

JMGO Sample Confirmation Letter

Supplier Name: SHENZHEN YINGJIACHUANG TECHNOLOGY ELECTRONIC CO. LTD

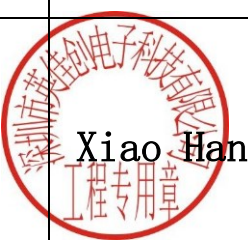
Material Name: WiFi2 2.4G/5.8G Black FPC built-in Antenna (C62A)

Material No.: 23040331 & YJC-6N155-B27

Material Description: WiFi2 2.4G/5.8G Black FPC built-in Antenna (C62A)

Version: A0

Drawing Version: A0

Supplier Approved This needs to be stamped, and each acknowledgment letter needs to be stamped with a riding seal.			Shenzhen Holatek Approved			
R&D/Engineering	Quality	Approved	Product Center	R&D	Supply-Chain Center	Quality Management Department
Yin FeiJie	Yang YunGang	 Xiao Han				

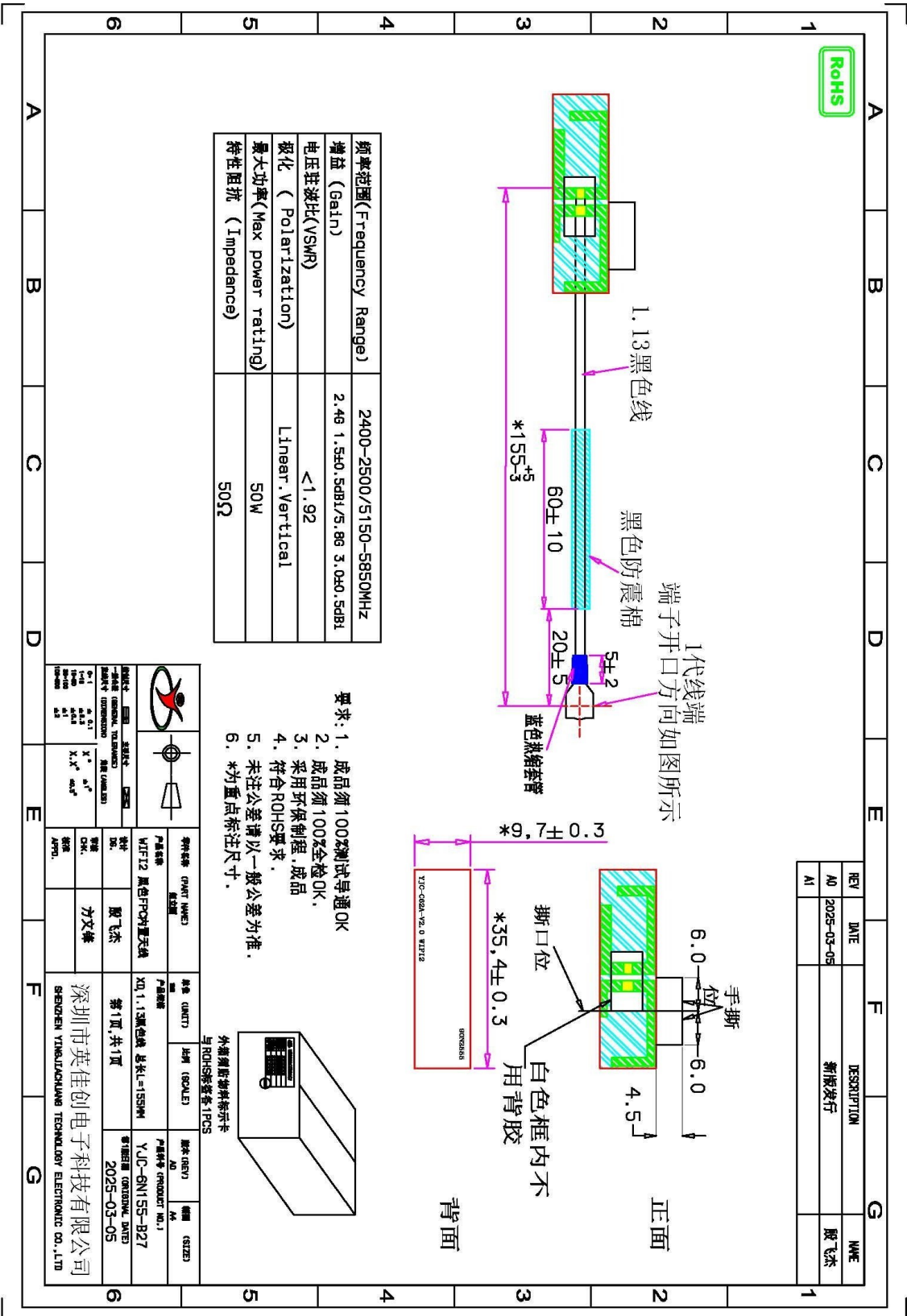
Address: Building C, Hongyu Guangming Valley, No. 11, Shiwei Community, Matian Office, Guangming District, Shenzhen

