

# 样品承认书

## Confirmation of products

客户名称 Customer	深圳市睿联技术股份有限公司				
项目名称 Project Name	C11	版本 Version	A. 2	日期 Date	2024-04-13
项目料号 Project NO.	03. 10. 03. 003	客户料号 Customer NO.	54. 07. 001. 0131		
频段 Frequency Range	2400~2500MHz 5100~5800MHz	备注 Notes	WIFI		
设计 Designed By					
审核 Approved By					
客户确认 Clients' Approval					

公司名称: 深圳市林荣科技有限公司

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# 1、 Specification

This report mainly provides the testing conditions of various electric and structural performance parameters for cell phone antenna ----C11 Picture 1 shows the antenna designed by LR.



## 2、 VSWR Testing

### 2.1 Testing connection

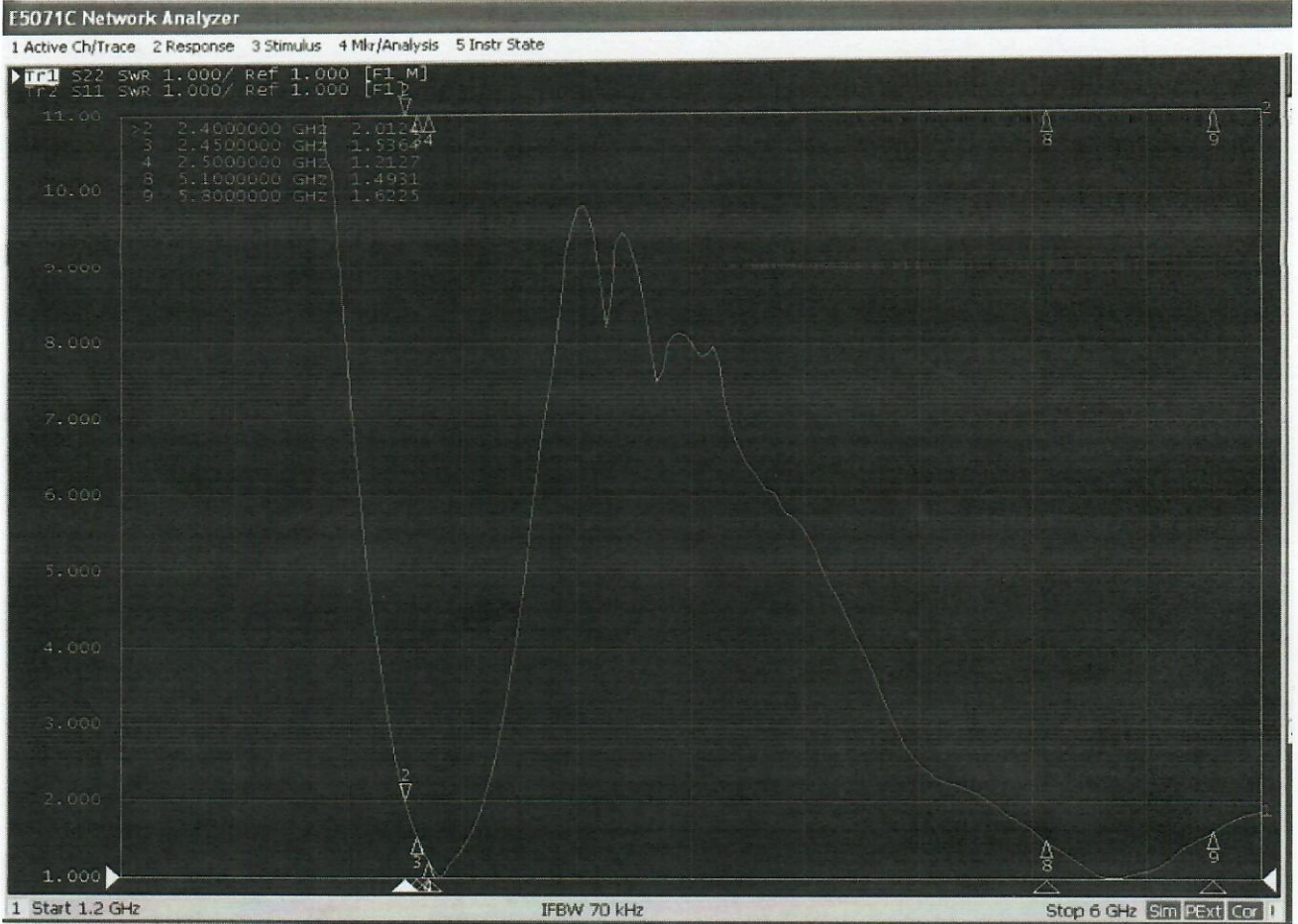
The **Return Loss** testing devices are connected in sequence: Agilent5071C Network Analyzer → Testing Cable → Customer-providing Devices.

