



东莞市联频电子科技有限公司
Dongguan Link-Freq Electronic Technology Co.,Ltd

规格承认书

SPECIFICATION FOR APPROVAL

客 户
CUSTOMER:

客 户 料 号
CUSTOMER NO:

品 名 WIFI双频天线
PART NAME: _____

供 方 料 号 LF-FN480913B140-P01
SUPPLIER NO: _____

日期 Date: 2022.8.18

客户确认 CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

供方确认 SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
Darren	Jerry	Patrick

SH-RD-F04-A

Address of manufacturer: Room 102, Building 1, No. 2, Bihu 1st Lane,
Songbai Lang, Dalang Town, Dongguan City, Guangdong Province,
China





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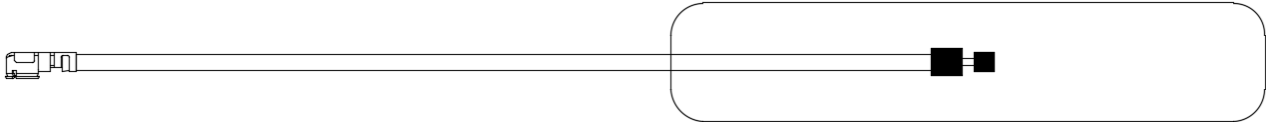
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1. 产品规格 (Product Specification)

产品图片 (Product Photo)	
	
A. 电性参数 (Electrical Characteristics)	
频率 (Frequency)	2400 ~ 2500 MHz & 5150 ~ 5825 MHz
电压驻波比 (V.S.W.R)	≤ 2.0 @ 2400 ~ 2500 MHz & 5150 ~ 5825 MHz
返回损失 (Return Loss)	$\leq -10\text{dB}$ @ 2400 ~ 2500 MHz & 5150 ~ 5825 MHz
天线增益 (Antenna Gain)	3.0 dBi @ 2400 ~ 2500 MHz 3.0 dBi @ 5150 ~ 5825 MHz
辐射效率 (Radiation Efficiency)	50 ~ 70 % @ 2400 ~ 2500 MHz & 5150 ~ 5825 MHz
极化方式 (Polarization)	线性 (Linear)
阻抗 (Impedance)	50 Ohm
天线类型 (Antenna Type)	双极 (Dipole)
B. 材质及机械特性 (Material & Mechanical Characteristics)	
辐射材质 (Material of Radiator)	FPCB
线材类型 (Cable Type)	1.13 黑色线材 (O.D. 1.13 mm Black)
连接器类型 (Connector Type)	一代端子 (Connector for O.D. 1.13mm Coaxial Cable)
线材长度 (Cable Length)	140mm
连接器拉力测试 (Pull Test)	≥ 1.0 Kg
C. 环境因素 (Environmental)	
工作温度 (Operation Temperature)	- 40 °C ~ + 75 °C
储存温度 (Storage Temperature)	- 40 °C ~ + 85 °C

