

HT-360AXI V2

-Antenna passive pretest report

V1.2

Report version update resume



NO.	Modify description	Modifier	Date
V1.0	Initial issue	Wen	2022.2.21
V1.1	Added antenna model, brand information, antenna size	Wen	2023.10.18
V1.2	Change from Chinese to English	Wen	2023.10.20

CONTENTS

- ◆ **Purpose & Environment**
- ◆ **DUT Antenna**
- ◆ **Return Loss and Isolation**
- ◆ **2D/3D Radiation pattern**
- ◆ **Efficiency and Peak Gain**
- ◆ **Summary**

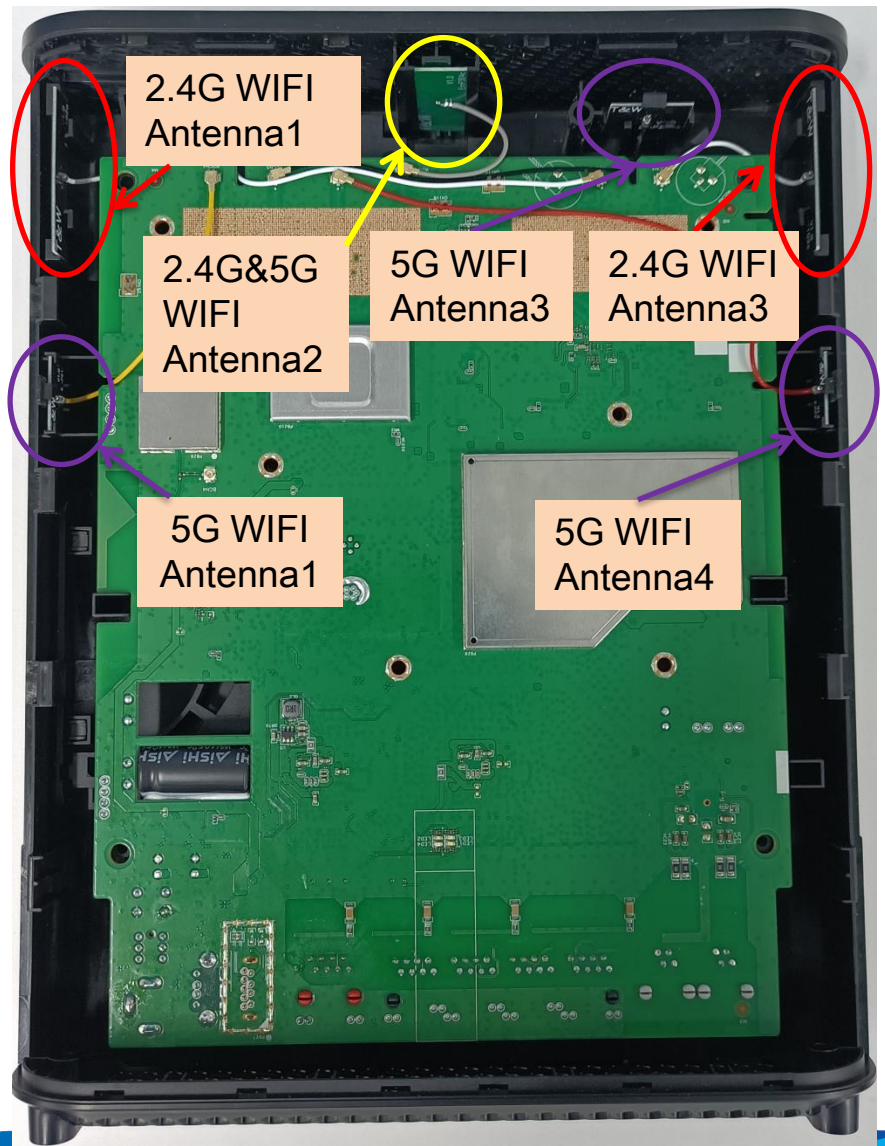
Purpose

- Meet the electrical performance index ;
- Confirm the antenna scheme to meet the design requirements;

Environment

- Test Condition: the network analyzer(E5071C) and SATIMO microwave anechoic chamber
- Passive measurement results are presented

