Antenna Sample Confirmation From

Vendor Name	Shenzhen kenhaitong antenna technology co,ltd				
Customer Name	Shenzhen Lanchen Technology Co., LTD				
Sample Name	MB1201-V1.2				
Part Number	MB1201				
Specification	Black FPC 34.5*22.6+ Black coaxis 0.81 line diameter 2 generation terminal L=120MM				
Inspection Item	Performance	Total Appearance	structure	Audit	Inspection Result
Remark					
QA Audit		Engineer Audit		Sales Confirm	
The following are filled by Customer					
Customer Evaluation					
Signation/ Chapter by Customer	date:				

Antenna specification

Test by： Shenzhen kenhaitong antenna technology co,ltd

Material	**FPC+CABLE+IPEX**		
Antenna Type	**MonopoleType**	**Polarization mode**	**PIFA**
Application			
Band	**2.4G/5G WIFI**	**VSWR**	**≤2**
Power	**Max：2W**	**Impedance**	**50Ω**
dBi	**2.4G：≥2.0dBi、5.8G：≥3.8dBi**		
Test Equipment	**HPE5071C、Shielding Room、3D automatic turntable**		

Antenna Description:：

1. Grounding processing and picture description: no

2. Need to change the motherboard to match: no

- Test voltage: 3.6V, check the antenna contact is good before testing.
- The RF cable of the integrated tester is kept in a natural state and can not be curled.

Specification:test the specified power level, all indicators must conform to the specifications.

1、 Project pictures

2、 Test equipment

3、 Antenna matching circuit

4、S11 test

4.0 S11 Description of the test method

4.1 S11 Parameter picture

5、 Dark room test equipment and data

5.0instrumentation

5.1test data

6、 Antenna throughput test data

7、 A Schematic diagram of the antenna assembly

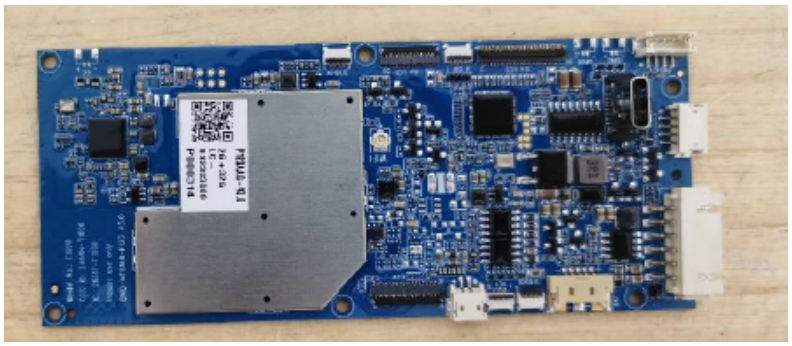
8、 Structural drawings

9、 Sample size inspection report

10、 Reliability test report

11、 manner of packing

1、Project pictures



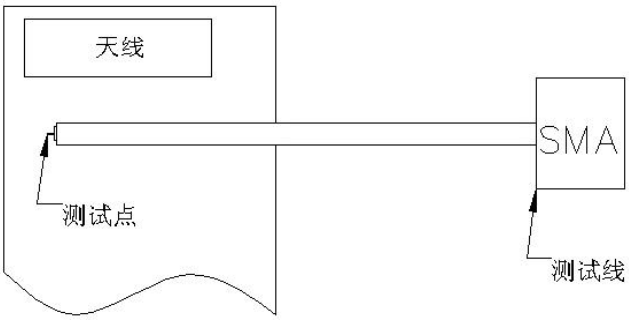
Note: The customer finally verified that the antenna performance prototype is kept in our company for at least one year, which is easy to analyze and solve the abnormal situation in the antenna mass production and ensure the quality of the antenna shipment

2、Test equipment

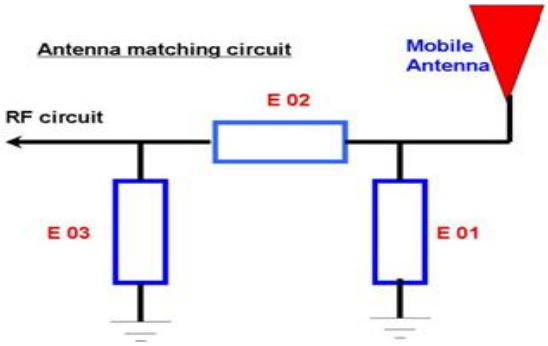
Objective: To test the passive parameters of the antenna as accurately as possible.

