



ANTENNA PASSIVE TEST REPORT

Applicant: Grandsun
Product Name: GS-1537 CASE(Screen version)
Model No.(EUT): GS-1537 CASE(Screen version)
Date of Receipt: (EV) 2026-01-14
Date of Test: 2026-01-14
Antenna type: PCB

Tested by: Max.Chen
Made by: Max.Chen
Checked by: Noki.Ho



Shenzhen Grandsun Electronic Co.,Ltd

REVISION HISTORY

Revision Record		
Version	Date	Reason for change
V0.1	2017-05-20	First edition



CONTENTS

1. GENERAL INFORMATION.....	4
1.1 Test Location.....	4
1.2 Test item and results.....	4
1.3 Laboratory Environment.....	4
1.4 Test Equipments List.....	4
1.5 Measurement Uncertainty.....	4
2. OTA MEASUREMENTS SYSTEM CONFIGURATION.....	5
3. TEST RESULTS.....	6
3.1 Efficiency & Gain.....	6
3.2 2-D antenna pattern.....	7
3.3 3-D antenna pattern.....	8
3.4 Passive pattern.....	11
4. APPENDIX A THE EUT AND TEST CONFIGURATION.....	14
5. Matching Network.....	15



1. GENERAL INFORMATION

1.1 Test Location

Company: Shenzhen Grandsun Electronics Co.,Ltd.
Address: Gaoqiao Industry Zone,Pingdi Town,Longgang District,Shenzhen,China
Post code: 518117
Telephone: +86-755-89234568

1.2 Test item and results

Test detailed items/section as below:

NO	Items
1	Gain
2	Efficiency
3	2-D/3-D pattern

1.3 Laboratory Environment

Temperature	Min.=18℃	Max.=24℃
Relative humidity	Min.=30%	Max.=70℃
Shield effect	0.5-10GHZ	> 100dB
Ground resistance	<0.4 Ω	

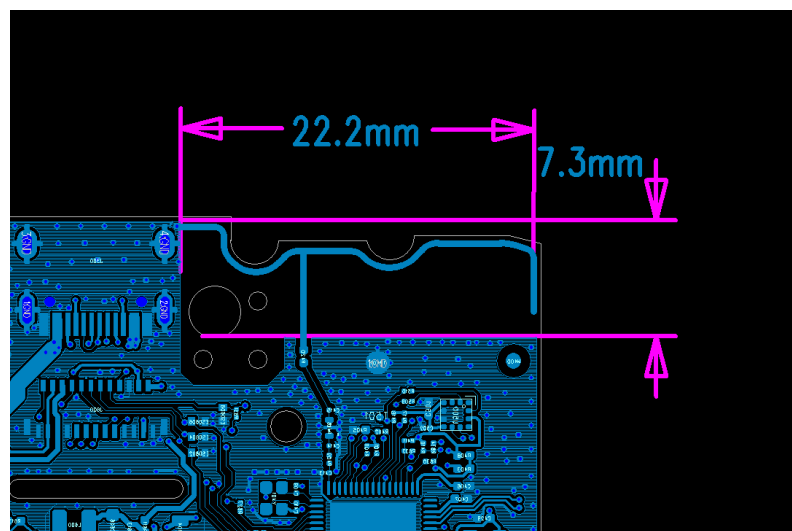
1.4 Test Equipments List

Equipment Name	Model NO.	Manufacture	Calibration	Valid Period
Network Analyzer	E5071C	Keysight	2025-04-20	One year
Chamber	AMS-8923-195	EST-LINDGERN	2025-04-20	One year

