Parts Approval

Approval Sheet

Supplier: Shenzhen Yingjiachuang Electronic Technology Co., Ltd.

Part Name : 2.4G/5.8G FPC built-in antenna 0.81 black wire L=90MM

P code:

Version: V1.3

Material Code: 112010138/ YJC-6N090-B58

Date: January 23, 2024

Supplier confirmation

Draft/Date	Review/Date	Approval/Date
Yin Feijie	Fang Wenfeng	Xiao Han

Customer Confirmation

Quality/Date	Development/Date	Product Manager/Date

APPROVAL SHEET

承认书

CUSTOMER NAME	Mi Rui
CUSTOMER P/N Customer Part Number	112010138
PART NAME	2.4G/5.8G Black FPC Internal Antenna (Applicable to Bullet8 & Speed12F (dual-band) models)
P/N Part Number	YJC-6N090-B58
APPROVAL REV. Edition	V1.3
DELIVERY DATE Sample delivery date	January 23, 2024
PREPARED BY	Yin Feijie
CHECKED BY	Fang Wenfeng
APPROVED BY	Xiao Han

Customer Approved		
Prepared By	Checked By Review	Approved By

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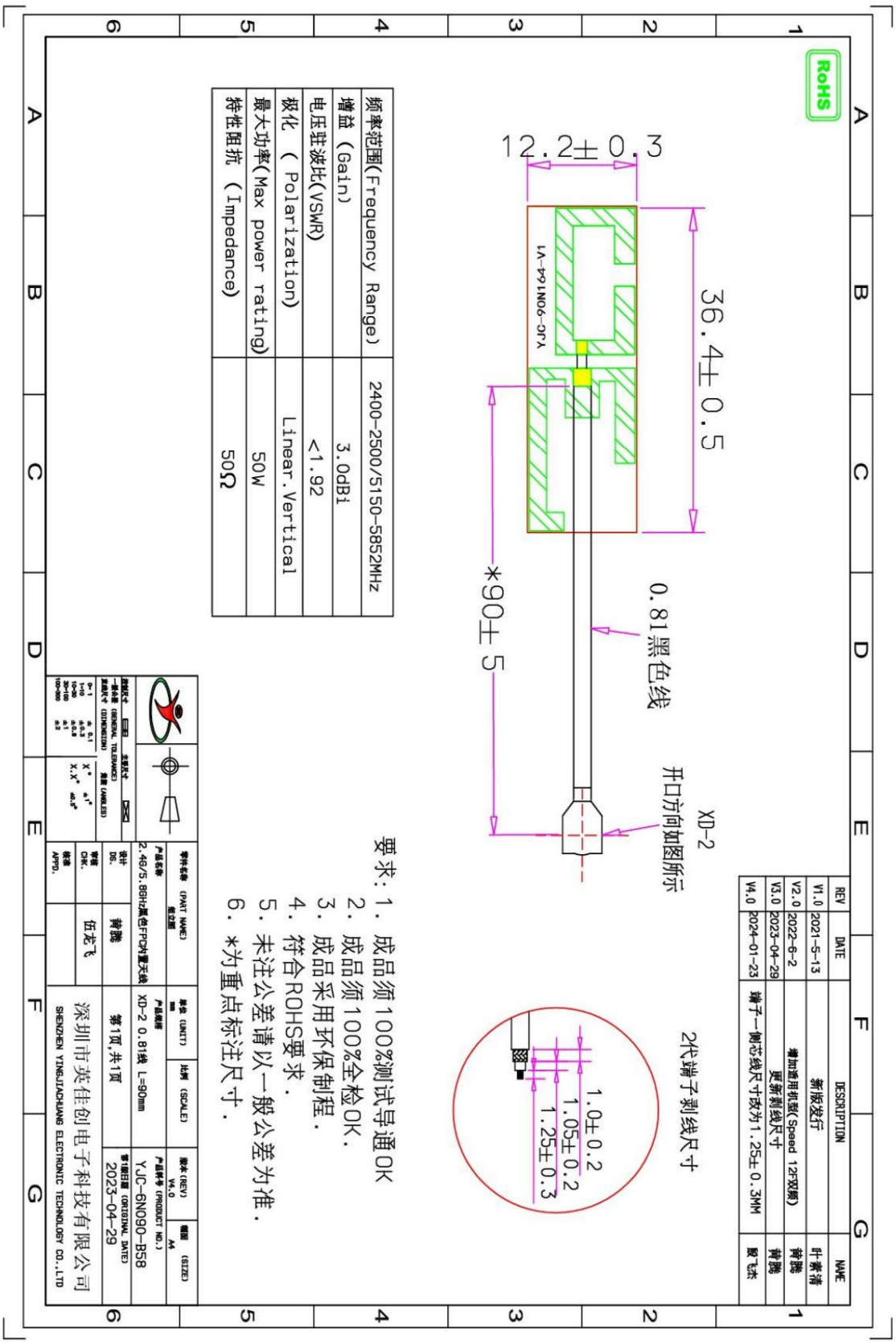
Revised resume:

Version	Change content and reason for change	date	issued
V1.0	First edition released	May 13, 2021	
V1.1 Added applicable model Speed12F (dual-band)		June 2, 2022	
V1.2	Update stripping size	April 29, 2023	
V1.3 The core wire size on one side of the terminal is changed to 1.25±0.3MM		January 23, 2024	

Antenna plan:



Antenna technical parameters and environmental testing:

Electrical technical parameters			
Electrical performance indicators		Electrical Specifications	
Frequency Range2400-2500MHz/5150-5850MHz			2400-2500MHz/5150-5850MHz
Voltage standing wave ratio <1.92		VSWR	<1.92
Input impedance 50 ÿ		Input Impedance	50 ÿ
direction	Omnidirectional	Direction	All
Gain	3.0 dBi	Gain	3.0 dBi
Mechanical indicators		Mechanical Specifications	
Wire color black		Wire Color	Black
Interface type XD-2		Input connector	XD-2
Wire length 90MM		Wire Length	90MM
Operating temperature -20ÿ~+70ÿ		Working Temperature	-20ÿ~+70ÿ
Working humidity 20%~80%		Working Humidity 20%~80%	

Environmental performance test:

project	Test conditions	Specification
Storage environment	When not specified, the test temperature, humidity and air pressure are as follows: 1. Temperature: -20ÿÿ+70ÿ 2.Relative humidity is 45%-85% 3. Air pressure is 86kpa-106kpa	Electrical and mechanical performance is normal
High and low temperature tests	Cycle between 70°C and -20°C for 5 times, then 1-2H, check the appearance quality.	The dimensions shall meet the requirements and shall be Mechanical and electrical properties
Constant resistance Damp heat test	Relative humidity 95±3%, test temperature: 40ÿ. After 2 hours of continuous action, Measure the electrical performance of the test piece within 5 minutes after taking it out. 1-2 hours after the product is shipped, check the appearance quality	The dimensions shall meet the requirements and shall be Mechanical and electrical properties
Vibration test	Frequency range: 10-55HZ, displacement amplitude: 0.35MM, acceleration amplitude: 50.0M/S, sweep cycle times: 30 times	Electrical and mechanical performance is normal
Drop test: 1M high altitude free fall 3 times along mutually perpendicular axes		Electrical and mechanical performance is normal

Antenna attachment location diagram:

Bullet 8 stickers

Speed 12F stickers

Antenna performance test chart:

OTA active test data statistics:

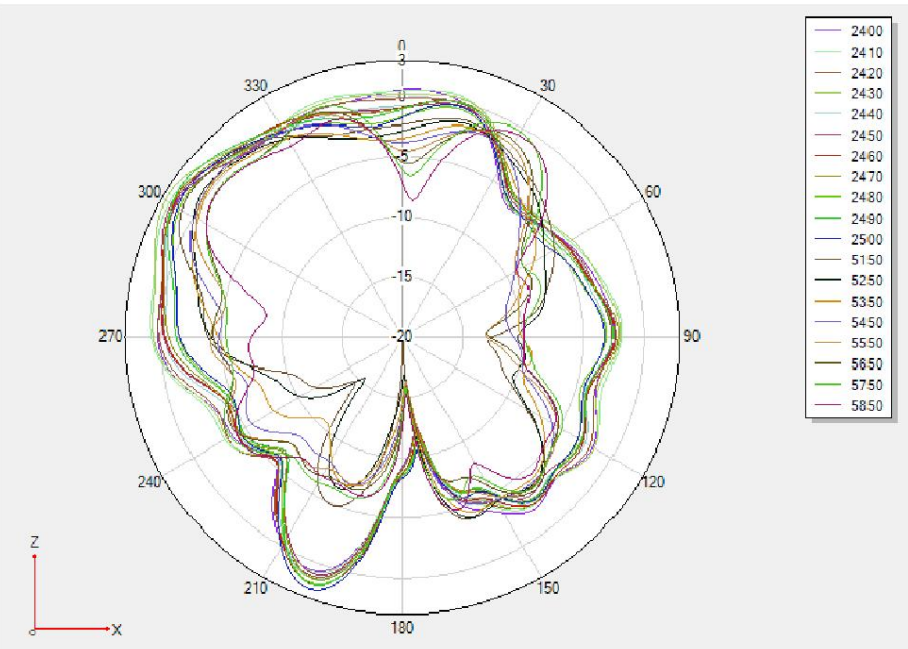
Item	Measurement	Band	Channel	Frequency	Max	Min	Total
1	TRP	WIFI_B (11M)	1	2412	17.75	2.83	15.07
2	TRP	WIFI_B (11M)	6	2437	18.07	3.38	15.24
3	TRP	WIFI_B (11M)	11	2462	17.62	2.98	15.19
4	TIS(EIRP)	WIFI_B (11M)	1	2412	-72.77	-87.44	-84.79
5	TIS(EIRP)	WIFI_B (11M)	6	2437	-71.35	-85.56	-83.08
6	TIS(EIRP)	WIFI_B (11M)	11	2462	-70.30	-86.20	-83.53
7	TRP	WIFI_A (6M)	36	5180	17.21	5.35	14.23
8	TRP	WIFI_A (6M)	100	5500	16.91	4.55	13.93
9	TRP	WIFI_A (6M)	165	5825	16.81	5.05	13.83
10	TIS(EIRP)	WIFI_A (54M)	36	5180	-60.62	-72.63	-69.70
11	TIS(EIRP)	WIFI_A (54M)	100	5500	-56.34	-73.62	-69.80
12	TIS(EIRP)	WIFI_A (54M)	165	5825	-55.73	-71.75	-67.37

2D and 3D test data:

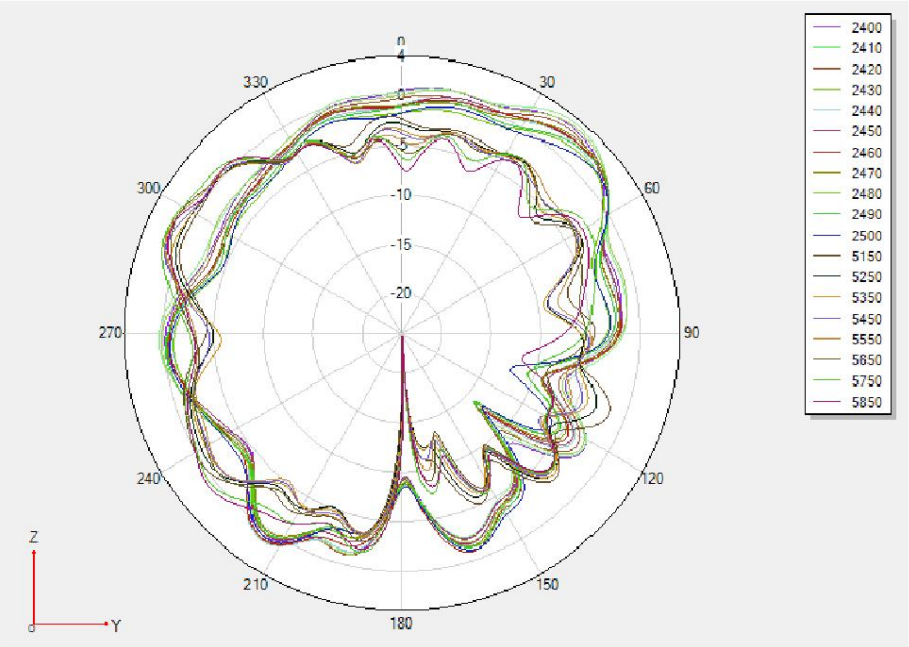
(2.4G/5.8G test data)

