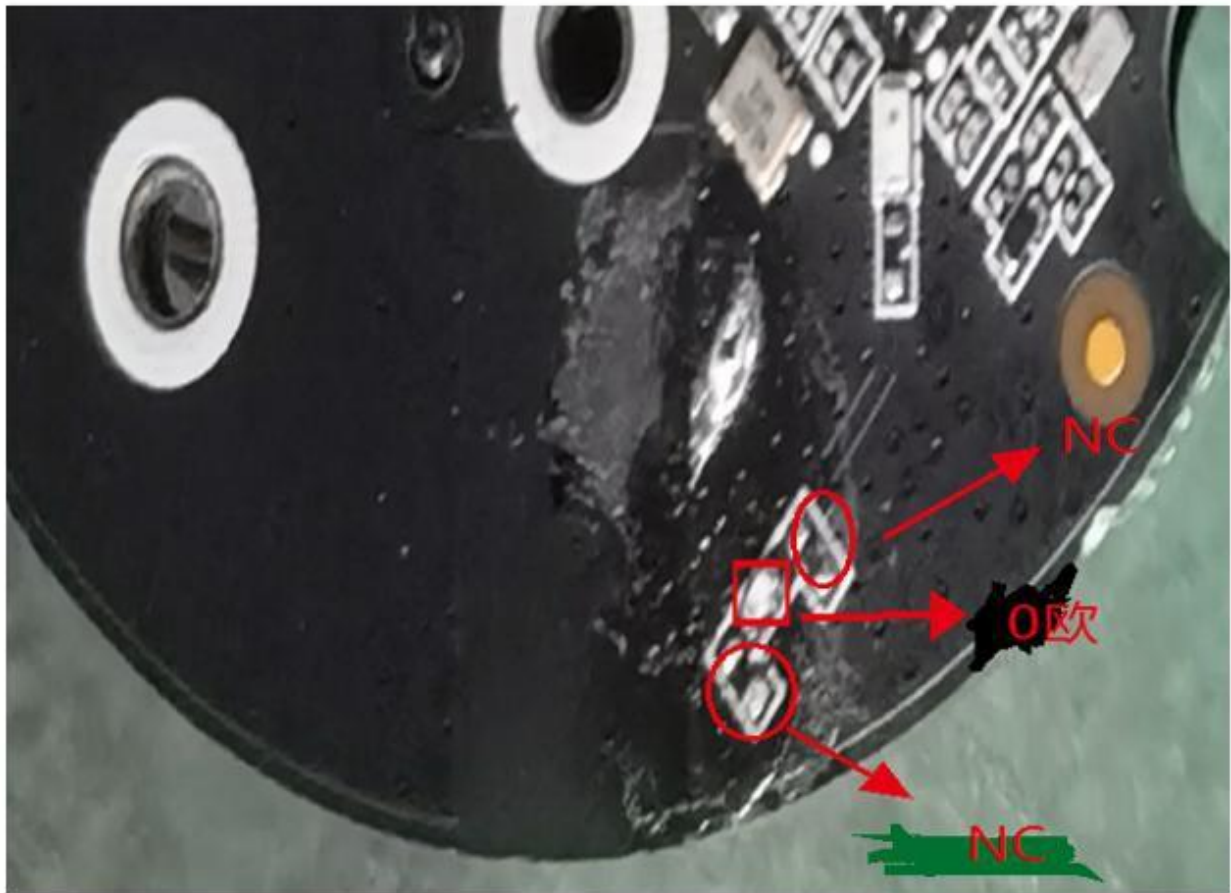


2.2.6 WIFI Antenna active parameters

Test	WIFI (B模11M)			WIFI (G模54M)		
Result	1	7	13	1	7	13
TRP (dBm)	18.05	18.11	18.35	15.45	15.57	15.52
TIS (dBm)	-83.31	-83.09	-83.27	-71.66	-72.13	-71.82

Test	WIFI (N模MCS7)		
Result	1	7	13
TRP (dBm)	15.47	15.52	15.36
TIS (dBm)	-70.17	-70.36	-70.52