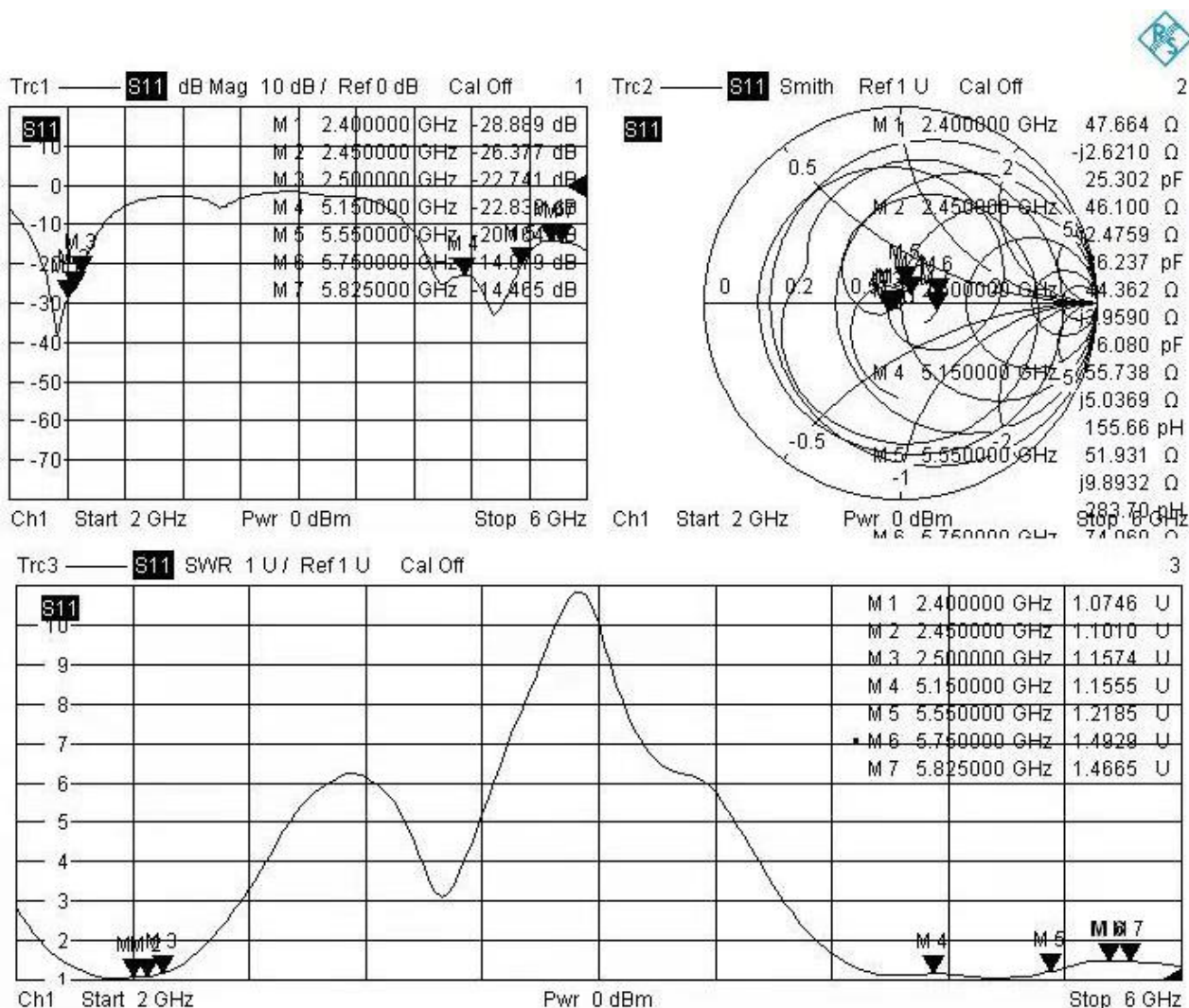
2. 网络参数测试数据 (S Parameter Test Data)



(ROHDE&SCHWARZ) ZVL矢量网络分析仪

测试频率范围: 9KHz-6GHz

测试能力: V. S. W. R、Return Loss、Smith等



3. 天线辐射场型测试 (Antenna - Radiation Pattern Test)

测试设备规格 (Testing Equipment Specification) :

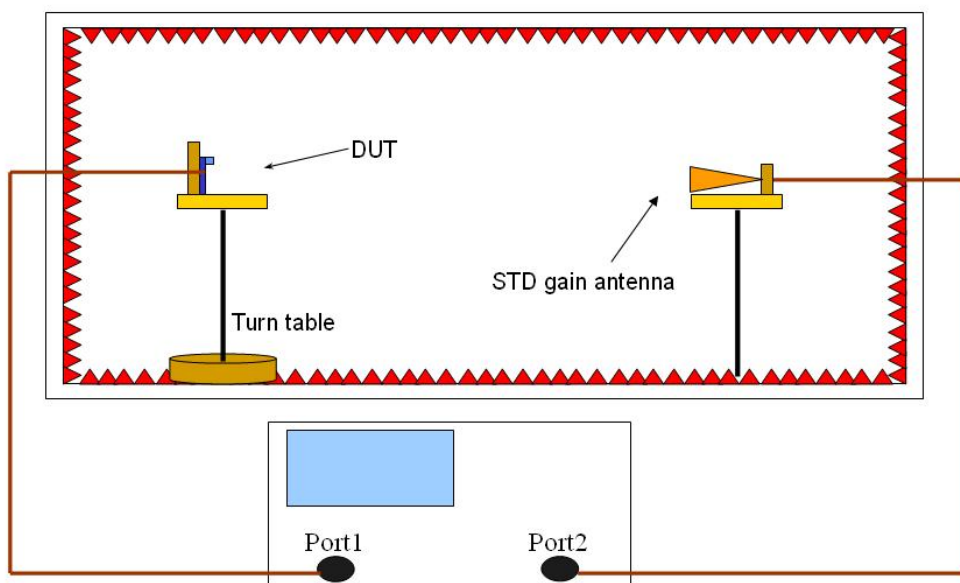
天线微波暗室尺寸 (Antenna Anechoic Chamber Dimension) : 6 x 3 x 3 米 (m)

