



APPROVAL SHEET

承认书

CUSTOMER NAME 客户名称		
CUSTOMER P/N 客户料号	23040236	
PART NAME 品 名	WIFI 1 black FPC built-in antenna 1.13 Black L=360mm (For model: H93A)	
P/ N 料 号	YJC-6N360-B01	
APPROVAL REV. 版 次	A0	
DELIVERY DATE 送样日期	2023 -03 - 07	
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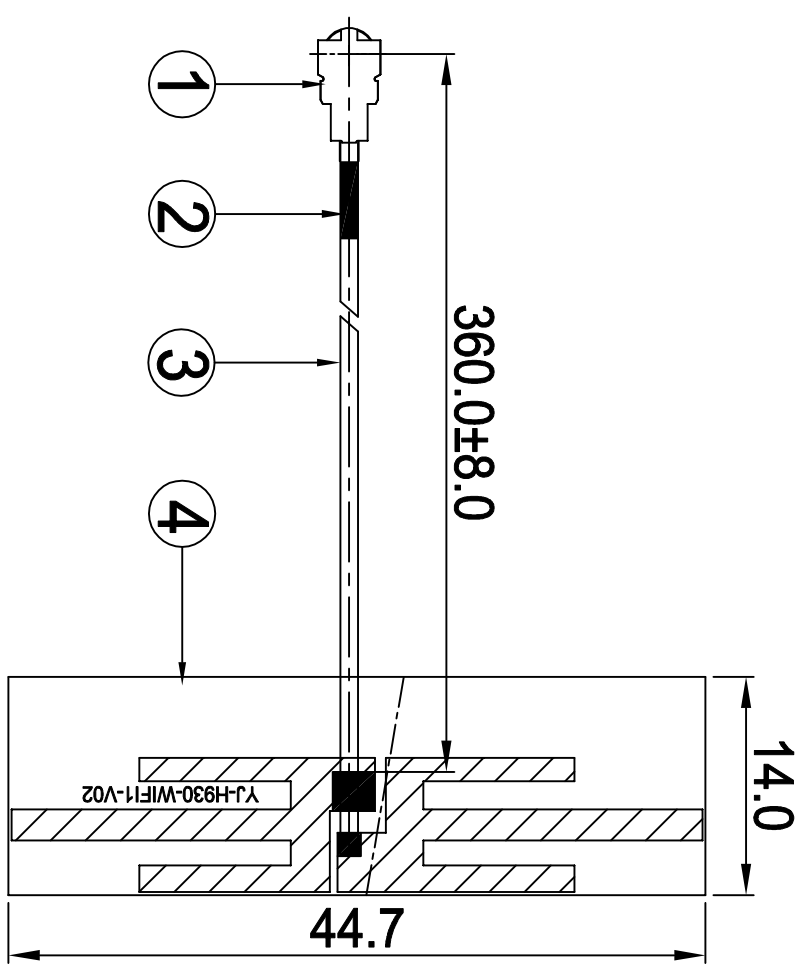
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ROHS
Compatible

CUSTOMER
PART NO

REV.	DESCRIPTION	DATE
A	首次发行	2022-07-12
A	修改FPC及线长, 添加EVA	2022-09-16
A	修改线材颜色	2022-09-27
A	修改线长	2022-10-14
A	修改线长, 去掉EVA	2022-10-17
A	修改线长	2022-11-02
A	修改线材颜色, 增加套管	2022-11-04



NO	PART NAME	DESCRIPTION	Material	Part Number	Q.TY
4	FPC	44.7*14.0mm	FPC	FPC11XXXXA.P01	1
3	Coaxial Cable	O.D.1.13 Black	O.D.1.13	COA100XXA.P01	1
2	Shrink Tube	Ø1.5*5.0MM Red	EVA	TUB10019A.R01	1
1	Mini Connector	Au Plated 1代	Cu	TER100XXA.P01	1

零件名称 (PART NAME)	单位 (UNIT)	比例 (SCALE)	版本 (REV)
WIFI1 黑色FPC天线	XD, 1.13黑色线 L=360MM		YJC-6N360-B01
设计 (DS)	版次 (REV)	日期 (DATE)	
版次 (REV)	第1页, 共1页	2023-03-07	
审核 (CHK)	方文峰		
审批 (APPD)			
深圳市英佳创电子科技有限公司 SHENZHEN YINGJIACHUANG TECHNOLOGY ELECTRONIC CO.,LTD			



