

JMGO Sample Confirmation Letter

Supplier Name: SHENZHEN YINGJIACHUANG TECHNOLOGY ELECTRONIC CO. LTD

Material Name: WiFi1 WiFi6E Black FPC built-in Antenna (KD21AN)

Material No.: 23040405&YJC-6N341-B01

Material Description: _____ / _____

Version: A1

Drawing Version: A1

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				

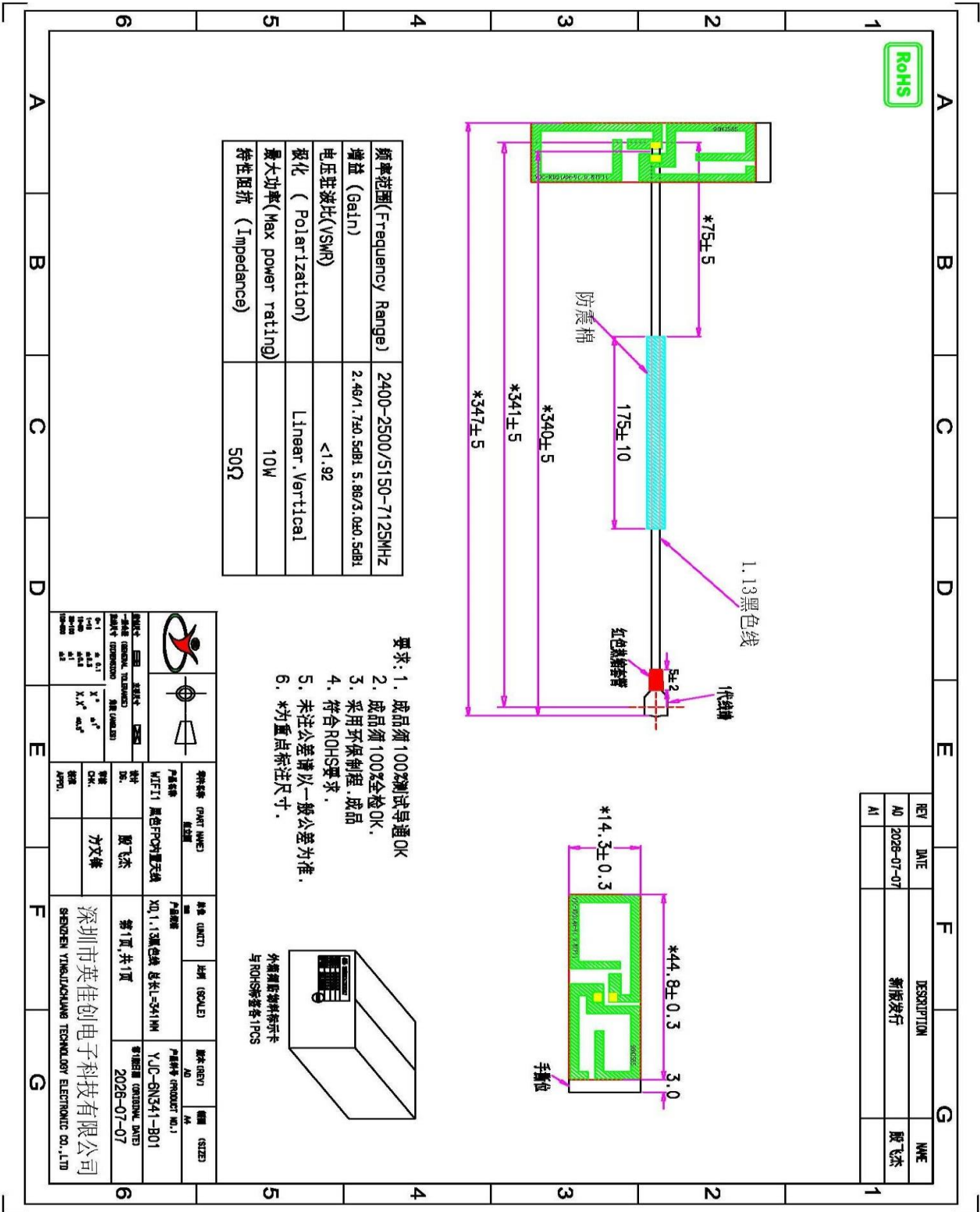
Address: Building C, Hongyu Guangming Valley, No. 11, Shiwei Community, Matian Office, Guangming District, Shenzhen

Phone: +86-755-27810060/23192199

Fax: +86-0755-27810057

JMGO Directory	
Page	Content
1	Cover
2	Directory
3	Product drawings
4	Specification
5	Process Flow Diagram
6	BOM list
7	Performance testing reports
8	SGS Environmental Protection Report for Raw Materials