DUT Antenna



NO.	Frequency	Remark
ANT2	5.15GHz-5.85GHz	5G WIFI Antenna1
ANT3	2.4GHz-2.5GHz	2.4G WIFI Antenna1
ANT4	2.4GHz-2.5GHz 5.15GHz-5.85GHz	2.4G&5G WIFI Antenna2
ANT5	5.15GHz-5.85GHz	5G WIFI Antenna3
ANT6	2.4GHz-2.5GHz	2.4G WIFI Antenna3
ANT7	5.15GHz-5.85GHz	5G WIFI Antenna4

Antenna manufacturer :

Dongguan City Xinsheng Electronics Co.,Ltd,

Manufacturer address:

No.6 Village, Datanlang District, Dalingshan, Dongguan, Guangdong, China.

Antenna product model :

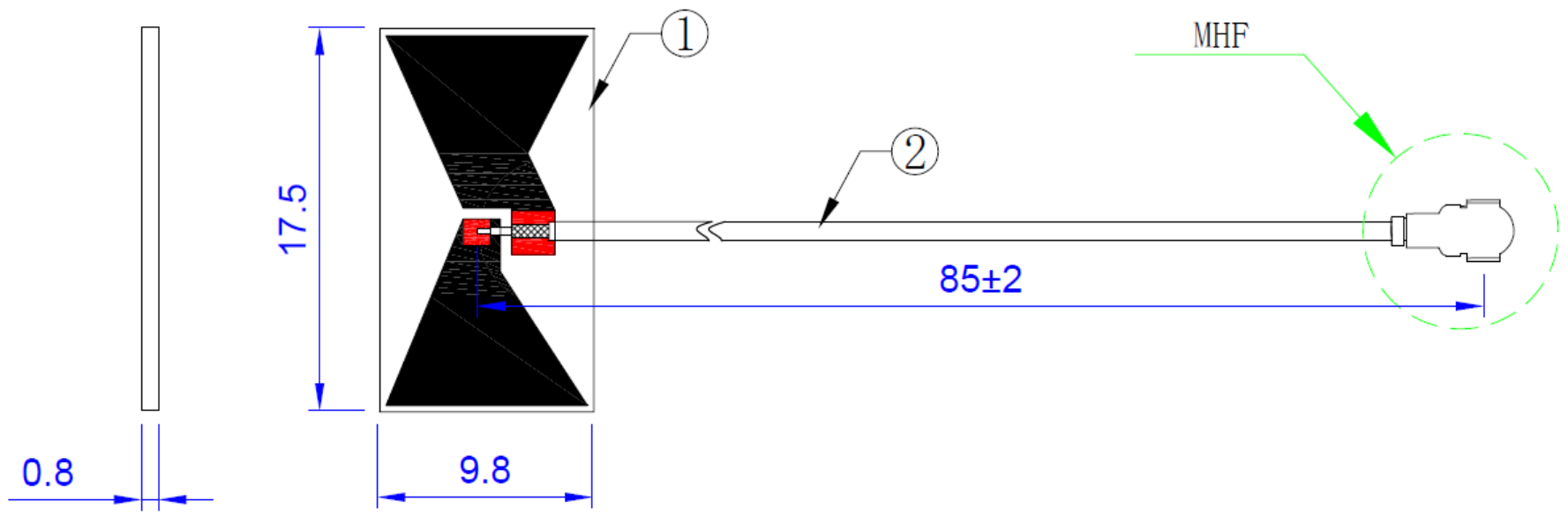
EmP216-B-I85(Y) / EmP208c-B-I110(B) /EmP216-B-I150(R)/
EmP304c-G-I50(G)/ EmP102c-B-I50(W)/ EmP102a-B-I150(W)

DUT Antenna



ANT2

Antenna dimension:
(Remark: for EmP216-B-I85(Y), the RF cable is 85mm)



