



好天线 · 优比造

东莞市优比电子有限公司
Dongguan UB Electronic Co.,Ltd

承 认 书

SPECIFICATION FOR APPROVAL

客 户 名 称

CUSTOMER NAME: 中控

产 品 名 称

PRODUCT NAME: 2.4G/5.8G PCB 内置天线 L=35mm+端子

客 户 料 号

CUSTOMER P/N:

优比电子料号

UB P/N: UB01C35F2D2064A REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	Mark Liang 	
APPROVED BY:	Changxing. Liu	
DATE:	2021/06/17	

东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

传真：0769-81777126

网址：www.ubuant.com



好天线 · 优比造

东莞市优比电子有限公司

Dongguan UB Electronic Co.,Ltd

变更履历 Change calendar

版本 Version	修改内容 Content Revised	创建者 Modifier	时间 Date
A	Original version	Mark.Liang	2021-06-17

东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

传真：0769-81777126

网址：www.ubuant.com

Contents

<i>Item</i>	<i>Description</i>
1.-----	Electrical Specification
2.-----	Test items and equipment
3.-----	Return Loss
4.-----	Efficiency and Peak Gain Value
5.-----	Radiation Pattern
6.-----	Active test data
7.-----	Antenna installation diagram
8.-----	Mechanical Specification
9.-----	Shipping packing specification

东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

传真：0769-81777126

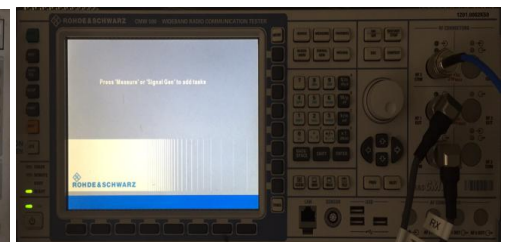
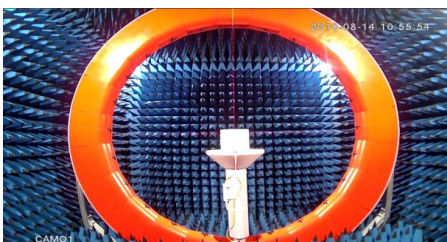
网址：www.ubuant.com

1.Electrical Specification:

Characteristics	Specifications	Unit
Outline Dimensions	31.3x10.5,L35	mm
Working Frequency	2400-2500; 5150-5850	MHz
Characteristic Impedance	50	Ω
Return Loss	-10 Max	dB
Polarization	Linear Polarization	
Peak Gain	2.0 $\pm$ 1.0	dBi
Efficiency	>40	%
Connector Type	1.13 MHF-1-Plug	
Operating temperature	-20 $^{\circ}$ C~+70 $^{\circ}$ C	
Storage Temp	-20 $^{\circ}$ C~+50 $^{\circ}$ C	

2.Test items and equipment

	Test items	Test equipment
Parameter	1.Return Loss 2. VSWR	Network analyzer (Agilent E5071B)
Passive parameters of the whole machine	1.Frequency 2.Peak Gain 3. Radiation Pattern	1.3D microwave darkroom (5m*5m*4m) 2. Network analyzer (Agilent E5071B)
Active parameters of the whole machine	1.TRP 2.TIS	1.3D microwave darkroom (5m*5m*4m) 2. Comprehensive test instrument (CMW500)



