Dongguan Hongxin Plastic products Co., LTD

SPECIFICATION FOR APPROVAL

Customer name:

Customer project name:

Customer part number:

Customer name: WIFI 2.4G White flat integrated antenna L=200mm

Tianqin material number: T028-0211009-A

DATE: 2024-02-26

Edition: X1

	MANUFACTURE SIGNATURE	CUSTOMER SIGNATURE
CHECKED BAY:	zhangqin	
AUDITOR BAY:		
APPROVED BAY	zhouwenbin	
DATE:	2024-02-26	

Company address: Dongguan City Dalang Town school chair Wai East Road No. 94
telephone No.: 0769-29566190 Phone No. : 18027655106
Email: 120817412@qq.com

Product Number: DF5DBI82564/5-40
Product Name: Antenna

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Product Number: DF5DBI82564/5-40
Product Name: Antenna

1. Revision History

Revision	Date	Change Notification	Description
1.0	2024-02-26	V1.0	

Product Number: DF5DBI82564/5-30
Product Name: Antenna

2. Specification

Main technical specifications	
Frequency Range (MHZ)	2400~2500
Impedance(Ω)	50
Peak Gain(dBi)	5dBi
VSWR	≦2
Admitted Power	10W
Polarization	vertical polarization
Radiation	Omni-directional
Connector Type	Strip
Physical Properties	
Antenna cable	1.37mm Cable
Operating Temp	-40℃~+60℃

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3. Characteristics and Reliability Test

	Test Items	Test Condition and Procedure	Requirements	Result
C1	V.S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification	PASS
C2	Insertion Loss	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification	N/A
C3	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification	PASS
C4	Voltage Breakdown	Test voltage should be applied between insulated portions, or between ground as specified.	Max Voltage > 500 V or directive material specification	N/A
C5	Insulation Resistance	Set Voltage: 500 ± 50V; between the insulated portions, or between ground as specified.	Resistance > 500 M ohm or directive material specification	N/A
C6	Contact Resistance	Air Temp: 26°C; measured with test equipment	Directive material specification	N/A
M1	Vibration	GB / T2423.48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol. ≤ 5%	PASS
M2	Random Drop	GB / T2423.8-1995 Single : Height: 1.0 Meter; 3 directions; 1 time for each direction	1. No parts separated、fracture 2. Frequency Tol. ≤ 5%	PASS
		Packing : Height: 0.76 Meter; 1 corner, 3 edges, 6 surface		PASS
		Antenna+Machine:Height: 0.76 Meter; 1 corner, 3 edges, 6 surface.		N/A
M3	Solderability	GB / T2423.28-2005	Tin evenly on full	N/A

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		Temp: 260±5°C;Duration: 5 seconds		
M4	Pull Test	Holding with individual specification; force applied to axis of terminal .	Directive DUT specification Frequency Tol.≤5%	PASS
M5	Torque Test	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	Directive DUT specification Frequency Tol.≤ 5%	N/A
M6	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification	PASS
E1	Waterproof	With Reference to IEC 60529 // IP Code Definition	Directive DUT specification	N/A
E2	Salt Spray	GB / T 2423.17-2008 Temp: 35°C; RH: ≥ 95%; NaCl solution: ≥ 5%;Time: 24H	No Visual Damage Frequency Tol.≤5%	PASS
E3	Temperature and Humidity Chamber	GB / T 2423.3-2006 Temp: 80°C / 12 H; -40°C / 12H RH: ≥ 90 %; Time: 24H	After 2 Hours Recovery No Visual Damage Frequency Tol.≤5%	PASS
E4	Termal Shock	GB / T 2423.22 - 2008 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24h	After 2 Hours Recovery No Visual Damage Frequency Tol.≤5%	PASS
E5	Aging test	GB /T 2423.2 - 2008 Temp: 80°C; Time: 24 hours	After 2 Hours Recovery No Visual Damage Frequency Tol.≤5%	PASS
E6	High Temp.	Temp. 270±10°C; Times: 120 seconds	No Visual Damage	N/A
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2011/65/EU RoHS 2011/65/EU	PASS
R2	PFOS	With Reference to USA EPA 3550C:1996 by LC/MS	Directive RoHS 2006/122/EC RoHS 2011/65/EU	PASS