Preparation method: The hand mechanism uses a 50 ohm coaxial cable, one end is connected to the test point of the back end of the mobile phone motherboard (the front end of the RF test hole), and the other end is connected to the SMA connector.

The schematic diagram is as follows:



3、Antenna matching circuit



Modify

E01	E02	E03
No	No	No

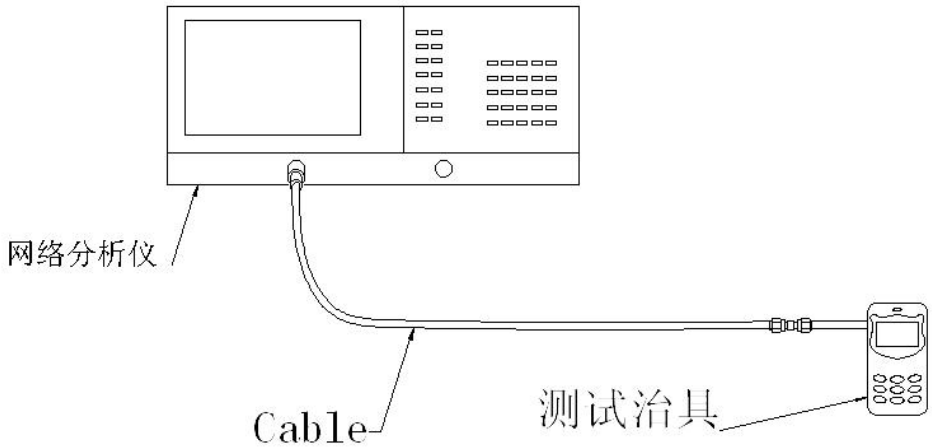
Note: Match without modification.

4. S11 test

4.0 S11 Description of the test method

Test Equipment: Network Analyzer (E5071C) Test method: Use a 50 Ohm CABLE cable to export from the instrument test port, use the SMA connector of the hand mechanism after the calibrator, and record the echo loss and standing wave ratio corresponding to the relevant frequency point.

The test schematic diagram is as follows:



Schematic diagram of the test

4.1 S11 Parameter picture

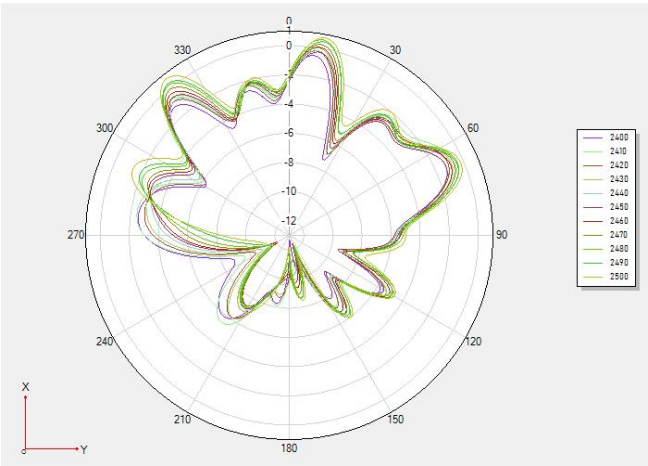
WIFI main antenna standing wave ratio

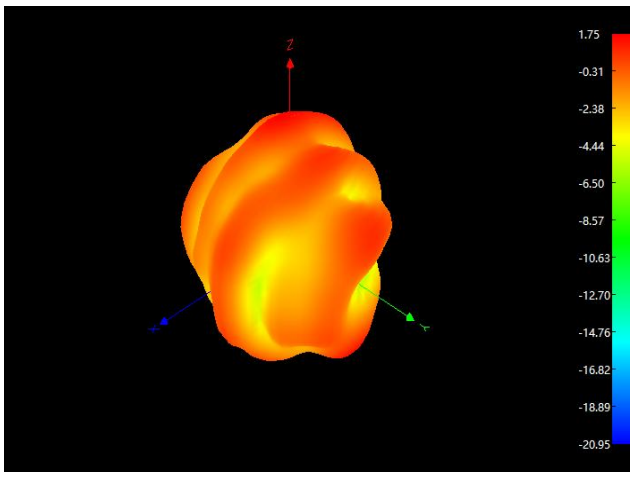
频率（MHz）	2400	2450	2500	5200		5800
驻波比	1.7	1.6	1.6	1.0		1.4