1.5 Measurement Uncertainty

Item	2.4GHZ-2.5GHZ(dB)
Gain	0.3
Efficiency	0.3

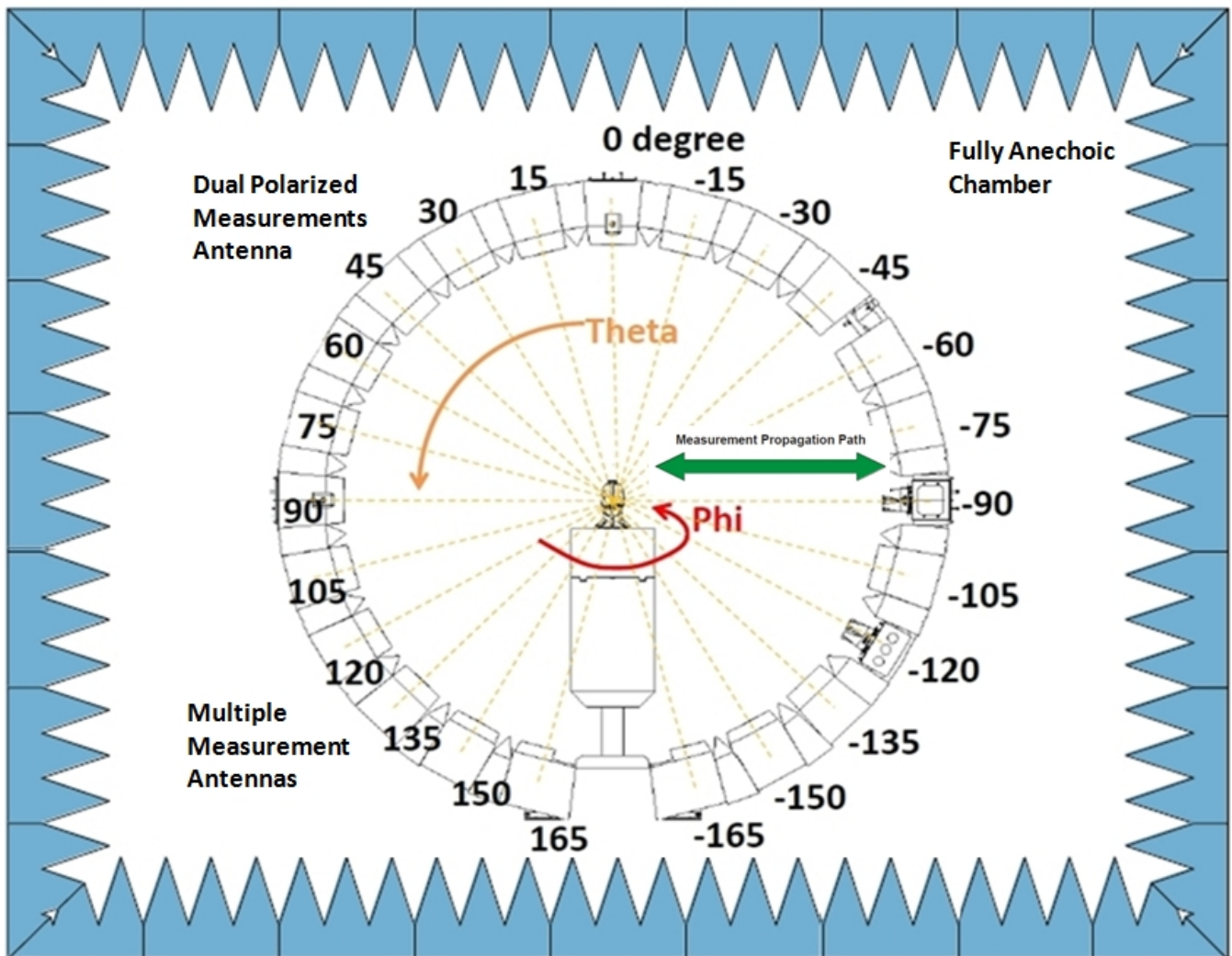
1.6 Antenna Size





2. OTA MEASUREMENTS SYSTEM CONFIGURATION

The system is designed for fully-compliant radiated wireless antenna measurements over the frequency range from 700 MHz to 6 GHz with a 1.95-meter path length. The system includes a multi-antenna array with twenty-three (23) dual-polarized measurement antennas spaced every 15° , The chamber size is 5m*5m*5m



OTA measurement System Configuration

Note: Phi(The turntable) is from $0^\circ \sim 180^\circ$,Theta(the ring, multiple antennas) is from $-165^\circ \sim 165^\circ$, Rotate the AUT and multi-antenna array record the data ,the step of rotation is 15 degree.