### 2.2 VSWR

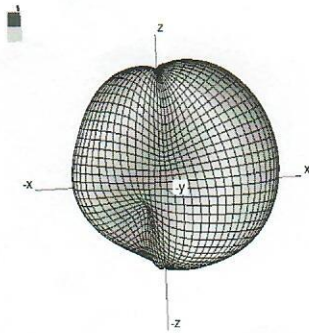
The following table expresses the VSWR value of antenna's two edges of its frequency range. With regard to the relevant diagram of VSWR

C11 WIFI VSWR					
Frequency (MHz)	2400	2450	2500	5100	5800
VSWR	2.01	1.53	1.21	1.49	1.62

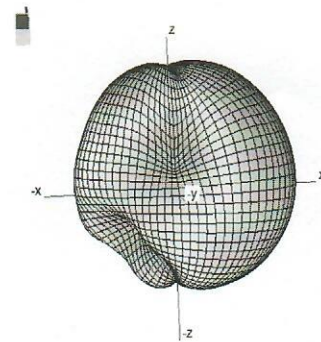
### 2.3 Testing data



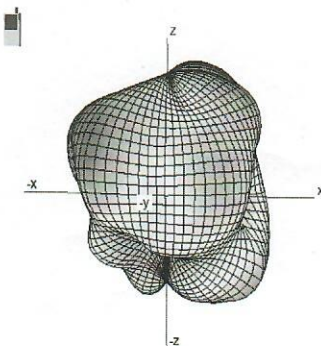
2.4+5.8G WIFI antenna VSWR



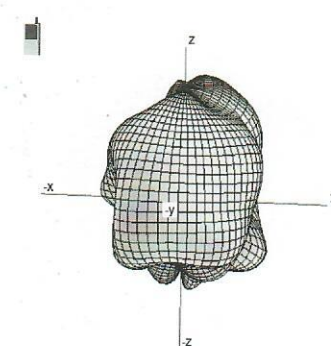
2400MHz



2500MHz

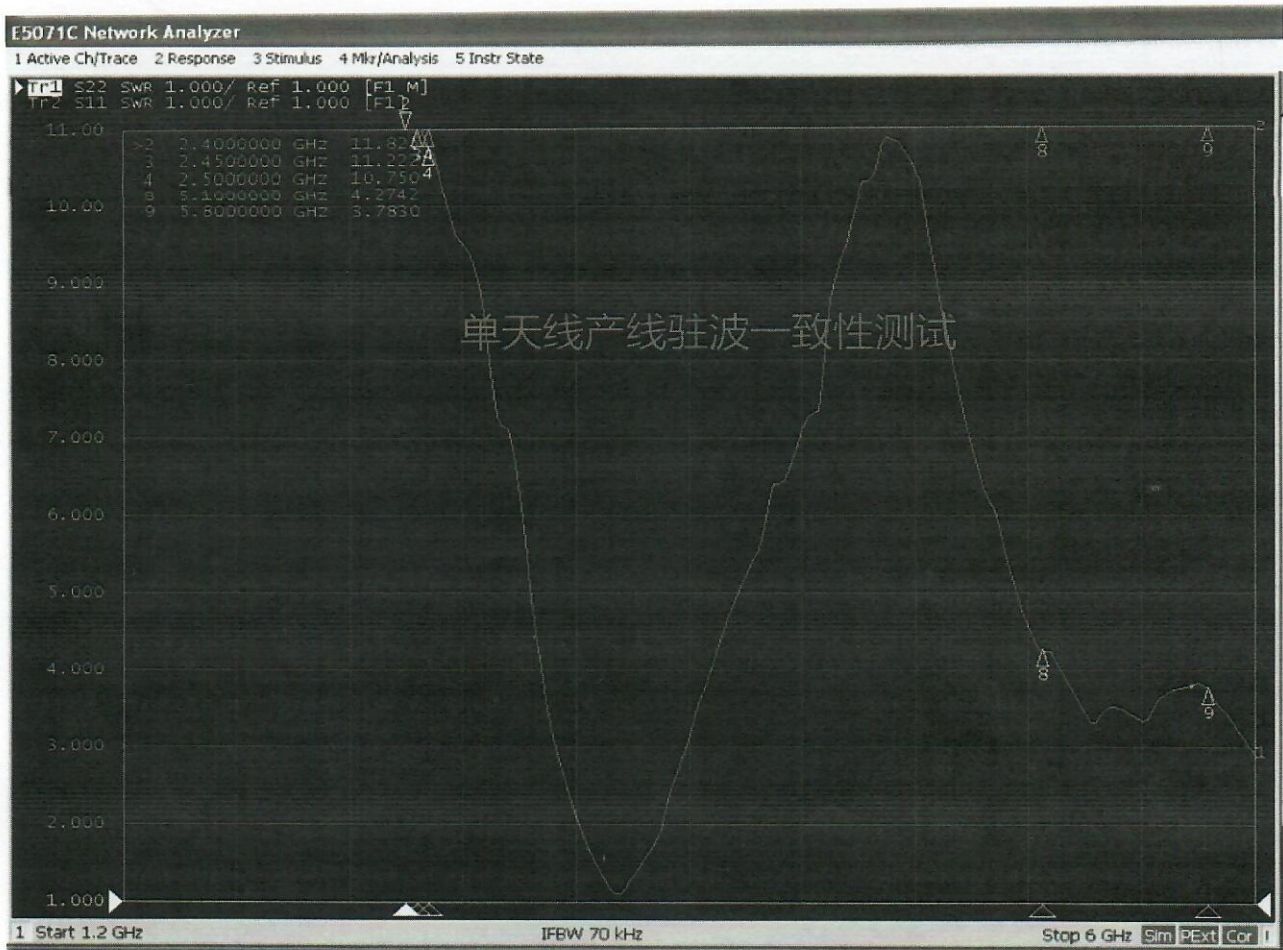


5100MHz



5800MHz

## 2.4 Single antenna test VSWR



## 3、 Power、 Sensitivity Testing

### 3.1 Testing field

LR Microwave Anechoic Chamber : testing frequency ranges from 400MHz to 6GHz and the 40cm diameter spherical quiet zone, the chamber provides less than  $-90\text{dB}$  reflectivity from 400MHz—6GHz.