Primary antenna has no passive parameters

2.4G

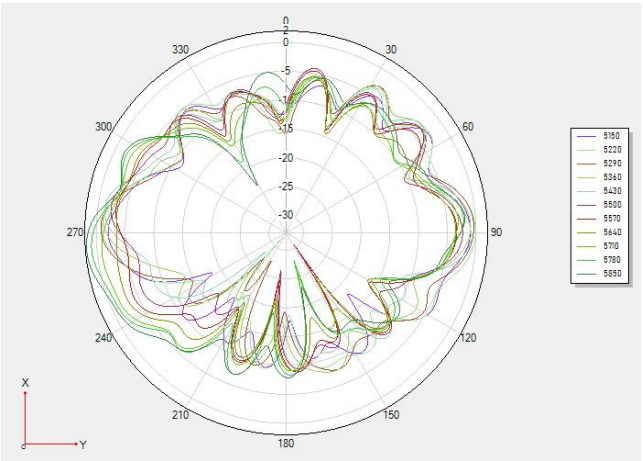
Frequency / MHz	Efficiency / %	Gain/ dB
2400	53.46	1.75
2410	52.36	2.03
2420	53.95	1.74
2430	52.72	1.91
2440	51.76	1.42
2450	50.82	1.55
2460	53.21	1.85
2470	54.58	2.1
2480	55.59	2.08
2490	55.72	2.04
2500	56.75	2.02

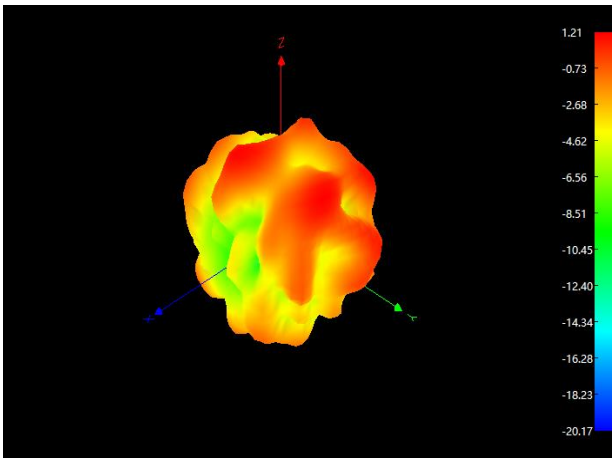




5G

Frequency / MHz	Efficiency / %	Gain/ dB
5000	37.11	1.21
5080	38.99	2.12
5160	38.12	2.6
5240	37.04	2.58
5320	37.5	1.82
5400	36.81	1.33
5480	36.36	1.16
5560	34.27	0.54
5640	37.27	1.24
5720	40.39	2.62
5800	41.24	3.84





5、Dark room test equipment and data

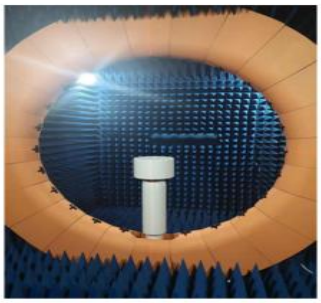
5.0 Test the equipment

Test system: shield the dark room

Test environment: temperature 22℃± 3℃, humidity 50% ± 15%

Test equipment: Use the network analyzer AgilentE5071C when testing the passive data

When testing active data, use the comprehensive meter CMW500



5.1Active test for OTA

Band	Channel	TRP	TIS
802.11b（11Mbps）	L	14.49	--85.51
	M	14.82	-86.15
	H	15.14	-85.2
802.11g（54Mbps）	L	12.04	-73.85
	M	12.68	-73.52
	H	12.59	-73.71
802.11n（MCS7-65Mbps）	L	12.83	-69.28
	M	13.08	-70.1
	H	13.1	-69.36
802.11a（54Mbps）	L	11.79	-75.09
	M	11.46	-74.22
	H	11.97	-75.89
BT	L	4.32	-85.34
	M	4.75	-86.22
	H	3.89	-85.26