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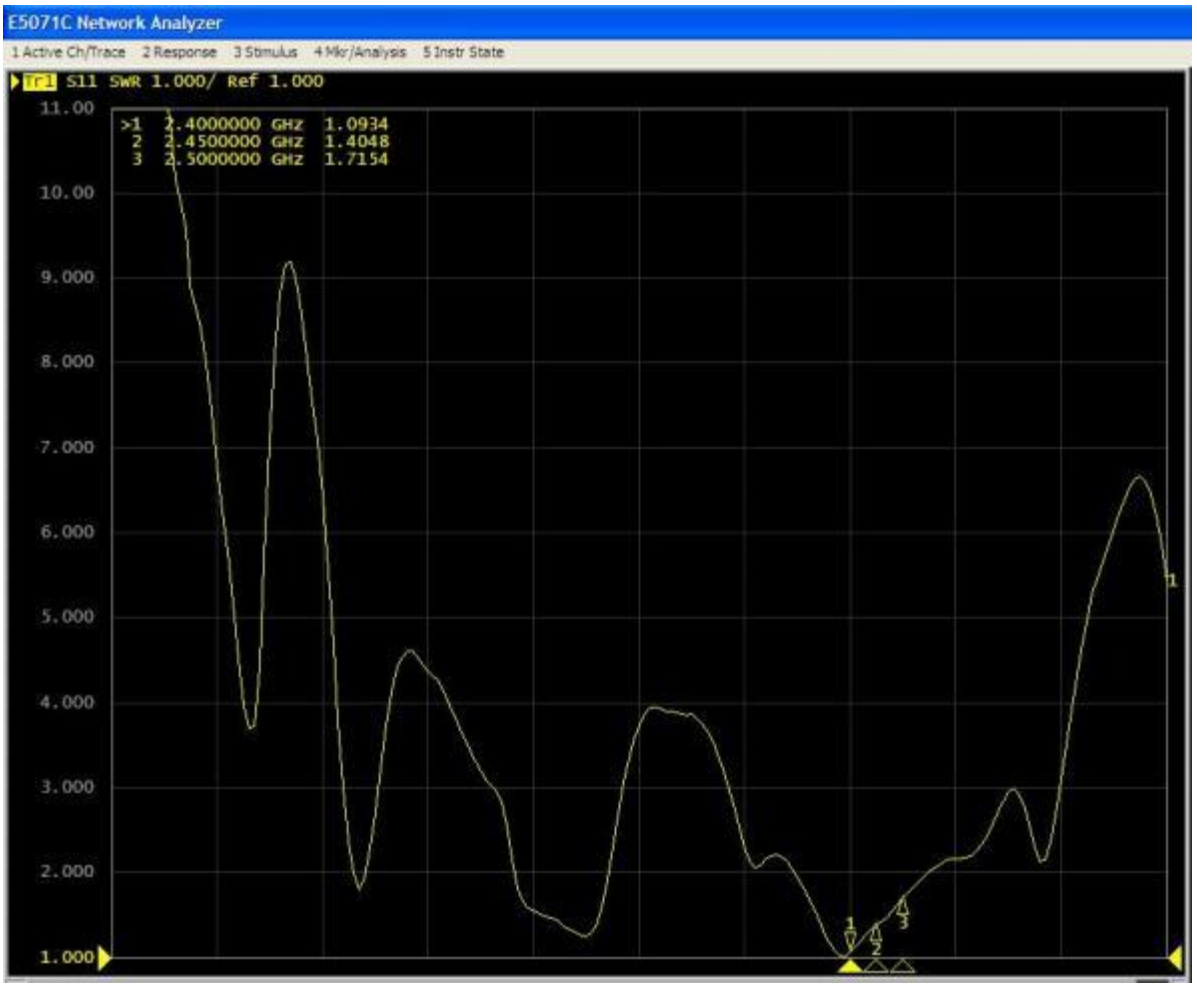
4. Antenna - S Parameter Test Data