3. TEST RESULTS

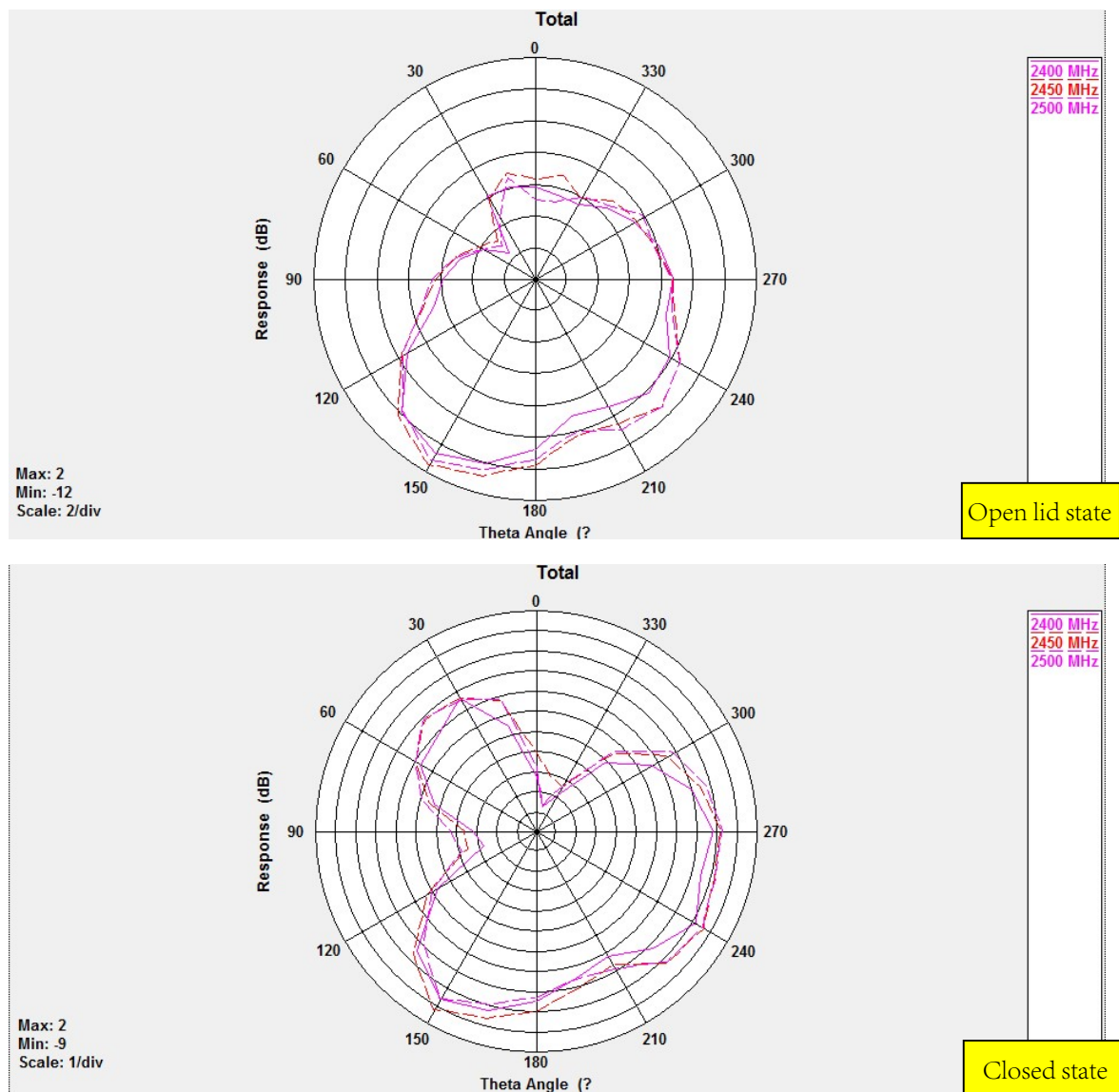
3.1 Efficiency & Gain

Open lid state			
Frequency (Mhz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
2400	-3.42	45.46	2.22
2410	-3.36	46.07	2.23
2420	-3.13	48.62	2.33
2430	-2.91	51.14	2.60
2440	-2.79	52.55	2.58
2450	-2.60	54.83	2.55
2460	-2.67	53.97	2.11
2470	-2.67	53.97	2.19
2480	-2.65	54.28	2.22
2490	-2.71	53.53	2.14
2500	-2.95	50.69	1.84