Phone: +86-755-27810060/23192199

Fax: +86-0755-27810057

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Product drawings:



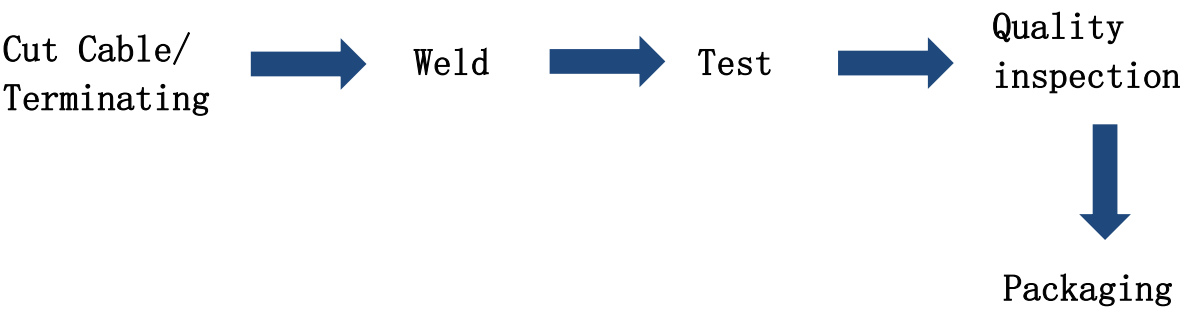
Antenna technology parameters:

Electrical Specifications	
Frequency Range	2400-2500/5150-5850MHz
VSWR	<1.92
Input Impedance	50 Ω
Direction	All
Gain(2.4G)	1.8dBi
Gain(5.1G)	2.9dBi
Gain(5.4G)	2.9dBi
Gain(5.8G)	3.2dBi
Mechanical Specifications	
Cable Color	Black
Input connector	XD
Cable length	155mm(Total length)
Working Temperature	-20℃~+70℃
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 ℃ ~ + 70 ℃ 2. Relative humidity of 45% to 85% 3. Air pressure is 86 kpa to 106 kpa	Electrical and mechanical properties is normal
High and low temperature test	Between 70 ℃ and -20 ℃ 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 ℃. 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	Vibration frequency range: 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

Process Flow Diagram



BOM list

FPC、Cable、Terminal、Heat shrinkable sleeve、Shockproof cotton、PE packaging bag、Carton

Performance testing reports:

Antenna physical image:



Antenna performance test chart:



Frequency (MHz)	2400	2450	2500	5150	5725	5850
VSWR (dB)	1.49	1.26	1.15	1.72	1.38	1.70

WIFI 2 and BT isolation test diagram



WIFI 2 and WIFI 1 isolation test diagram

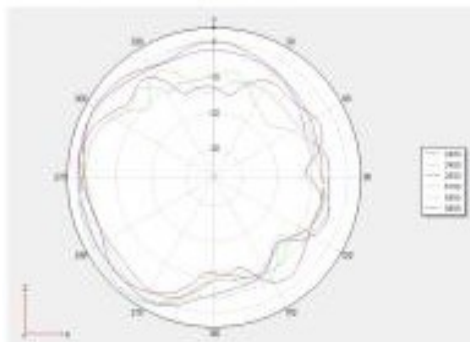


Frequency (MHz)	2400	2450	2500	5150	5725	5850
WIFI1 and WIFI2 isolation (dB)	-22	-22	-22	-41	-25	-25
WIFI2 and BT isolation (dB)	-31	-32	-29	-32	-28	-28

