

JMGO Sample Confirmation Letter

Supplier Name: SHENZHEN YINGJIACHUANG TECHNOLOGY ELECTRONIC CO. LTD

Material Name: BT 2.4G Black FPC built-in Antenna (K610A0)

Material No.: 23040383&YJC-6N215-B15

Material Description: _____ / _____

Version: A0

Drawing Version: A0

Supplier Approved <div>This needs to be stamped, and each acknowledgment letter needs to be stamped with a riding seal.</div>			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:

REV	DATE	DESCRIPTION	NWE
A0	2026-03-06	新版发行	殷飞杰
A1			

Technical drawing of the antenna assembly. The main body is labeled "1.13黑色线". Dimensions include: 20 ± 5 , 50 ± 10 , $*214 \pm 5$, $*215 \pm 5$, and $*238 \pm 5$. A note indicates "防震棉对折" (fold anti-vibration cotton). A label "代续端" points to the connection point.

Technical drawing of the antenna component. Dimensions include: $*49 \pm 0.3$, $*13.2 \pm 0.3$, and 3.0 . A label "手撕位" points to the tear-off area.

频率范围(Frequency Range)	2400-2500MHz
增益 (Gain)	1.7±0.5dBi
电压驻波比(VSWR)	<1.92
极化 (Polarization)	Llinear.Vertical
最大功率(Max power rating)	10W
特性阻抗 (Impedance)	50Ω

要求:

- 成品须100%测试导通OK
- 成品须100%全检OK,
- 采用环保制程.成品
- 符合ROHS要求,
- 未注公差请以一般公差为准.
- *为重点标注尺寸.

外包装箱物料标示卡
与ROHS标签各1PCS

零件名称 (PART NAME) BT 蓝色PCB天线		规格 (SPEC) 总长L=215MM	数量 (QTY) YJC-6N215-B15
产品描述 BT 蓝色PCB天线 总长L=215MM		第1页,共1页	日期 (DATE) 2026-03-06
设计 殷飞杰		力文峰	
审核 陈强			
APPL.			
深圳市英佳创电子科技有限公司 SHENZHEN YINGJIAKUANG TECHNOLOGY ELECTRONIC CO., LTD			

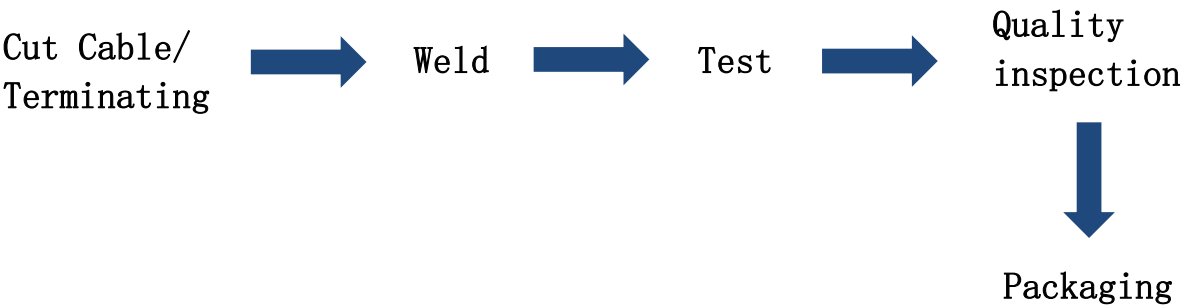
Specification:

Electrical Specifications	
Frequency Range	2400-2500/5150-5850MHz
VSWR	<1.92
Input Impedance	50 Ω
Direction	All
Gain	1.4 dBi
Mechanical Specifications	
Cable Color	Black
Input connector	XD
Cable length	215mm (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
VSWR (dB)	1.14	1.39	1.51

BT and WiFi 1 isolation test diagram



BT and WiFi 2 isolation test diagram

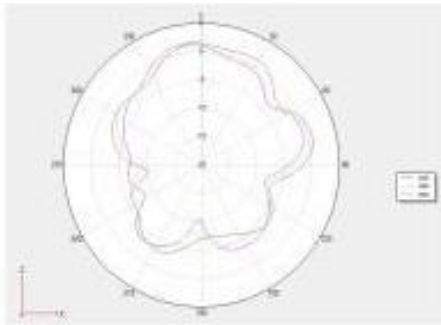


Frequency (MHz)	2400	2450	2500	5150	5725	5850
WIFI1 and BT isolation (dB)	-38	-36	-36	-35	-39	-34
WIFI2 and BT isolation (dB)	-28	-29	-31	-32	-28	-26