屏蔽性能 (Isolation) : >100dB @ 1 MHz ~ 10 GHz

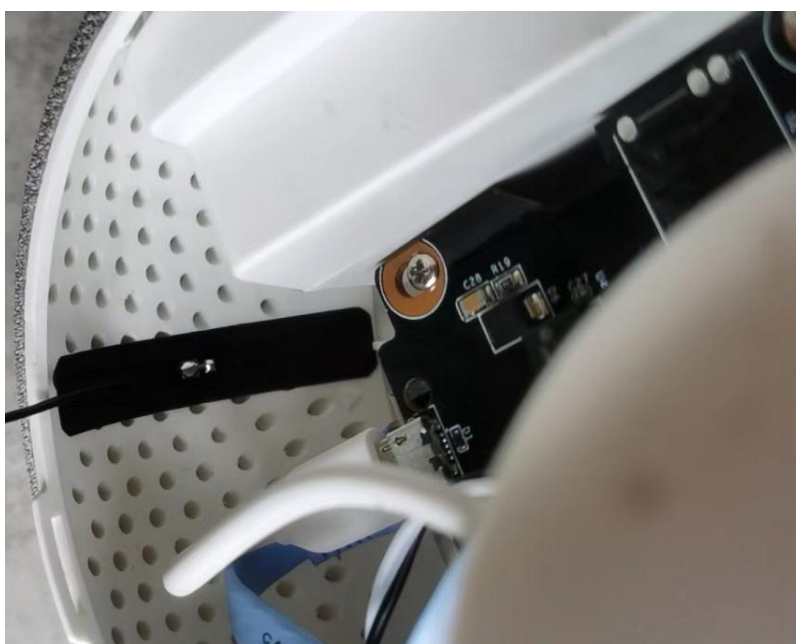
测试设备 (Testing Equipment) : (ROHDE&SCHWARZ) ZVL 矢量网络分析仪

接收天线 (Received Antenna) : 0.7 ~ 6.0 GHz 双极喇叭校准天线

(0.7 ~ 6.0 GHz for Gain Calibration Double Ridged Horn Antenna)