### 3.2 Testing results

The following table indicates the testing results related to Power and Sensitivity in Microwave Anechoic Chamber, concerning the relative diagram.

### 3.3 Active testing.

#### C11 Antenna efficiency

Freq (MHz)	Gain	Efficiency (%)	Freq (MHz)	Gain	Efficiency (%)
2400	2.6	49.02	5360	2.1	61.19
2410	2.8	50.41	5380	2.0	61.34
2420	2.9	52.24	5400	1.9	58.72
2430	3.1	53.07	5420	2.0	61.69
2440	3.1	54.53	5440	2.2	61.83
2450	3.2	54.86	5460	2.2	61.56
2460	3.2	57.03	5480	2.3	61.66
2470	3.2	59.09	5500	2.2	58.65

2480	3.3	61.08	5520	2.2	57.08
2490	3.3	62.00	5540	2.6	61.68
2500	3.4	62.54	5560	2.7	61.61
5100	1.7	59.87	5580	2.8	63.60
5120	2.0	60.14	5600	2.5	60.78
5140	2.0	57.82	5620	2.7	60.01
5160	2.4	61.94	5640	2.7	61.36
5180	2.0	56.57	5660	2.7	59.94
5200	2.1	58.17	5680	2.5	60.89
5220	2.5	62.74	5700	2.7	62.02
5240	2.3	60.11	5720	2.3	62.71
5260	2.3	58.62	5740	2.1	57.36
5280	2.6	61.13	5760	2.3	61.50
5300	2.2	58.64	5780	2.5	62.32
5320	2.0	57.16	5800	2.4	62.72
5340	2.0	59.24			