东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

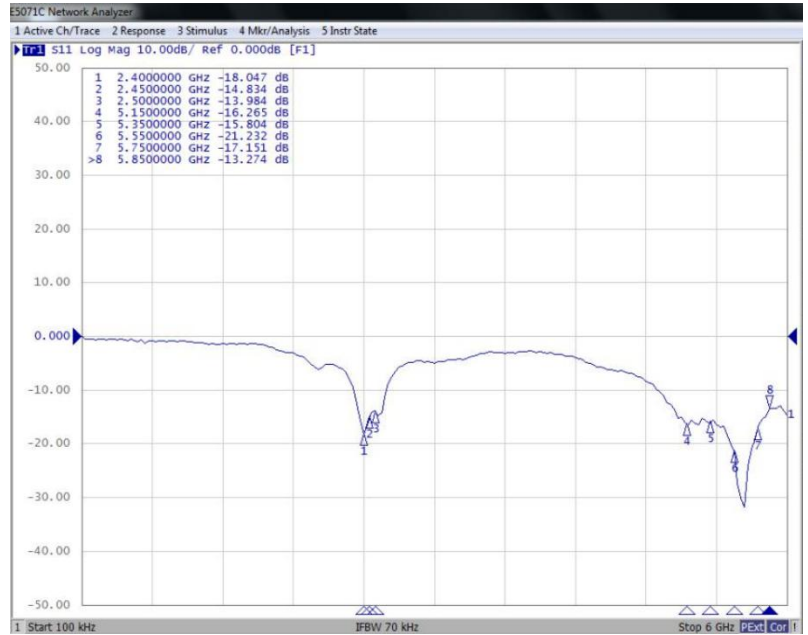
传真：0769-81777126

网址：www.ubuant.com

3. Return Loss

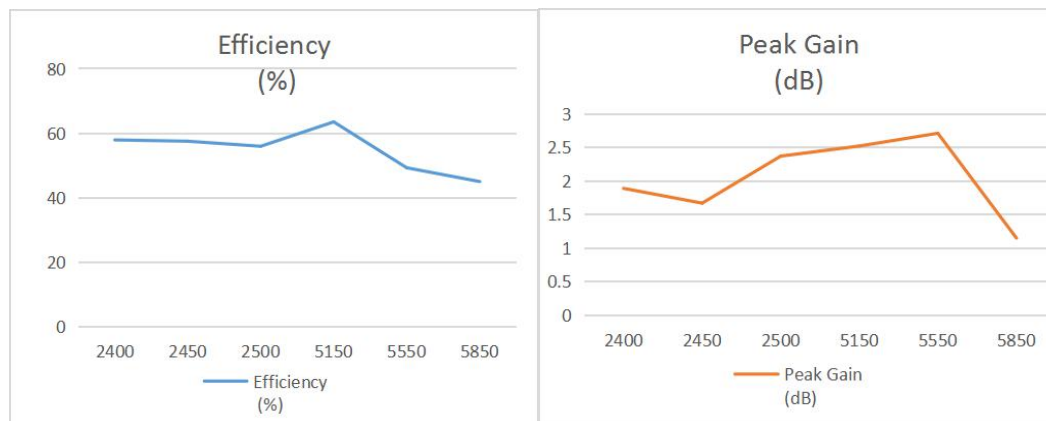
Frequency (MHz)	Return Loss
2400	-18.04
2450	-14.83
2500	-13.98
5150	-16.26
5550	-21.23
5850	-13.27

* Voltage Standing Wave Ratio(VSWR)
Return Loss(RL)
 $RL = 20 * \log_{10}[(VSWR + 1) / (VSWR - 1)]$



4. Efficiency and Peak Gain Value

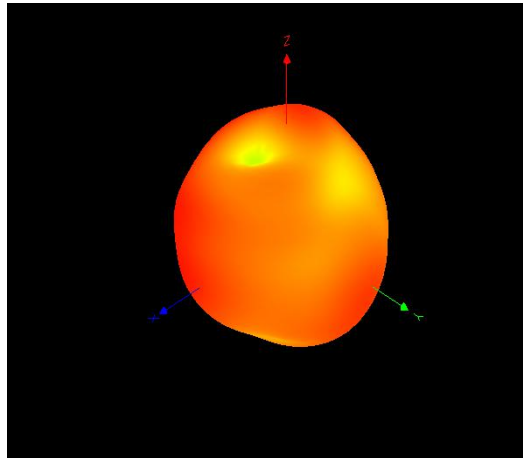
Frequency (MHz)	2400	2450	2500	5150	5550	5850
Efficiency (%)	57.94	57.54	55.98	63.53	49.32	45.05
Peak Gain (dB)	1.89	1.67	2.37	2.52	2.71	1.15



