

JMGO Sample Confirmation Letter

Supplier Name: SHENZHEN YINGJIACHUANG TECHNOLOGY ELECTRONIC CO. LTD

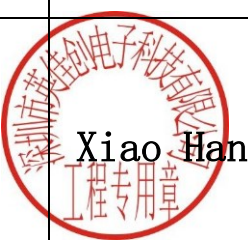
Material Name: WiFi2 2.4G/5.8G Black FPC built-in Antenna (V62A)

Material No.: 23040334 & YJC-6N250-B23

Material Description: WiFi2 2.4G/5.8G Black FPC built-in Antenna (V62A)

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				

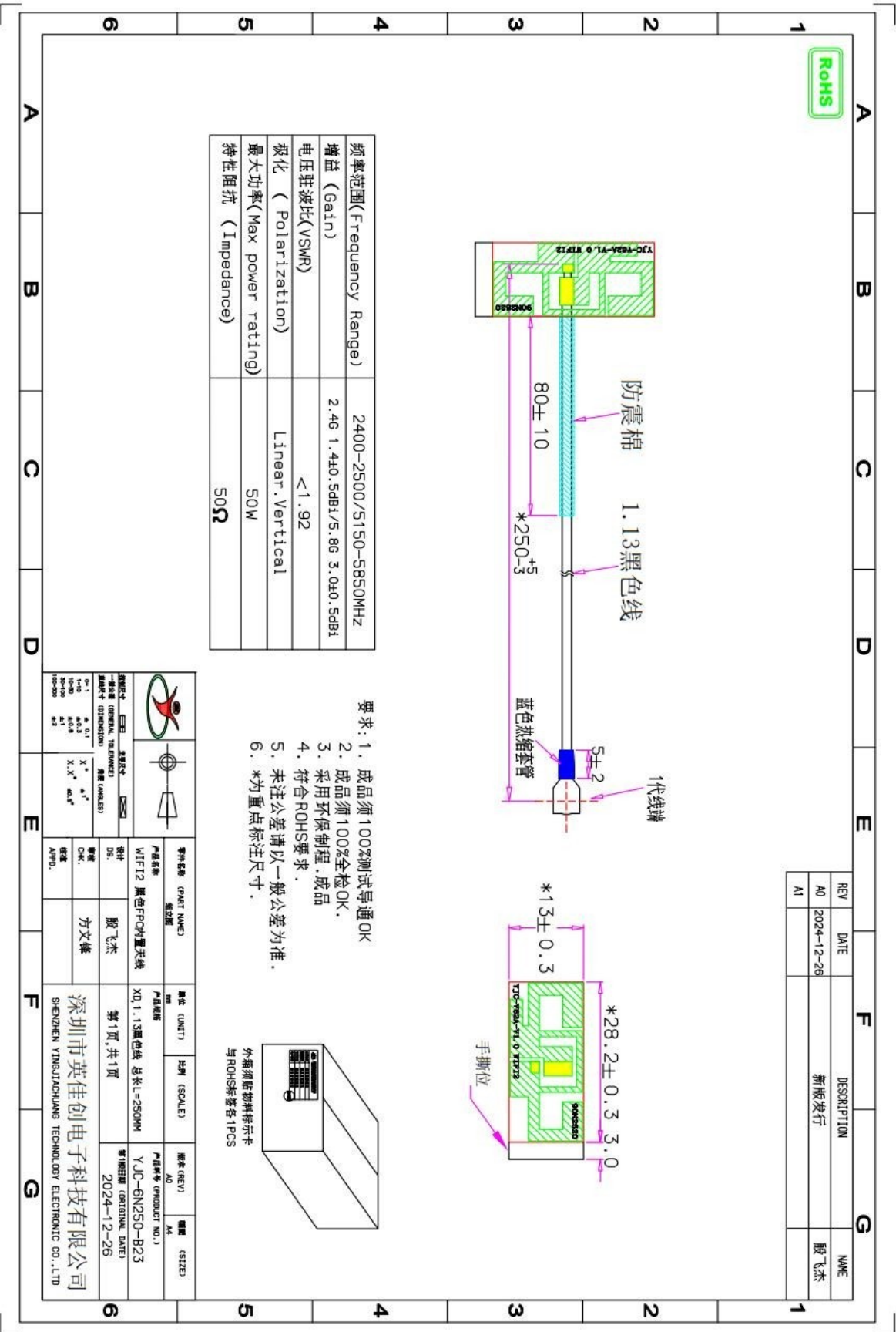
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Product drawings:



Antenna technology parameters:

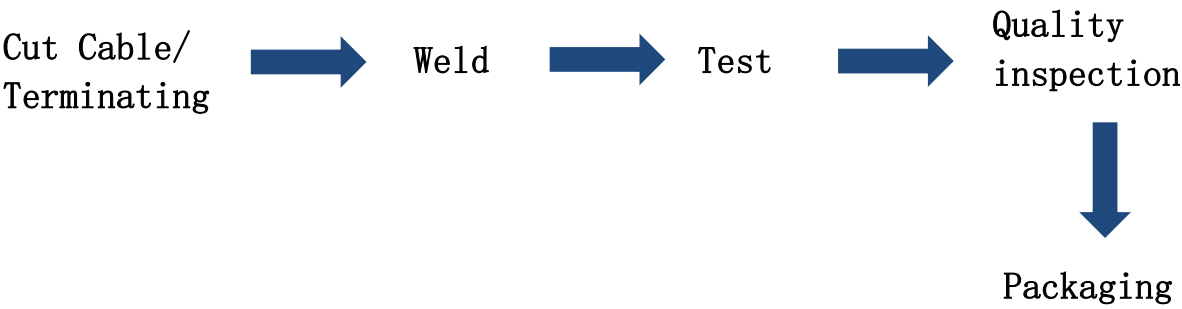
Electrical Specifications	
Frequency Range	2400-2500/5150-5850MHz
VSWR	<1.92
Input Impedance	50 Ω
Direction	All
Gain(2.4G)	1.4dBi
Gain(5.1G)	3.2dBi
Gain(5.4G)	3.4dBi
Gain(5.8G)	3.4dBi
Mechanical Specifications	
Cable Color	Black
Input connector	XD
Cable length	250mm(Total length)
Working Temperature	-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
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Process Flow Diagram



BOM list

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

Antenna performance test chart:



Frequency (MHZ)	2400	2450	2500	5150	5725	5850
VSWR (dB)	1.30	1.33	1.19	1.52	1.13	1.37

WIFI 2 and BT isolation test diagram



WIFI 2 and WIFI 1 isolation test diagram

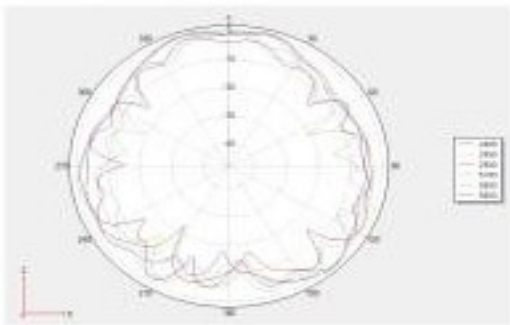


Frequency (MHz)	2400	2450	2500	5150	5725	5850
WIFI1 and WIFI2 isolation (dB)	-34	-31	-32	-29	-52	-35
WIFI2 and BT isolation (dB)	-35	-33	-28	-26	-24	-26

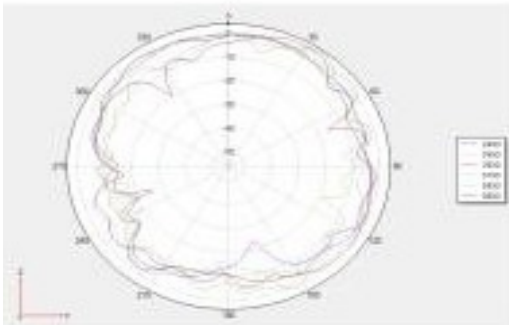
2D、3D test data (WIFI 2):