6、Antenna throughput test data

（2.4G-0 Damping）

Rx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	54.36	54.36
2	45	0	53.99	53.99
3	90	0	54.78	54.78
4	135	0	54.04	54.04
5	180	0	54.66	54.66
6	225	0	54.55	54.55
7	270	0	54.41	54.41
8	315	0	54.11	54.11

Tx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	72.65	72.65
2	45	0	72.01	72.01
3	90	0	73.41	73.41
4	135	0	73.02	73.02
5	180	0	72.7	72.7
6	225	0	73.22	73.22
7	270	0	73.53	73.53
8	315	0	74.09	74.09

（2.4G-20 Damping）

Rx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	54.62	54.62
2	45	0	54.36	54.36
3	90	0	54.07	54.07
4	135	0	54.07	54.07
5	180	0	54.12	54.12
6	225	0	54.46	54.46
7	270	0	54.5	54.5
8	315	0	54.56	54.56

Tx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	69.65	69.65
2	45	0	71.17	71.17
3	90	0	64.58	64.58
4	135	0	71.92	71.92
5	180	0	73.07	73.07
6	225	0	71.12	71.12
7	270	0	71.9	71.9
8	315	0	70.27	70.27

（2.4G-30 Damping）

Rx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	54.4	54.4
2	45	0	54.24	54.24
3	90	0	54.36	54.36
4	135	0	54.23	54.23
5	180	0	53.32	53.32
6	225	0	54.11	54.11
7	270	0	53.54	53.54
8	315	0	54.45	54.45

Tx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	68.6	68.6
2	45	0	70.87	70.87
3	90	0	69.17	69.17
4	135	0	70.3	70.3
5	180	0	65.26	65.26
6	225	0	62.1	62.1
7	270	0	60.75	60.75
8	315	0	66.66	66.66

（5.8G-0 Damping）

Rx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	290.28	290.28
2	45	0	288.81	288.81
3	90	0	287.62	287.62
4	135	0	275.16	275.16
5	180	0	286.67	286.67
6	225	0	284.78	284.78
7	270	0	285.15	285.15
8	315	0	285.5	285.5

Tx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	384.24	384.24
2	45	0	359.83	359.83
3	90	0	344.15	344.15
4	135	0	341.93	341.93
5	180	0	362.24	362.24
6	225	0	336.41	336.41
7	270	0	329.45	329.45
8	315	0	329.55	329.55

（5.8G-20 Damping）

Rx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	286.08	286.08
2	45	0	285.07	285.07
3	90	0	288.3	288.3
4	135	0	285.13	285.13
5	180	0	286.38	286.38
6	225	0	287.12	287.12
7	270	0	278.96	278.96
8	315	0	285.79	285.79

Tx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	338.66	338.66
2	45	0	349.15	349.15
3	90	0	333.21	333.21
4	135	0	330.5	330.5
5	180	0	323.88	323.88
6	225	0	310.89	310.89
7	270	0	257.58	257.58
8	315	0	314.93	314.93

（5.8G-30 Damping）

Rx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	288.91	288.91
2	45	0	285.33	285.33
3	90	0	285.66	285.66
4	135	0	282.66	282.66
5	180	0	287.61	287.61
6	225	0	286.5	286.5
7	270	0	280.21	280.21
8	315	0	282.96	282.96