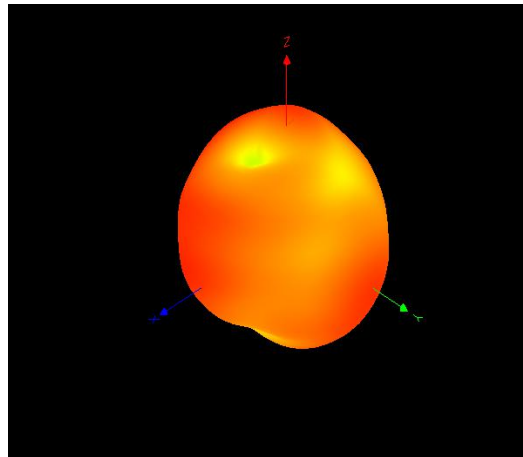
东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋
杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室
电话：0769-81777126
传真：0769-81777126
网址：www.ubuant.com

5. Radiation Pattern

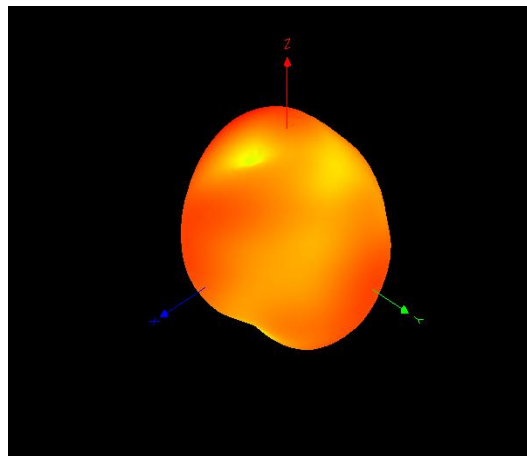
5-1 Antenan 3D Radiation Pattern



2400MHz



2450MHz



2500MHz

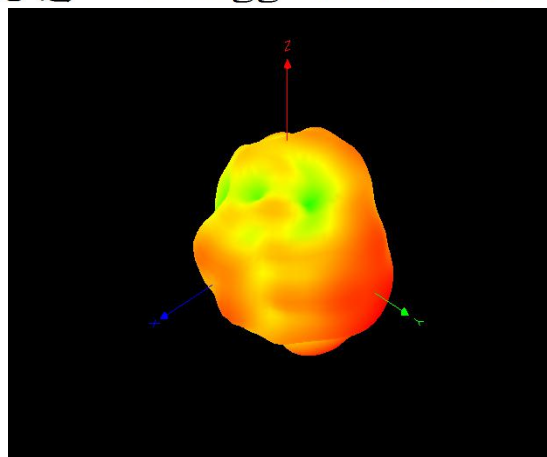
东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