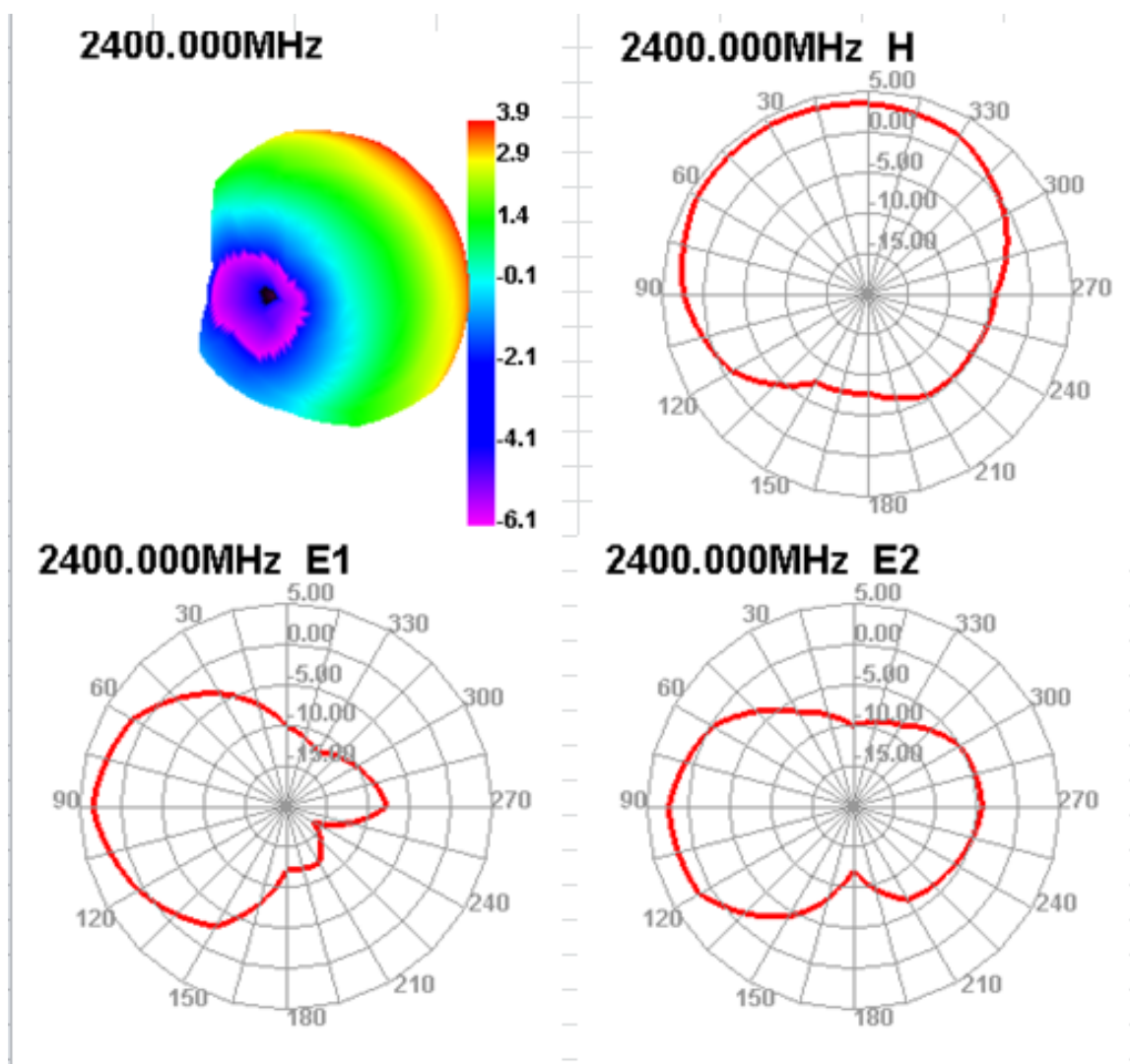


测试原理图



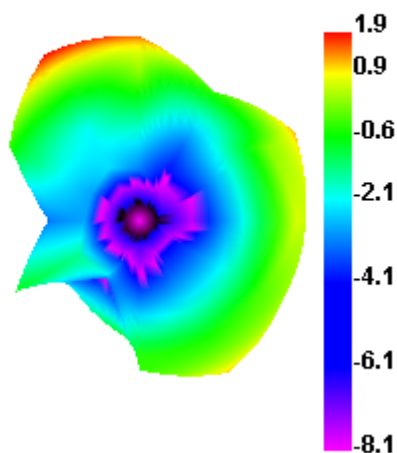
4. 效率及增益测试数据 (Efficiency and Gain Test Data)

Passive Test For WIFI2400										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)
2400	67.94	-1.68	3.88	1.73	32.87	35.067	3.88	-16.22	5.56	60
2410	65.83	-1.82	3.72	1.57	31.847	33.979	3.72	-15.33	5.53	60
2420	67.46	-1.71	3.85	1.7	32.598	34.863	3.85	-14.26	5.56	60
2430	65.04	-1.87	3.69	1.54	31.332	33.704	3.69	-14.52	5.56	60
2440	60.86	-2.16	3.41	1.26	29.262	31.603	3.41	-15.78	5.57	60
2450	58.82	-2.3	3.25	1.1	28.271	30.549	3.25	-17.46	5.55	60
2460	59.24	-2.27	3.26	1.11	28.504	30.735	3.26	-19.49	5.53	60
2470	60.58	-2.18	3.35	1.2	29.23	31.348	3.35	-21.59	5.52	60
2480	59.33	-2.27	3.29	1.14	28.736	30.595	3.29	-22.87	5.55	60
2490	63.95	-1.94	3.64	1.49	31.097	32.848	3.64	-20.92	5.59	60
2500	66.84	-1.75	3.84	1.69	32.609	34.23	3.84	-18.72	5.59	60

