



承认书

APPROVAL SHEET

客户名称 Customer Name _____ Wahoo _____

产品型号 Product Model _____ KICKR V6 _____

产品名称 Product Name _____ Wifi Antenna _____

客户料号 Customer P/N _____

南斗星料号 SouthstarP/N _____ 3. N101. 0546 _____

制作日期 Production date _____ 2022-4-14 _____

封样版本 Sample Version _____ A 版 _____

南斗星 (Southstar)		
编制 (FICTION)	品质 (DQE)	研发 (R&D)
客户 (Customer)		
采 购 (PUR)	品质 (QC)	研发 (R&D)

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深圳市南斗星科技有限公司

SHENZHEN SOUTH STAR TECHNOLOGY CO.,LTD

承认书变更履历

(Resume of change of letter of recognition)

版本 (edition)	日期 (date)	变更描述 (Change description)	备注 (remarks)
A 版 (Version a)	2022. 4. 14	初版 (First edition)	



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1. 概述(General)

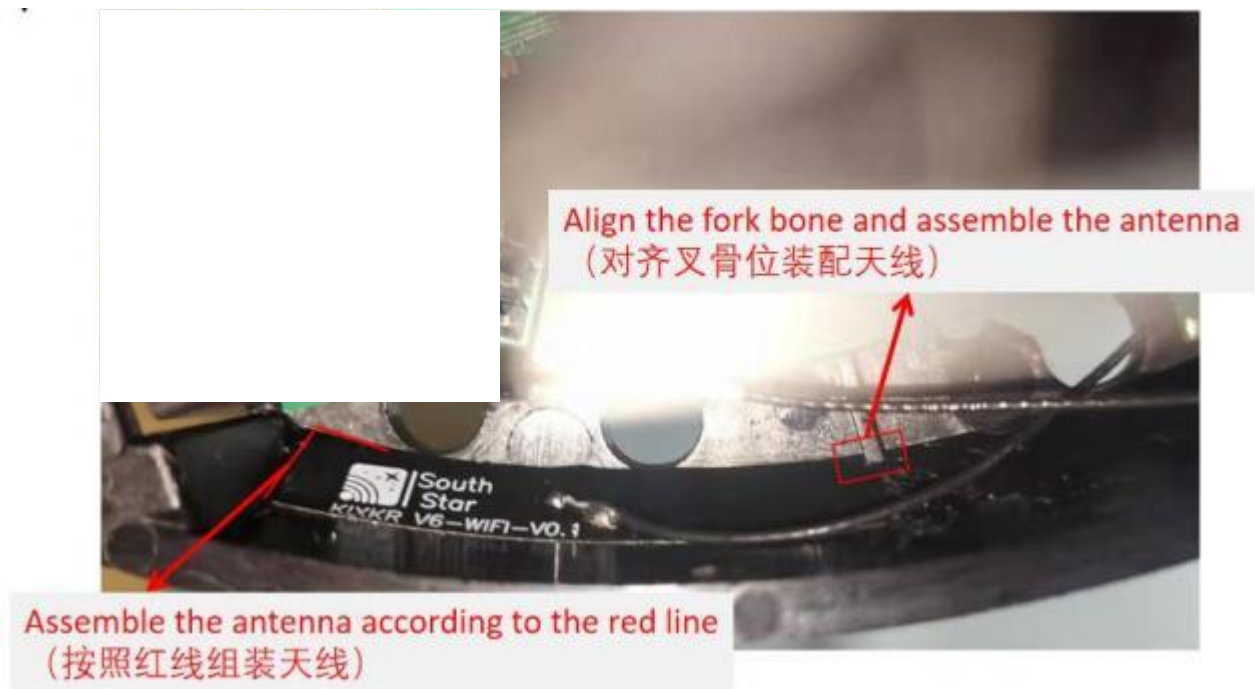
此报告主要描述 KICKR V6 项目的天线性能.

(This report mainly describes the antenna performance of kickr V6 project)

KICKR V6 项目样机, WIFI 天线使用频段范围为 2400-2500MHz.