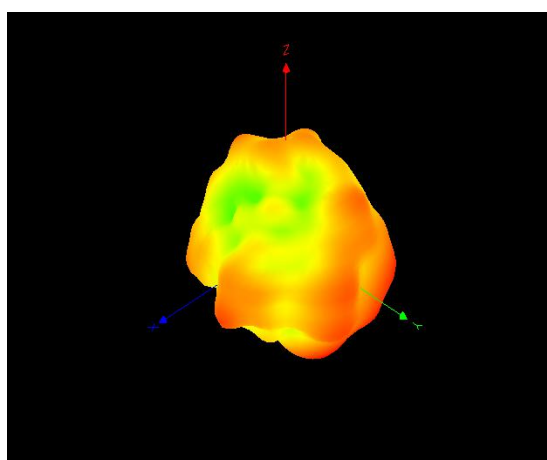
电话：0769-81777126

传真：0769-81777126

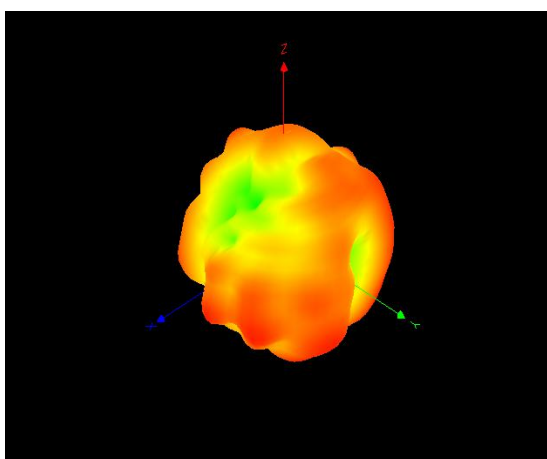
网址：www.ubuant.com



5150MHz



5550MHz



5850MHz

东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

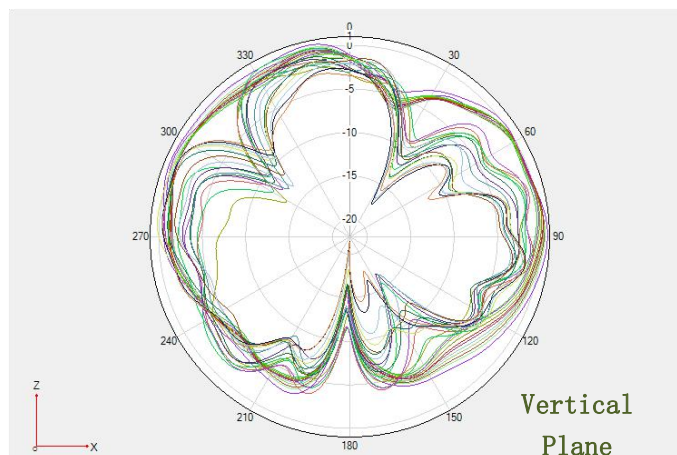
杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