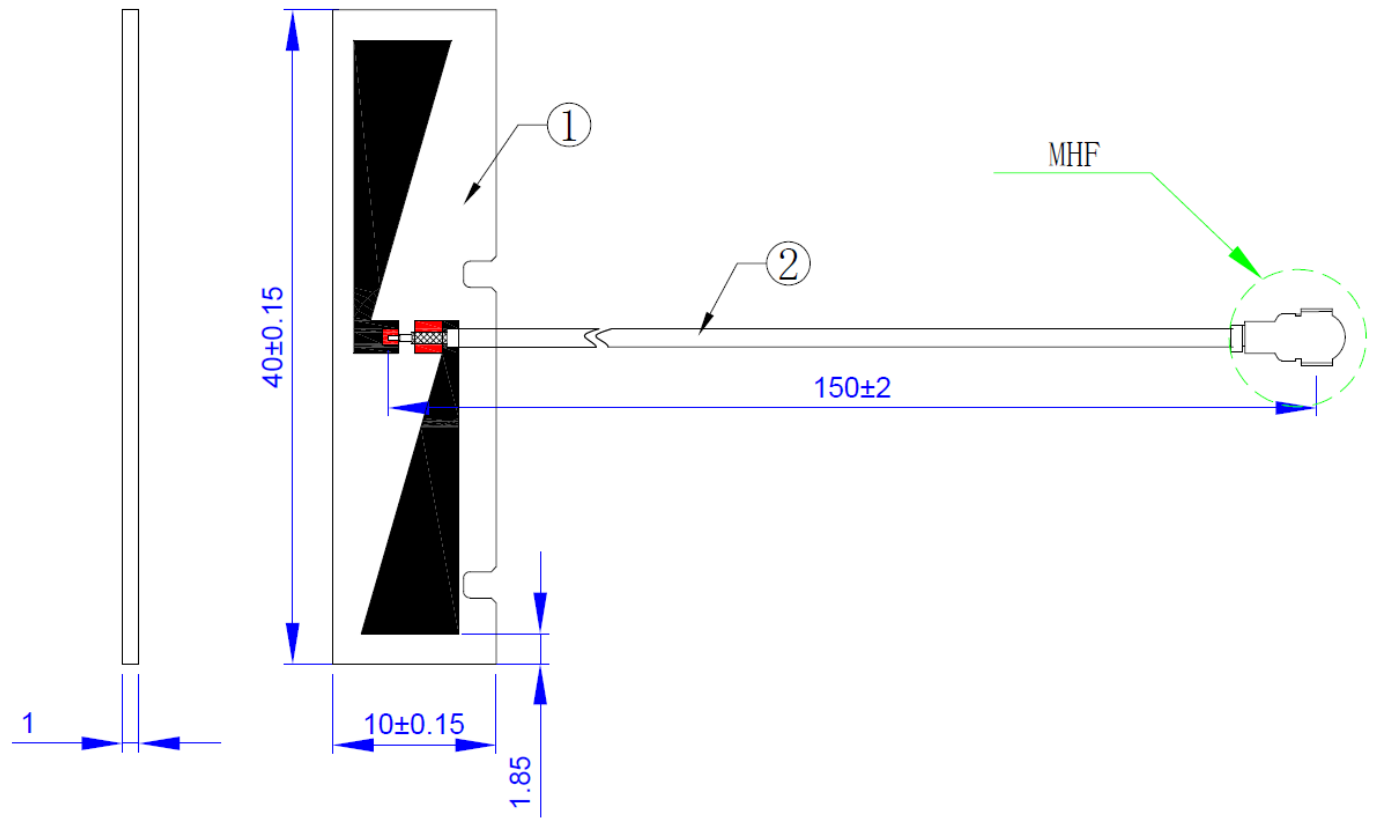
(Unit:mm)

DUT Antenna

ANT3

Antenna dimension:

(Remark: for EmP102a-B-I150(W), the RF cable is 150mm)