Product drawings:



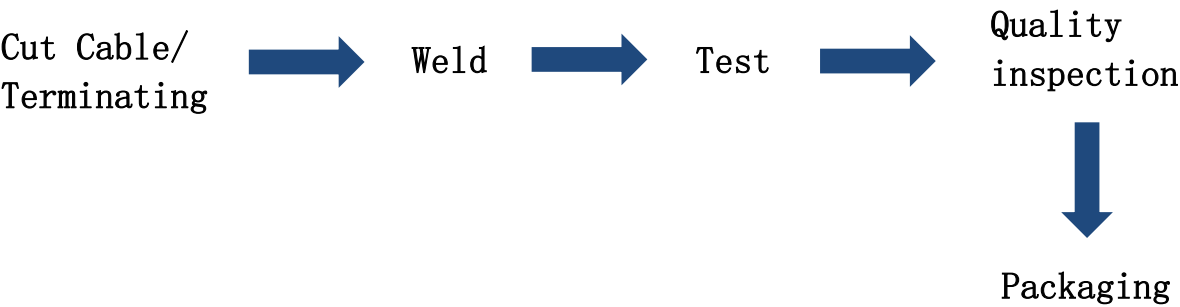
Specification:

Electrical Specifications	
Frequency Range	2400-2500/5150-5850MHz
VSWR	<1.92
Input Impedance	50 Ω
Direction	All
Gain(2.4G)	1.8 dBi
Gain(5.1G)	3.2 dBi
Gain(5.8G)	3.3 dBi
Mechanical Specifications	
Cable Color	Black
Input connector	XD
Cable length	341mm (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

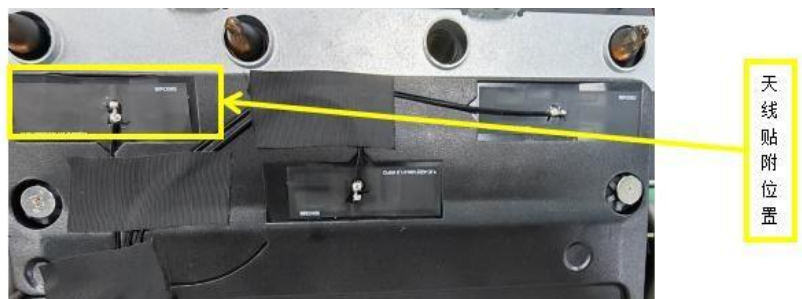


BOM list

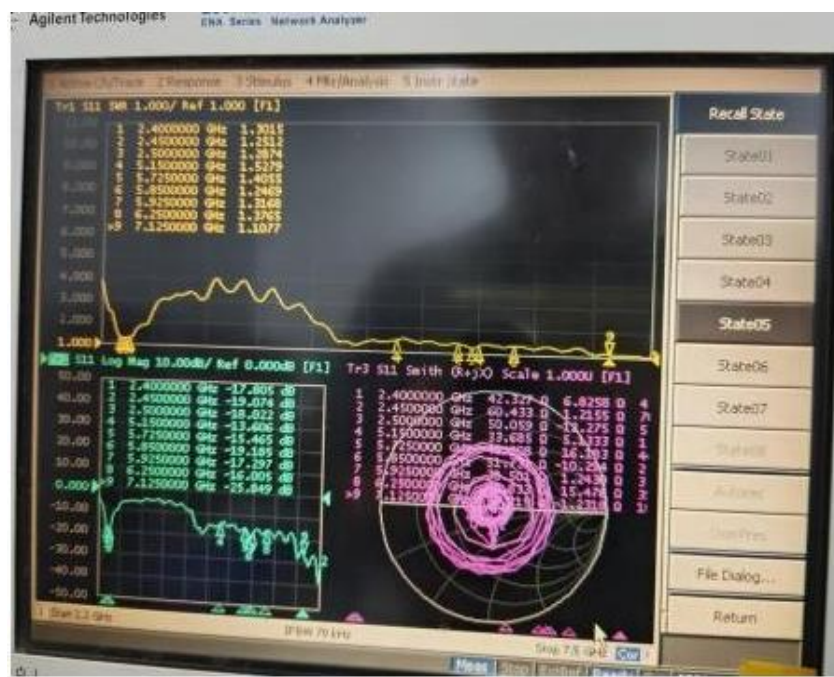
FPC、Cable、Terminal、Heat shrinkable sleeve、Shockproof cotton、PE packaging bag、Carton

Performance testing reports:

Antenna physical image:



Antenna performance test chart:



Frequency (MHZ)	2400	2450	2500	5150	5725	5850	5925	6525	7125
VSWR (dB)	1.30	1.25	1.28	1.52	1.40	1.24	1.31	1.37	1.10

WIFI 1 and WIFI 2 isolation test diagram



WIFI 1 and BT isolation test diagram

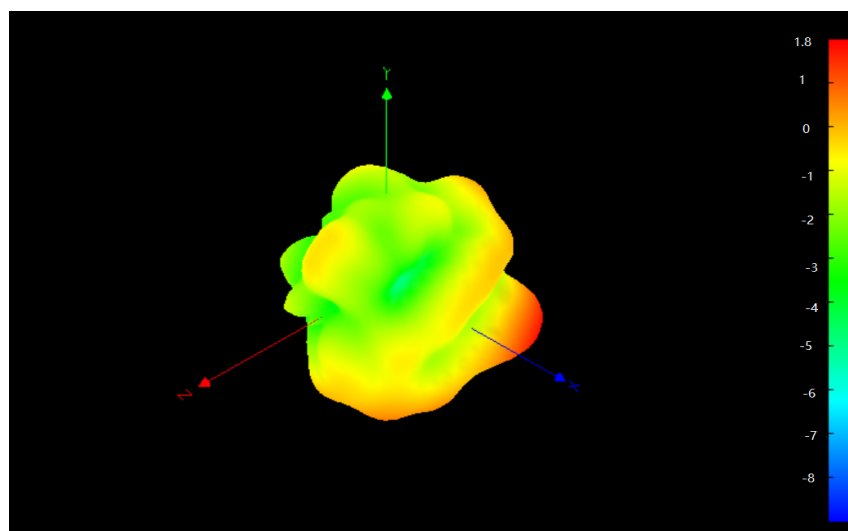


Frequency (MHz)	2400	2450	2500	5150	5725	5850	5925	6525	7125
WIFI1 and BT isolation (dB)	-25	-25	-26	-47	-58	-63	-61	-46	-47
WIFI1 and WIFI2 isolation (dB)	-36	-38	-38	-43	-39	-48	-43	-33	-39

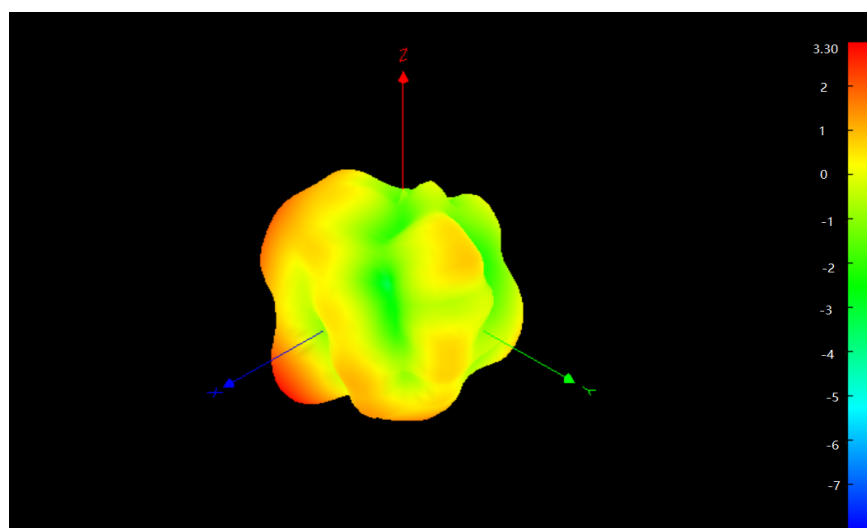
2D、3D test data (WIFI 1):

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	56.32	1.69
2410MHz	54.89	1.53
2420MHz	51.82	1.34
2430MHz	52.29	1.38
2440MHz	51.17	1.32
2450MHz	53.47	1.48
2460MHz	55.17	1.54
2470MHz	55.42	1.55
2480MHz	54.53	1.53
2490MHz	57.66	1.74
2500MHz	58.35	1.80
5150MHz	45.87	3.20
5250MHz	44.41	3.19
5350MHz	45.25	3.30
5450MHz	43.64	3.08
5550MHz	46.85	3.40
5650MHz	45.52	3.37
5750MHz	46.64	3.30
5850MHz	47.68	3.30
5925MHz	41.32	3.30
6025MHz	41.95	3.40
6125MHz	41.48	3.21
6225MHz	40.85	3.10
6325MHz	40.04	3.06
6425MHz	41.56	3.25
6525MHz	43.67	3.32
6625MHz	44.21	3.35
6725MHz	45.81	3.40
6825MHz	45.56	3.36
6925MHz	42.01	3.36
7025MHz	44.77	3.40
7125MHz	45.3	3.35