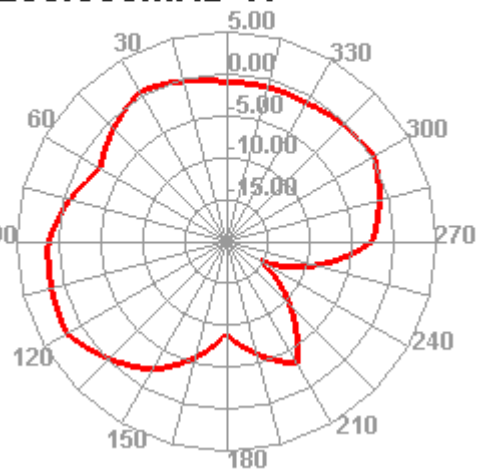


Passive Test For WIFI-5G										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)
5150	54.41	-2.64	2.57	0.42	19.864	34.545	2.57	-13.43	5.21	30
5250	54.07	-2.67	2.56	0.41	19.738	34.329	2.56	-15.09	5.24	90
5350	53.96	-2.68	2.59	0.44	19.831	34.128	2.59	-17.01	5.27	60
5450	55.62	-2.55	2.74	0.59	20.613	35.011	2.74	-18.21	5.28	60
5550	58.94	-2.3	2.79	0.64	22.088	36.853	2.79	-17.61	5.09	60
5650	61.69	-2.1	2.93	0.78	23.233	38.455	2.93	-15.82	5.02	60
5750	62.88	-2.01	3.01	0.86	23.72	39.163	3.01	-14.32	5.03	60
5850	62.83	-2.02	2.9	0.75	23.768	39.057	2.9	-13.61	4.92	60