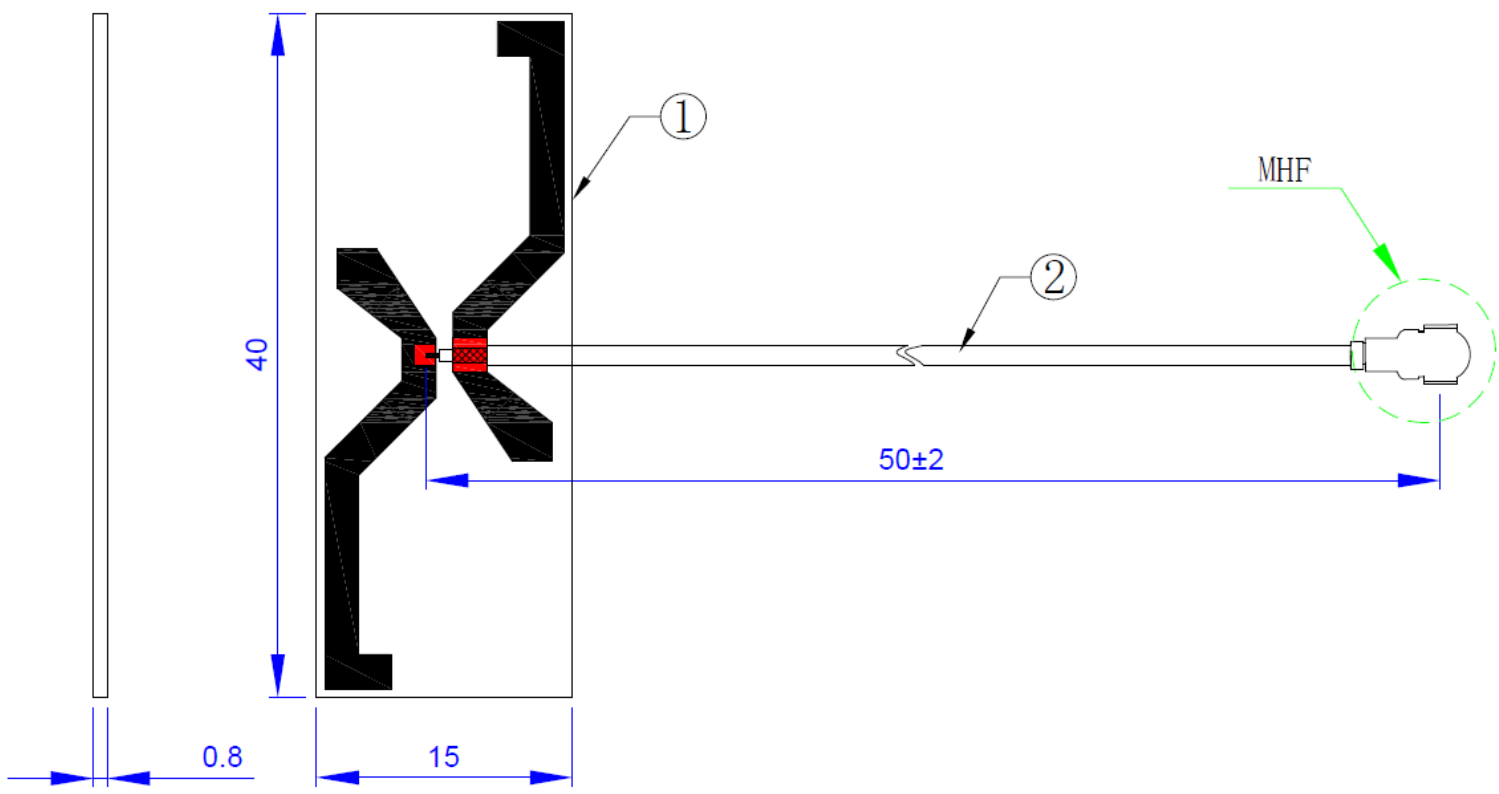
(Unit:mm)

DUT Antenna

ANT4

Antenna dimension:

(Remark: for EmP304c-G-I50(G) , the RF cable is 50mm)



(Unit:mm)