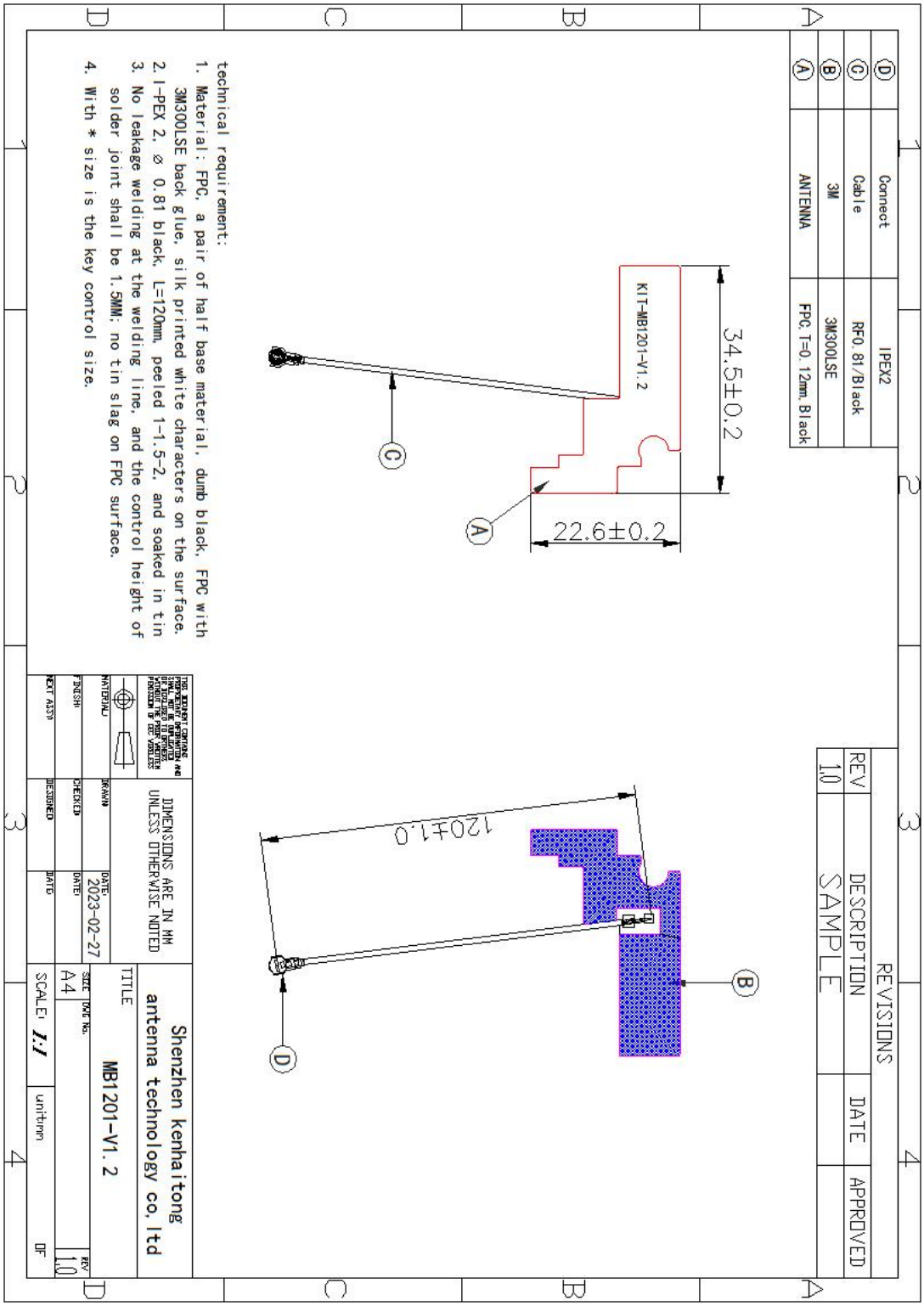
Tx(Mbps)

Item	Azimuth(°)	Atten(dB)	Result	RSSI
1	0	0	379.18	379.18
2	45	0	379.69	379.69
3	90	0	341.19	341.19
4	135	0	342.2	342.2
5	180	0	368.51	368.51
6	225	0	328.56	328.56
7	270	0	284.89	284.89
8	315	0	301.03	301.03

7、Antenna environment processing

Environmental treatment is not increased, keep the machine environment unchanged.

