

The Main Antenna Sample Confirmation

Customer			
Project Name	HB1-L		Date2026-02-02
Project NO.	SN1560-01	Notes	coaxial line+ PCB
Frequency Range	2400MHz-2500MHz		
Designed By	RF Engineer	Structural Engineer	
Checked By	Engineering Manager		
Client' s Approval			

Designer: SINAWELL Electronics(Shenzhen) Co., Ltd.

Add: 712-717, Block A Jinfulai Building,49-1 Dabao Road,Xinan 28th area,Baoan District,Shenzhen,China

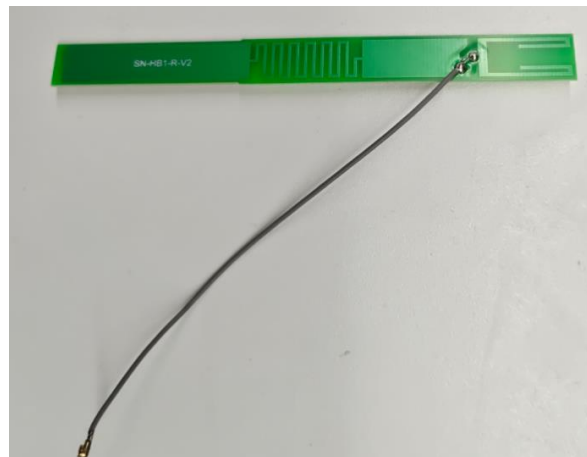
Table of Contents

1. Specification description.....	1
2. Summary of specifications	2
3. Appearance	3
3. Electrical performance.....	3
3.1. Antenna band.....	3
3.2. Matching circuit	3
3.3. Return Loss.....	4
4. Appearance structure.....	5
4.1. WIFI antenna test data.....	6
5 Passive antenna field intensity pattern.....	7、8
6 Active antenna field intensity pattern.....	9、10

1. Specification description

This specification describes the status of the CS-HB1-A internal antenna with a frequency band of 2400MHz-2500MHz.

2. Antenna appearance



3. Electrical performance

3.1. Antenna band

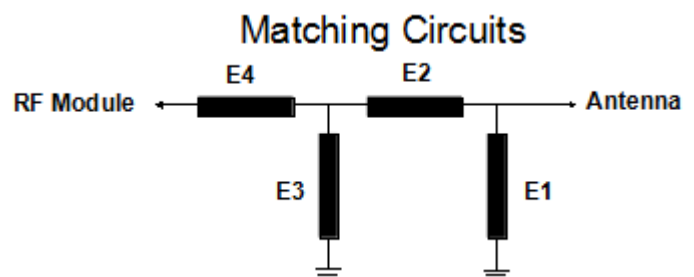
	WIFI
Transmitting band(MHz)	2400MHz-2500MHz

3.2. Matching Circuit

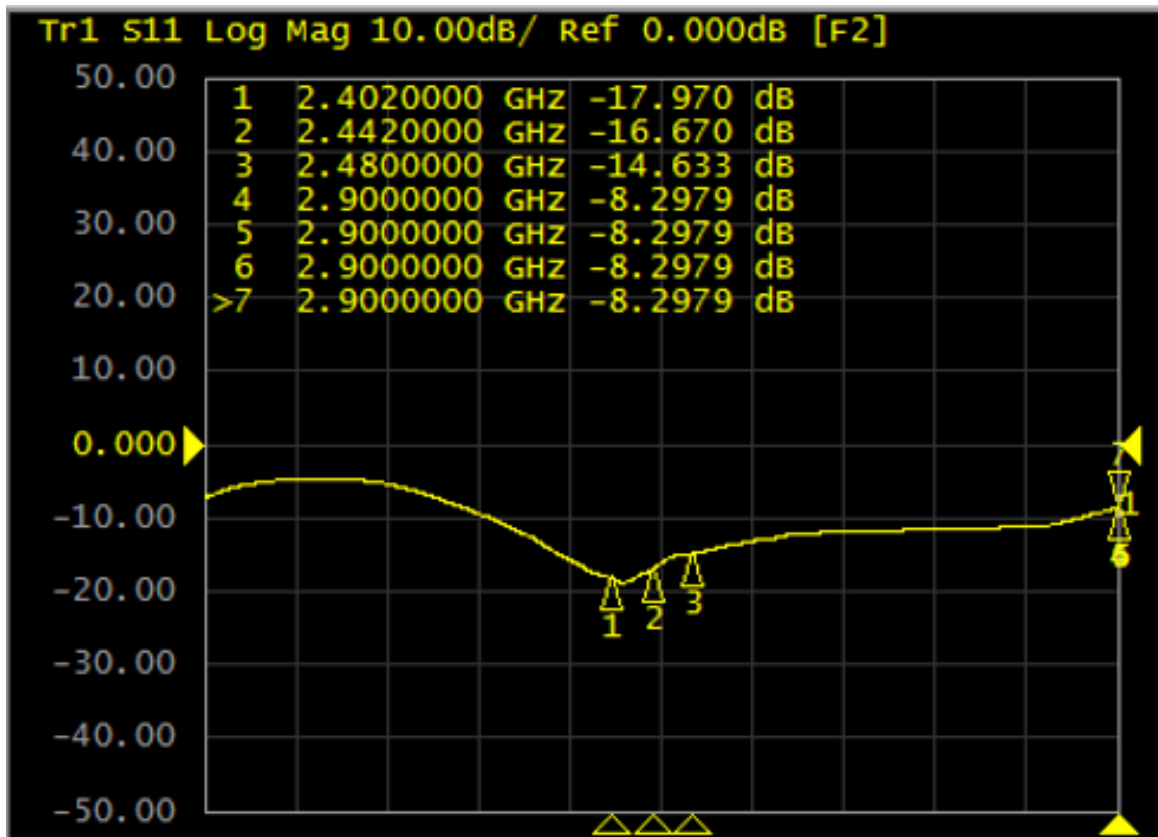
After the test point is at the antenna connector (RF test port), see the figure below.