Frequency	Efficiency (%)	Gain.(dBi)
2400MHz	58.85	3.47
2410MHz	63.67	4.03
2420MHz	58.98	3.25
2430MHz	59.49	3.79
2440MHz	53.23	2.60
2450MHz	58.72	2.96
2460MHz	55.97	2.99
2470MHz	54.82	3.34
2480MHz	53.19	2.43
2490MHz	54.52	2.94
2500MHz	53.12	2.23
5150MHz	60.02	2.09
5250MHz	55.72	2.05
5350MHz	53.35	2.05
5450MHz	55.12	1.91
5550MHz	57.08	2.13
5650MHz	56.58	2.05
5750MHz	61.34	2.16
5850MHz	56.46	1.75

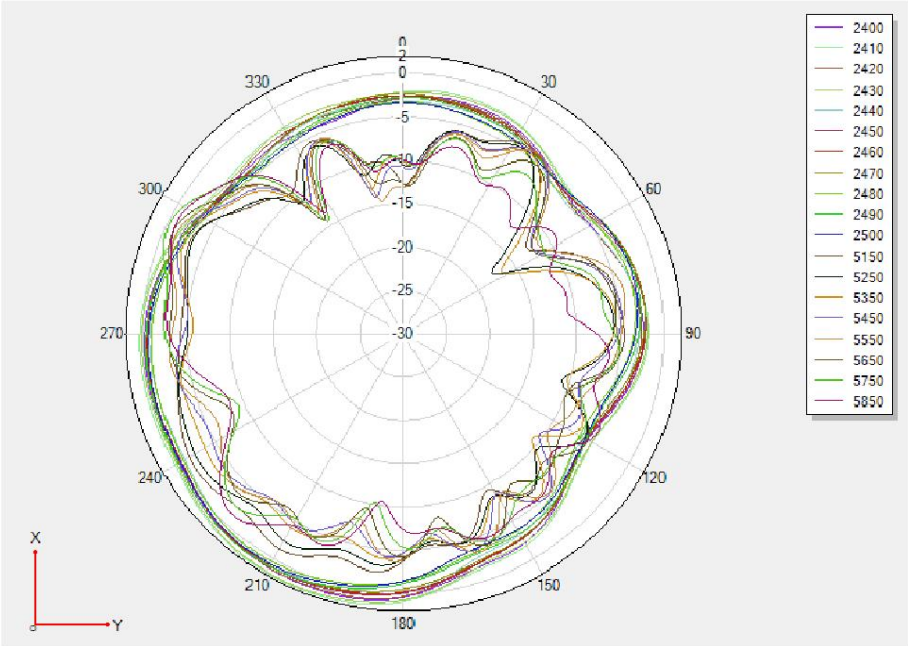
(Phi 0 2D diagram)



Phi 90 2D Chart)