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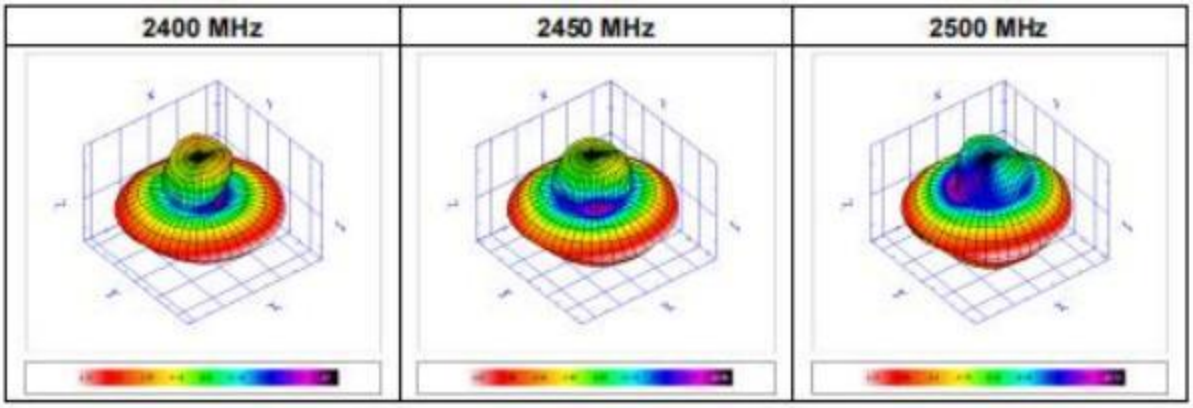
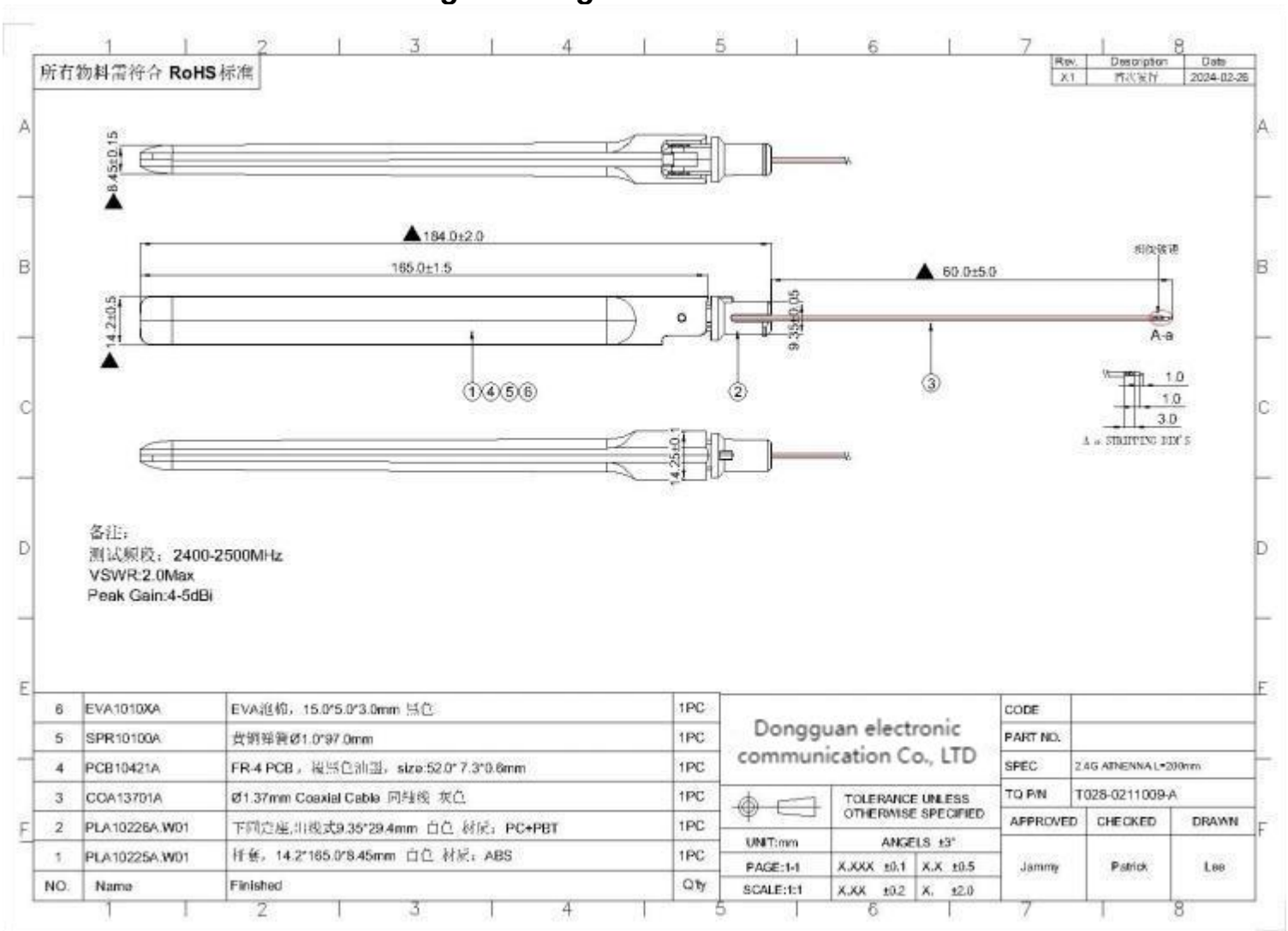
5. Antenna - Radiation Pattern Test Data