1. WIFI antenna matching。

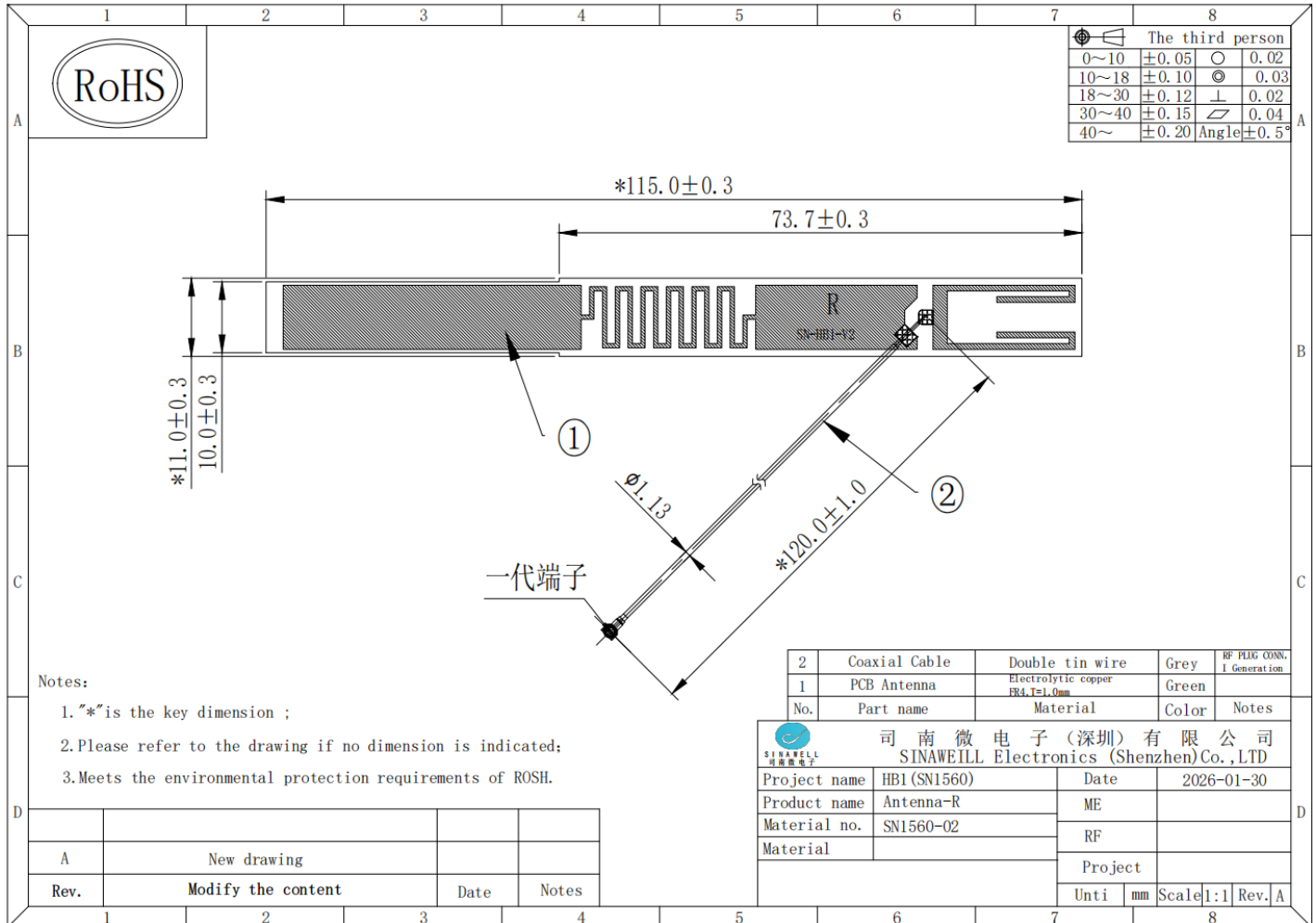
Element	Value
E1(0201)	NC
E2(0201)	0 Ω
E3(0201)	NC
E4	0 Ω