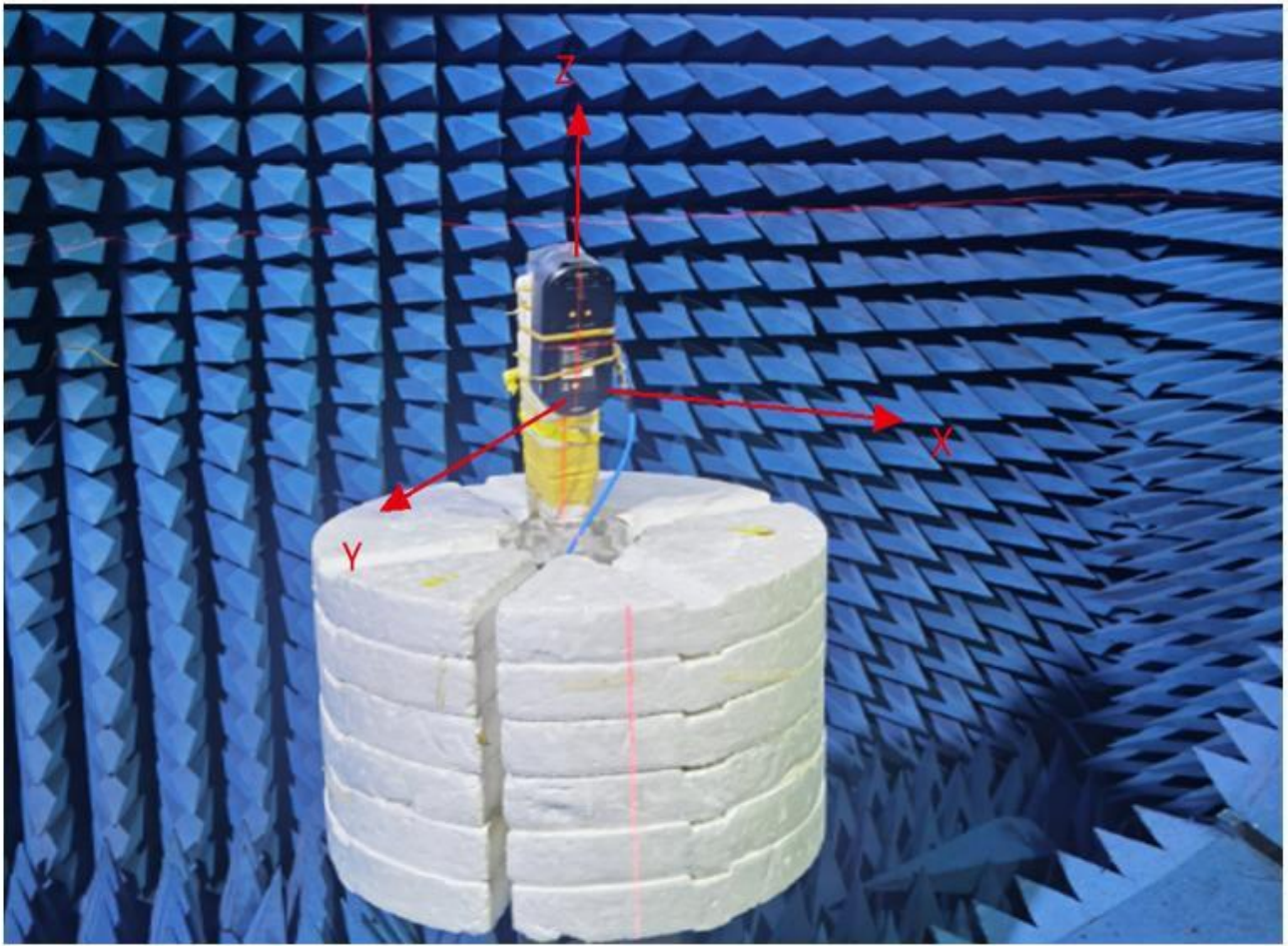
2.2.7 Motherboard matching



2.2.8 Antenna position



2.2.9 Test images

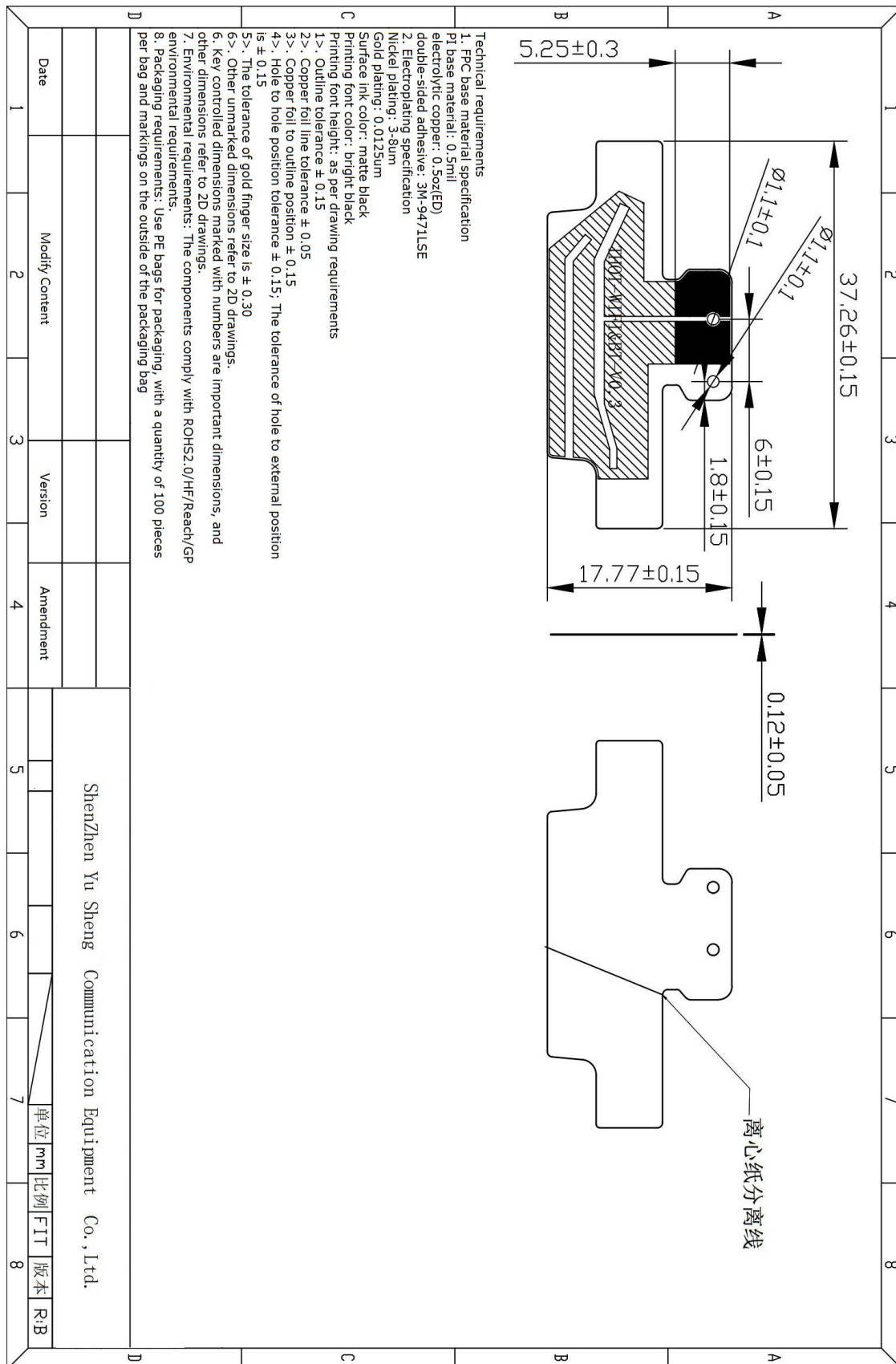


2.3.0 Environmental treatment



3. Structural drawings

WiFi antenna



4. BOM

深圳市昱晟通讯设备有限公司

Shenzhen Yusheng Communication Equipment Co., Ltd

233037(R811)-BOM

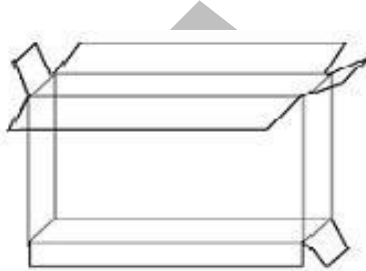
Item	Part Number	Name	Type	Ver	Specifications	materials	Surface Treatment	Color	Unit	count	Process	remarks
1	233037-1A	ET/WIFI antenna	Z	R: A	37.26*17.77*0.12mm	Electrolytic Copper half and half	gold-plating	black	PCS	1	Ordinary single panel	Single PCS
1.1	233037-1A-01	ET/WIFI-FPC	B	R: A	37.26*17.77*0.12mm	Electrolytic Copper half and half	gold-plating	black	PCS	1	Ordinary single panel	Single PCS

Type: W Sodium Purchase B Semi Product Z Finished Product C Customer supplied

above parts meet RoHS 2.0 HF Reach GF Environmental Protection Requirements

THS

5. Package Drawing

Packaging method diagram														
Product name	FPC antenna													
Part number	233037													
Project model	<u>R811 doorbell</u>													
Packing details	Carton Size1: 270*260*200MM Carton Size2: 260*200*200MM Carton Size3: Depending on order quantity/volume													
	Packing method	Pack according to the order quantity												
	Total number of boxes packed	Packaging according to order quantity												
labeling requirement	Label size1: Universal 100*100mm Label size2: customization	Shenzhen Yu Sheng communication equipment Co., LTD <table><tr><td>Customer name</td><td>*****</td></tr><tr><td>Order number</td><td>*****</td></tr><tr><td>Project name</td><td>*****</td></tr><tr><td>Material code</td><td>*****</td></tr><tr><td></td><td>****</td></tr><tr><td>Shipping date</td><td>**** May ***</td></tr></table> Add: 4F 4A, Building 2, South Taiyun Chuanggu Park, Guangming Avenue, Guangming New District, Shenzhen	Customer name	*****	Order number	*****	Project name	*****	Material code	*****		****	Shipping date	**** May ***
	Customer name	*****												
Order number	*****													
Project name	*****													
Material code	*****													

Shipping date	**** May ***													
NOTE														
1. Due to order quantity limitations, the packing method for each material is selected based on the total order quantity or physical volume, and the box size is selected.														
2. Storage temperature: room temperature														
3. Storage conditions: Store in a cool and dry place														

(This picture is only a packaging diagram, please refer to the actual mass production for details)