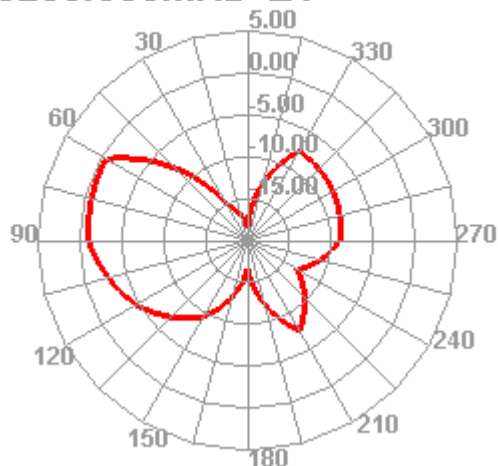
5250.000MHz



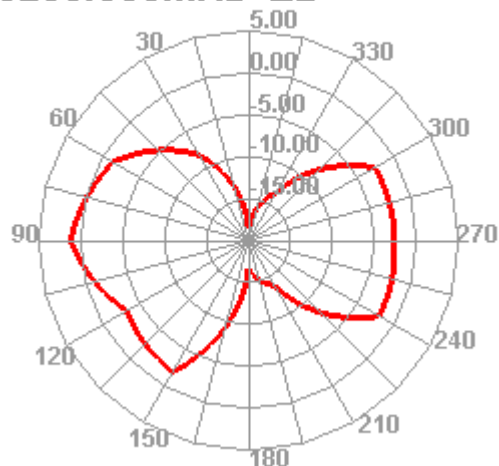
5250.000MHz H

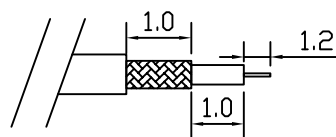
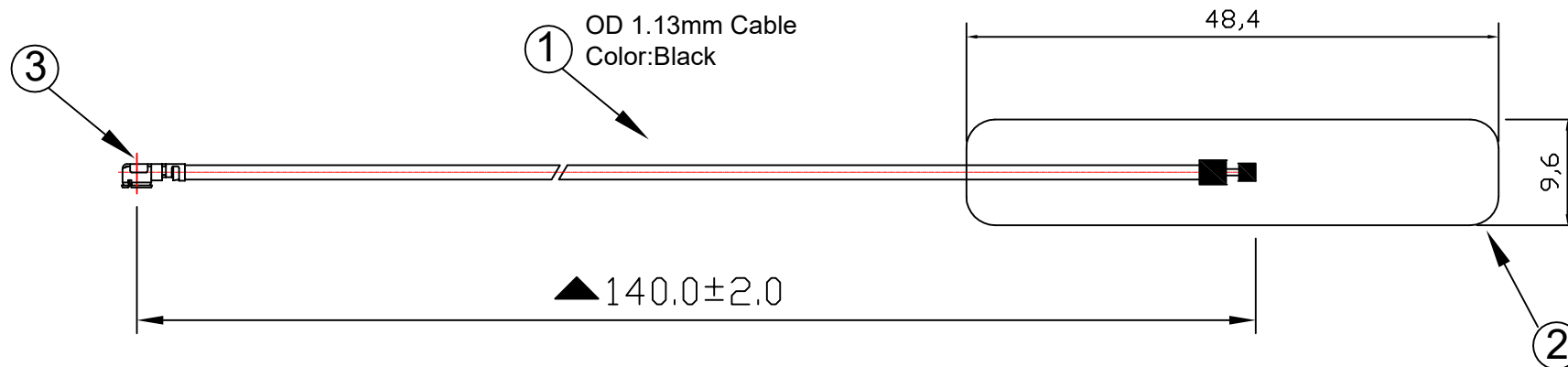


5250.000MHz E1



5250.000MHz E2





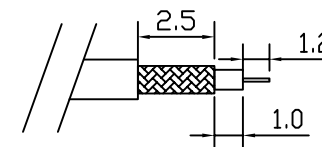
I-PEX STRIPPING DIM'S

重点:

1. 裁线尺寸: 140.0mm

2. ▲为重点检验尺寸

3. FPC不可有刮伤、掉漆露铜等现象



FPCB STRIPPING DIM'S

备注:

1. 线材为RF1.13黑色线材, 特性阻抗为50 Ohm

网络测试:

测试频段: 2400-2500MHz & 5150-5850MHz

VSWR: 2.0MAX

RETURN: -10 or Less

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DONGGUAN LINK-FREQ ELECTRONIC TECHNOLOGY CO., LTD

CUSTOMER

PART NO

TITLE

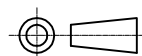
S. H P/NO

SIZE

DRAWN

CHECKED

APPROVED

TOLERANCE UNLESS
OTHERWISE SPECIFIED

UNIT: mm

ANGLES ±0.5° X. ±2.0

SHEET: 1/1

X. XX ±0.2 XX. ±5.0

SCALE: 1/1

X. X ±0.5 DATE: 2022-08-18

WIFI双频天线

LF-FN480913B140-P01

Patrick

Jerry

Darren

3	I-Pex	I - PEX terminal Ø 1.13 mm Coaxial Cable	1PC
2	FPCB	WIFI FPCB the surface with black paint, size: 48.4 * 9.6 * 0.1 mm	1PC
1	CABLE	Ø1.13 mm Coaxial Cable, Coaxial line (Black) L=140.0mm	1PC
NO.	Name	Finished	Q'ty