3.3. Return Loss



Appendix 1: Structural Drawing



WIFI antenna passive test data

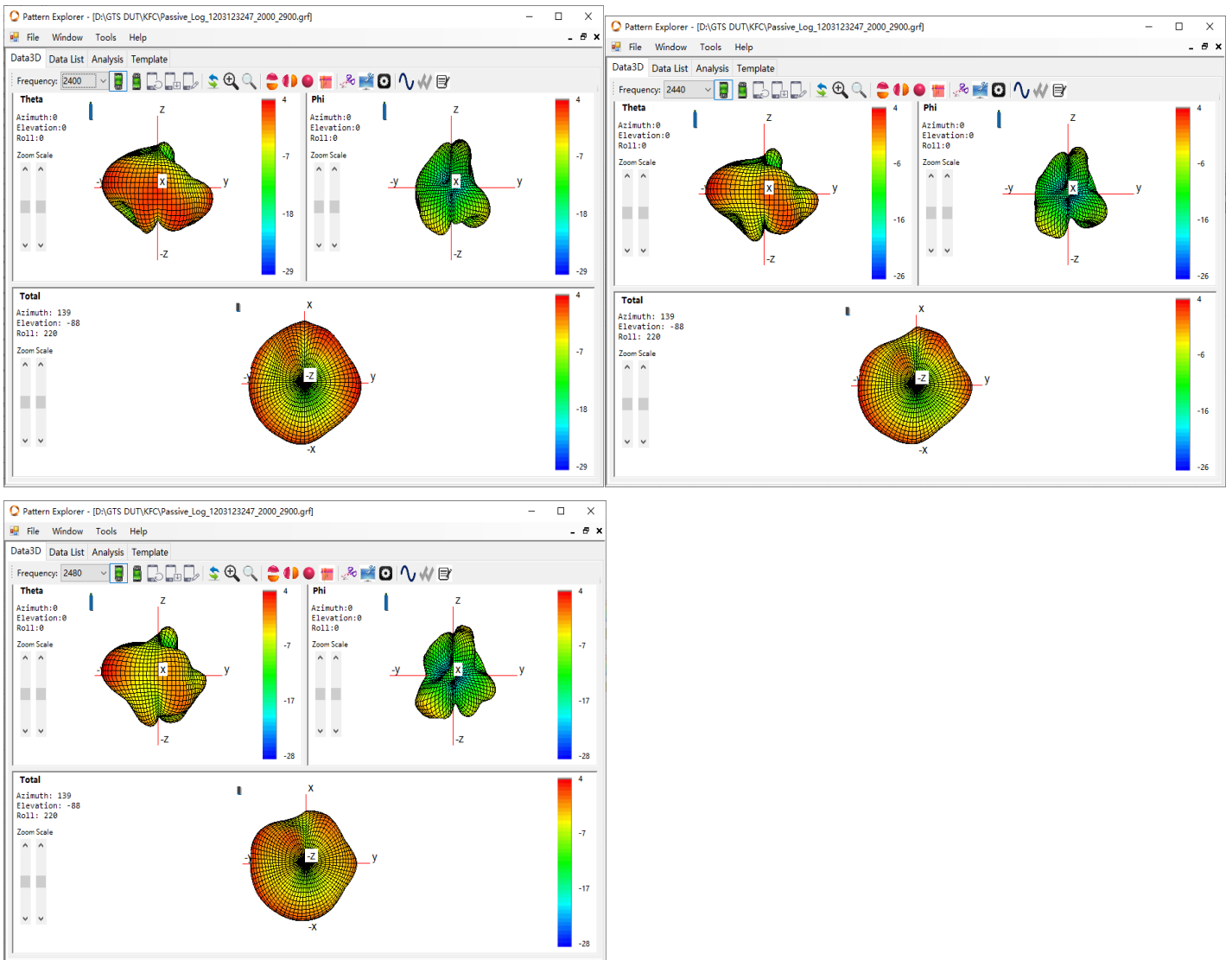
Freq	Effi	Gain	Effi
(MHz)	(dB)	(dBi)	(%)
2400	-1.59	3.08	69.36
2410	-1.57	3.37	69.69
2420	-1.8	3.37	66.12
2430	-1.88	3.54	64.89
2440	-1.91	3.64	64.37
2450	-1.88	3.74	64.91
2460	-1.97	3.57	63.56
2470	-1.96	3.36	63.67
2480	-1.98	3.04	63.38
2490	-1.98	3.16	63.33
2500	-2.01	3.15	63.01