Frequency	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
TRP (dBm)	-1.64	-1.45	-1.31	-1.44	-1.45	-1.21	-1.65	-1.51	-1.53	-1.63	-1.56
Peak EIRP (dBm)	4.37	4.64	4.72	4.37	4.64	4.87	4.6	4.63	4.29	4.3	4.37
NHPRP +/- 45 (degree)	-2.06	-1.8	-1.7	-1.8	-1.79	-1.57	-1.95	-1.78	-1.81	-1.87	-1.8
NHPRP +/- 30 (degree)	-2.27	-2.03	-1.88	-2.04	-2	-1.75	-2.19	-1.97	-2.01	-2.12	-1.97
E-Theta Peak Gain (dBi)	-18.09	-15.22	-15.93	-15.27	-13.52	-13.63	-16.36	-15.62	-15.33	-15.22	-15.08
E-Phi Peak Gain (dBi)	4.34	4.63	4.71	4.35	4.64	4.85	4.58	4.61	4.26	4.3	4.34
E-Total Peak Gain (dBi)	4.37	4.64	4.72	4.37	4.64	4.87	4.6	4.63	4.29	4.3	4.37
Directivity (dBi)	6.01	6.08	6.04	5.81	6.1	6.08	6.25	6.14	5.82	5.93	5.93
Efficiency (%)	68.52	71.68	73.89	71.85	71.53	75.62	68.4	70.57	70.37	68.71	69.88

5. Mechanical and Packing Drawing



NO.	Name	Finished	Q'ty
6	EVA1010XA	EVA泡棉，15.0*5.0*3.0mm 黑色	1PC
5	SPR10100A	黄铜弹簧Ø1.0*97.0mm	1PC
4	PCB10421A	FR-4 PCB，镀黑色油漆，size:52.0* 7.3*0.8mm	1PC
3	COA13701A	Ø1.37mm Coaxial Cable 同轴线 灰色	1PC
2	PLA10226A.W01	下同定座,出线式9.35*29.4mm 白色 材质：PC+PBT	1PC
1	PLA10225A.W01	件套，14.2*165.0*8.45mm 白色 材质：ABS	1PC

Dongguan electronic communication Co., LTD

TOLERANCE UNLESS OTHERWISE SPECIFIED

UNIT:mm | ANGELS ±3° | PAGE:1-1 | SCALE:1:1 | X.XXX ±0.1 | X.X ±0.5 | X.XX ±0.2 | X. ±2.0

CODE	
PART NO.	
SPEC	2.4G ATNENNA L=200mm
TQ P/N	T028-0211009-A

APPROVED	CHECKED	DRAWN
Jammy	Patrick	Lee