

Material acknowledgement

F&D Material name	FD118
F&D Item No	12.001.0017.00247
Supplier name	SINAWELL
brand&Manufacturer model	SN0912





Supplier acknowledges that				F&D admit	
	engineer	to examine	approval	engineer	approval
sign					
date	2022.07.13	2022.07.13	2022.07.13		
Seal:					
remarks:					

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1. Specification description

This specification describes the status of the FD118 internal antenna with a frequency band of BT.

Antenna appearance



2. Electrical performance

2.1. Antenna band

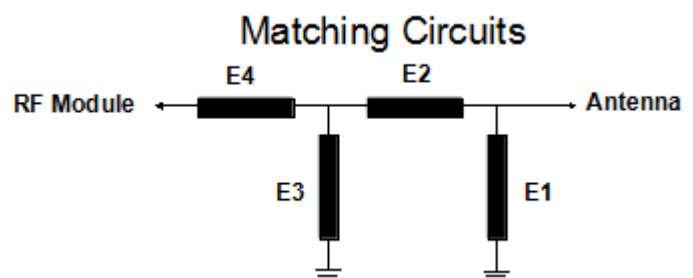
	BT
Transmitting band(MHz)	2400MHz-2500MHz

2.2. Matching circuit

After the test point is at the antenna connector (RF test port), see the figure below.

1. BT Antenna matching.

Element	Value
E1(0402)	NC
E2(0402)	0 Ω
E3(0402)	NC
E4(0402)	0 Ω

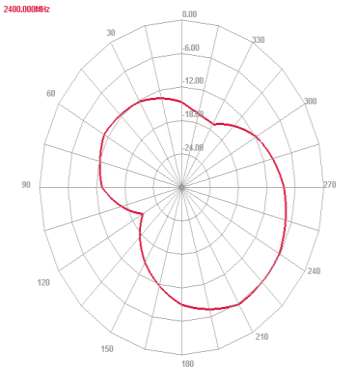
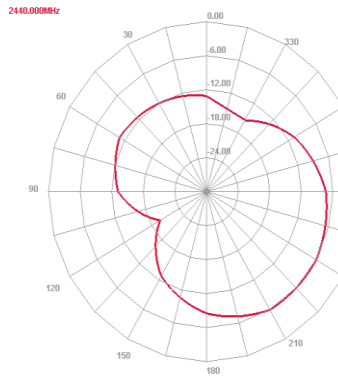
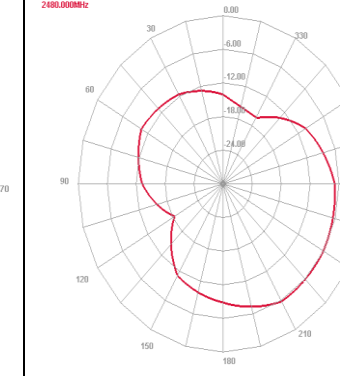


2.3. Return loss

BT VSWR+ Return

	Resonant Point Range(MHz)	Frequency point(MHz)/Maximum Echo Loss(dB)	
		2400	2500
	2400-2500	VSWR	1.9
		Return loss	-11.6

3.4 Antenna gain

Channel	0	39	78
Gain	-5.07dBi	-4.72dBi	-4.86dBi
Gain diagram			

PIFA天线无源数据

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	10.12	-9.95	-5.07
2410	10.66	-9.72	-4.84
2420	10.86	-9.64	-4.82
2430	11.71	-9.31	-4.56
2440	11.65	-9.34	-4.72
2450	11.15	-9.53	-5.08
2460	11.15	-9.53	-5.12
2470	11.16	-9.52	-5.09
2480	11.34	-9.45	-4.86
2490	12.11	-9.17	-4.62
2500	11.65	-9.34	-5.05

3. Appearance structure

3.1. Antenna Material

FPC

4. Notes

(Electrical Performance Test Report)

In the electrical performance test report, the 3D darkroom data for manufacturers are provided.