### C11 Active data

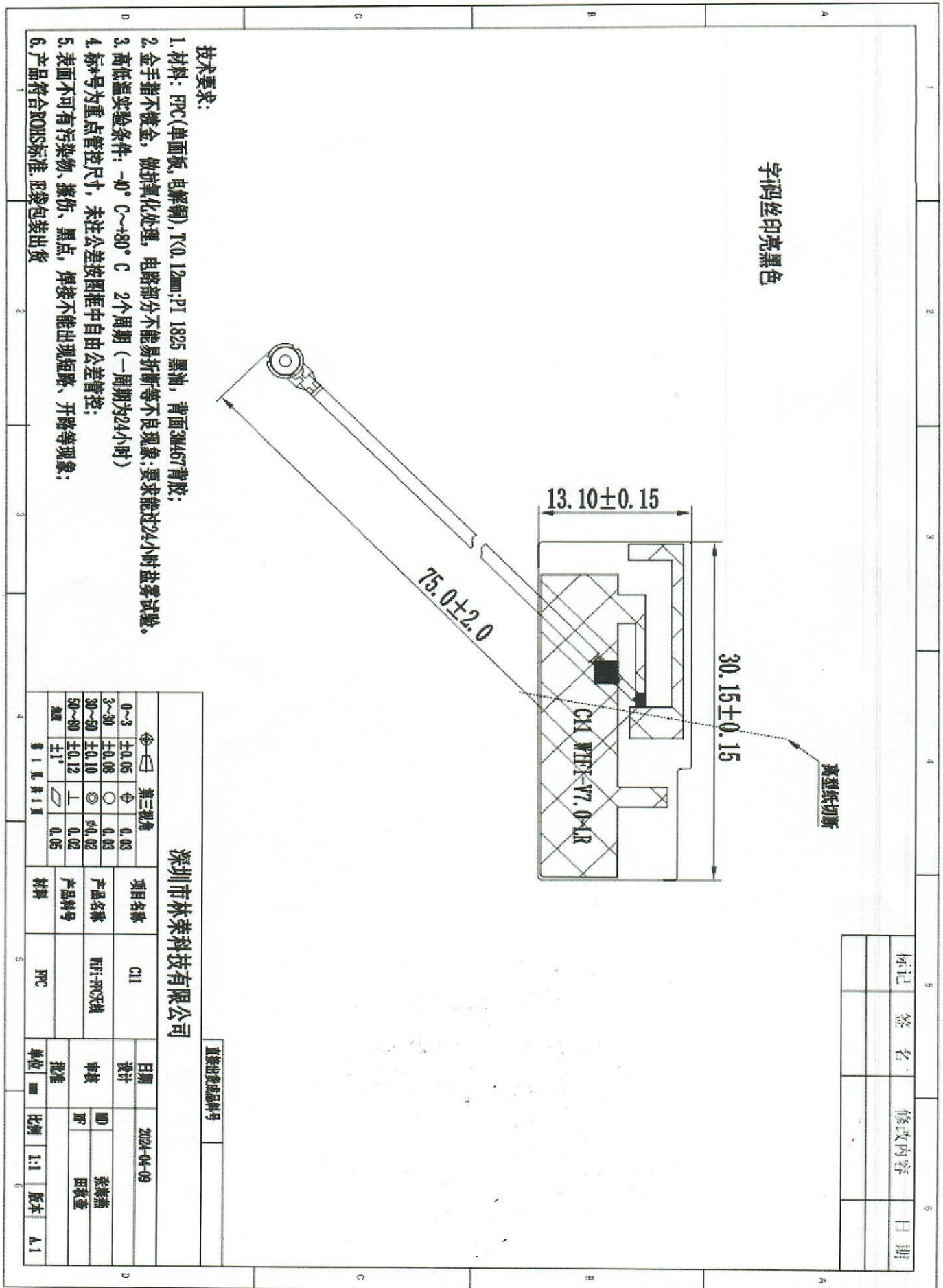
	chNO	TRP	TIS
11b-11M	1	14.63	-82.41
	6	14.97	
	11	15.21	-81.22
11g-54M	1	13.52	
	6	13.23	
	11	12.99	-72.85
11n-65M	1	14.59	
	6	14.83	
	11	14.94	-68.83
11a-54M	36	13.17	-72.10
	56	13.85	
	149	14.04	-72.85
	157	13.65	
	161	13.71	-71.48