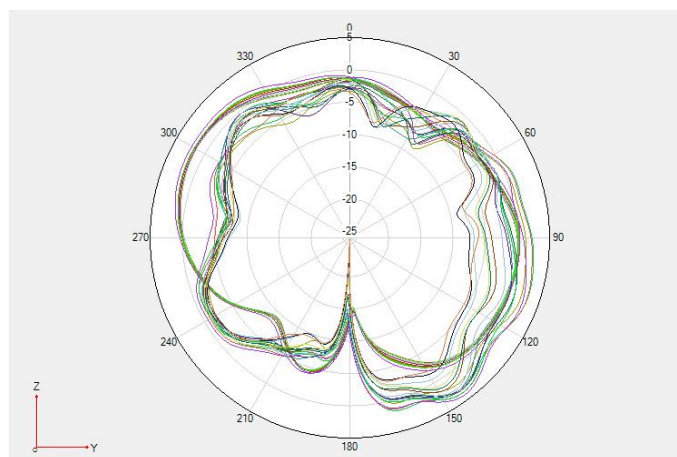
传真：0769-81777126

网址：www.ubuant.com

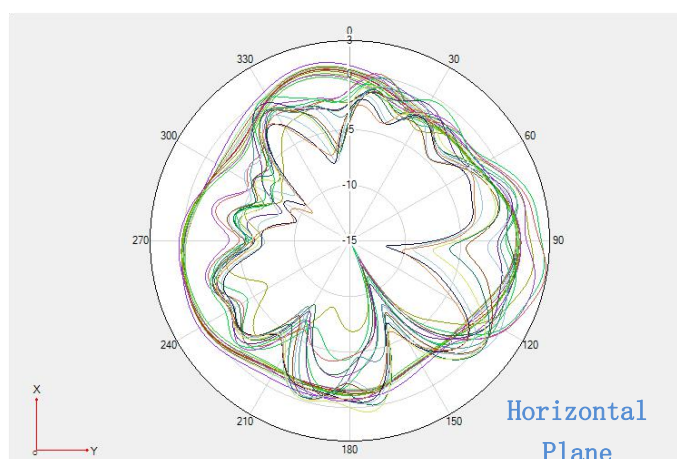
5-2 Antenan 2D Radiation Pattern



Phi 0 2D



Phi 90 2D



Theta 90

东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

传真：0769-81777126

网址：www.ubuant.com



好天线 · 优比造

东莞市优比电子有限公司

Dongguan UB Electronic Co.,Ltd

6.Active test data

Antenna complete machine test

Item	Measurement	Azimuths	Elevations	Standard	Band	Channel	Frequency	Total
1	TRP	Every30	Every30	WIFI (AP)	WIFI_B (11M)	1	2412	12.11
2	TRP	Every30	Every30	WIFI (AP)	WIFI_B (11M)	6	2437	11.15
3	TRP	Every30	Every30	WIFI (AP)	WIFI_B (11M)	11	2462	10.89
4	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_B (11M)	1	2412	75.3
5	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_B (11M)	6	2437	80.21
6	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_B (11M)	11	2462	76.91
7	TRP	Every30	Every30	WIFI (AP)	WIFI_G (54M)	1	2412	10.02
8	TRP	Every30	Every30	WIFI (AP)	WIFI_A (54M)	36	5180	14.27
9	TRP	Every30	Every30	WIFI (AP)	WIFI_A (54M)	100	5500	16.06
10	TRP	Every30	Every30	WIFI (AP)	WIFI_A (54M)	165	5825	14.69
11	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_A (54M)	36	5180	71.92
12	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_A (54M)	100	5500	74.03
13	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_A (54M)	165	5825	73.59

东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

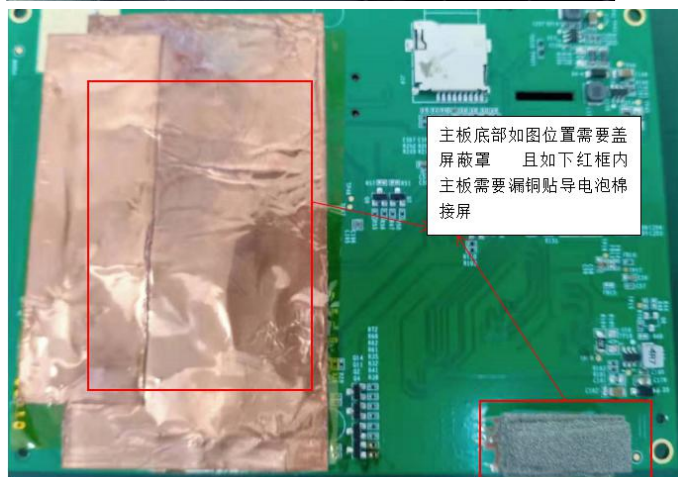
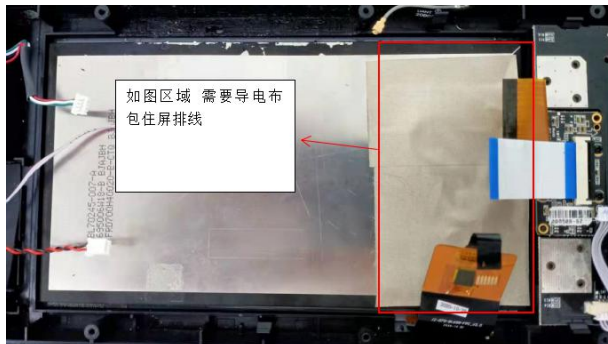
杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