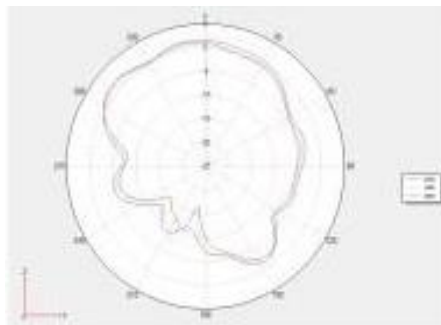
2D、3D test data (WIFI 1):

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	57.28	1.23
2410MHz	55.41	1.13
2420MHz	56.94	1.11
2430MHz	54.41	1.40
2440MHz	53.91	1.39
2450MHz	53.3	1.36
2460MHz	52.18	1.40
2470MHz	51.6	1.3
2480MHz	51.42	1.22
2490MHz	51.78	1.38
2500MHz	50.22	1.36

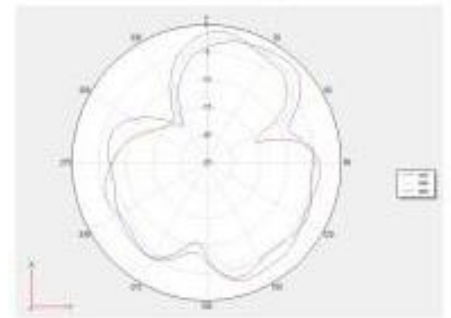
Phi 0 2D :



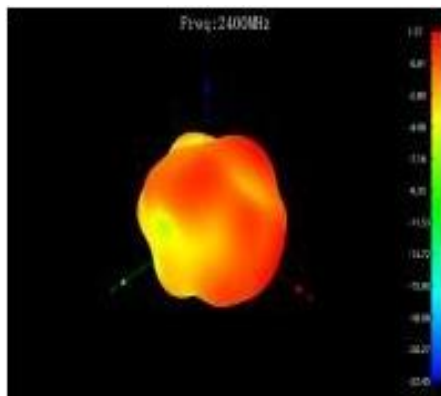
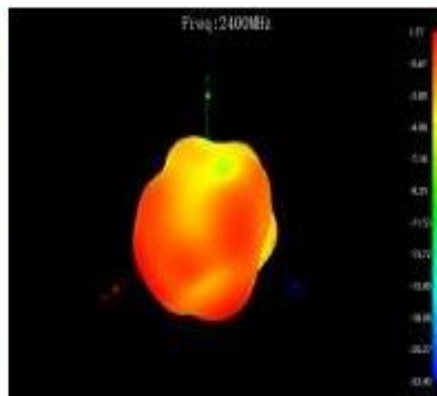
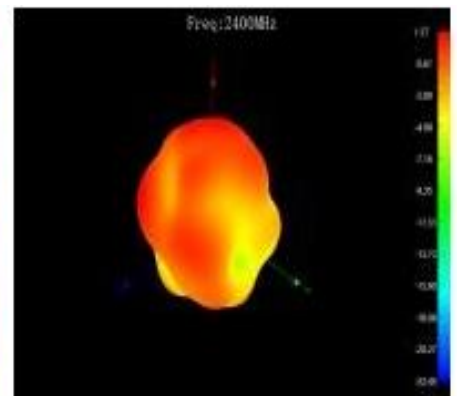
Phi 90 2D