## 4. Environmental treatment

### Antenna mounting diagram



## 5、Mechanical Dimension Drawing



## 6. Mechanical Dimension Testing report

### 全尺寸测量报告

Vendor(供应商)	材质名称	Part No(料号)	03.10.03.003	Tool Number (编号)	Rev(版本)	Unit(单位)	Quantity(品数量)																		
林荣科技	材质牌号 /	Part Name (零件名称)	RFPT天线	/	A.1	MILLIMETERS / INCHES	214																		
日期	2024-4-13	MEASURED DIMENSION(实测尺寸)			% TOLERANCE USED (公差使用百分比)			DISPOSITION		ACCEPTABLE VARIANCE															
# DIM	DIMENSION	DRAWING ZONE	+TOL	-TOL	NOTE	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	Upper	Lower	0%-25%	25%-50%	50%-75%	75%-100%	100%+	Re-Measure	Accept	Fix Tool	Accept With Variance	DIMENSION	+TOL	-TOL	
1	75.00		2.00	(2.00)		76.00	75.00	74.00	75.00	76.00	50%	-50%	x	x	x								75.00	76.00	74.00
2	30.15		0.15	(0.15)		30.17	30.15	30.20	30.14	30.18	33%	-7%	x	x									30.15	30.20	30.14
3	13.10		0.15	(0.15)		13.12	13.10	13.09	13.10	13.11	13%	-7%	x										13.10	13.12	13.09
4	1.13		0.05	(0.05)		1.12	1.12	1.13	1.12	1.13	0%	-20%	x										1.13	1.13	1.12
6	以下空白																								
7																									
8																									
9																									
10																									
11																									
12																									
13																									

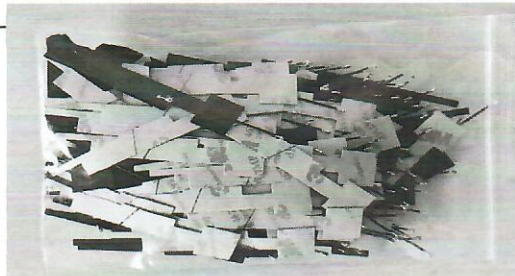
备注：除了上述标注的填写内容外，须输入的内容：  
 1. DIMENSION, +TOL, -TOL, SAMPLE1, SAMPLE2, SAMPLE3  
 2. 注意10描述的内容输入时，填：  
 a. GETAL DIMENSIONS(公差使用百分比)中无公差用0表示(0.000)。  
 (1) 修改输入数据是否输入错误。(2) 测量数据是否操作有误差是仪器测量不准确。(3) 测量时间是否不准确。(4) 掉了(0) (2) (3) 外，其他100%。请设计师对每个尺寸的后面作出选择即从"Re measure, Accept, Re Tool, Accept Variance"中选。若是选Accept with Variance, 必须完成后面的Dimension, +TOL, -TOL。  
 b. DIMENSION中的尺寸中有一些中的DIM #必须与图面上的一致。同时注意，在你的尺寸编号与尺寸测量报告中的尺寸的编号必须是相同的，且公差尺寸效果能用符号标注，此标注号必须表示的意思是指该尺寸为重点管控尺寸。要做OK!  
 c. 测量工具代号Measure No.: A=allipers(0.00) B=micrometer(0.000) C=Pin Gauge(0.000) E=High Gauge(0.000) F=OHV(0.000) F=Pin Gauge(0.00) G=R Gauge(0.0) I=Deep Gauge(0.000)



## 7. Packaging standard

包装说明：具体包装数量以实物为准，图片只显示包装的方式，并非此项目实物。

Packaging Description: the specific packaging quantity is subject to the physical object. The picture only shows the way of packaging, not the physical object of the project



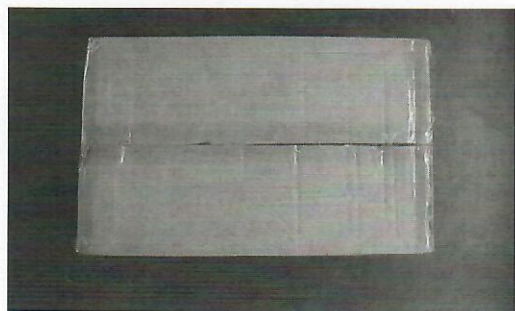
天线用 PE 袋包装

The top cover board, with PE film packaging



防潮防水 PET 袋封装，放于纸箱或胶筐内

Moistureproof waterproof PET bag packaging,  
Put in the cartons



纸箱用胶带封口

Carton sealing with duct tape



包装箱整箱外观 ( )

Cases appearance