Closed state			
Frequency (Mhz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
2400	-2.51	56.10	2.70
2410	-2.52	55.94	2.62
2420	-2.35	58.20	2.61
2430	-2.20	60.17	2.81
2440	-2.15	60.82	2.76
2450	-2.02	62.71	2.78
2460	-2.09	61.73	2.47
2470	-2.12	61.34	2.42
2480	-2.13	61.10	2.51
2490	-2.23	59.77	2.35
2500	-2.50	56.11	1.93

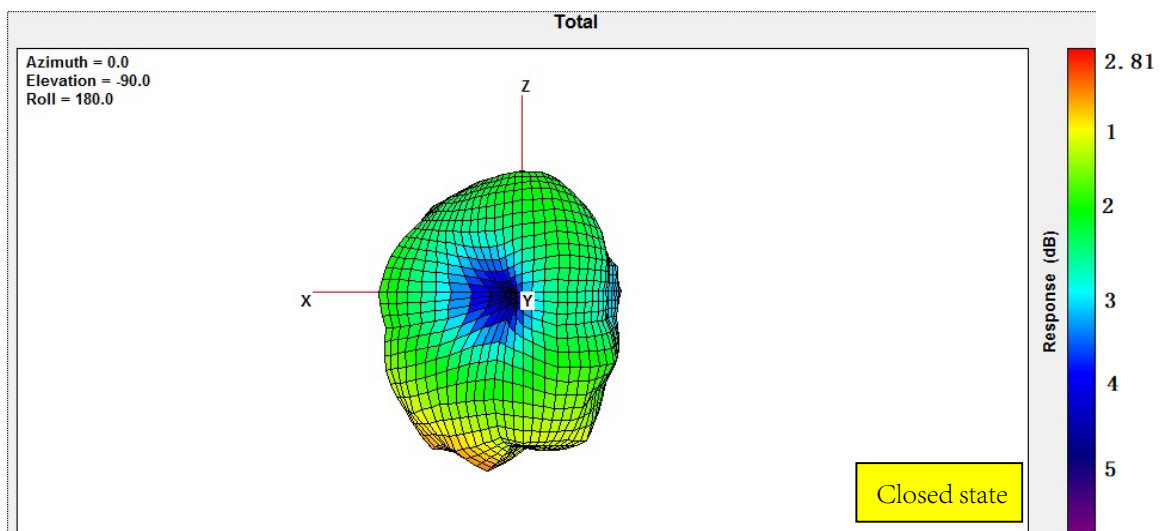
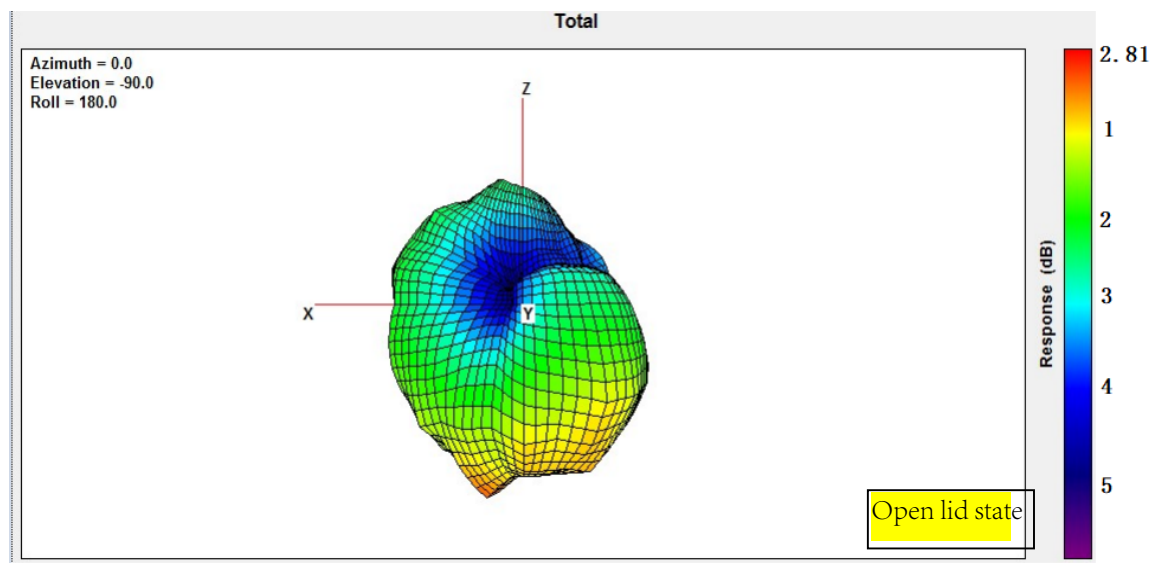