(For the prototype of kickr V6 project, the frequency band range of wifi antenna is 2400-2500mhz)

2. 天线图片 (Antenna picture)



3. 基本参数 Basic parameters

A. Electrical Characteristics	
Frequency	2400 MHz ~2500 MHz
VSWR	< 2.0
Efficiency	>43%
Impedance	50 Ohm \pm 15%
Polarization	Linear
PeakGain Type	6.09dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC black
Cable Type	\varnothing 0.81mm black
Connector Type	Three generation terminals
Dimension	
C. Environmental	
Operation Temperature	-20 °C ~ + 70 °C
Storage Temperature	- 25 °C ~ + 75°C

4. 调试设置 Debug settings

4.1 测试仪器 Test instrument

VSWR is tested by connecting Agilent E5071B to the test fixture, and the state is free space.

4.2 测试环境及方式 Test environment and method

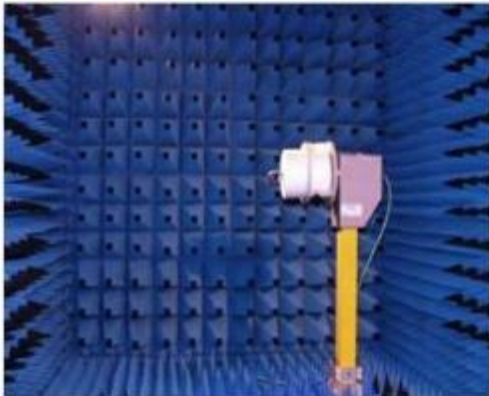
暗室规格: ETS-743

TD-SCDMA测试设备: StarPoint SP6010/Agilent 8960

LTE-TDD/FDD-SCDMA测试设备: StarPoint SP8011 /CMW500

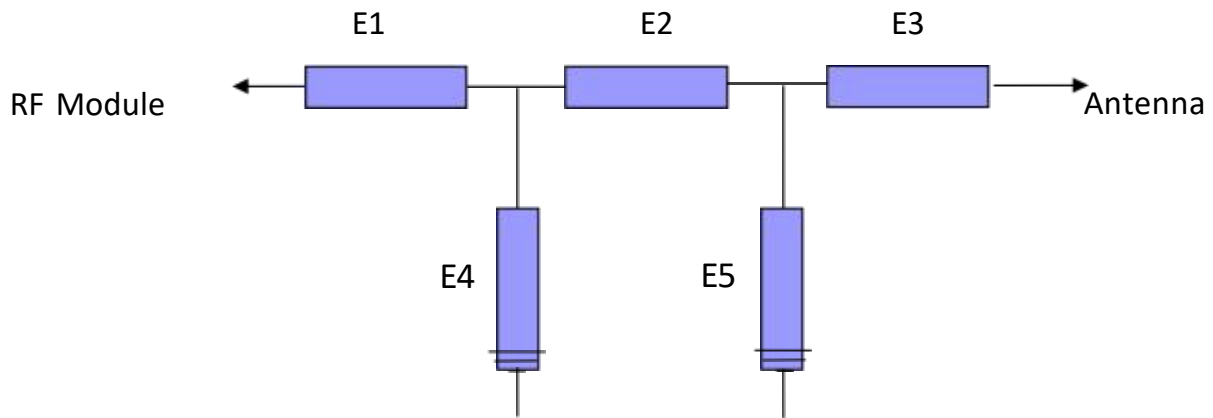
WCDMA/GSM/CDMA测试设备: Agilent 8960

无源效率测试设备: Agilent Technologies E5071B



5. 匹配电路 Matching circuit

5.1 WIFI 天线匹配不变更 (Wifi antenna matching unchanged)

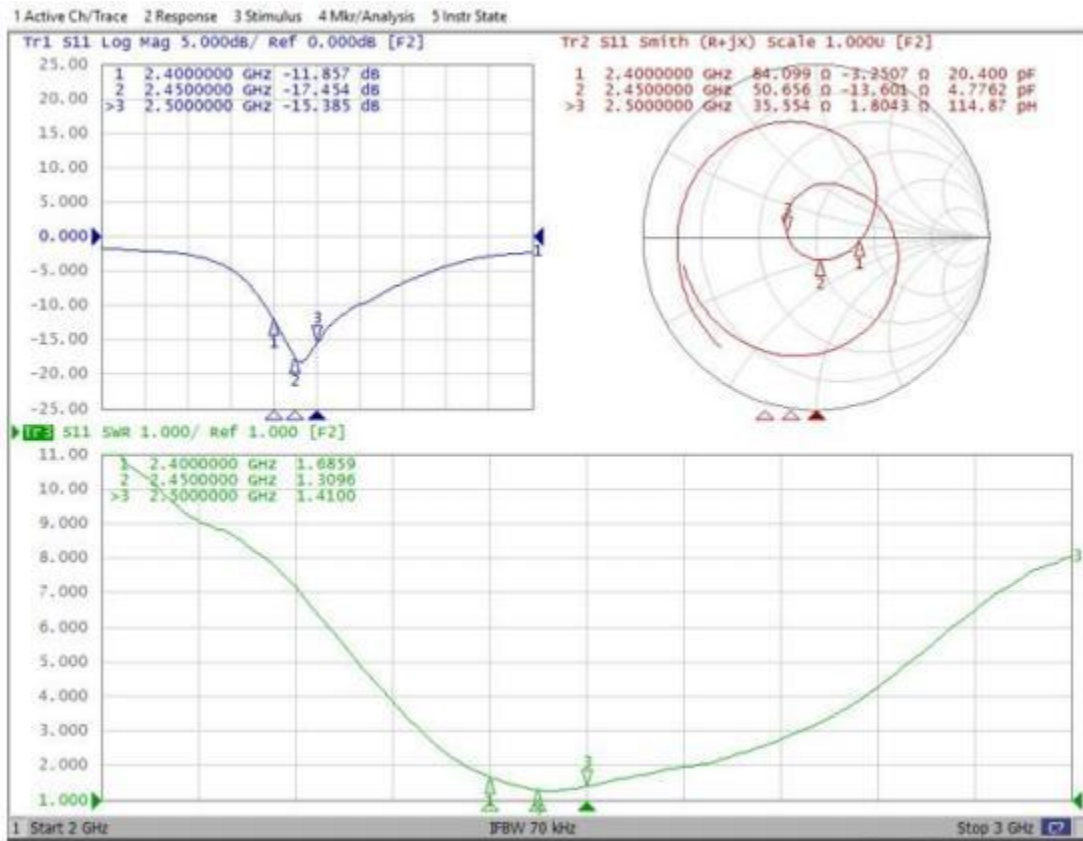


Element	Value
E1	N/A
E2	N/A
E3	N/A
E4	N/A
E5	N/A

6. 测试数据 Test data

(1) WIFI 天线测试无源数据 (Antenna test passive data)

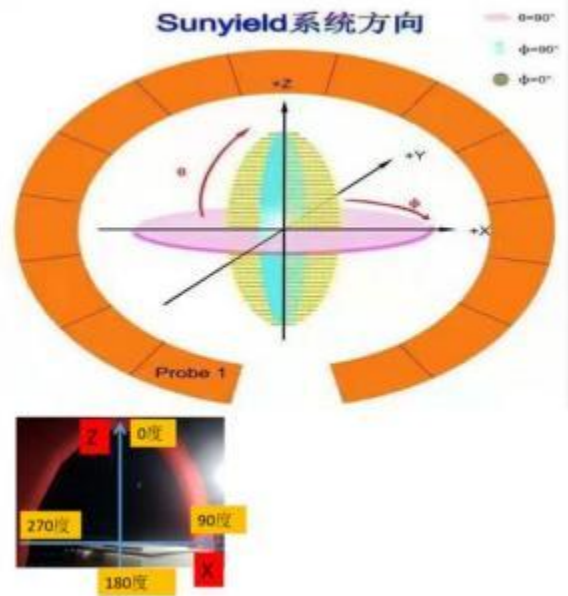
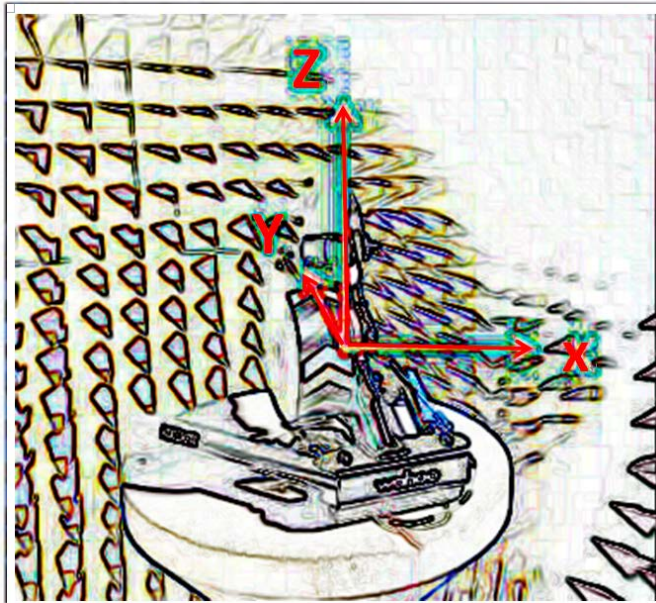
1.1 WIFI 工作频率无源图 (WiFi working frequency passive diagram)