Antenna technology parameters:

Electrical Specifications	
Frequency Range	2400-2500/5150-5850MHz
VSWR	<1.92
Input Impedance	50 Ω
Direction	All
Gain(2.4G)	2.0dBi
Gain(5.8G)	3.5dBi
Mechanical Specifications	
Cable Color	Black
Input connector	XD
Cable length	360mm
Working Temperature	-20°C~+70°C
Working Humidity	20%~80%

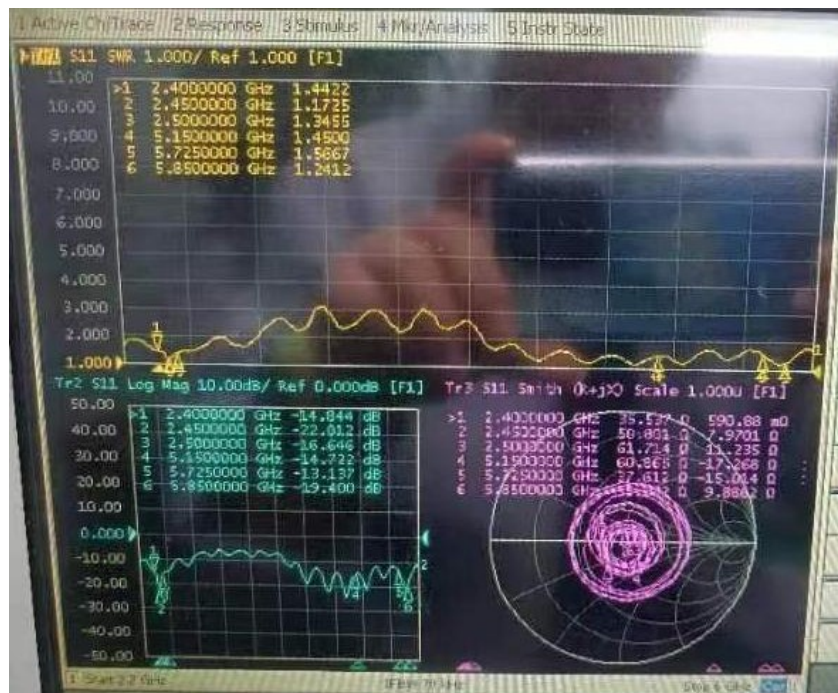


Environmental performance test:

project	test condition	standard
Storage Conditions	In the absence of specified test temperature, humidity, air pressure is as follows: 1. Temperature is $-20\text{ }^{\circ}\text{C} \sim +70\text{ }^{\circ}\text{C}$ 2. Relative humidity of 45% to 45% 3. Air pressure is 86 kpa to 106 kpa	Electrical and mechanical properties is normal
high and low temperature test	Between $70\text{ }^{\circ}\text{C}$ and $-20\text{ }^{\circ}\text{C}$ for 5 loops, then 1-2 h under normal conditions, check the appearance quality.	Size should meet the requirements and should satisfy the content with the electrical and mechanical properties
Constant damp and hot resistance test	95 + / - 3% relative humidity, temperature test: $40\text{ }^{\circ}\text{C}$. Lasts 2 h after, try to take out the determination of electrical properties, within 5 min after try 1-2 h under article normal thing, check the appearance quality	Size should meet the requirements and should satisfy the content with the electrical and mechanical properties
vibration test	10-55 hz, vibration frequency range of displacement amplitude: 0.35 MM, acceleration amplitude: 50.0 M/S, sweep cycles: 30 times	Electrical and mechanical properties is normal
fall down test	1 m high altitude in accordance with the perpendicular axis free drop 3 times	Electrical and mechanical properties is normal



Antenna performance test chart:



Frequency (MHZ)	2400	2450	2500	5150	5725	5850
VSWR (dB)	1.44	1.17	1.34	1.45	1.56	1.24



WIFI1 and BT isolation test diagram



WIFI1 and WIFI2 isolation test diagram



Frequency (MHz)	2400	2450	2500	5150	5725	5850
WIFI1 and BT isolation (dB)	-21	-21	-19	-32	-34	-39