WIFI antenna test data

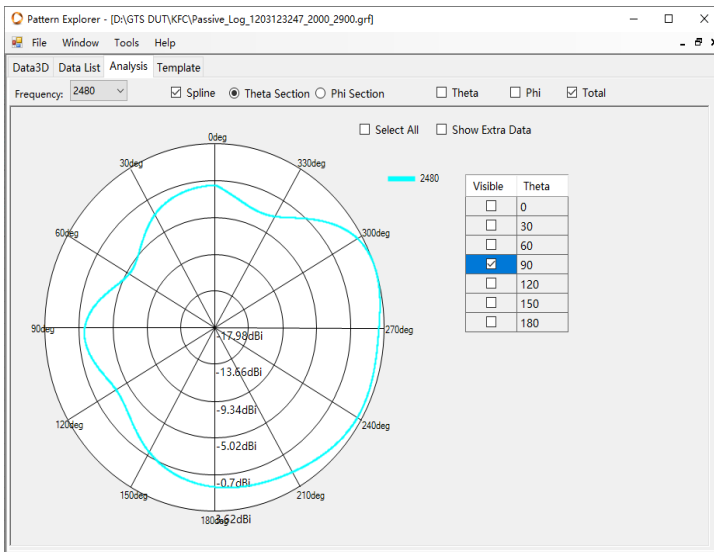
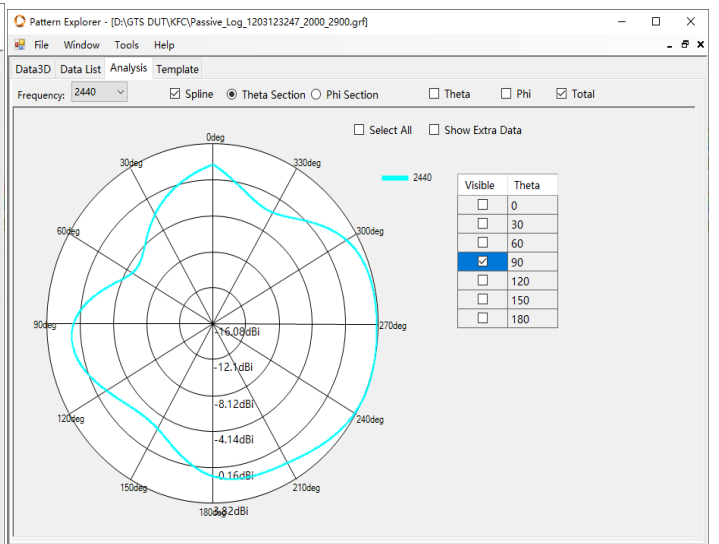
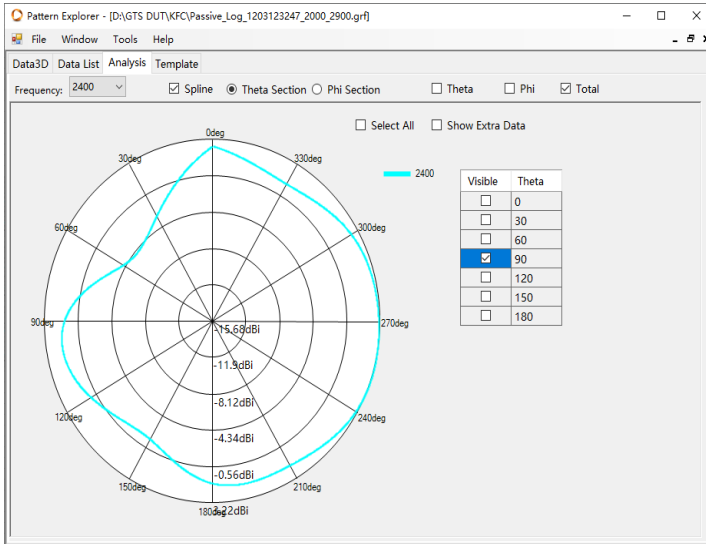
11B-11M	1	14.73	1	-86.04
	3	14.85	3	-84.89
	6	14.64	6	-85.52
	9	14.68	9	-85.9
	11	14.05	11	-85.29
	13	14.34	13	-85.18