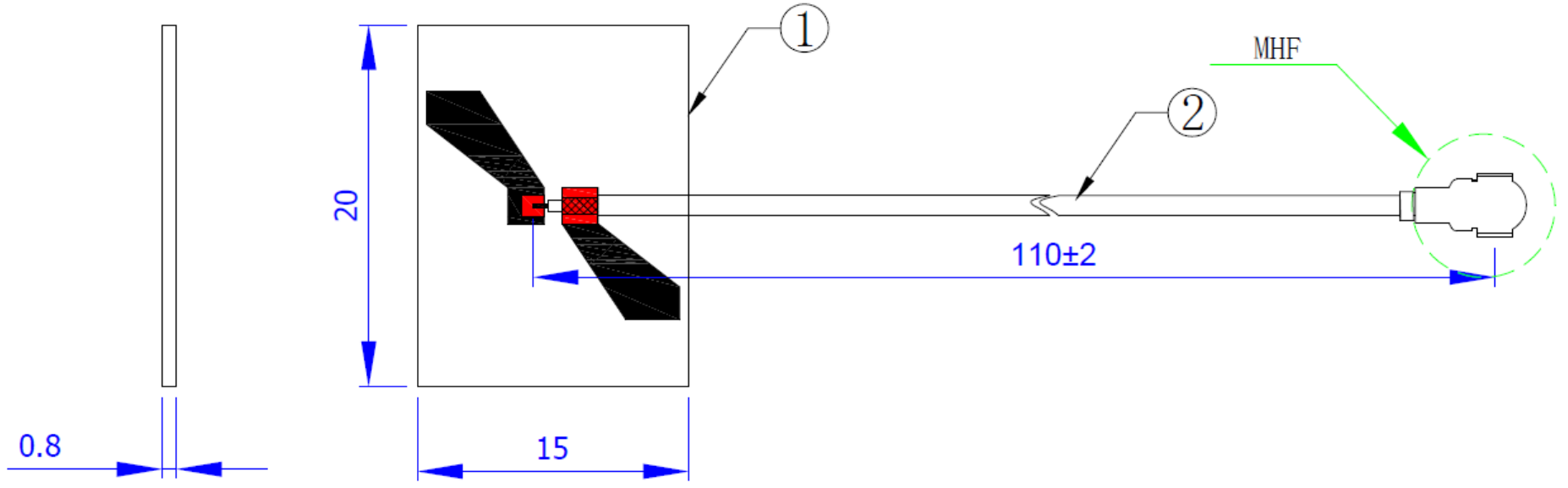
DUT Antenna



ANT5

Antenna dimension:

(Remark: for EmP208c-B-I110(B), the RF cable is 110mm)