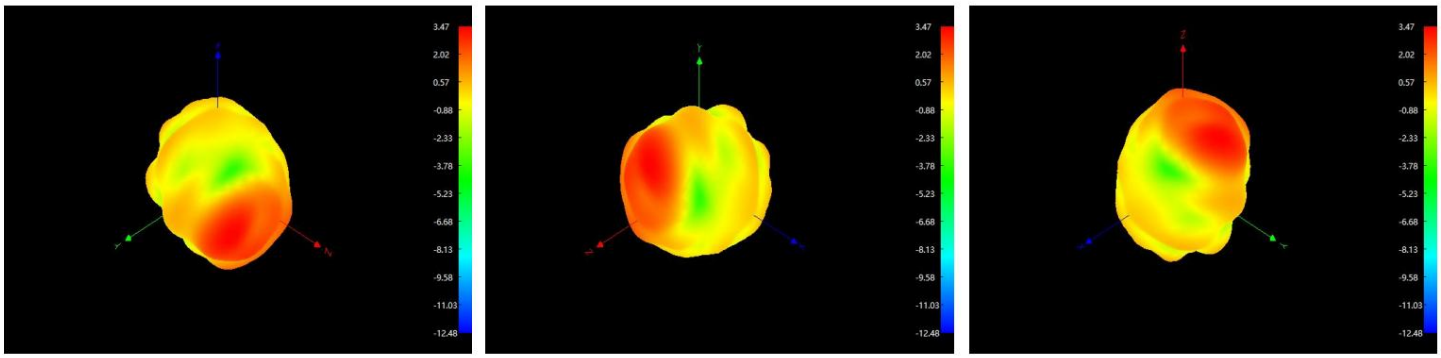


(Theta 90 2D image)

