SPECIFICATION FOR APPROVAL

Company name:shenzhen Huahai Hi-Tech Technology Co., Ltd

Address:Room301,BuildingE,Mingguang Zhichuang Park Plant, Jutang Community, Fucheng Street
Shenzhen, China

Model:C2

ANT Model:FPC Antenna

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	2024-09-10		

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

2. Specification

Sample Photo	
A. Electrical Characteristics	
Frequency	**2400 ~ 2500 MHz**
S.W.R.	**<= 2.0**
Antenna Gain	**4.87dBi@ 2450 MHz**
Polarization	**Linear**
Impedance	**50 Ohm**
B. Material & Mechanical Characteristics	
Material of Radiator	
Material of Plastic	**Body: ABS** **Hinge: ABS** **Base: PC+PBT**
Cable Type	**1.13 85MM**
Connector Type	
C. Environmental	
Operation Temperature	**- 40 °C ~ + 65 °C**
Storage Temperature	**- 40 °C ~ + 80 °C**
Antenna Color Storage life	**< 2** year

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3. Characteristics and Reliability Test

Test Items	Test Condition and Procedure	Requirements 求	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 P	full Test	Holding with individual specification; force applied to axis of terminal .	Directive DUT specification Frequency Tol.≤5%	PASS
M5 T	orque Test	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	Directive DUT specification Frequency Tol.≤ 5%	N/A
M6 D	imension	Inspection of dimension, color, material, package, surface process.	Directive DUT specification	PASS
E1 W	aterproof	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 T	emperature 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 T	ermal Shock h	GB / T 2423.22 - 2008 40°C (30 minutes) to + 80°C (30 minutes)；Cycles: 24	After 2 Hours Recovery No Visual Damage Frequency Tol.≤5%	PASS
E5 A	ging test	GB /T 2423.2 - 2008 Temp: 80°C; Time: 24 hours	After 2 Hours Recovery No Visual Damage Frequency Tol.≤5%	PASS
E6 H	igh 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	PASS
R2	PFOS	With Reference to USA EPA 3550C:1996 by LC/MS	Directive RoHS 2006/122/EC	PASS

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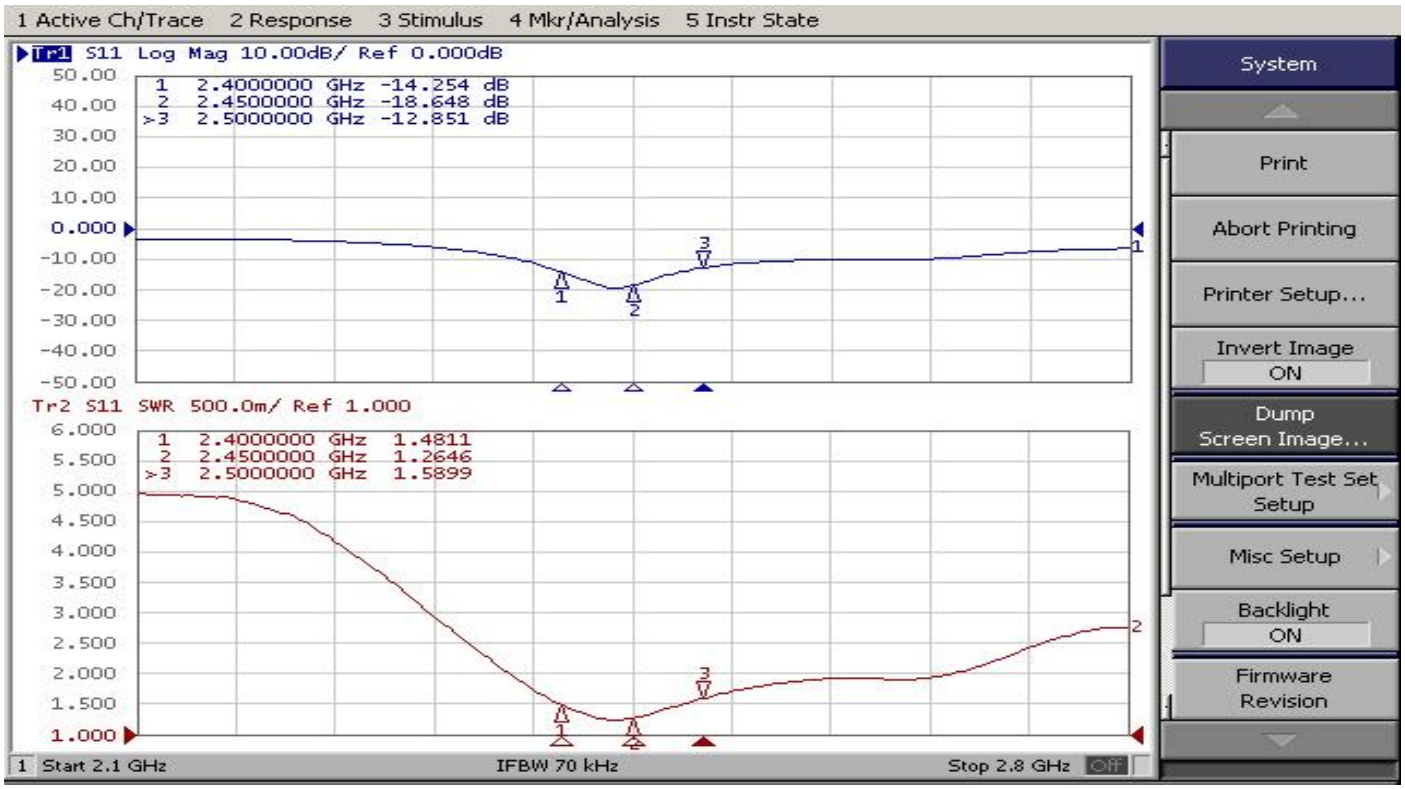
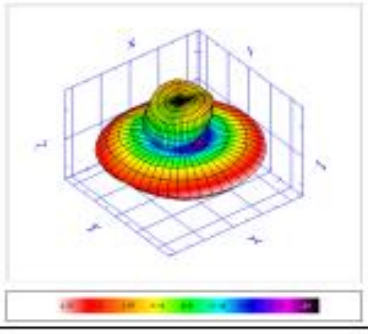
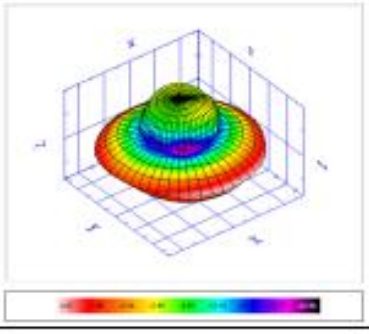
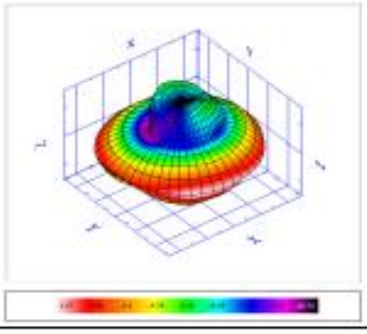
4. Antenna - S Parameter Test Data