8、structural drawings



9、Sample size inspection report

Sample size inspection report

Model number:MB1201-V1.2 Date ： 2023-03-13

surveillance project		standard	Sample test status (value)					Decide	
			1	2	3	4	5		
天线结构尺寸	A1	34.5±0.2mm	34.53	34.50	34.51	34.55	34.51	OK	
	A2	22.6±0.2mm	22.64	22.65	22.62	22.60	22.61	OK	
	A3	120±1.0mm	120.08	120.11	120.15	120.05	120.07	OK	
	A4								
	A5								
	A1								
	A2								
	A3								
	A4								
	A5								
	A6								

Approve：CZY Examine and verify： CXM Test：JXB

10、Reliability test report

Salt mist detection report

number:20230214001

Model number		MB1201-V1.2		Test the number		5set	
Product material number				Testing standard		GB2423.17	
Date of survey		2023.02.13		Goods material		FPC+Cable+IPEX	
Testing time ： 2023.02.13-2023.02.14							
Test item	Requirements for standards	actual numerical value	decide	test item	Requirements for standards	actual numerical value	decide
Test instrument specifications	KD-60	KD-60	OK	testing time	48H	48H	OK
Salt mist test type	NSS 中性	NSS 中性	OK	Salt fog box temperature	35℃	35℃	OK
Saline PH	6.5-7.2	6.5-7.2	OK	Salt mist settlement (H.80C)	1-2ml	1.8ml	OK
Spray way	Continuous spray	Continuous spray	OK	Material of goods	FPC	FPC	OK
Saline ingredients	5%NaCl	5%NaCl	OK	Material of goods	1±0.1KG/CM²	1	OK
saturation temperature	47℃	47℃	OK	Place the Angle of the sample	45°	45°	OK
Test observation time	Observe the phenomenon						

4H	no abnormalities				
8H	no abnormalities				
12H	no abnormalities				
16H	no abnormalities				
20H	no abnormalities				
24H	no abnormalities				
Judgment standard: according to the national standard 5944-86 rating method judgment, grade 9 or above is qualified					
Final judgment result	OK				
tester	CGL	examine and verify	CXM	examine and approve	JXB
Note: The commonly used salt spray test methods are: caring salt spray test in NSS, AASS acetate salt spray test, CASS copper acetic acid accelerated test.					

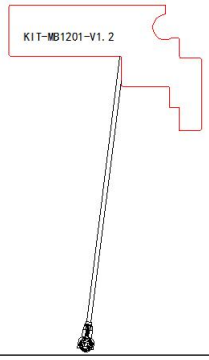
Guangdong Jianbotong Technology Co., LTD

Operating specification for product packaging

Customer: Lan chen	Packaging name:MB1201-V1.2	bale number:	Package version: TEST: A

number	trade name	specifications	dosage
PE	封口袋	120*85*0.12	1/100
SYC-BZ-01	纸箱	280*230*170	1/10000

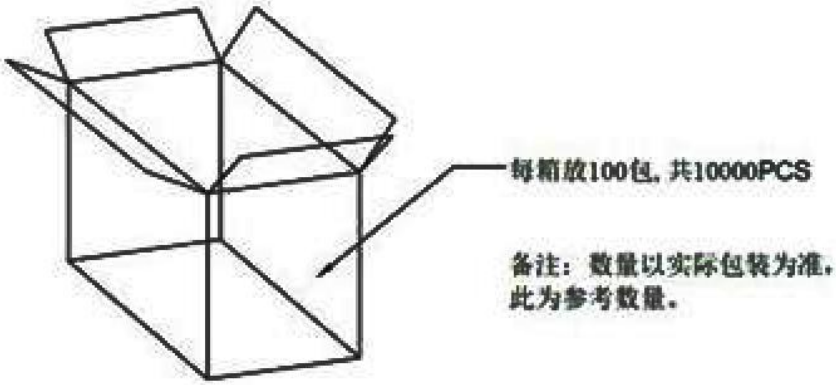
包装产品图示



Prepare the required packing materials in the advantageous operation position. Package in carton / PE bags according to product packaging operation specifications. 100 PCS / pack, 100 pack 10000 PCS. 3. Put 100 packets in each box, a total of 10000 PCS. After filling the box, seal the box with transparent tape.

注意事项

1. The operator must wear gloves for operation. 2. Pay attention to the number of boxes, not more, less. The mantissa must be indicated. 3. Carton boxes should not be stacked too high. To prevent heavy pressure overflow glue.



Approval	Examine and verify	Fabrication	Date
JSB	DS	LSY	2023/03/13

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