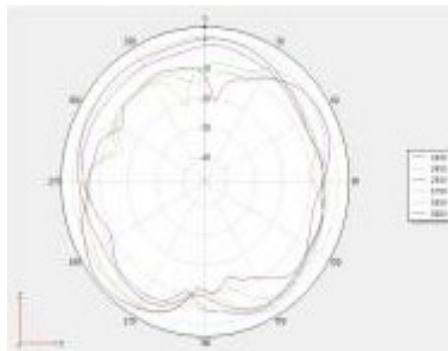
2D、3D test data (WIFI 2):

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	40.87	1.68
2410MHz	41.98	1.59
2420MHz	44.57	1.37
2430MHz	40.11	1.32
2440MHz	40.55	1.25
2450MHz	41.3	1.52
2460MHz	41.59	1.55
2470MHz	41.22	1.62
2480MHz	41.23	1.71
2490MHz	42.66	1.80
2500MHz	41.77	1.80
5150MHz	33.57	2.90
5250MHz	34.43	2.89
5350MHz	32.58	2.90
5450MHz	33.34	3.12
5550MHz	37.33	3.20
5650MHz	37.93	3.18
5750MHz	39.9	3.00
5850MHz	35.65	3.00

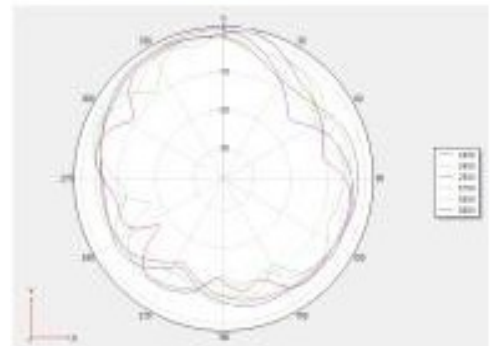
Phi 0 2D:



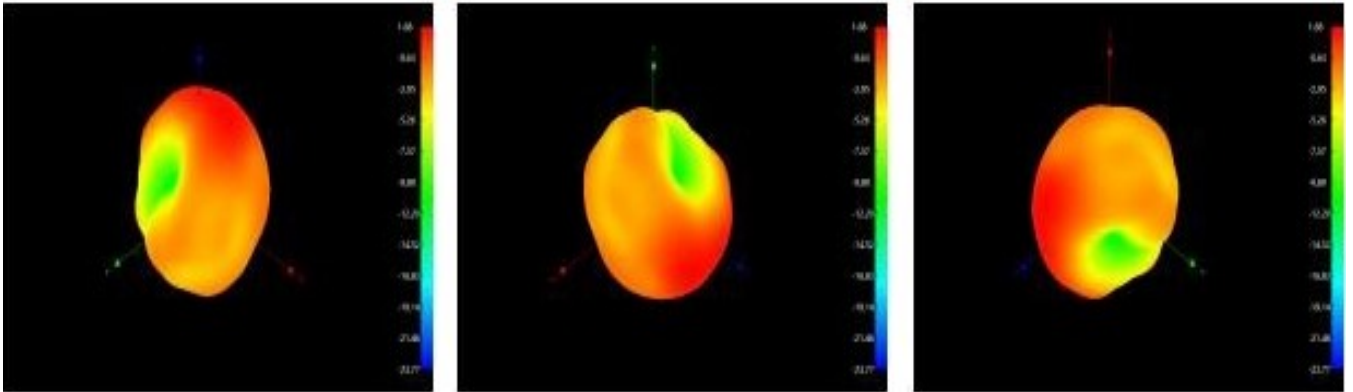
Phi 90 2D



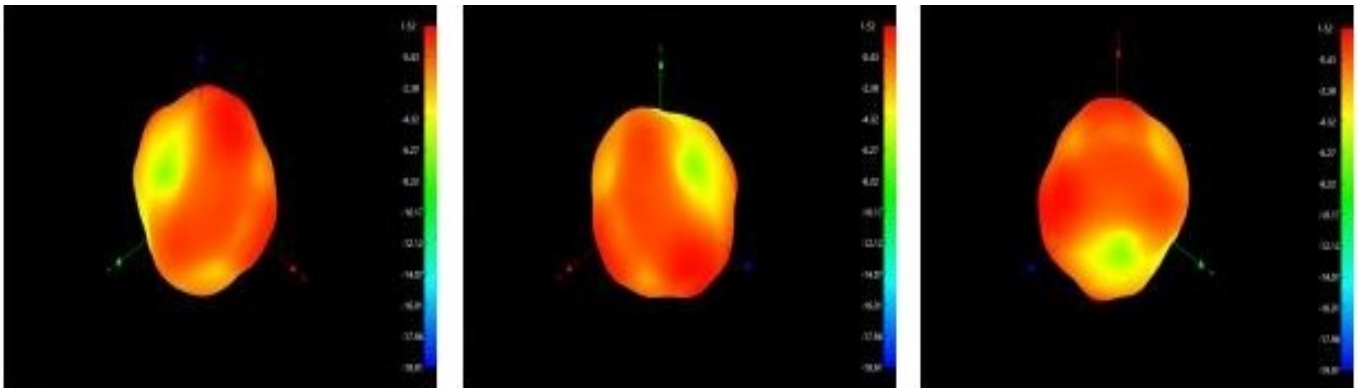
Theta 90 2D



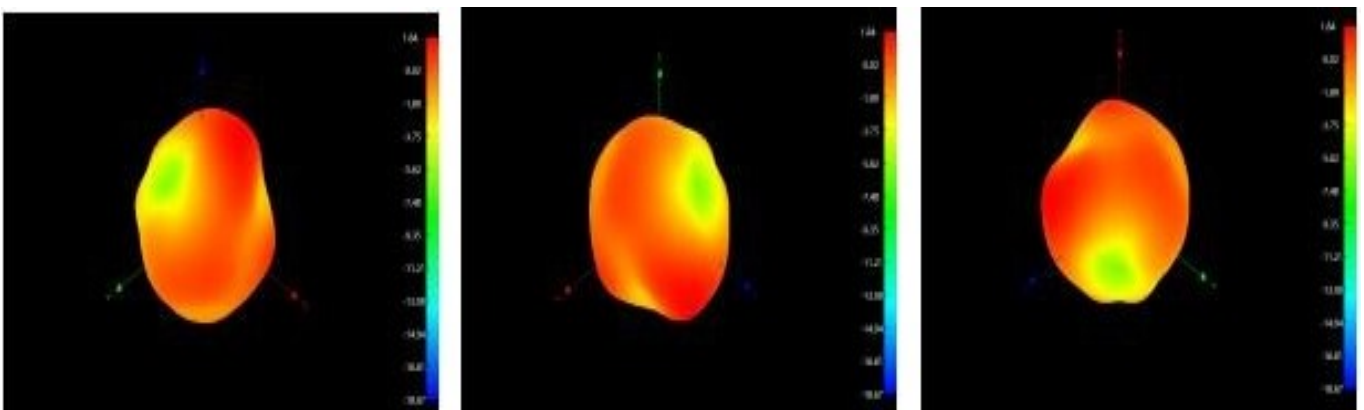
3D 2400:



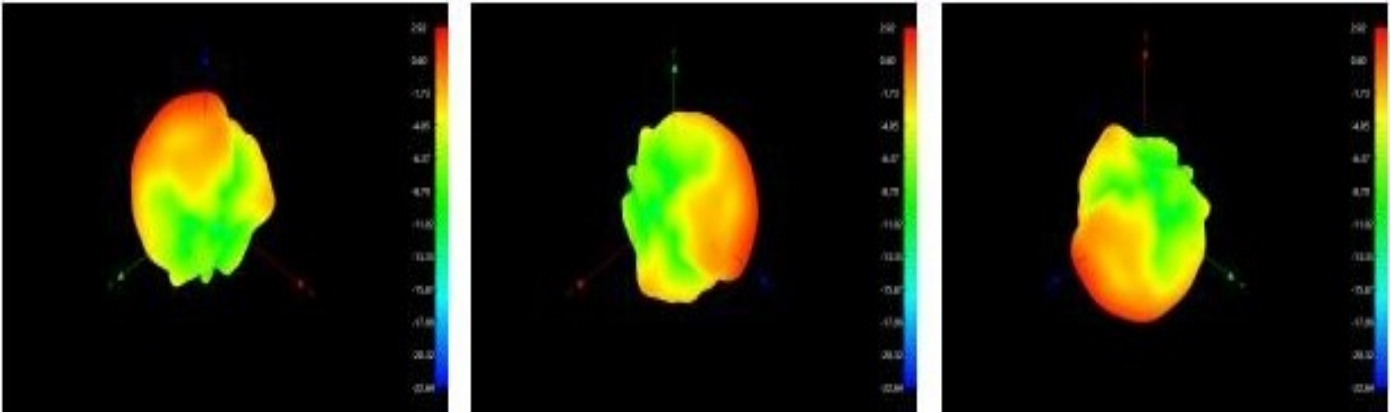
3D 2450:



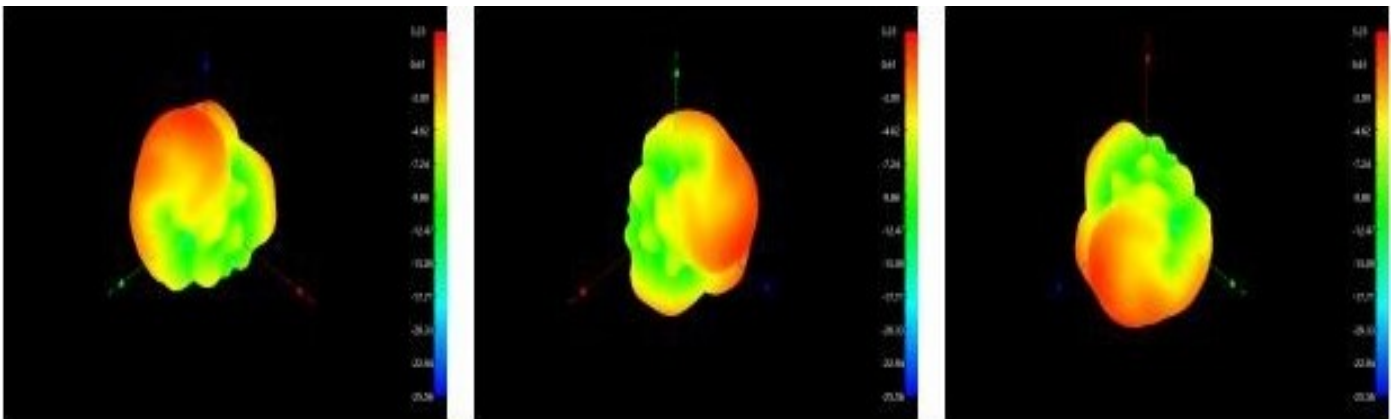
3D 2500:



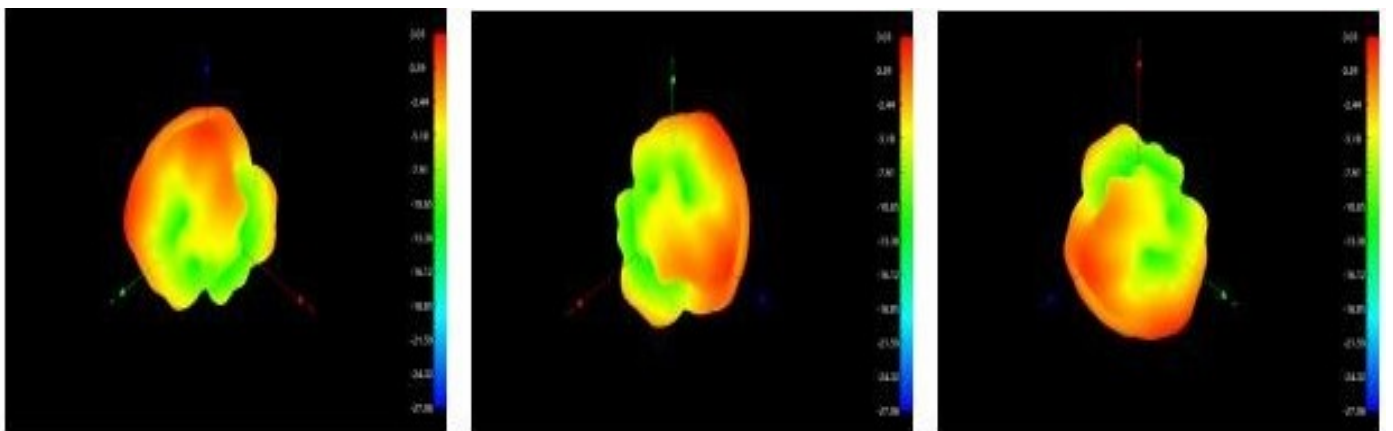
3D 5150:



3D 5500:



3D 5850:



OTA active test data:

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	WIFI_B (11M)	1	2412	15.22
2	TRP	WIFI_B (11M)	6	2437	14.83
3	TRP	WIFI_B (11M)	11	2462	15.41
4	TIS(EIRP)	WIFI_B (11M)	1	2412	-81.43
5	TIS(EIRP)	WIFI_B (11M)	6	2437	-81.11
6	TIS(EIRP)	WIFI_B (11M)	11	2462	-80.55
7	TRP	WIFI_G (54M)	1	2412	13.83
8	TRP	WIFI_G (54M)	6	2437	13.61
9	TRP	WIFI_G (54M)	11	2462	14.52
10	TIS(EIRP)	WIFI_G (54M)	1	2412	-70.05
11	TIS(EIRP)	WIFI_G (54M)	6	2437	-73.06
12	TIS(EIRP)	WIFI_G (54M)	11	2462	-71.41
13	TRP	WIFI_N_ISM (65M)	1	2412	15.08
14	TRP	WIFI_N_ISM (65M)	6	2437	15.24
15	TRP	WIFI_N_ISM (65M)	11	2462	16.06
16	TIS(EIRP)	WIFI_N_ISM (65M)	1	2412	-67.21
17	TIS(EIRP)	WIFI_N_ISM (65M)	6	2437	-67.78
18	TIS(EIRP)	WIFI_N_ISM (65M)	11	2462	-67.75
19	TRP	WIFI_A (54M)	36	5180	15.87
20	TRP	WIFI_A (54M)	149	5745	16.17
21	TRP	WIFI_A (54M)	165	5825	16.31
22	TIS(EIRP)	WIFI_A (54M)	36	5180	-75.04
23	TIS(EIRP)	WIFI_A (54M)	149	5745	-76.39
24	TIS(EIRP)	WIFI_A (54M)	165	5825	-76.51

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 / EC)											
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	Ink	ETR24902229M01	SGS	24/09/23	ND	ND	ND	ND	ND	ND	PASS
	Copper	SHAEC24028809006	SGS	24/12/20	ND	ND	ND	ND	ND	ND	PASS
	FPC	SHAEC24027480901	SGS	24/12/06	ND	ND	ND	ND	ND	ND	PASS
Wire	Series Coaxial Cables	NGBPC24007471212	SGS	24/12/23	ND	ND	ND	ND	ND	ND	PASS
Tube	Tube	CANEC24010420806	SGS	24/05/24	ND	ND	ND	ND	ND	ND	PASS
Terminal	Copper	CANEC24029407216	SGS	25/01/08	ND	4	ND	ND	ND	ND	PASS
	Au plating	A2240410234101001E	CTI	24/07/16	ND	ND	ND	ND	ND	ND	PASS
	Rubber core	A2240126395101003E	CTI	24/03/16	ND	ND	ND	ND	ND	ND	PASS
Environm entally friendly Tin wire	Environmen tally friendly Tin wire	SHAEC24006459102	SGS	24/04/10	ND	78	ND	ND	ND	ND	PASS