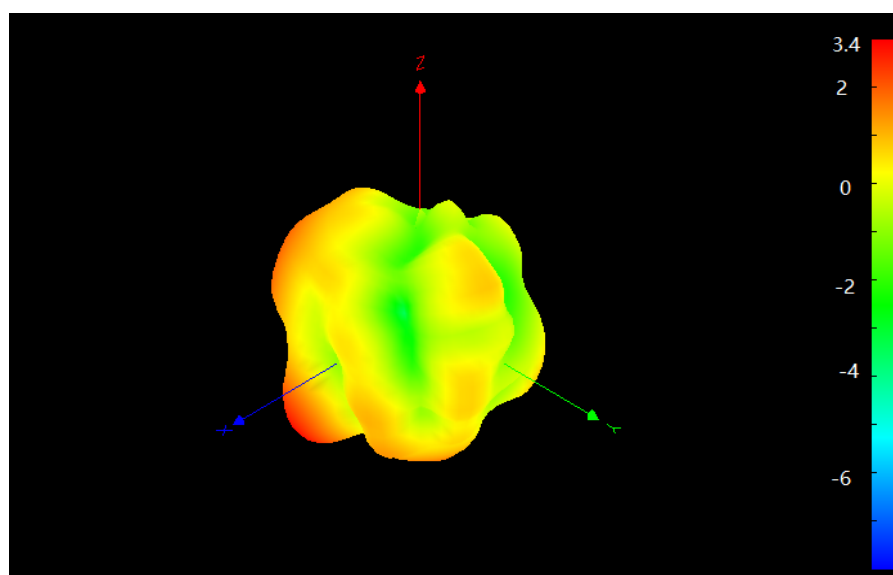
2400MHz



5750MHz



6725MHz



OTA active test data:

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	WIFI_B (11M)	1	2412	14.43
2	TRP	WIFI_B (11M)	6	2437	14.26
3	TRP	WIFI_B (11M)	11	2462	14.14
4	TIS(EIRP)	WIFI_B (11M)	1	2412	-81.42
5	TIS(EIRP)	WIFI_B (11M)	6	2437	-81.56
6	TIS(EIRP)	WIFI_B (11M)	11	2462	-80.55
7	TRP	WIFI_G (54M)	1	2412	13.05
8	TRP	WIFI_G (54M)	6	2437	13.29
9	TRP	WIFI_G (54M)	11	2462	13.58
10	TIS(EIRP)	WIFI_G (54M)	1	2412	-68.6
11	TIS(EIRP)	WIFI_G (54M)	6	2437	-68.2
12	TIS(EIRP)	WIFI_G (54M)	11	2462	-68.3
13	TRP	WIFI_N_ISM (65M)	1	2412	13.02
14	TRP	WIFI_N_ISM (65M)	6	2437	12.89
15	TRP	WIFI_N_ISM (65M)	11	2462	13.24
16	TIS(EIRP)	WIFI_N_ISM (65M)	1	2412	-67.34
17	TIS(EIRP)	WIFI_N_ISM (65M)	6	2437	-66.73
18	TIS(EIRP)	WIFI_N_ISM (65M)	11	2462	-66.57
19	TRP	WIFI_A (54M)	36	5180	9.24
20	TRP	WIFI_A (54M)	149	5745	10.03
21	TRP	WIFI_A (54M)	165	5825	10.06
22	TIS(EIRP)	WIFI_A (54M)	36	5180	-71.56
23	TIS(EIRP)	WIFI_A (54M)	149	5745	-72.23
24	TIS(EIRP)	WIFI_A (54M)	165	5825	-72.54

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	ETR25901252M01	SGS	25/09/11	ND	4.78	ND	ND	ND	ND	PASS
	Copper	SHAEC25032493501-1	SGS	26/01/06	ND	ND	ND	ND	ND	ND	PASS
	FPC	A22600588471010004	CTI	26/04/02	ND	ND	ND	ND	ND	ND	PASS
Wire	Series Coaxial Cables	NGBPC26000015804	SGS	26/01/19	ND	ND	ND	ND	ND	ND	PASS
Terminal	Copper	CANEC25027363009	SGS	25/11/13	ND	6	ND	ND	ND	ND	PASS
	Au plating	A2260449180101001E	CTI	26/06/09	ND	ND	ND	ND	ND	ND	PASS
	Rubber core	A2250847182101002E	CTI	25/11/14	ND	ND	ND	ND	ND	ND	PASS
Environm entally friendly Tin wire	Environmen tally friendly Tin wire	SZXPC26000658916	SGS	26/02/26	ND	22	ND	ND	ND	ND	PASS