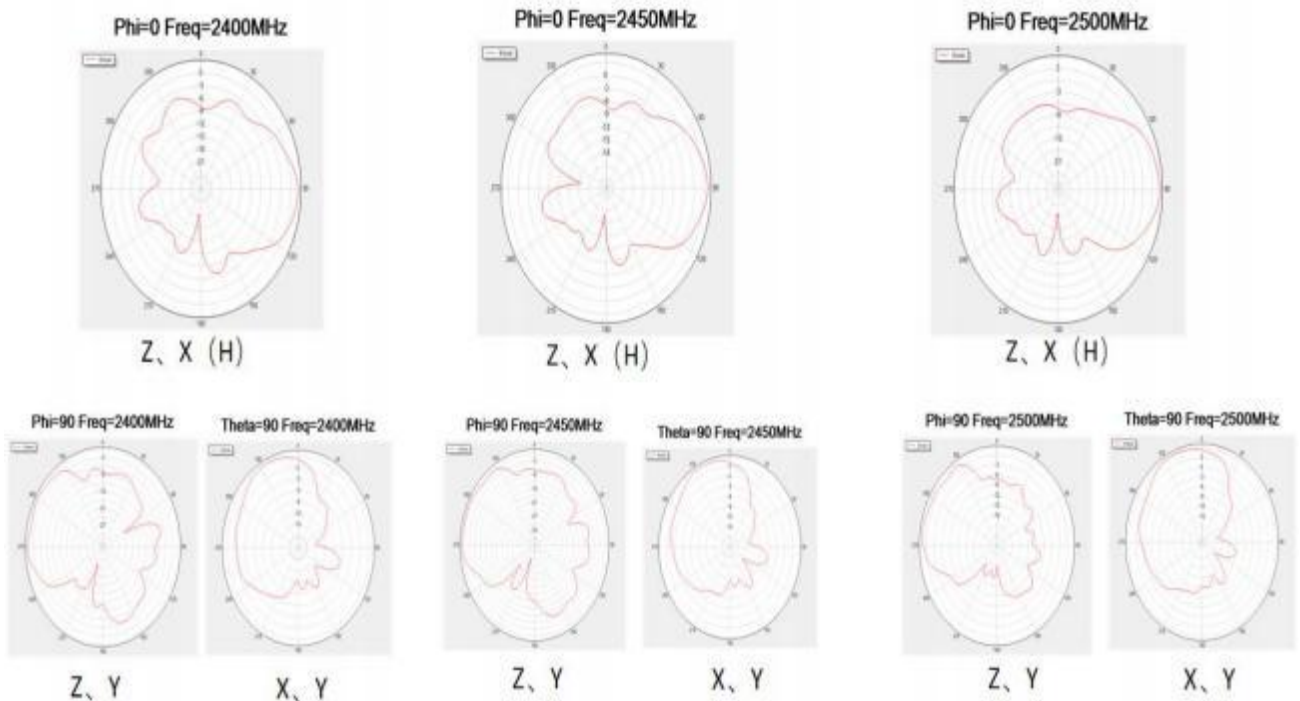
1.2 WIFI 天线效率与增益 (Wifi antenna efficiency and gain)

frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	4.12	-3.65	43.17
2410	4.09	-3.6	43.68
2420	3.75	-3.61	43.54
2430	3.82	-3.38	45.87
2440	4.62	-3.36	46.12
2450	4.81	-3.22	47.61
2460	4.39	-3.20	47.91
2470	4.75	-3.32	46.57
2480	5.12	-3.28	46.97
2490	5.35	-3.30	46.75
2500	6.09	-3.26	47.23
avg.	4.63	-3.38	45.95