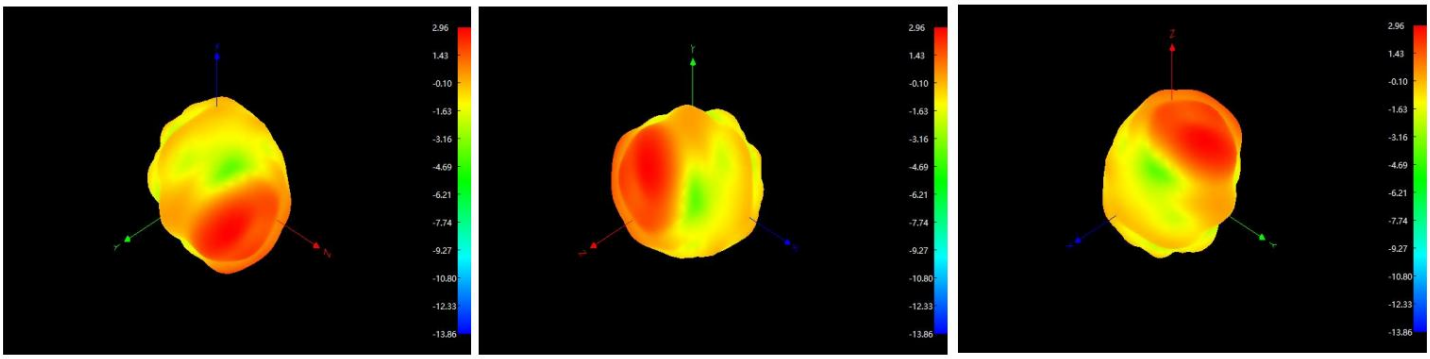


3D test chart

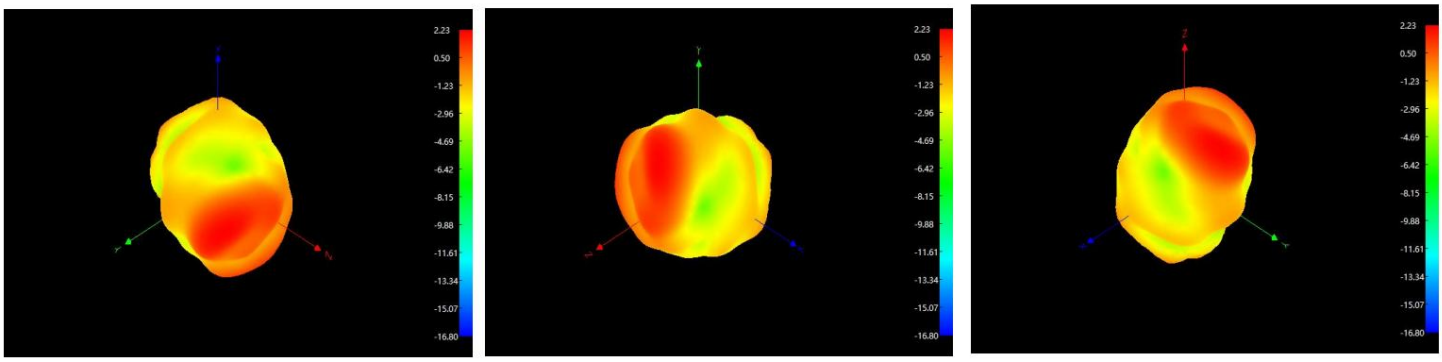
(3D 2400MHz)



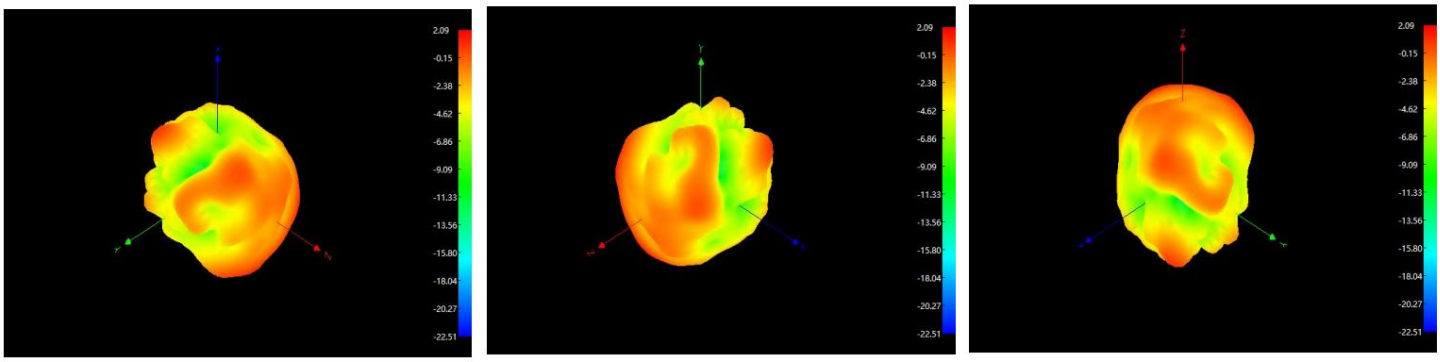
(3D 2450MHz)



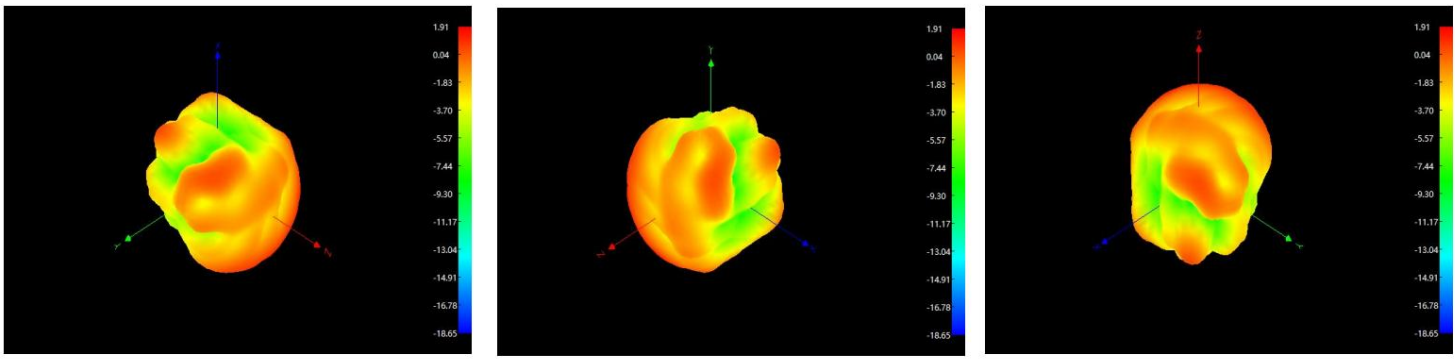
(3D 2500MHz)