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WIFI1 and WIFI2 isolation (dB)	-21	-23	-33	-28	-27	-29
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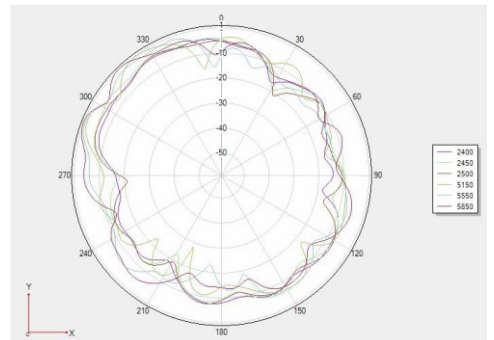
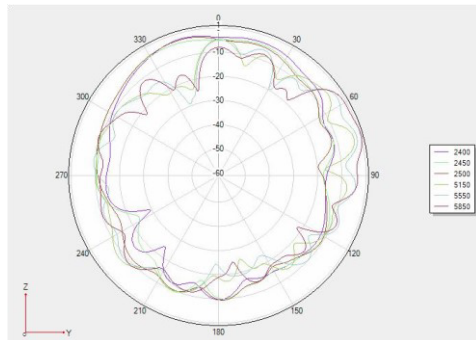
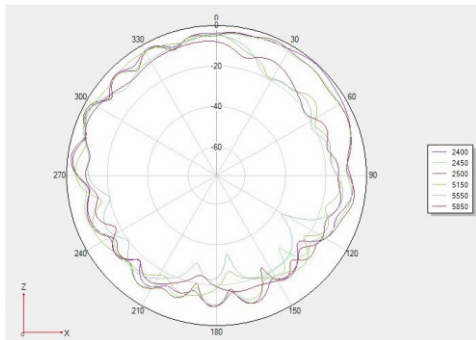
2D,3D test data (WIFI 1):

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	30.48	1.72
2410MHz	32.51	2.00
2420MHz	27.54	1.64
2430MHz	30.55	1.52
2440MHz	25.18	1.62
2450MHz	30.13	1.74
2460MHz	27.1	1.5
2470MHz	29.85	1.84
2480MHz	25.88	1.41
5150MHz	26	3.50
5850MHz	26.12	3.50

Phi 0 2D diagram:

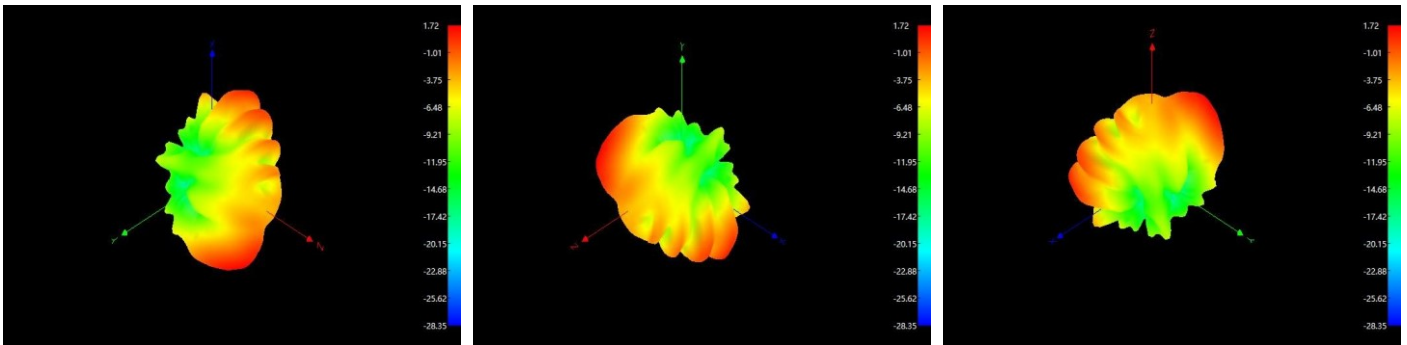
Phi 90 2D diagram

Theta 90 2D diagram

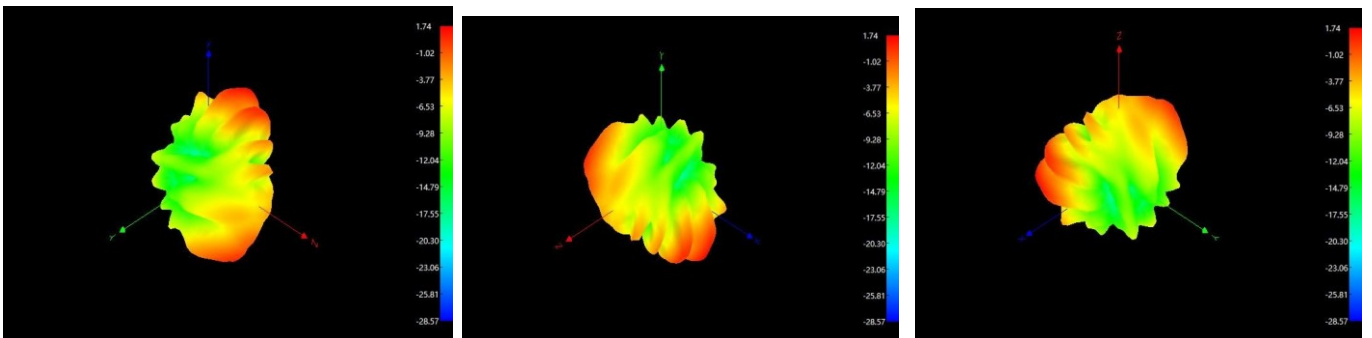




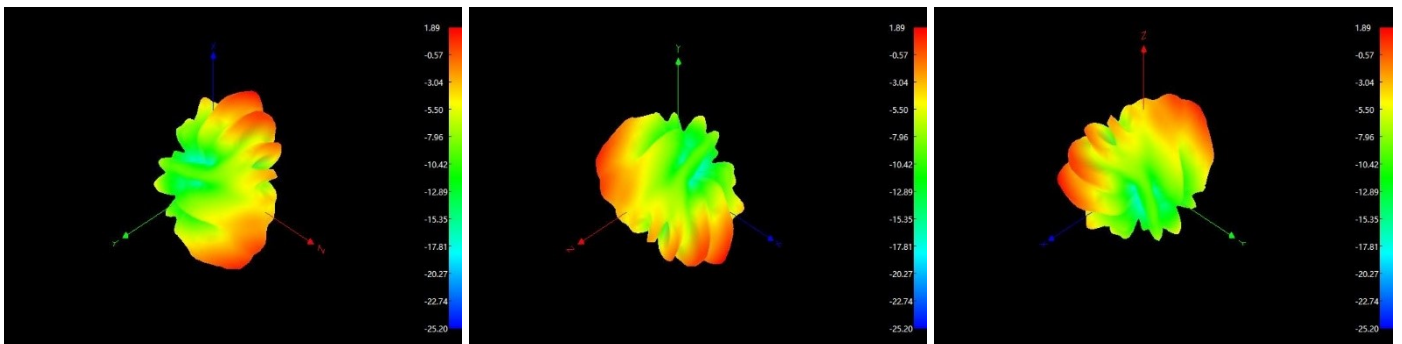
3D 2400:



3D 2450:

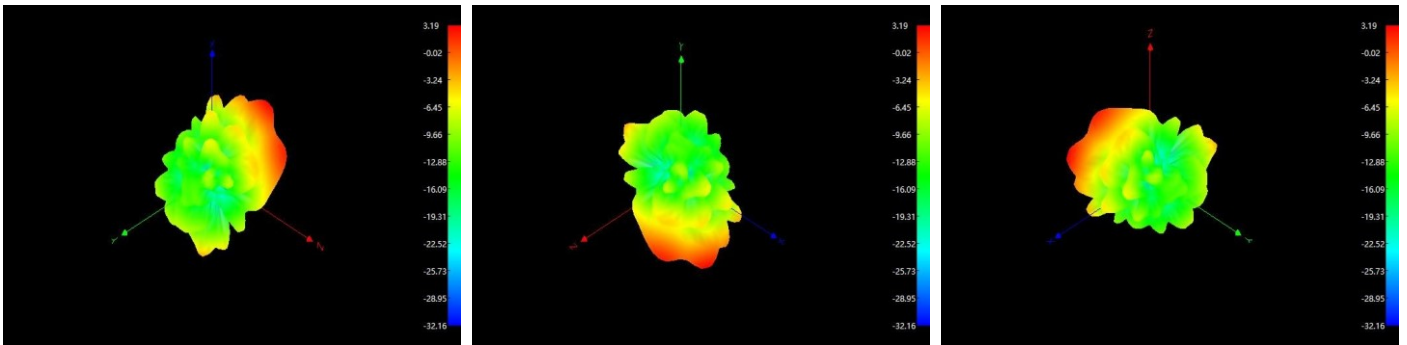


3D 2500:

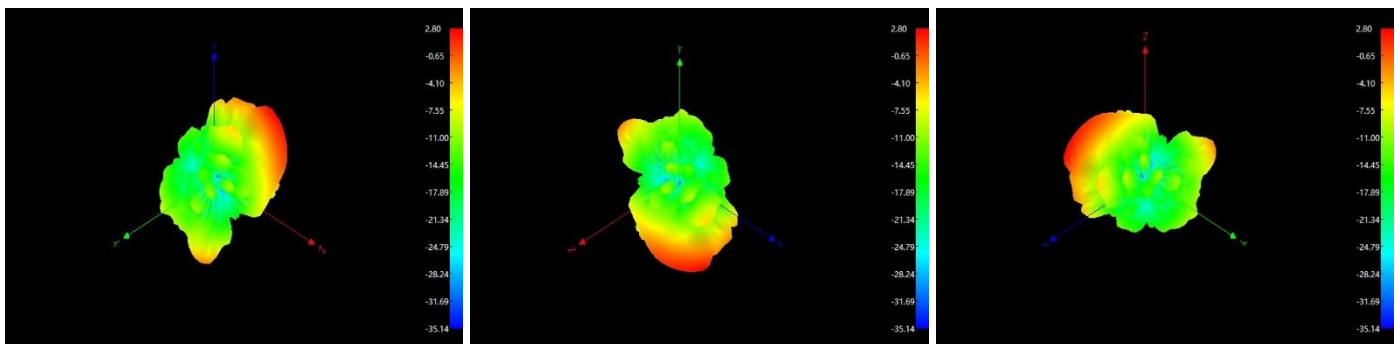




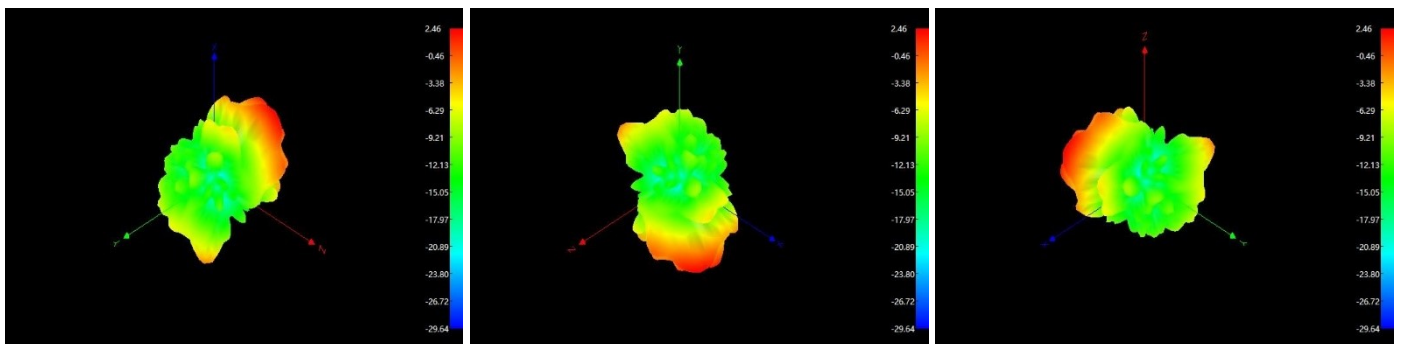
3D 5150:



3D 5500:



3D 5850:






OTA active test data:

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	WIFI_B (11M)	1	2412	13.67
2	TRP	WIFI_B (11M)	6	2437	14.17
3	TRP	WIFI_B (11M)	11	2462	13.86
4	TIS(EIRP)	WIFI_B (11M)	1	2412	-83.96
5	TIS(EIRP)	WIFI_B (11M)	6	2437	-81.57
6	TIS(EIRP)	WIFI_B (11M)	11	2462	-83.62
7	TRP	WIFI_G (54M)	1	2412	14.63
8	TRP	WIFI_G (54M)	6	2437	14.1
9	TRP	WIFI_G (54M)	11	2462	14.37
10	TIS(EIRP)	WIFI_G (54M)	1	2412	-69.7
11	TIS(EIRP)	WIFI_G (54M)	6	2437	-70
12	TIS(EIRP)	WIFI_G (54M)	11	2462	-69.48
13	TRP	WIFI_N_ISM (65M)	1	2412	14.13
14	TRP	WIFI_N_ISM (65M)	6	2437	13.65
15	TRP	WIFI_N_ISM (65M)	11	2462	13.99
16	TIS(EIRP)	WIFI_N_ISM (65M)	1	2412	-67.81
17	TIS(EIRP)	WIFI_N_ISM (65M)	6	2437	-68.78
18	TIS(EIRP)	WIFI_N_ISM (65M)	11	2462	-68.19
19	TRP	WIFI_A (54M)	36	5180	13.67
20	TRP	WIFI_A (54M)	100	5500	13.42
21	TIS(EIRP)	WIFI_A (54M)	36	5180	-71.85
22	TIS(EIRP)	WIFI_A (54M)	100	5500	-71.05



产品规格 Product Type		1.13 线		
结构图 Structure Drawing				
结构特性 Structure Characteristics				
结构 Structure	项目 Item	标准值 Standard Value		
内导体 Inner Conductor	材质 Material	镀银铜线 Silver plated copper wire		
	构成(根/mm/Composition(No./mm))	7/0.08±0.005		
	标称外径 Nom.Dia(mm)	Φ0.24±0.01		
绝缘层 Insulation	材质 Material	聚全氟乙丙烯/FEP		
	标称外径 Nom.Dia(mm)	Φ0.7±0.03		
外导体 Outer Conductor	材质 Material	镀锡铜线 Tinned copper		
	形式 Form	编织/Weaving		
	遮蔽率/ Shielding rate	≥90%		
	标称外径 Nom.Dia(mm)	Φ0.92±0.03		
护套 Jacket	材质 Material	聚全氟乙丙烯/FEP		
	标称外径 Nom.Dia(mm)	Φ1.13±0.05		
电气性能 Electrical Characteristics				
项目 Item	标准值 Standard Value	项目 Item	频率 Frequency	标准值 Standard Value
阻抗 Impedance (Ω)	50±3	衰减 Attenuation@20 °C (dB/100m)	1GHz	≤2.23
电容 Capacitance(pF/m)	98		2GHz	≤3.15
抗拉强度 Tensile strength kgf/mm ²	1.76		3GHz	≤3.96
驻波比 VSWR	≤1.40@0-6GHz		4GHz	≤4.6
耐压强度 Dielectric Strength (A.C V/1min)	1000		5GHz	≤5.15
最大工作频率 (MHz) Max.oper. frequency	6000		6GHz	≤5.7
可靠性 Dependability				
最小弯曲半径(单次) Min.Bending Radius/Single		mm	4	
最小弯曲半径(重复) Min.Bending Radius/Repeated		mm	8	
工作温度范围 Operating Temperature		°C	-20~+80	
包装 Packing				
包装方式 Packing Mode	1000 (m/盘) 成卷 Reel			



Material RoHS conformity declaration form

This is to certify that the delivery to your company's components, raw materials, auxiliary materials used and the additives in the production engine ord with RoHS environmental requirements of the restrictions on the use of hazardous substances directive (RoHS directive 2011/65 / EU)

About components used raw materials, packaging materials, auxiliary materials and additives used in the production process such as composition of the report is as follows:

Component /Part Name	Material Composition	ICP report #	Test Org.	Test Date	Content of harmful substances (ppm)						PASS?
					Cd	Pb	Hg	Cr ⁶⁺	PBB	PBDE	PASS
FPC	FPC	A22202052922010 01E	SGS	22/06/14	ND	ND	ND	ND	ND	ND	PASS
Wire Rod	RG/RF Series Coaxial Cables	SZXEC2202766604	SGS	22/08/18	ND	ND	ND	ND	ND	ND	PASS
Termin al	Copper	CANEC2301145810	SGS	23/02/08	ND	5	ND	ND	ND	ND	PASS
	Au plating	A22204048601010 01C	CTI	22/09/17	ND	ND	ND	ND	ND	ND	PASS
	Rubber core	A22300350371010 02E	SGS	23/02/06	ND	ND	ND	ND	ND	ND	PASS