

JMGO Sample Confirmation Letter

Supplier Name: SHENZHEN YINGJIACHUANG TECHNOLOGY ELECTRONIC CO. LTD

Material Name: WiFi1 2.4G/5.8G Black FPC built-in Antenna (K931A0)

Material No.: 23040373&YJC-6N381-B03

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				

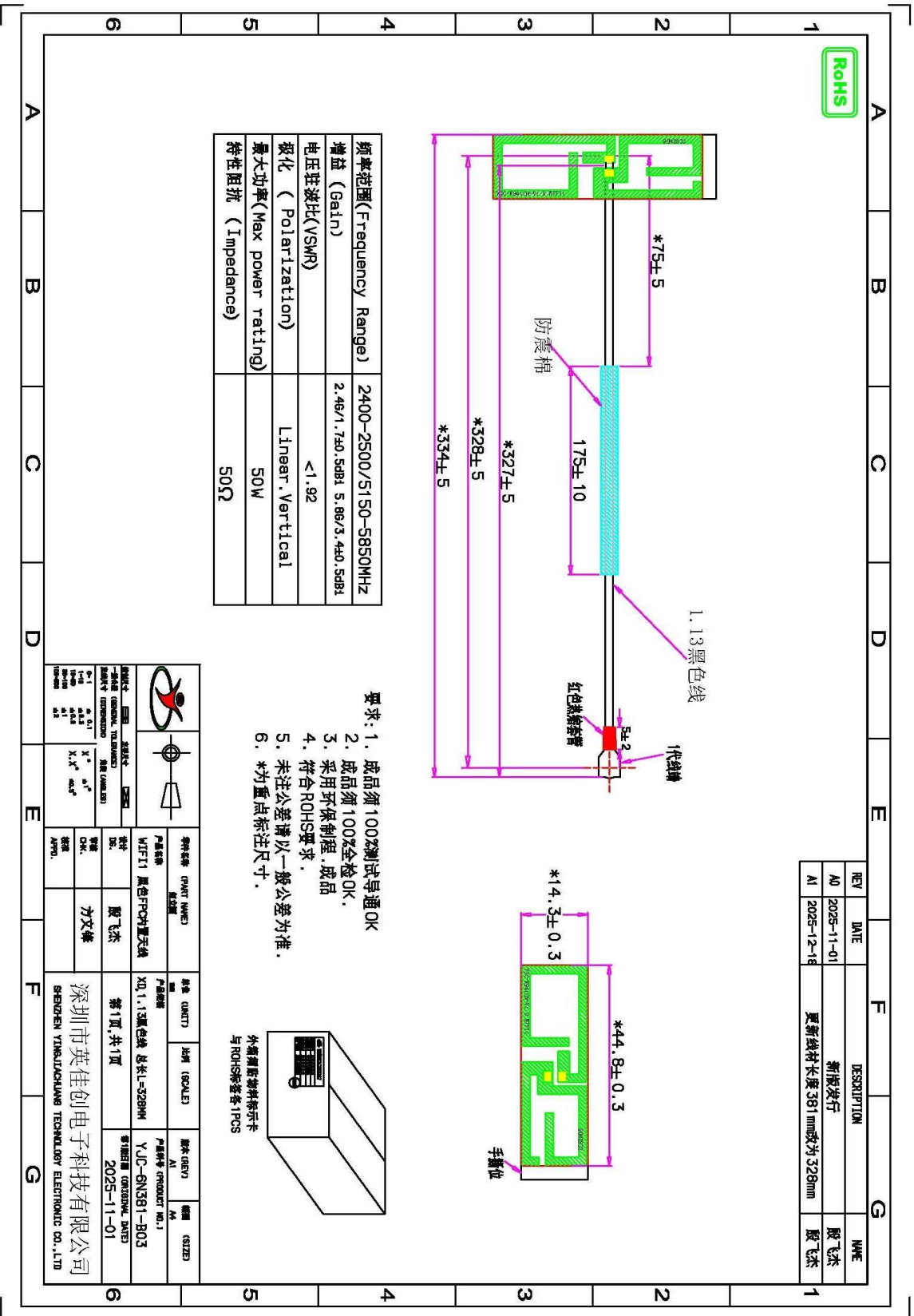
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Product drawings:



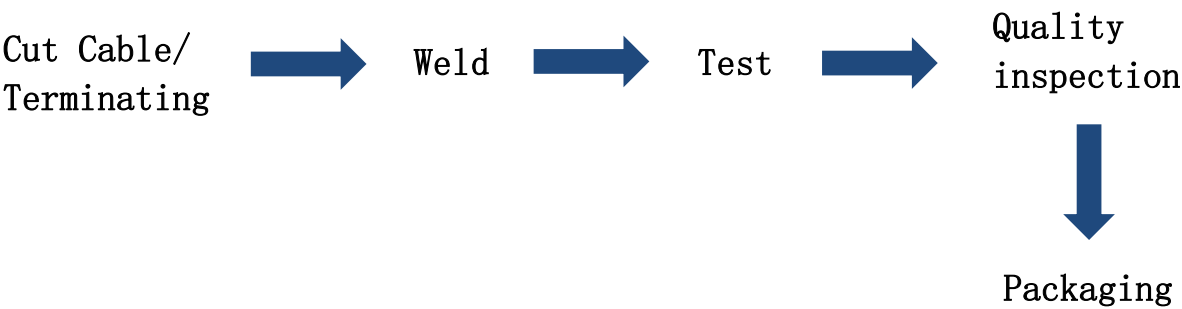
Specification:

Electrical Specifications	
Frequency Range	2400-2500/5150-5850MHz
VSWR	<1.92
Input Impedance	50 Ω
Direction	All
Gain(2.4G)	1.9 dBi
Gain(5.1G)	3.4 dBi
Gain(5.8G)	3.3 dBi
Mechanical Specifications	
Cable Color	Black
Input connector	XD
Cable length	328mm (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

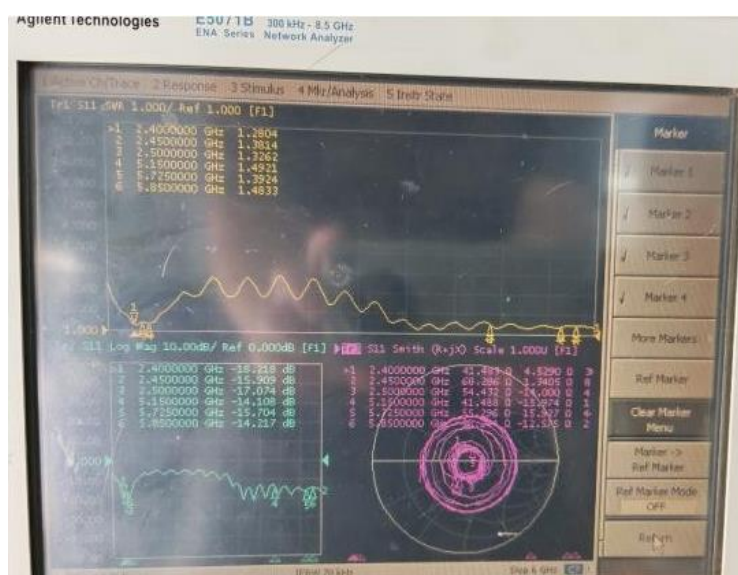
FPC、Cable、Terminal、Heat shrinkable sleeve、Shockproof cotton、PE packaging bag、Carton

Performance testing reports:

Antenna physical image:



Antenna performance test chart:



Frequency (MHZ)	2400	2450	2500	5150	5725	5850	5925	6525	7125
VSWR (dB)	1.28	1.38	1.32	1.49	1.39	1.48	1.35	1.27	1.32

WIFI 1 and WIFI 2 isolation test diagram



WIFI 1 and BT isolation test diagram

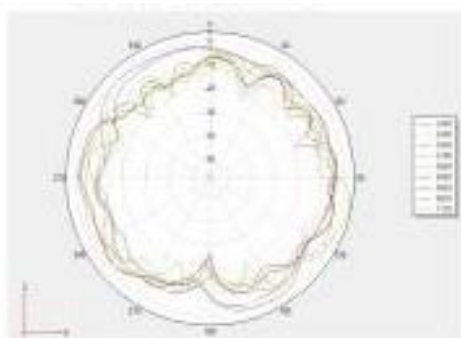


Frequency (MHz)	2400	2450	2500	5150	5725	5850	5925	6525	7125
WIFI1 and BT isolation (dB)	-24	-25	-28	-49	-41	-47	-38	-38	-48
WIFI1 and WIFI2 isolation (dB)	-29	-25	-27	-33	-39	-47	-35	-36	-41