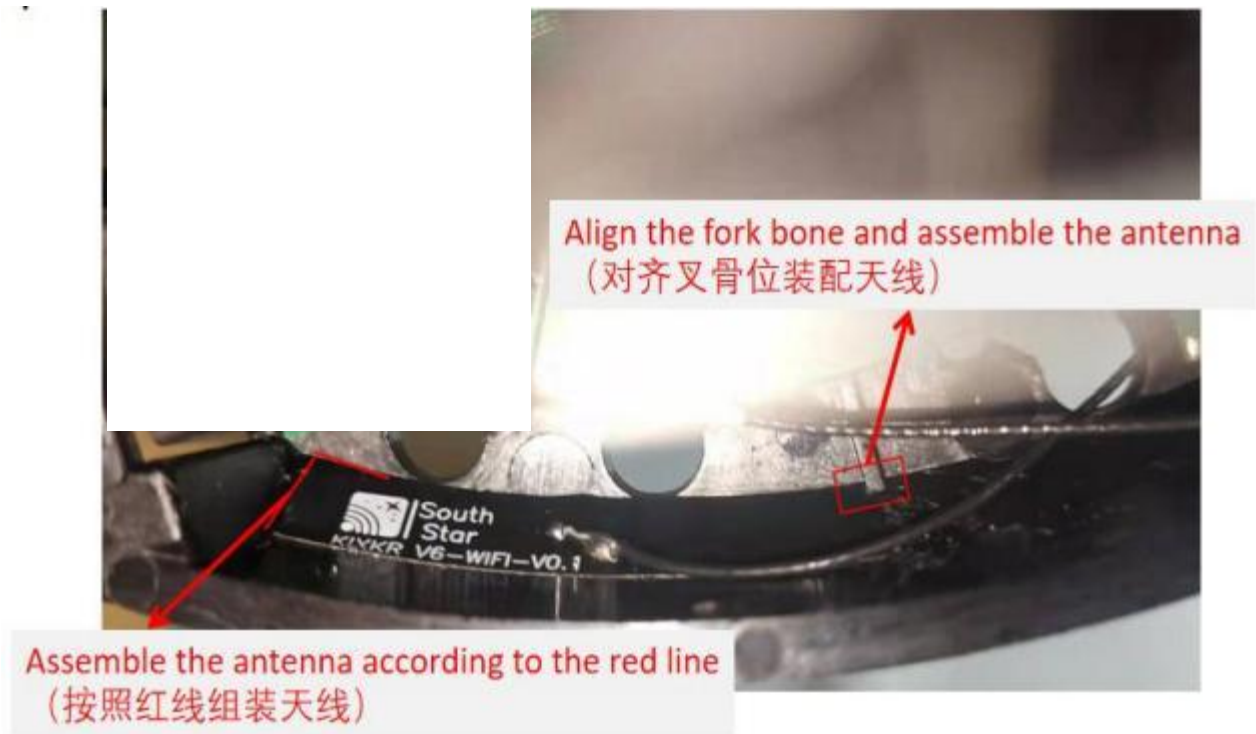
1.3 轴的定义 (Definition of axis)



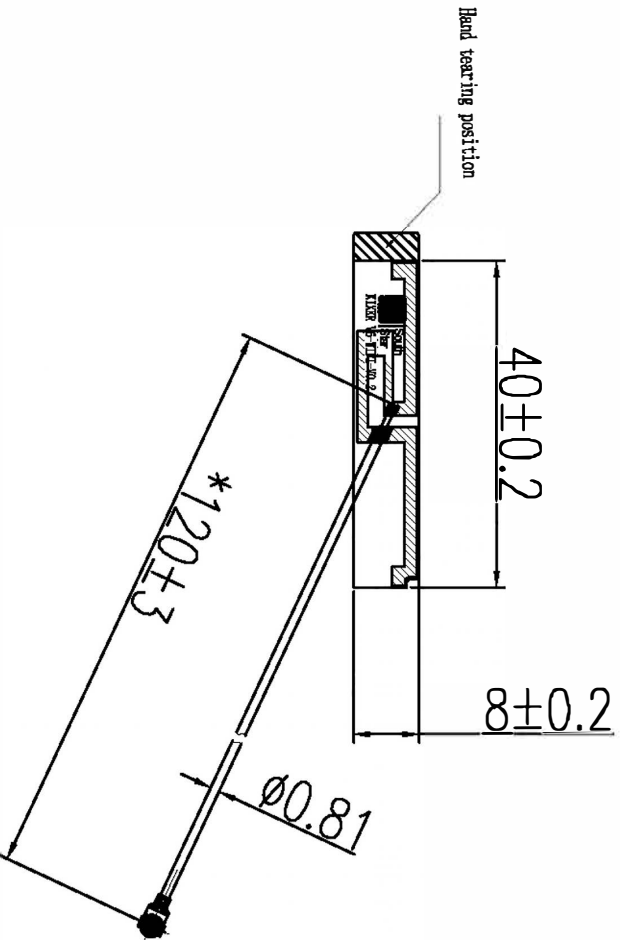
1.4 WIFI 天线 方向图 (Wifi antenna pattern)