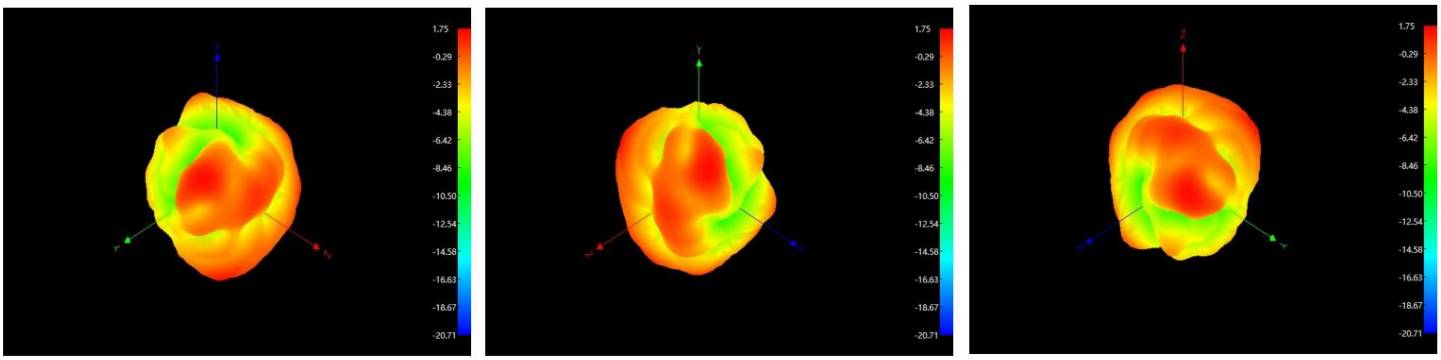
(3D 5150MHz)



(3D 5450MHz)



(3D 5850MHz)



ROHS Material Control Report

This is to certify that the components, raw materials used in auxiliary materials, and additives used in the production process delivered to your company comply with the environmental protection requirements of the RoHS Directive on the Restriction of the Use of Hazardous Substances (RoHS Directive 2011/65/EC)

The composition of the raw materials, packaging materials, and additives used in the production process of components and auxiliary materials is reported as follows:

Name of component materials Component /Part Name	Composition materials Material Composition	ICP report number ICP report #	Testing agency Test Org.	Testing Time Test Date	Hazardous substance content (ppm)						Qualified? PASS?
					Cd	Pb	Hg	Cr 6+	PBB	PBDE	PASS
FPC	FPC FTS2302160201-01C1		SGS	23/02/20	ND	ND	ND	ND	ND	ND	PASS
terminal	Phosphor bronze CANEC2301145810		SGS	23/02/08	ND	5	ND	ND	ND	ND	PASS
	Gold plating A2230400553101001E		CTI	23/08/12	ND	ND	ND	ND	ND	ND	PASS
	Rubber core A2230035037101002E		CTI	23/02/06	ND	ND	ND	ND	ND	ND	PASS
Wire	Teflon coaxial Cables	CANEC2301851703	SGS	23/02/23	ND	ND	ND	ND	ND	ND	PASS
Environmentally friendly tin wire	Environmentally friendly tin wire SHAEC23006357502		SGS	23/05/23	ND	43	ND	ND	ND	ND	PASS