传真：0769-81777126

网址：www.ubuant.com

7. Antenna installation diagram:



Overall schematic diagram

东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

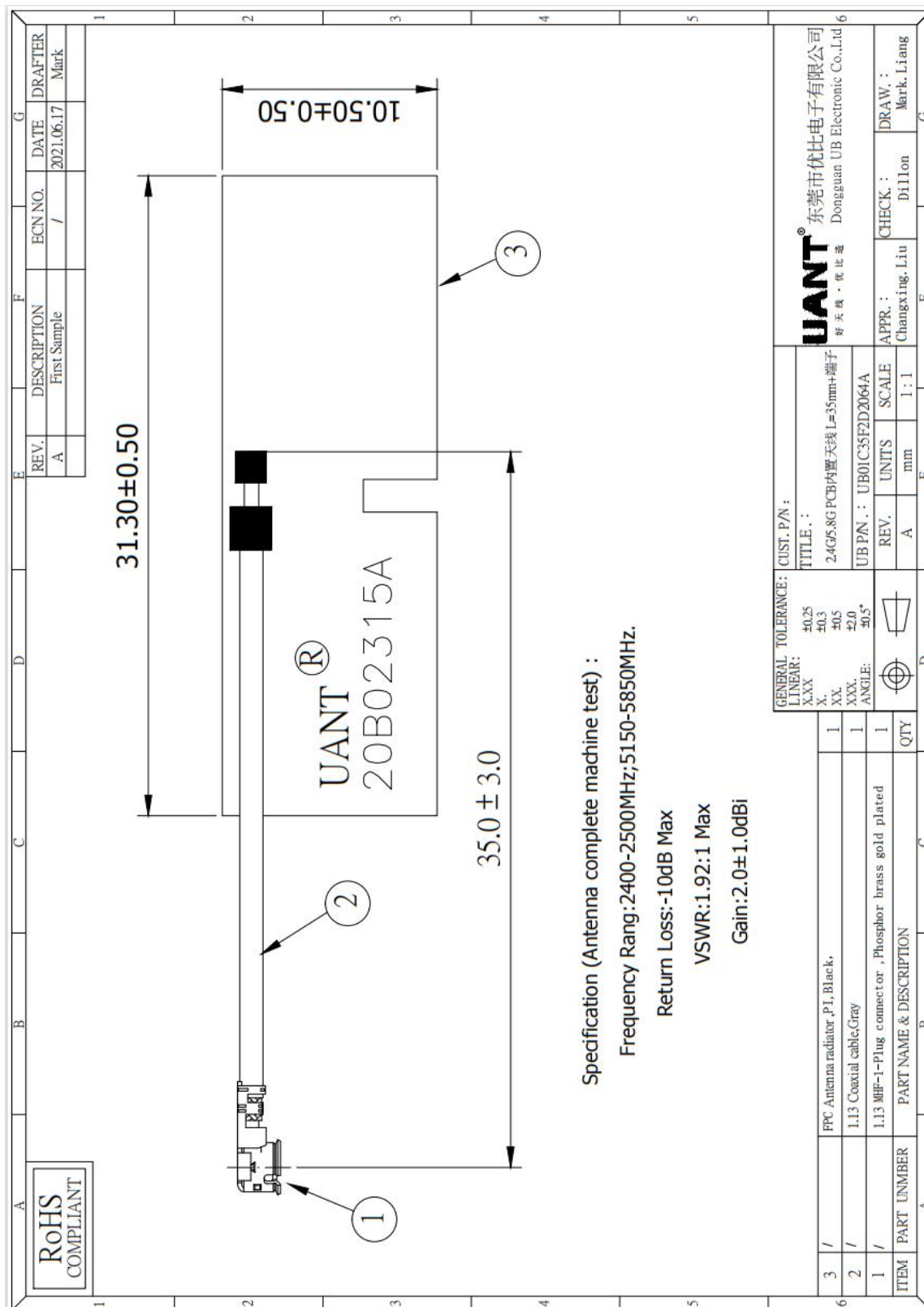
杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