8

7

6

5

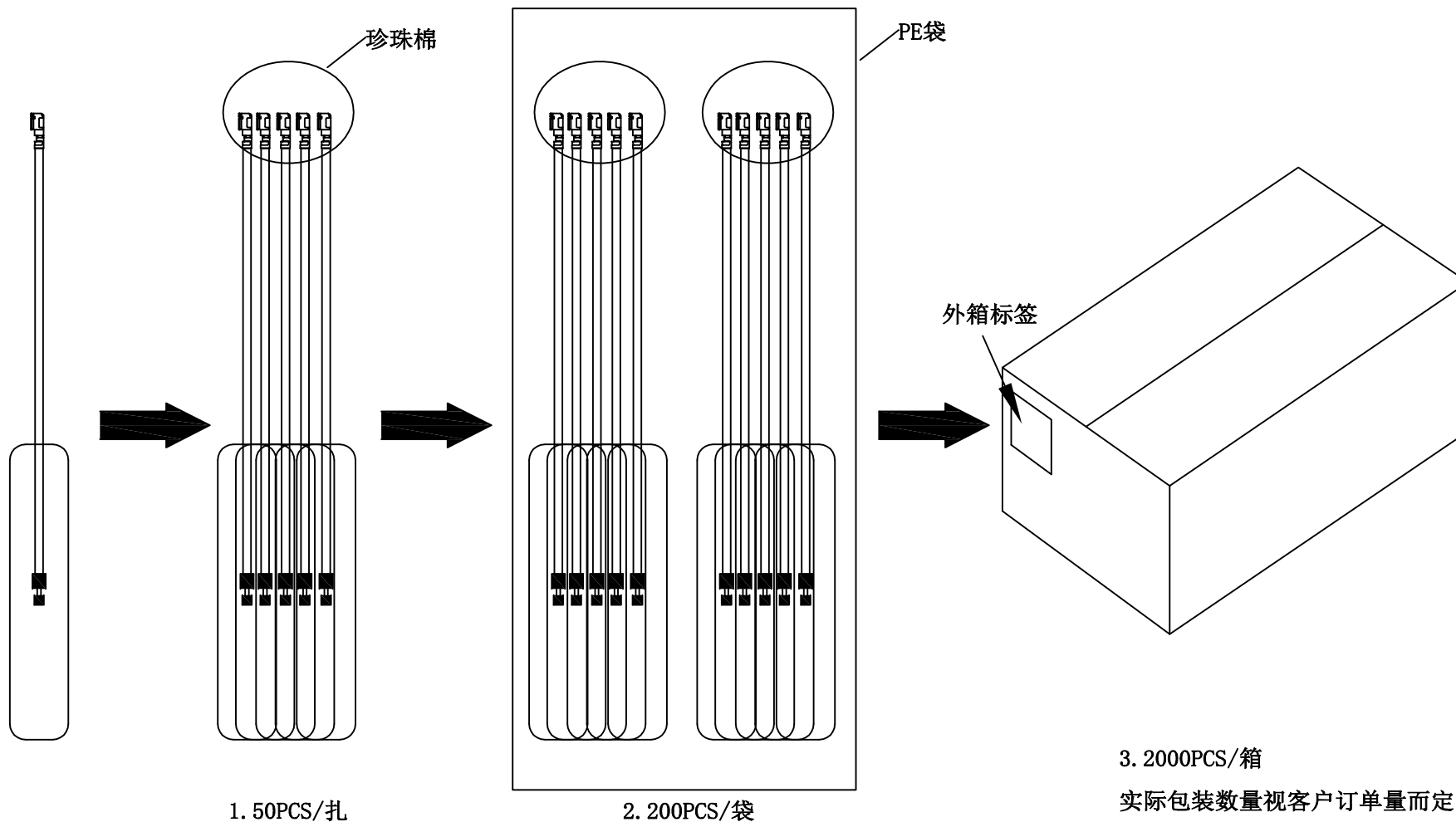
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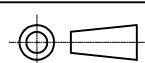
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1

包装说明



东莞市联频电子科技有限公司
DONGGUAN LINK-FREQ ELECTRONIC TECHNOLOGY CO., LTD



TOLERANCE UNLESS
OTHERWISE SPECIFIED

UNIT:mm	ANGLES	$\pm 0.5^\circ$	X.	± 2.0
SHEET: 1/1	X.XX	± 0.2	XX.	± 5.0
SCALE: 1/1	X.X	± 0.5	DATE:2022-08-18	

CUSTOMER				
PART NO				
TITLE		WIFI双频天线		
S. H P/NO		LF-FN480913B140-P01		
SIZE	DRAWN	CHECKED	APPROVED	
A4	Patrick	Jerry	Darren	