Passive antenna field intensity pattern

3D

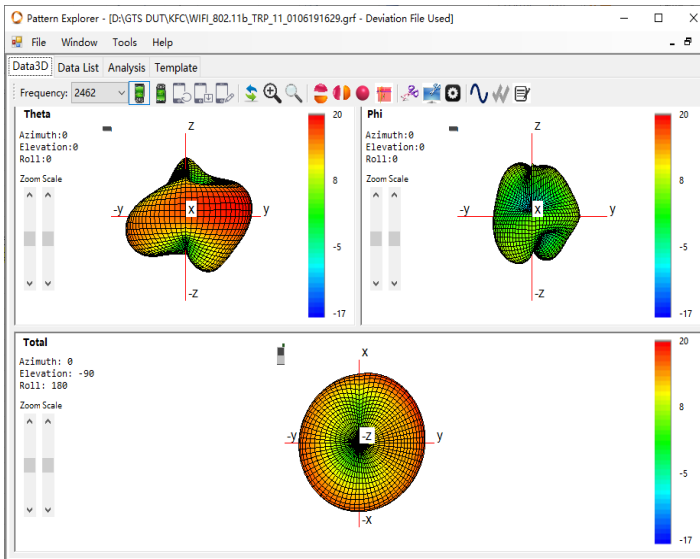
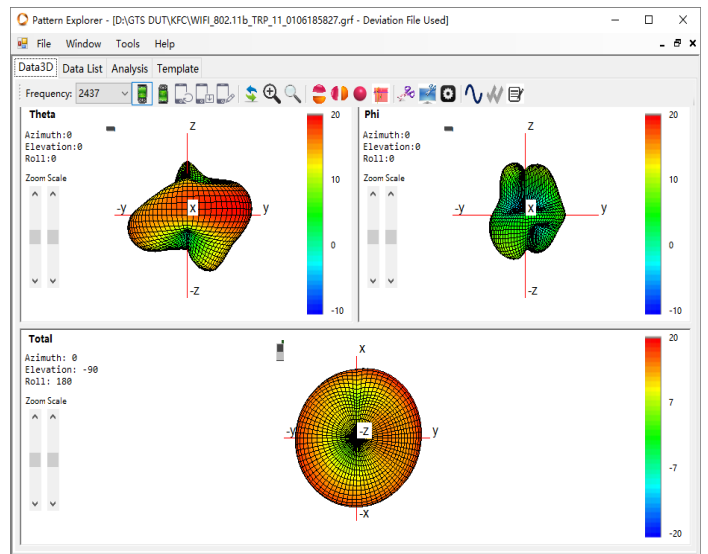
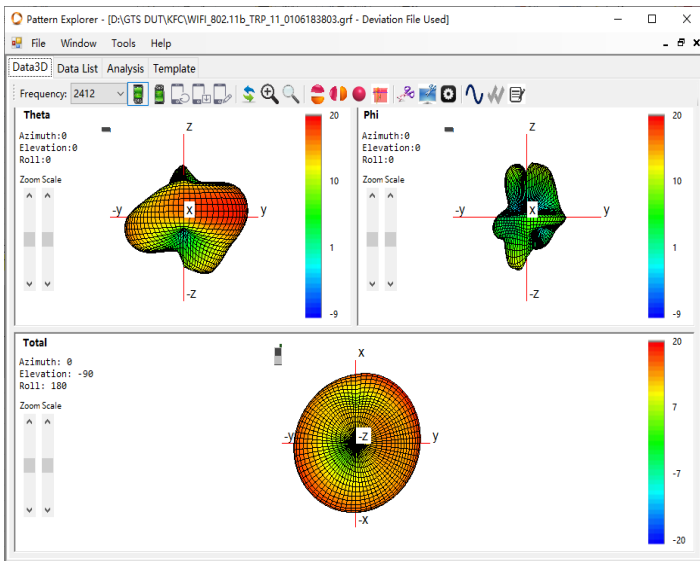


2D



Active antenna field intensity pattern

3D



2D