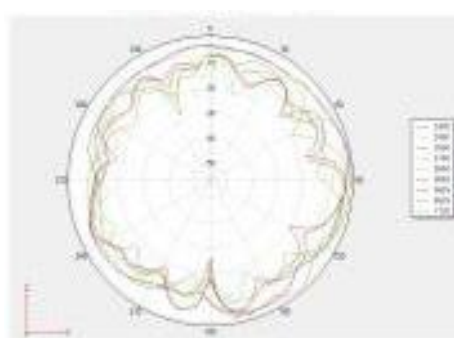
2D、3D test data (WIFI 1):

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	58.19	1.59
2410MHz	57.76	1.45
2420MHz	57.83	1.42
2430MHz	56.39	1.80
2440MHz	58.02	1.59
2450MHz	56.9	1.43
2460MHz	56.48	1.46
2470MHz	53.5	1.38
2480MHz	56.39	1.67
2490MHz	55.08	1.48
2500MHz	53.88	1.53
5150MHz	49.38	3.30
5250MHz	47.42	3.21
5350MHz	47.61	3.30
5450MHz	46.36	3.30
5550MHz	47.67	3.30
5650MHz	47.29	3.26
5750MHz	46.79	3.24
5850MHz	45.7	3.30
5925MHz	46.79	3.30
6025MHz	47.73	3.12
6125MHz	45.06	3.23
6225MHz	46.49	3.29
6325MHz	44.38	3.14
6425MHz	45.23	3.30
6525MHz	43.66	3.22
6625MHz	44.49	3.21
6725MHz	42.28	3.22
6825MHz	43.33	3.25
6925MHz	43.07	3.30
7025MHz	43.55	3.23
7125MHz	44.1	3.2

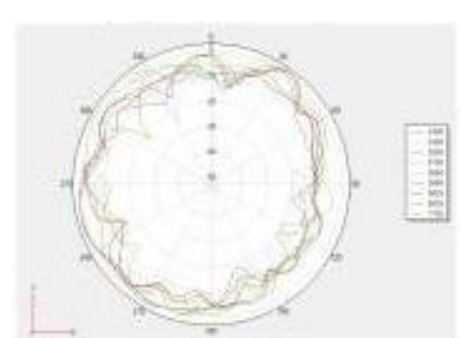
Phi 0 2D :