3.2 2-D antenna pattern (Phi=90°)





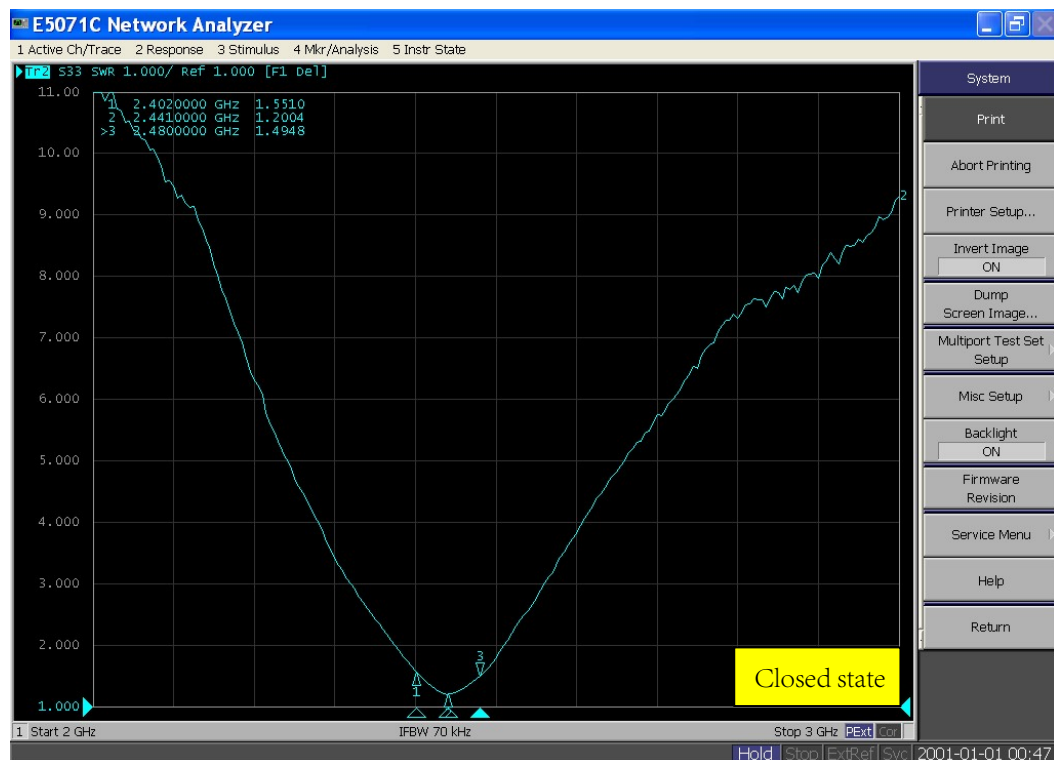