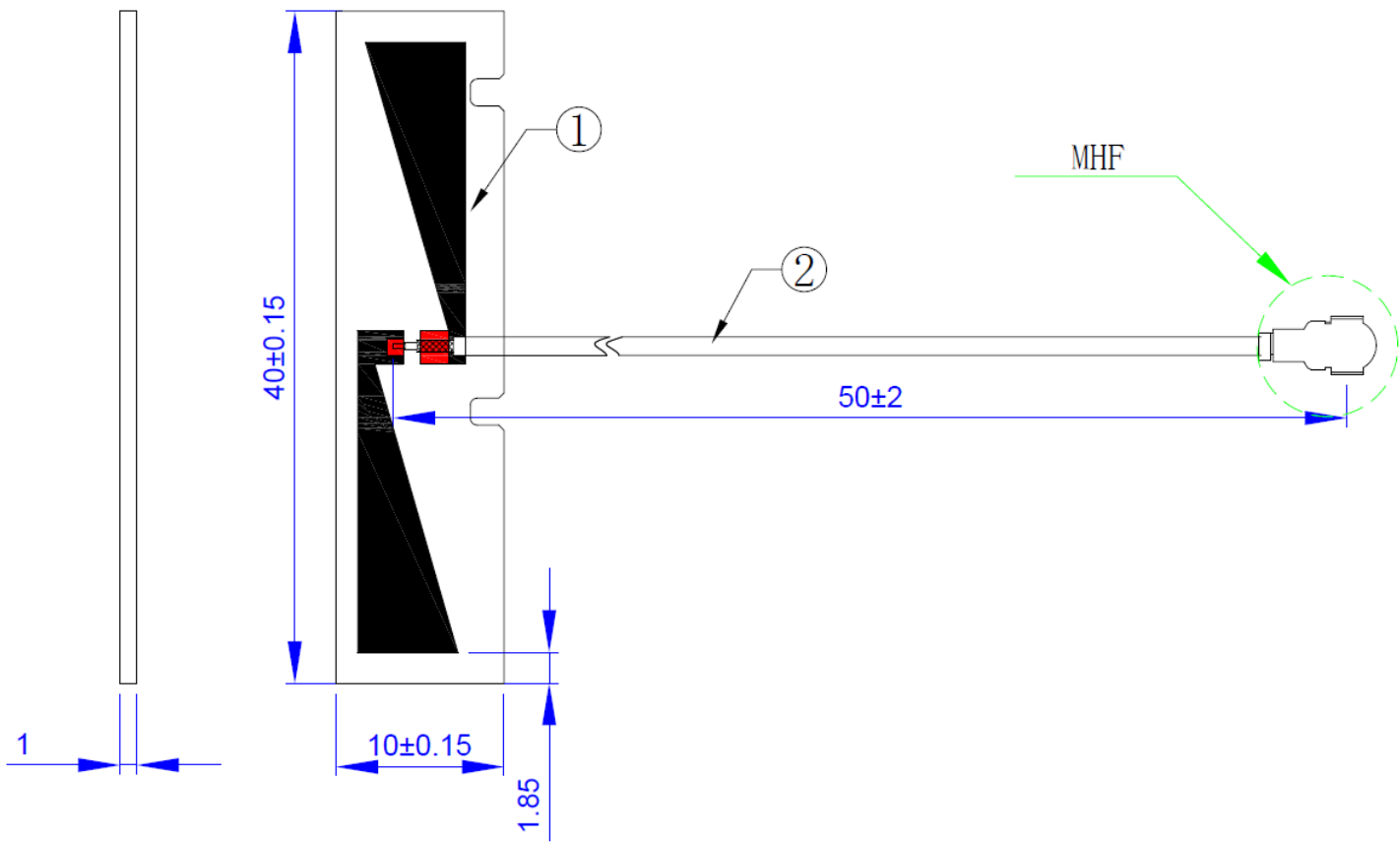
(Unit:mm)

DUT Antenna

ANT6

Antenna dimension:

(Remark: for EmP102c-B-I50(W), the RF cable is 50mm)



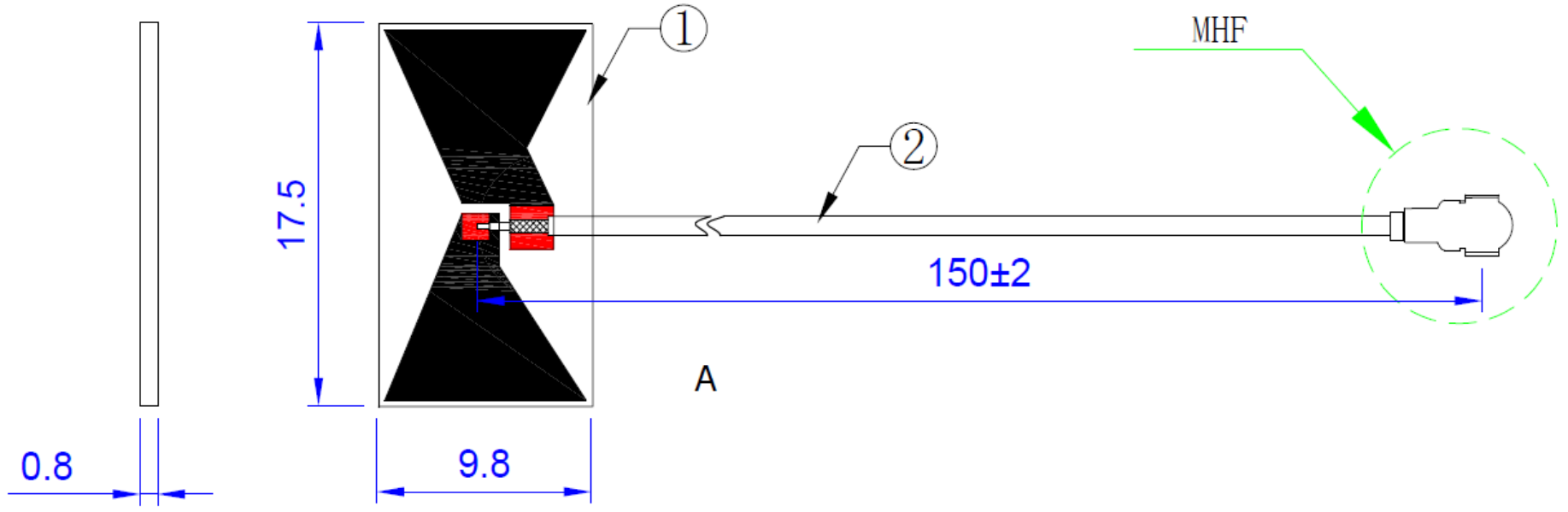
(Unit:mm)