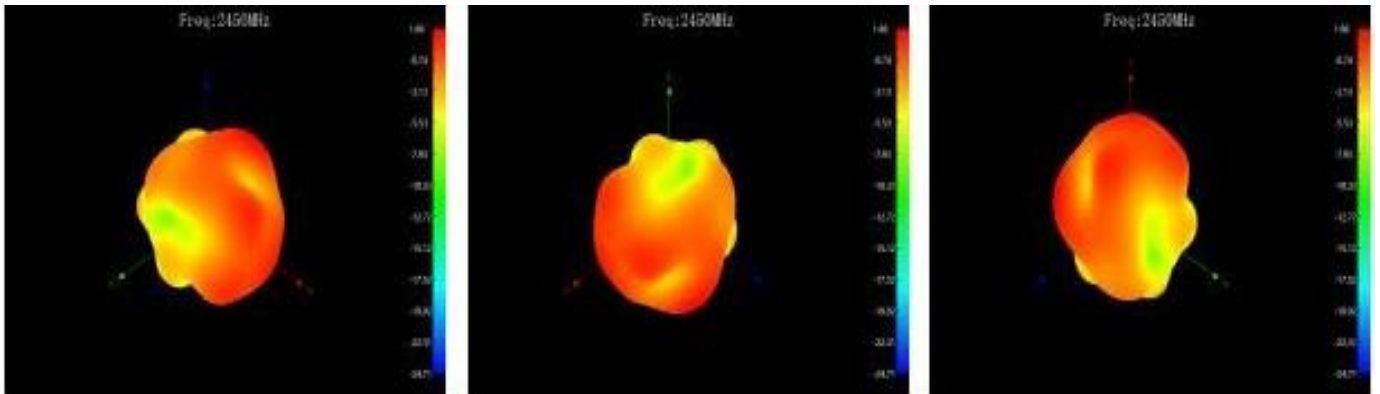
Theta 90 2D



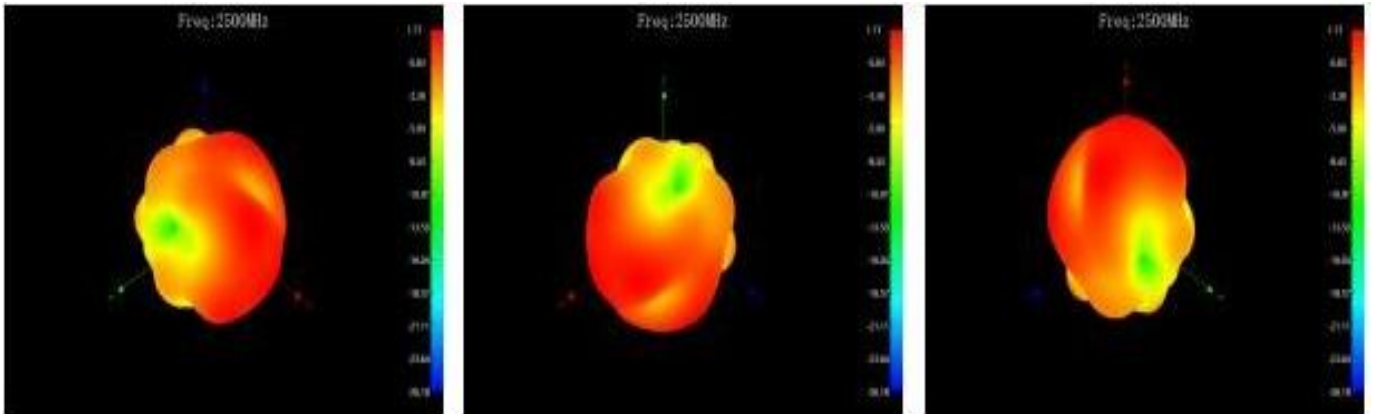
3D 2400:



3D 2450:



3D 2500:



OTA active test data:

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	BLUETOOTH	0	2402	2.22
2	TRP	BLUETOOTH	39	2441	2.79
3	TRP	BLUETOOTH	78	2480	2.95
4	TIS(EIRP)	BLUETOOTH	0	2402	-84.04
5	TIS(EIRP)	BLUETOOTH	39	2441	-85.64
6	TIS(EIRP)	BLUETOOTH	78	2480	-85.68
7	TRP	BLUETOOTH	0	2402	2.56
8	TRP	BLUETOOTH	39	2441	3.1
9	TRP	BLUETOOTH	78	2480	3.18
10	TIS(EIRP)	BLUETOOTH	0	2402	-85.16
11	TIS(EIRP)	BLUETOOTH	39	2441	-85.93
12	TIS(EIRP)	BLUETOOTH	78	2480	-85.3
13	TRP	BLUETOOTH	0	2402	2.25
14	TRP	BLUETOOTH	39	2441	2.81
15	TRP	BLUETOOTH	78	2480	2.94
16	TIS(EIRP)	BLUETOOTH	0	2402	-78.59
17	TIS(EIRP)	BLUETOOTH	39	2441	-79.67
18	TIS(EIRP)	BLUETOOTH	78	2480	-79.92

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	SHAEC25001634701	SGS	25/03/23	ND	ND	ND	ND	ND	ND	PASS
	FPC	A2250072829101006E	CTI	25/04/18	ND	ND	ND	ND	ND	ND	PASS
Wire	Series Coaxial Cables	CANEC25018034403	SGS	25/07/30	ND	ND	ND	ND	ND	ND	PASS
Terminal	Copper	CANEC25027363005	SGS	25/11/13	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
Tube	Tube	CANEC25007471410	SGS	25/04/14	ND	ND	ND	ND	ND	ND	PASS