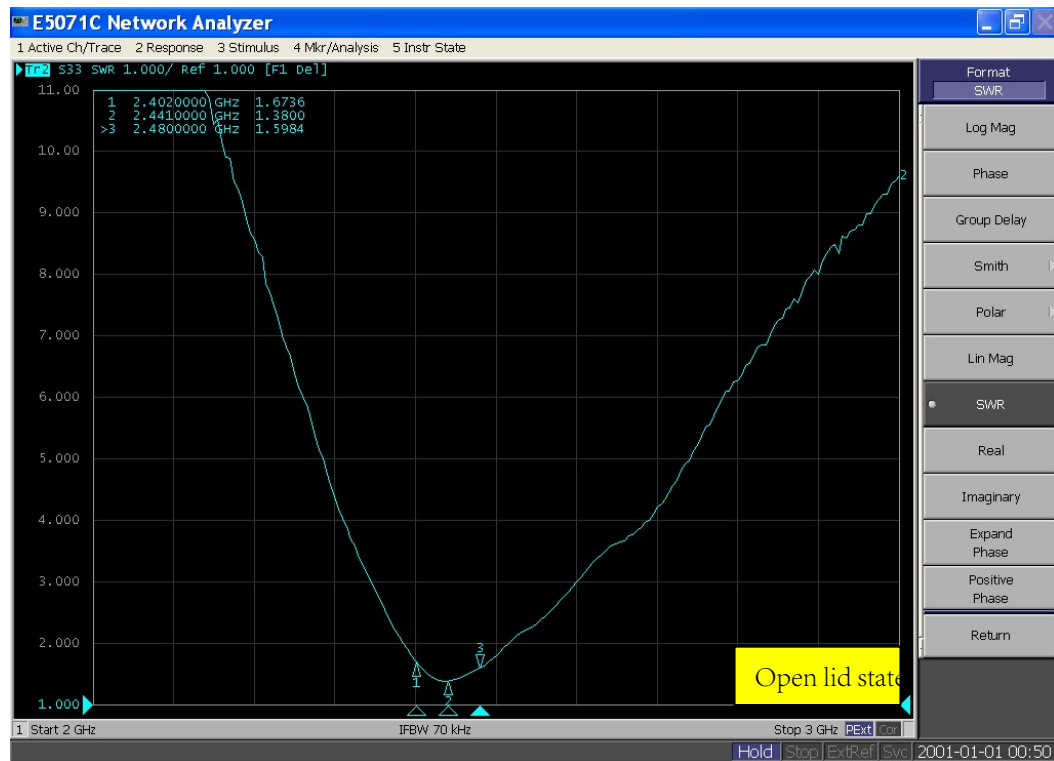
3.3 3-D antenna pattern (Frequency=2430Mhz)