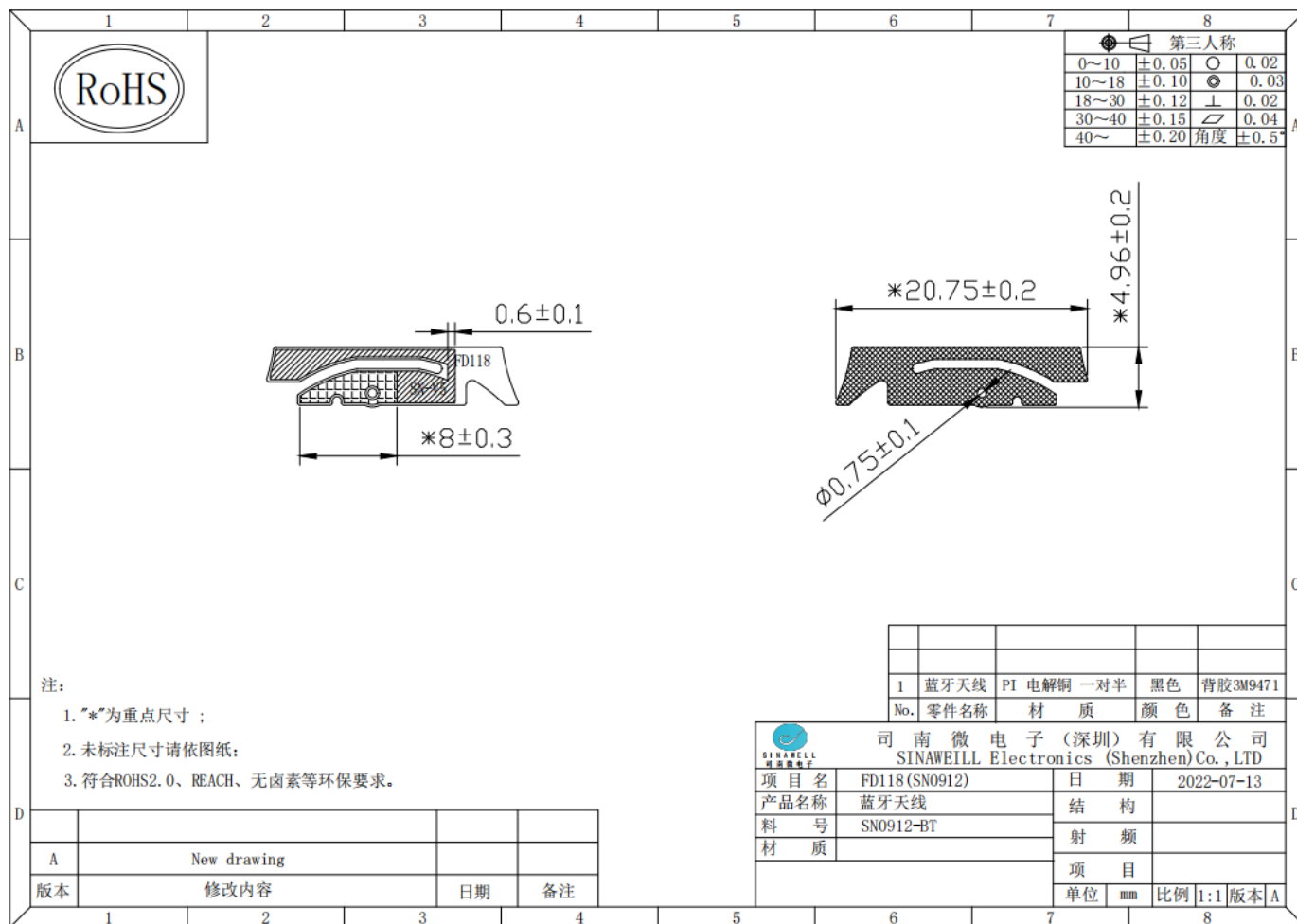
The following table format

Appendix 1: (Mechanical drawing)

Appendix II (Performance report)

FPC Mechanical drawing(Annex I)

FPC Structural drawings




Size Report

	customer	F&D	entry name	FD118		Measurement date	2022-07-13	
	supplier	sinawell	Measuring tools	Quadratic		Unit	mm	
NO	dimension	Tolerance	Measured1	Measured2	Measured3	Measured4	Measured5	determine
1	20.75	±0.2	20.80	20.79	20.79	20.78	20.81	OK
2	4.96	±0.2	5.01	5.00	5.01	4.99	4.99	OK
3	8	±0.3	8.06	8.03	8.01	7.98	8.03	OK
4	0.6	±0.1	0.57	0.59	0.59	0.58	0.59	OK
5	0.75	±0.1	0.77	0.79	0.78	0.78	0.78	OK
6	0.75	±0.1	0.76	0.76	0.78	0.77	0.78	OK
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DRAWN BY: Shimei Yang

APPROVED BY: De Chen

Salt spray Report

Customer Name	F&D	Corax	FD118	Tester	Shimei Yang
Test Quantity	5PCS	Test Item	Salt fog	Test Date	2022-07-13
Test conditions	1.Temperature: 35℃				
	2.Humidity: 98%, PH: 6.5-7.2				
	3.Temperature in the box: 37℃				
	4.Test duration: 24hours				
	5.Drug concentration: 5%NaCl				
Testing procedure	1.Put the product in the salt mist box.				
	2.Place the product at the right angle.				
	3.set the relevant parameters and start the spray.				
	4.Complete the removal of the experimental product. Before inspection, wash the product with clear water and place it at room temperature for two hours.				
TEST	Projects	Before testing	After testing	test result	remarks
	Coating	Well	Well	qualified	
	Conductivity	Well	Well	qualified	
	Resistance	Well	Well	qualified	
	Cohesion	Well	Well	qualified	

DRAWN BY: Shimei Yang

APPROVED BY: De Chen

Explanation of FPC Preservation Period

I .Preservation conditions: temperature 21 +4: humidity 60% H +10%.

II . Exit Guarantee

1.Appearance Guarantee: No oxidation occurs during 12 months of storage in original packaging.

2.Functional Assurance

A:One year to ensure good welding continuity.

B:Ensure good conductivity within two years.

III、 Points for Attention in FPC Welding

1. FC itself has hygroscopicity. It is suggested to preheat the three-layer plate (including) for 30 minutes before use, and bake it for 120 minutes at 100 in order to avoid bursting due to hygroscopicity and rapid oxidation during operation.

2. HOT BAR jobs

A: FPC is used for cooked pressing. CVI should be crossed over glass to avoid suspension, resulting in fracture of copper during bending.

B: FPC avoids the use of dead angle and is liable to cause fracture.

3: SMT operation: The plating part should be shielded to prevent atomization in flow welding.

4: Hand welding operation: the working temperature of soldering iron should not exceed 290 C, and the time of soldering iron staying on the plate surface should not exceed 10 seconds.