7. 装配方式 Assembly mode



Rev	Description	Date	Remark
A	New drawing		



Technical requirements:

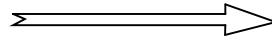
1. The dimension marked with "*" is the key controlled dimension;
2. The dimension not marked shall be in accordance with the drawing;
3. No welding defects such as false welding, tin connection, short circuit and open circuit;
4. All parts shall meet ROHS requirements;
5. The finished product should be fully inspected.

No.		PartName		Amount	Remark
1	Coaxial line	PI/DSP/40#8mm		1	black
2	Coaxial line	φ0.81Black line+three generation terminals		1	
1		Specification		4	

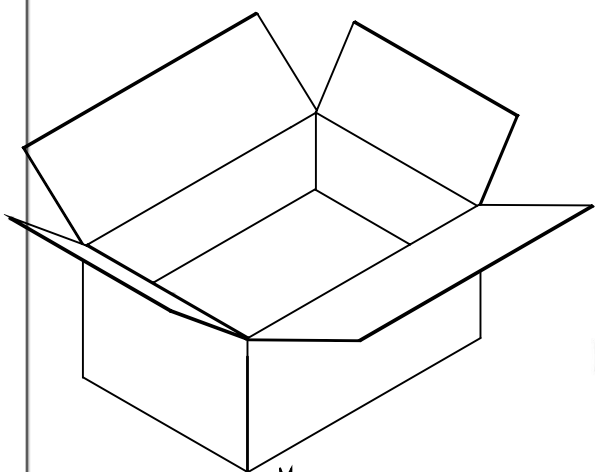
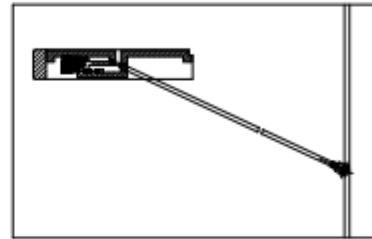
South Star		SOUTH STAR TECHNOLOGY HONG KONG COMPANY LIMITED	
Third Angle	Project	KIKKR V6	Date
0~10	±0.05	WFI antenna	2022-04-14
10~18	±0.10	Part No.	huang tuyong
18~30	±0.12	Material	He Jian
30~40	±0.15	DWG No.	3.N101.0546
40~	±0.20	Angle	Approved by
			Unit mm
			Scale 1:1
			Rev A

Product name : KIXKR V6 WIFI Antenna	版本: A
	Customer : Wahoo

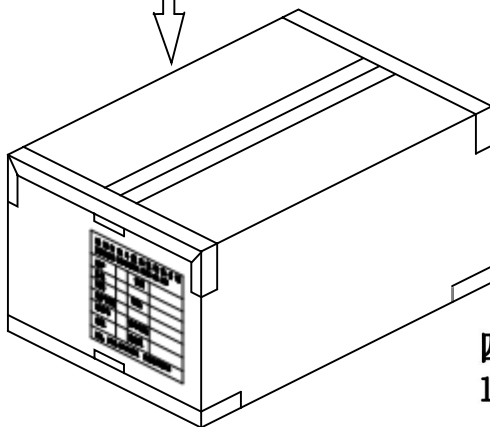
一: Finished antenna



二: Bag, each PE bag contains 50pcs products, and the terminal is wrapped with pearl cotton



四: Case, according to the actual package.



四: Sealing, SouthStar produces and ROHS labels .

 Approval: _____ Confirm: _____ Preparation: huang tuyong