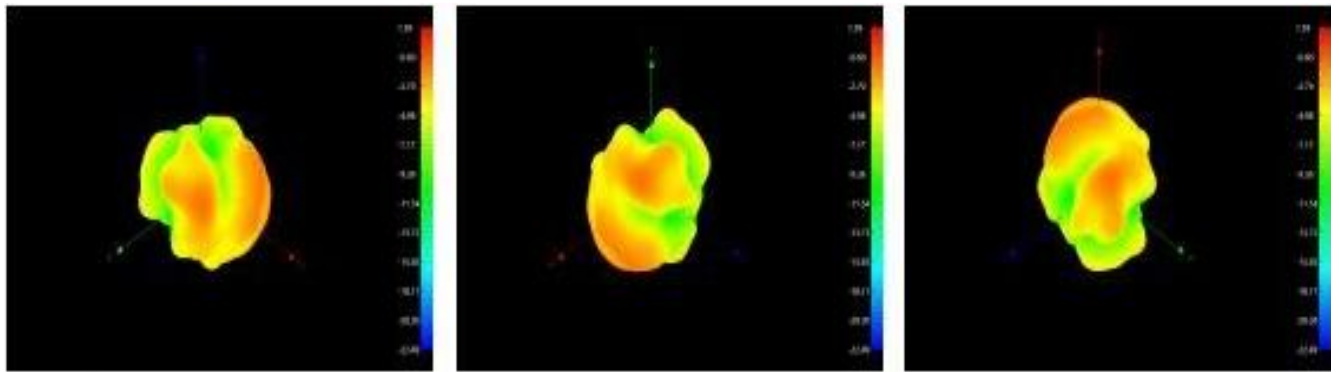
Phi 90 2D



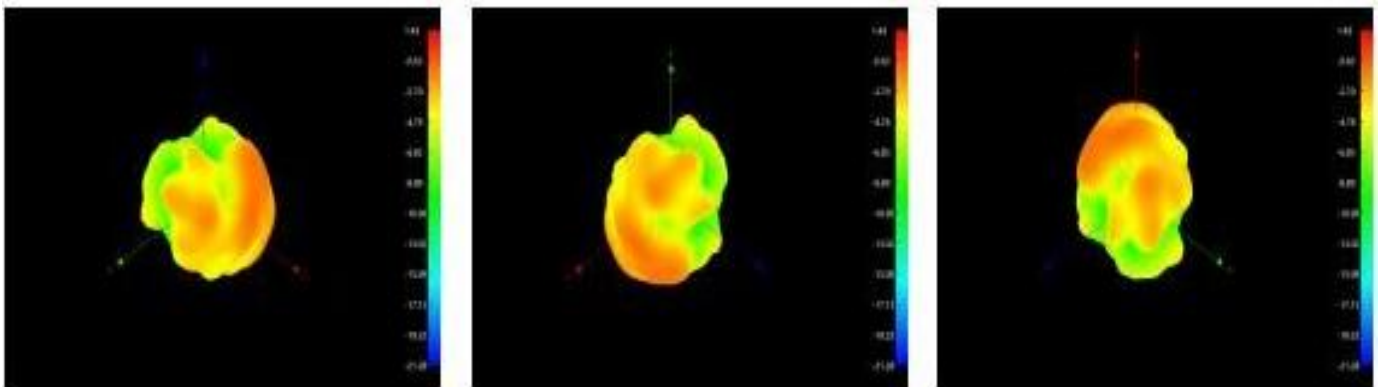
Theta 90 2D



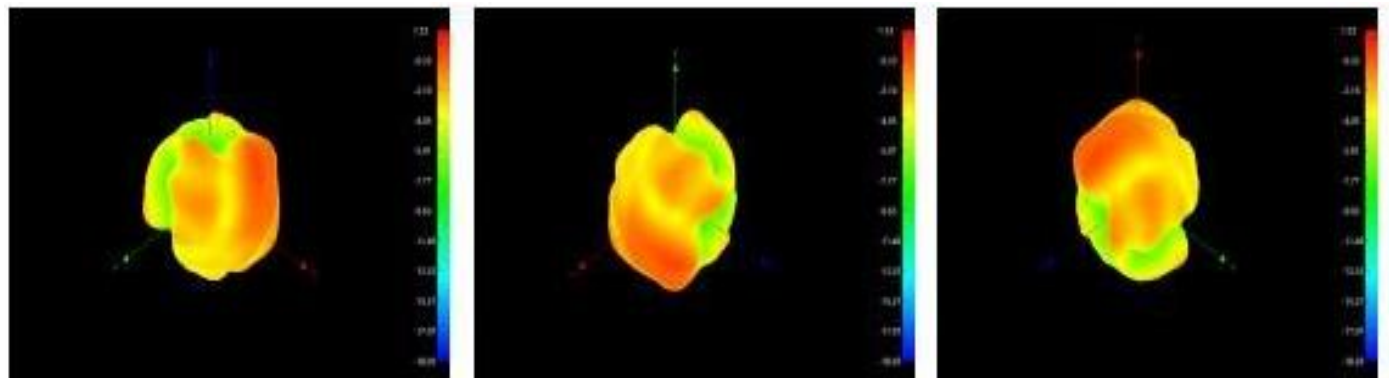
3D 2400:



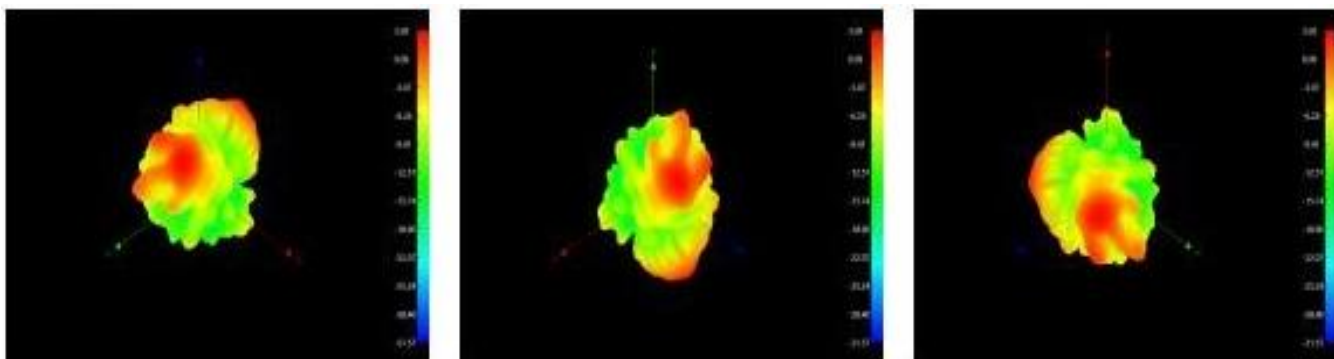
3D 2450:



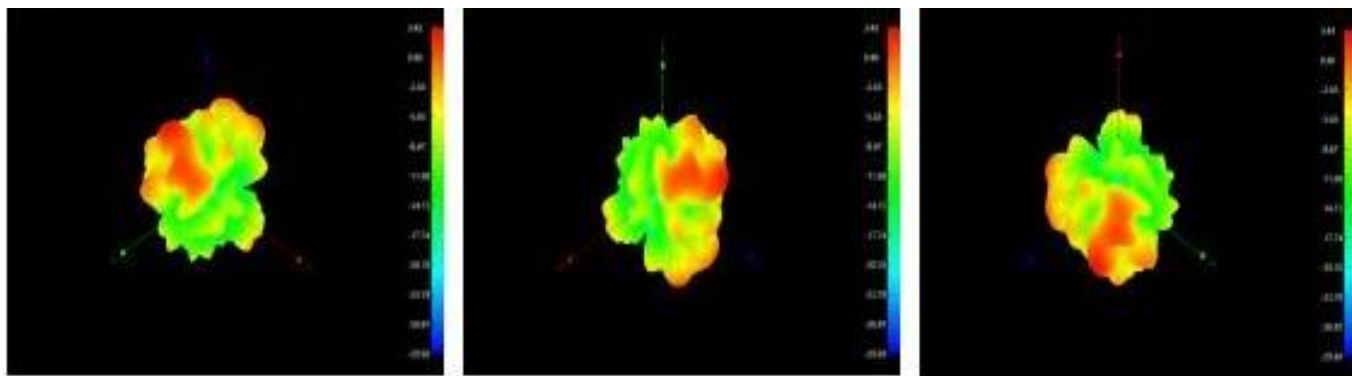
3D 2500:



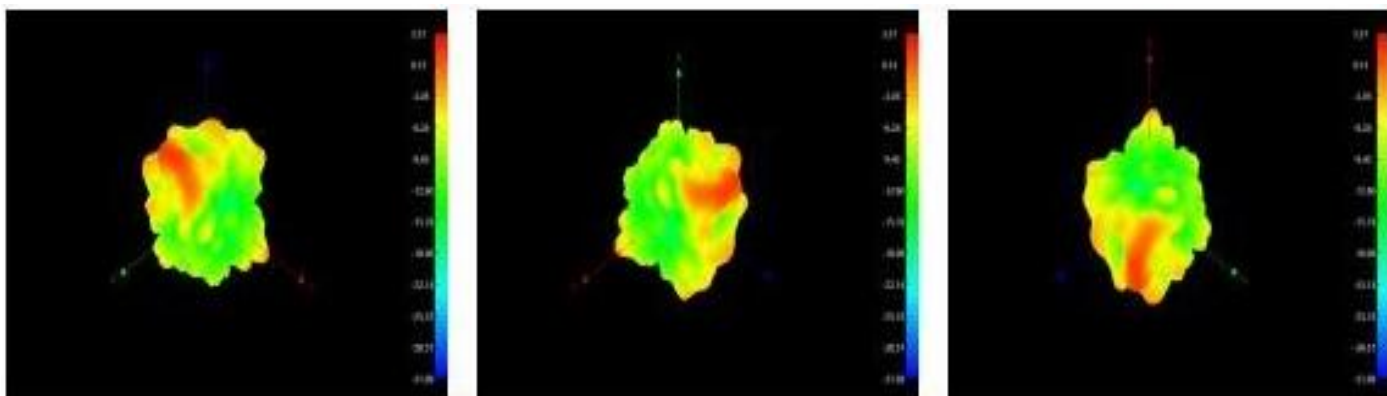
3D 5150:



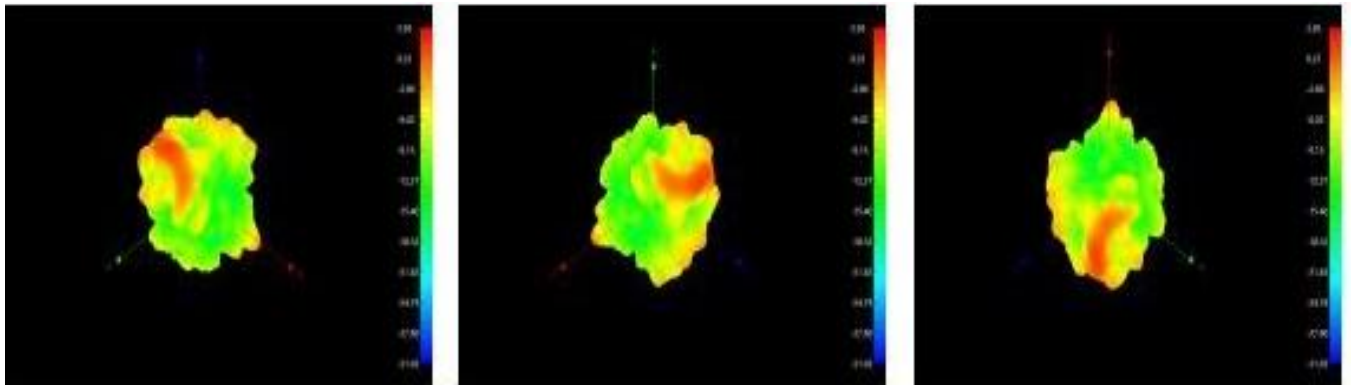
3D 5500:



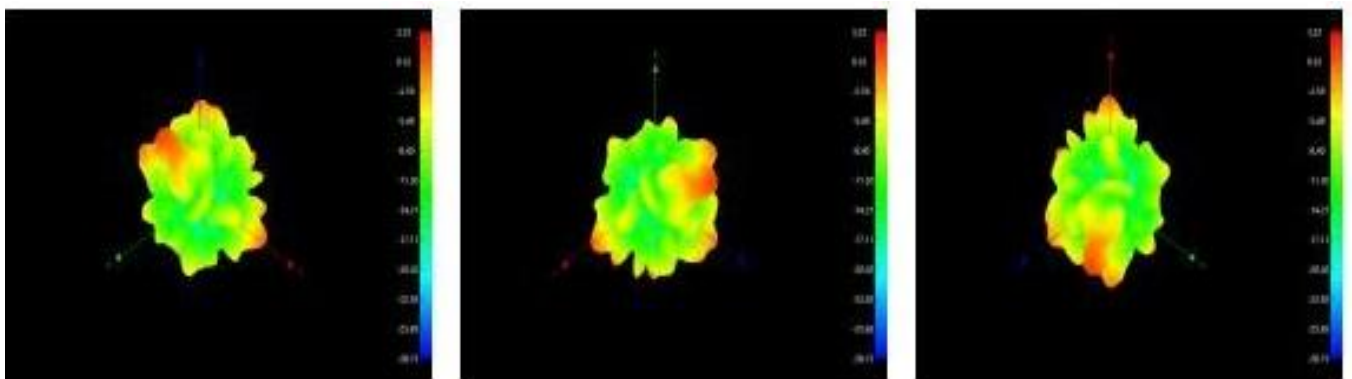
3D 5850:



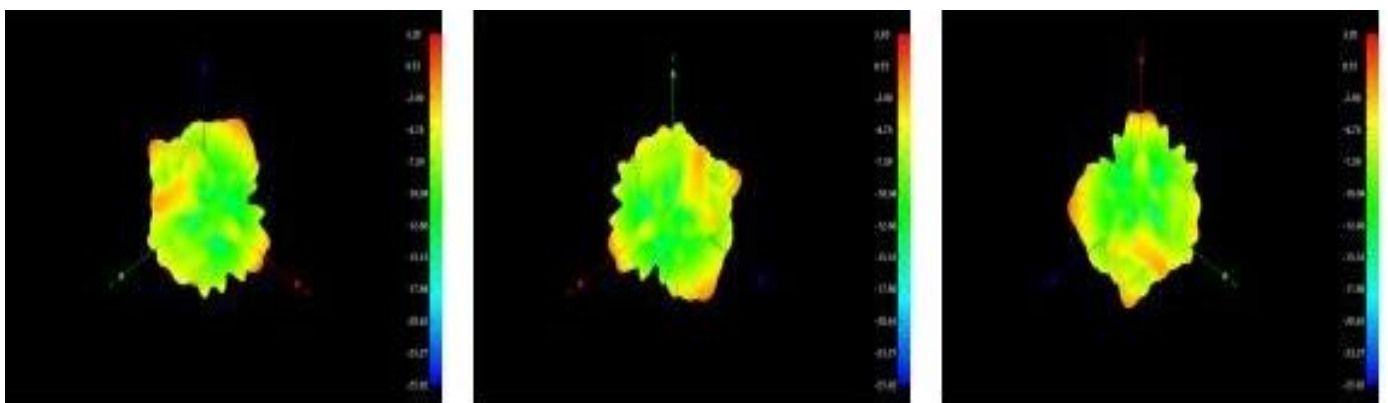
3D 5925:



3D 6525:



3D 7125:



OTA active test data:

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	WIFI_B (11M)	1	2412	14.64
2	TRP	WIFI_B (11M)	6	2437	13.25
3	TRP	WIFI_B (11M)	11	2462	14.28
4	TIS(EIRP)	WIFI_B (11M)	1	2412	-81.05
5	TIS(EIRP)	WIFI_B (11M)	6	2437	-81.27
6	TIS(EIRP)	WIFI_B (11M)	11	2462	-82.41
7	TRP	WIFI_G (54M)	1	2412	12.64
8	TRP	WIFI_G (54M)	6	2437	12.52
9	TRP	WIFI_G (54M)	11	2462	12.52
10	TIS(EIRP)	WIFI_G (54M)	1	2412	-69.24
11	TIS(EIRP)	WIFI_G (54M)	6	2437	-69.63
12	TIS(EIRP)	WIFI_G (54M)	11	2462	-68.13
13	TRP	WIFI_N_ISM (65M)	1	2412	11.36
14	TRP	WIFI_N_ISM (65M)	6	2437	11.88
15	TRP	WIFI_N_ISM (65M)	11	2462	11.73
16	TIS(EIRP)	WIFI_N_ISM (65M)	1	2412	-68.96
17	TIS(EIRP)	WIFI_N_ISM (65M)	6	2437	-67.87
18	TIS(EIRP)	WIFI_N_ISM (65M)	11	2462	-66.69
19	TRP	WIFI_A (54M)	36	5180	8.97
20	TRP	WIFI_A (54M)	149	5745	9.07
21	TRP	WIFI_A (54M)	165	5825	9.36
22	TIS(EIRP)	WIFI_A (54M)	36	5180	-73.19
23	TIS(EIRP)	WIFI_A (54M)	149	5745	-73.52
24	TIS(EIRP)	WIFI_A (54M)	165	5825	-72.52

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	ETR25501383	SGS	25/05/20	ND	ND	ND	ND	ND	ND	PASS
	Copper	SHAEC24027480901	SGS	24/12/06	ND	ND	ND	ND	ND	ND	PASS
	FPC	SHAEC24028809006	SGS	24/12/20	ND	ND	ND	ND	ND	ND	PASS
Wire	Series Coaxial Cables	NGBPC24007471212	SGS	24/12/23	ND	ND	ND	ND	ND	ND	PASS
Terminal	Copper	CANEC24029407216	SGS	25/01/08	ND	4	ND	ND	ND	ND	PASS
	Au plating	A2250437743101001E	CTI	25/06/27	ND	ND	ND	ND	ND	ND	PASS
	Rubber core	48279652A4001	CTI	25/07/25	ND	ND	ND	ND	ND	ND	PASS
Environm entally friendly Tin wire	Environmen tally friendly Tin wire	SZXPC25000282511	SGS	25/02/27	ND	71	ND	ND	ND	ND	PASS