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	51.17	1.28
2410MHz	50	1.22
2420MHz	52.24	1.19
2430MHz	54.53	1.28
2440MHz	54.87	1.33
2450MHz	56.27	1.40
2460MHz	56.99	1.38
2470MHz	51.5	1.35
2480MHz	53.4	1.40
2490MHz	52.66	1.32
2500MHz	54.08	1.25
5150MHz	47.1	3.20
5250MHz	45.56	2.90
5350MHz	41.55	2.90
5450MHz	42.73	3.32
5550MHz	46.22	3.40
5650MHz	44.2	3.18
5750MHz	45.06	3.40
5850MHz	45.19	2.91

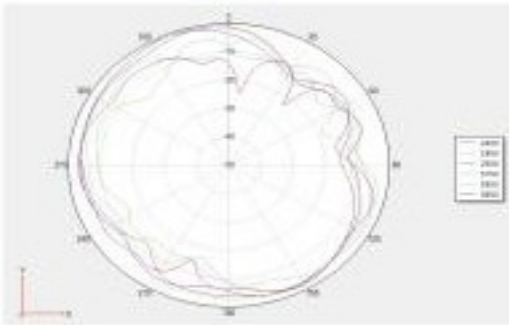
Phi 0 2D:



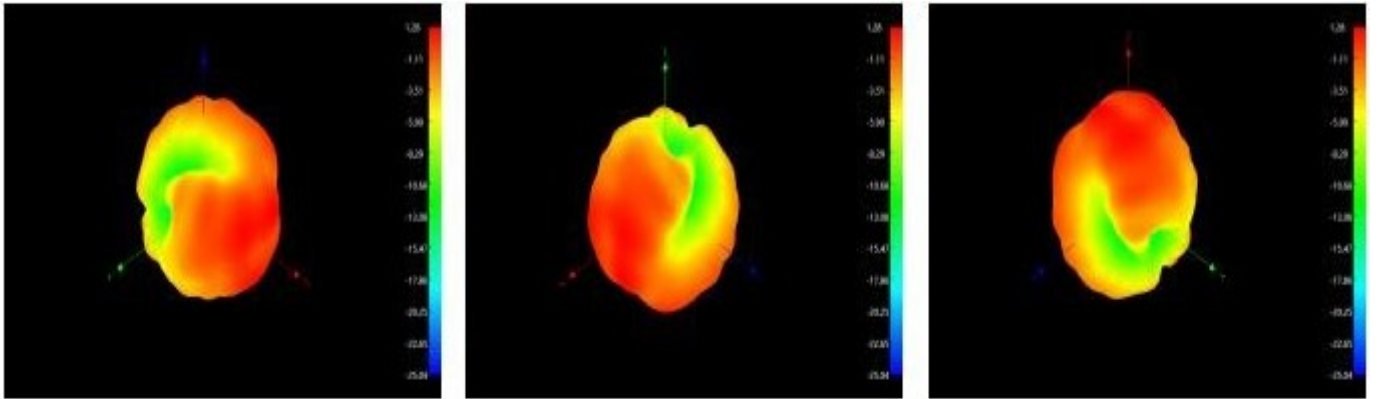
Phi 90 2D



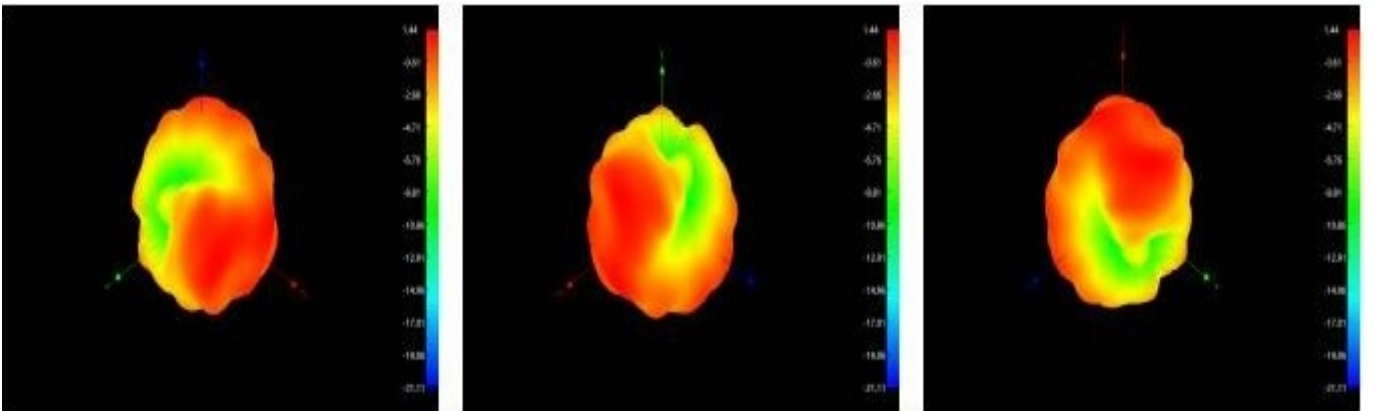
Theta 90 2D



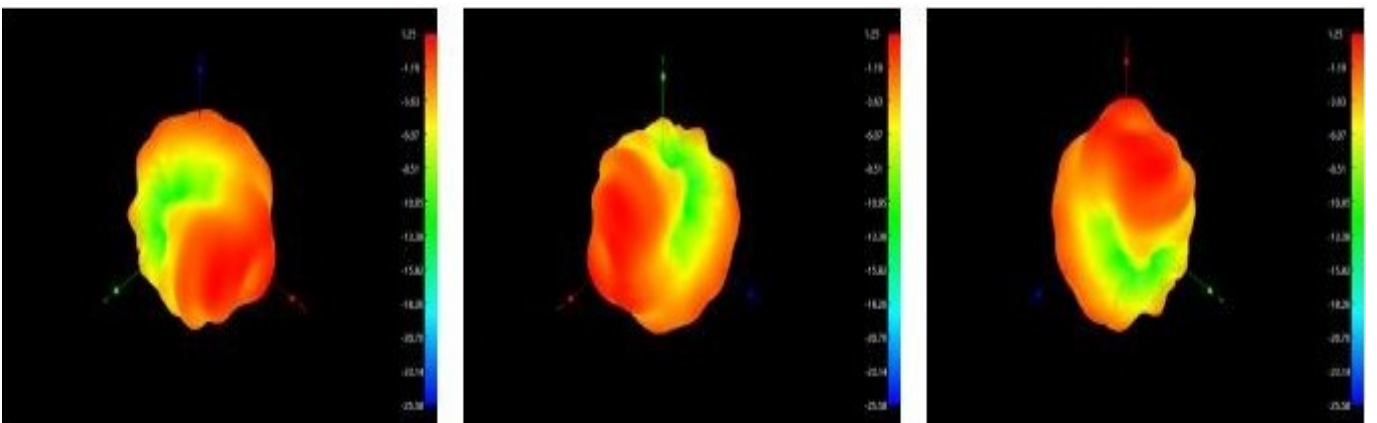
3D 2400:



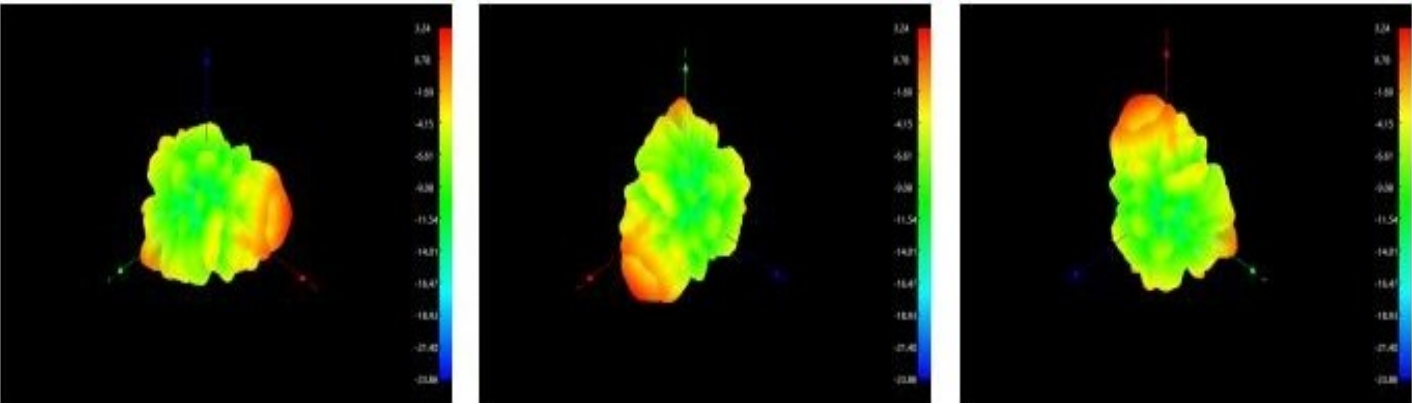
3D 2450:



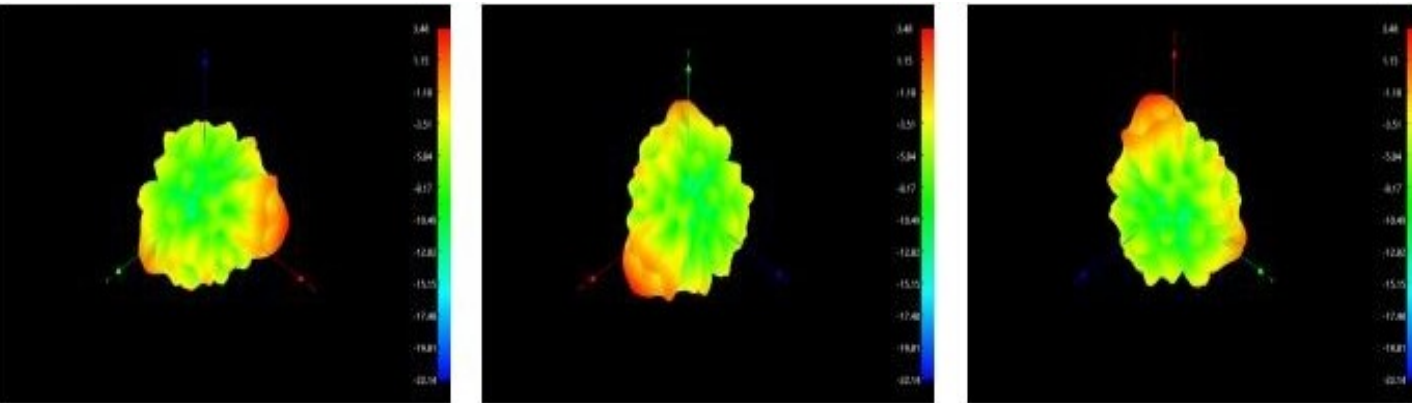
3D 2500:



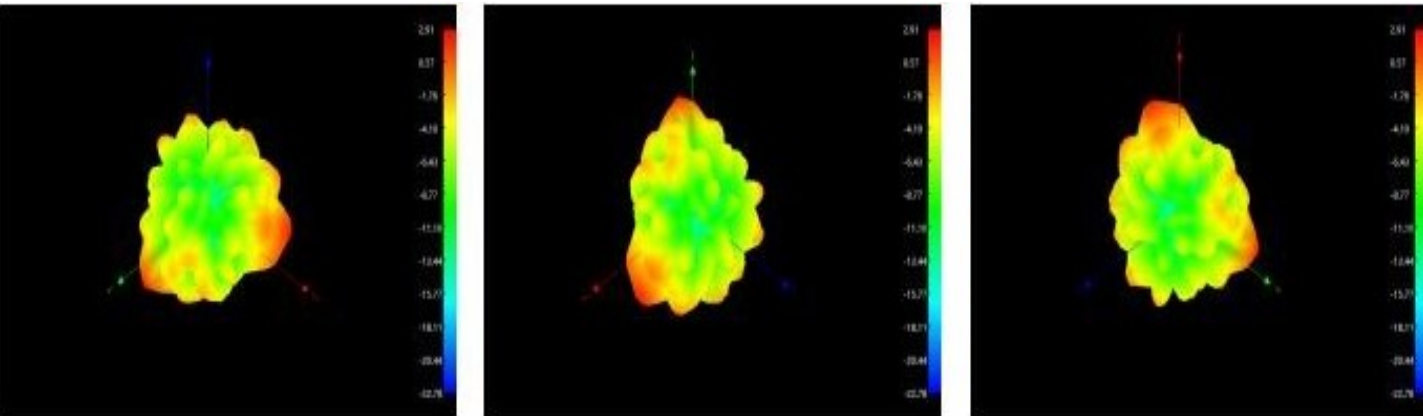
3D 5150:



3D 5500:



3D 5850:



OTA active test data:

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	WIFI_B (11M)	1	2412	15.58
2	TRP	WIFI_B (11M)	6	2437	15.8
3	TRP	WIFI_B (11M)	11	2462	16.56
4	TIS(EIRP)	WIFI_B (11M)	1	2412	-81.32
5	TIS(EIRP)	WIFI_B (11M)	6	2437	-82.6
6	TIS(EIRP)	WIFI_B (11M)	11	2462	-81.35
7	TRP	WIFI_G (54M)	1	2412	15.19
8	TRP	WIFI_G (54M)	6	2437	14.77
9	TRP	WIFI_G (54M)	11	2462	15.01
10	TIS(EIRP)	WIFI_G (54M)	1	2412	-70.11
11	TIS(EIRP)	WIFI_G (54M)	6	2437	-69.83
12	TIS(EIRP)	WIFI_G (54M)	11	2462	-71.17
13	TRP	WIFI_N_ISM (65M)	1	2412	16.75
14	TRP	WIFI_N_ISM (65M)	6	2437	16.69
15	TRP	WIFI_N_ISM (65M)	11	2462	17.48
16	TIS(EIRP)	WIFI_N_ISM (65M)	1	2412	-66.86
17	TIS(EIRP)	WIFI_N_ISM (65M)	6	2437	-67.1
18	TIS(EIRP)	WIFI_N_ISM (65M)	11	2462	-67.61
19	TRP	WIFI_A (54M)	36	5180	16.85
20	TRP	WIFI_A (54M)	149	5745	17.64
21	TRP	WIFI_A (54M)	165	5825	18.11
22	TIS(EIRP)	WIFI_A (54M)	36	5180	-74.07
23	TIS(EIRP)	WIFI_A (54M)	149	5745	-73.71
24	TIS(EIRP)	WIFI_A (54M)	165	5825	-73.6

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	A2240082746101006E	CTI	24/03/01	ND	ND	ND	ND	ND	ND	PASS
	FPC	SHAEC23021627701	SGS	23/12/27	ND	ND	ND	ND	ND	ND	PASS
Tube	Tube	CANEC24001723028	SGS	24/01/29	ND	ND	ND	ND	ND	ND	PASS
Wire	Series Coaxial Cables	CANEC24002746206	SGS	24/02/23	ND	ND	ND	ND	ND	ND	PASS
Terminal	Copper	CANEC24000977302	SGS	24/01/22	ND	6	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