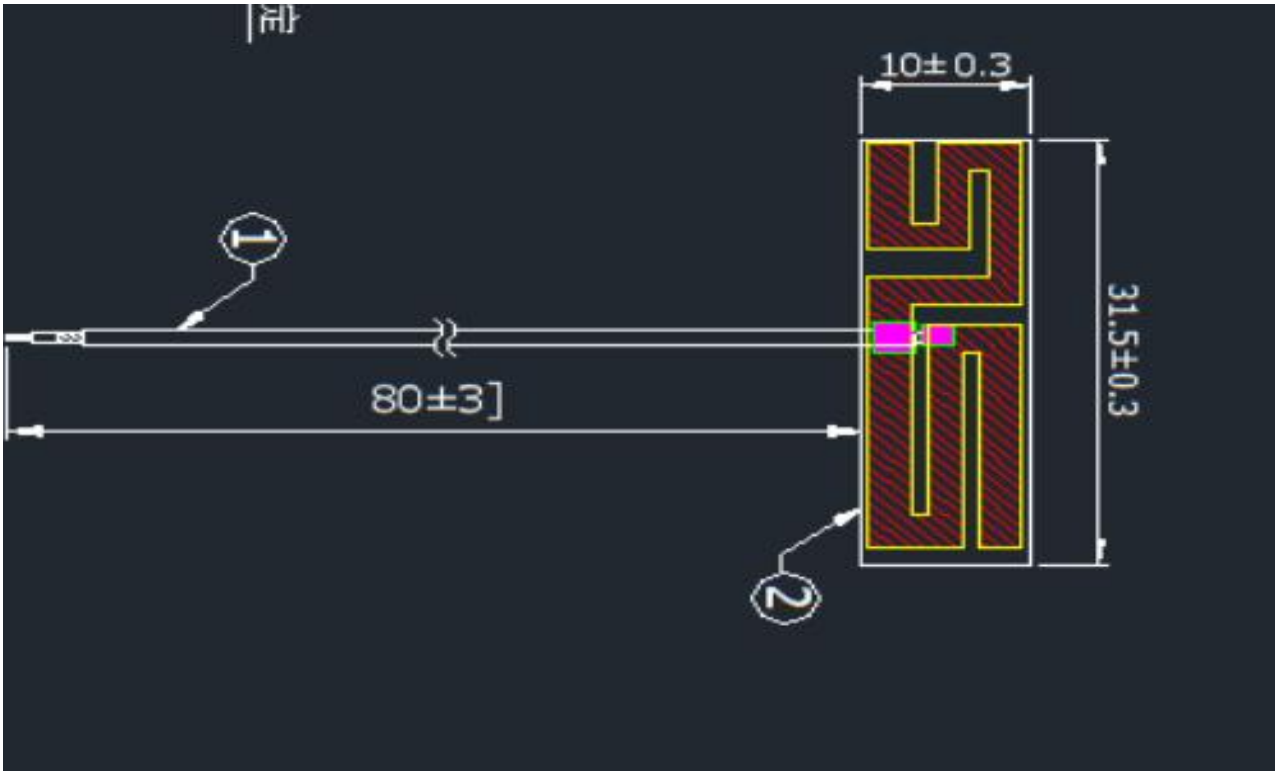


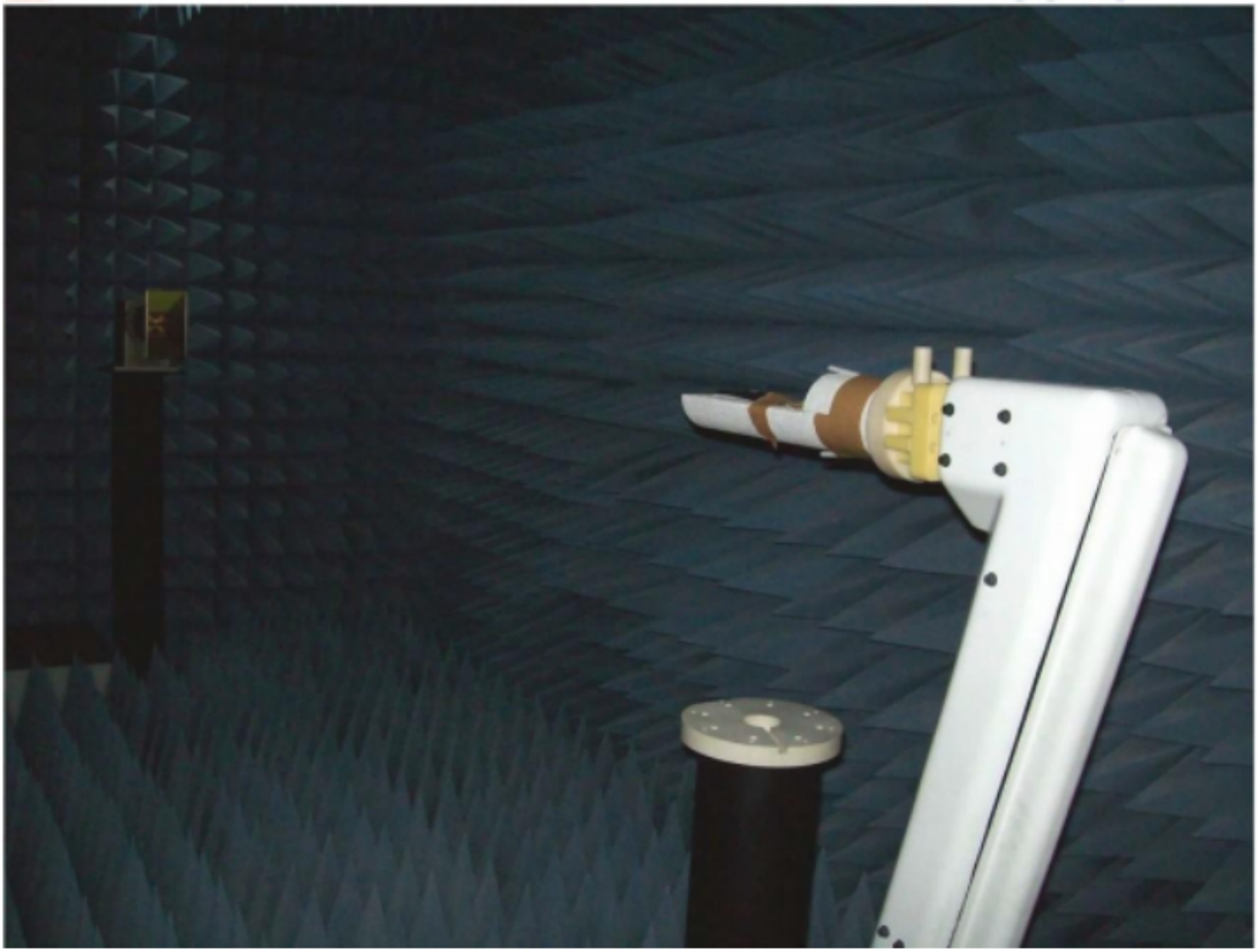
5. Antenna - Radiation Pattern Test Data

2400 MHz	2450 MHz	2500 MHz
		

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

6. Mechanical and Packing Drawing





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