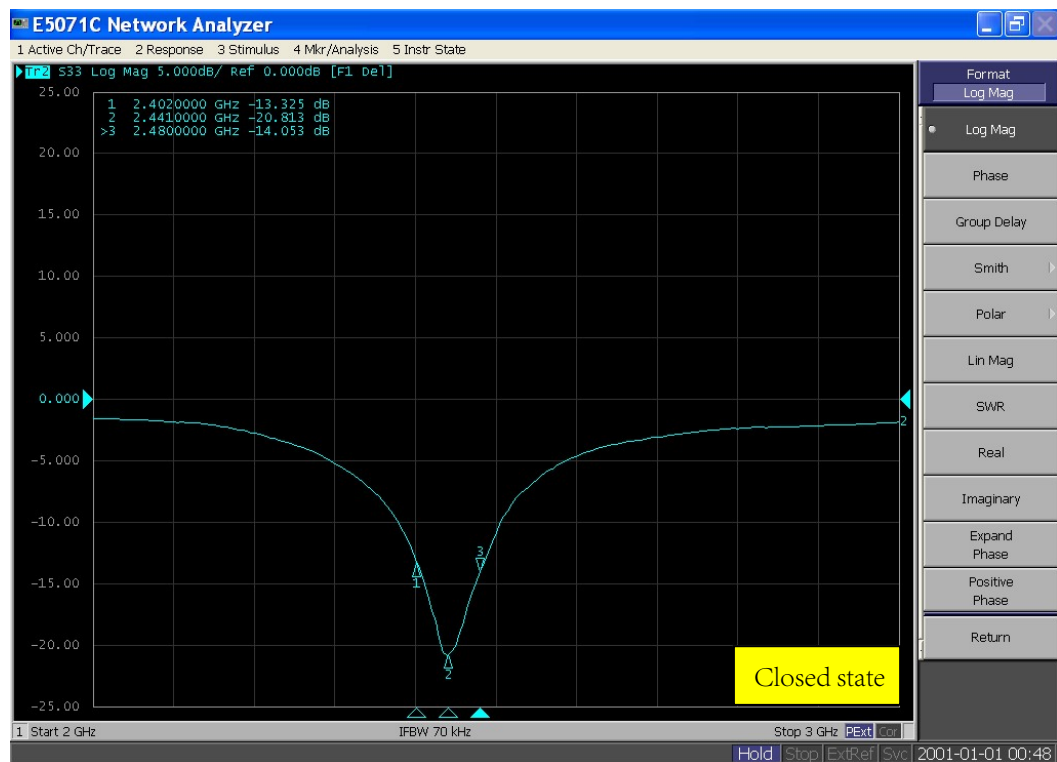
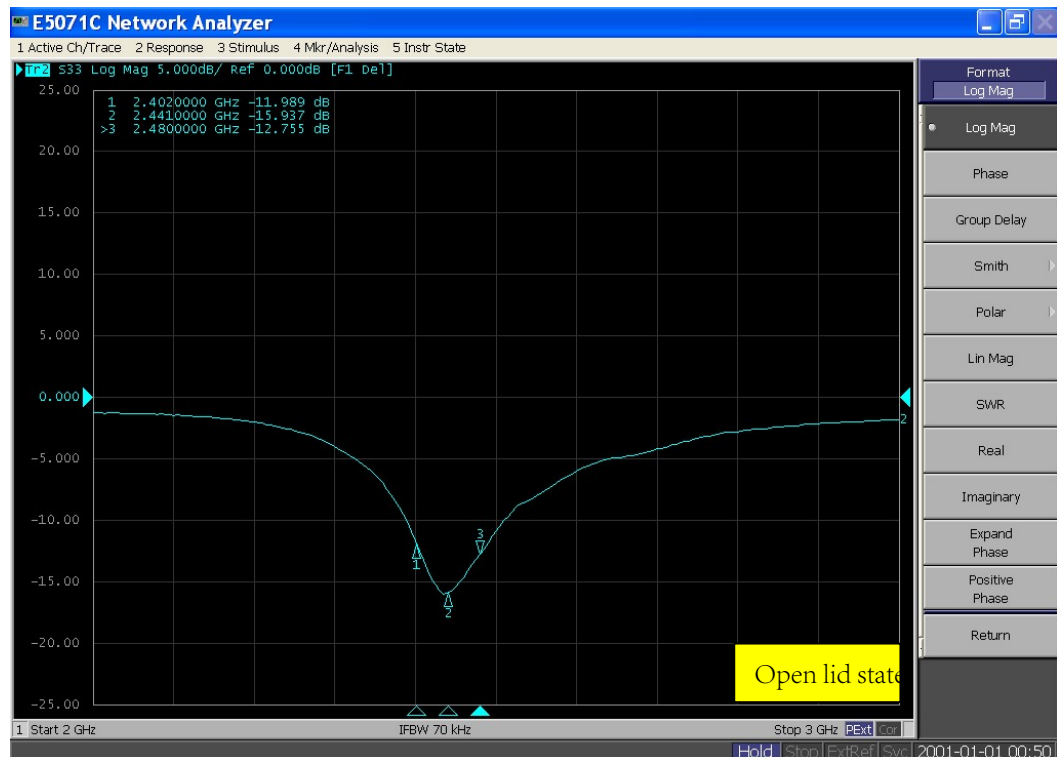
3.4 Passive pattern

3.4.1 VSWR





3.4.2 Return loss





3.4.3 Smith