传真：0769-81777126

网址：www.ubuant.com

8. Mechanical Specification:



东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

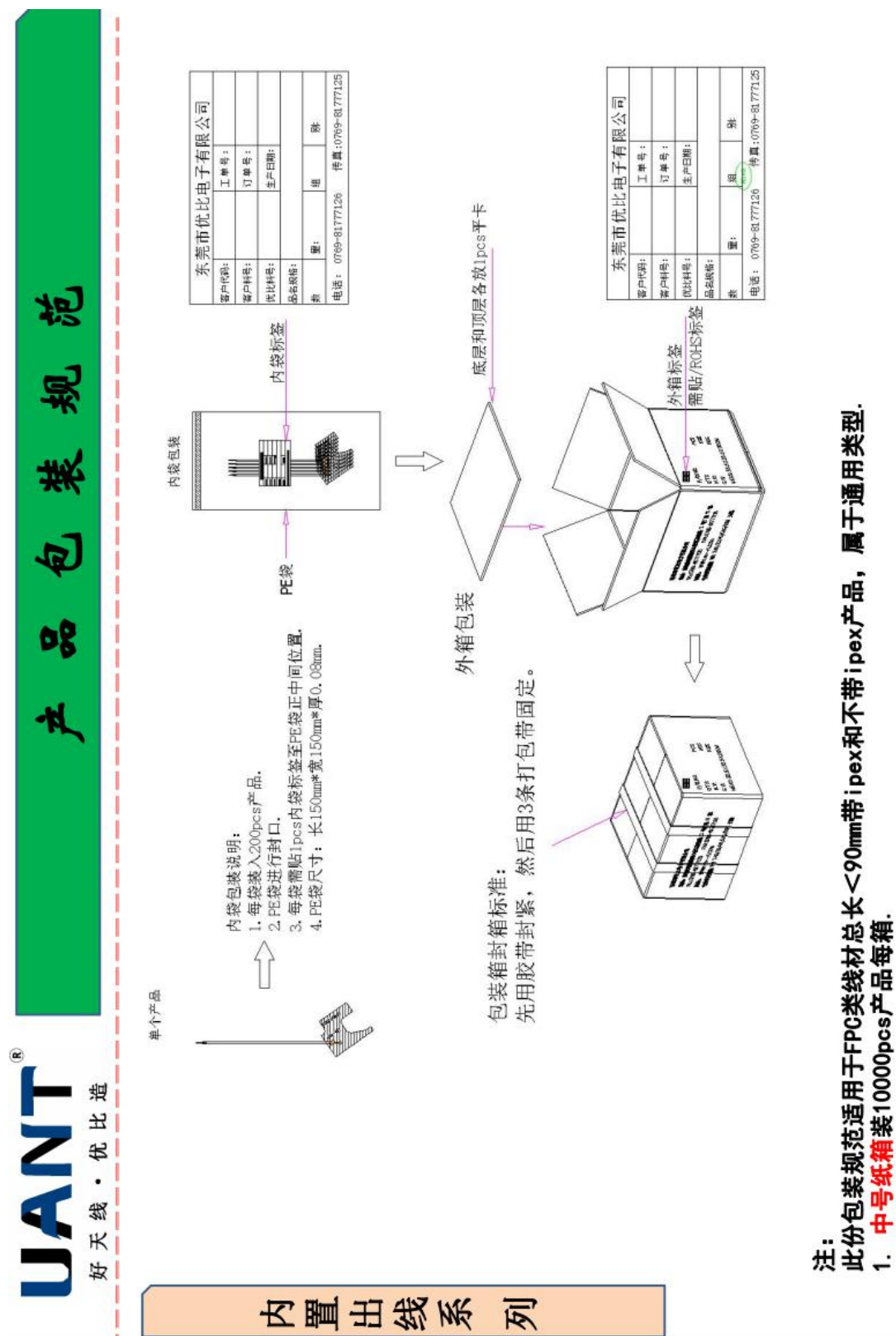
杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

传真：0769-81777126

网址：www.ubuant.com

9. Shipping packing specification



东莞地址: 东莞市塘厦镇林村社区新太阳工业城 79 栋

杭州地址: 杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话: 0769-81777126

传真: 0769-81777126

网址: www.ubuant.com



好天线 · 优比造

东莞市优比电子有限公司

Dongguan UB Electronic Co.,Ltd

东莞地址：东莞市塘厦镇林村社区新太阳工业城 79 栋

杭州地址：杭州市滨江区秋溢路 500 号乐通科技园 3 栋 106 室

电话：0769-81777126

传真：0769-81777126

网址：www.ubuant.com