DUT Antenna

ANT7

Antenna dimension:

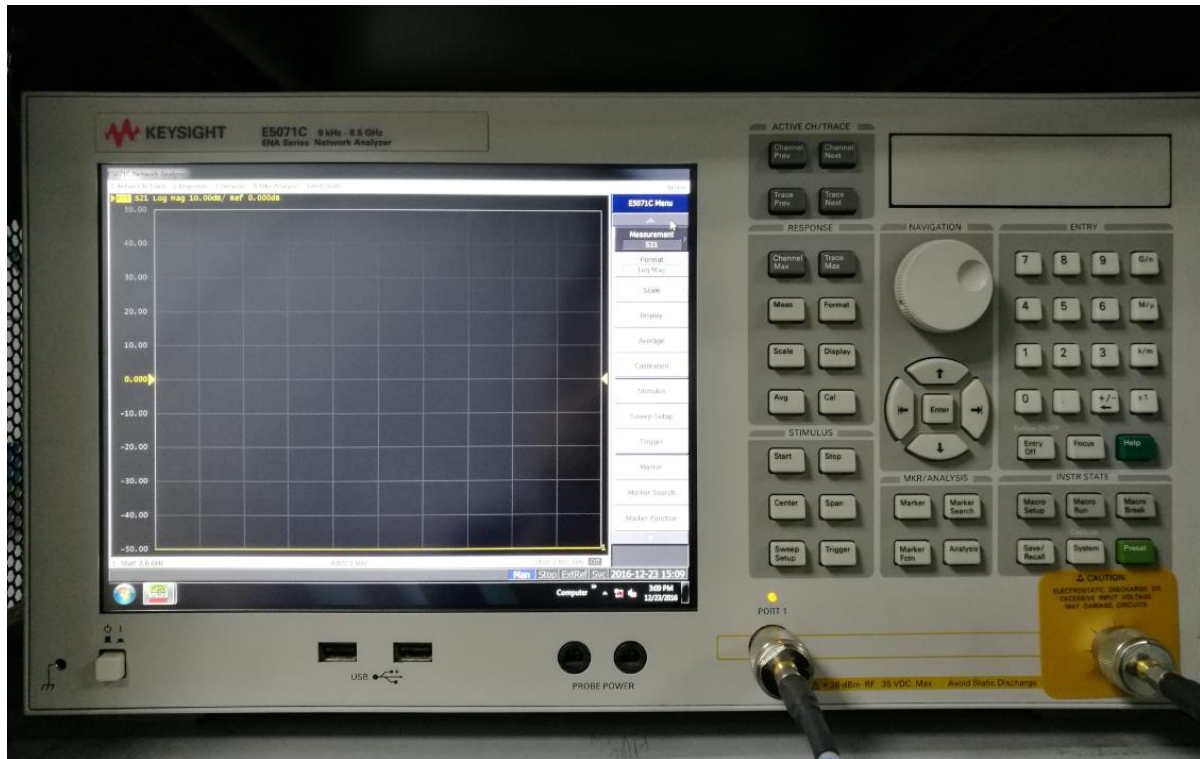
(Remark: for EmP216-B-I150(R), the RF cable is 150mm)



(Unit:mm)

Return Loss and Isolation

Test Condition

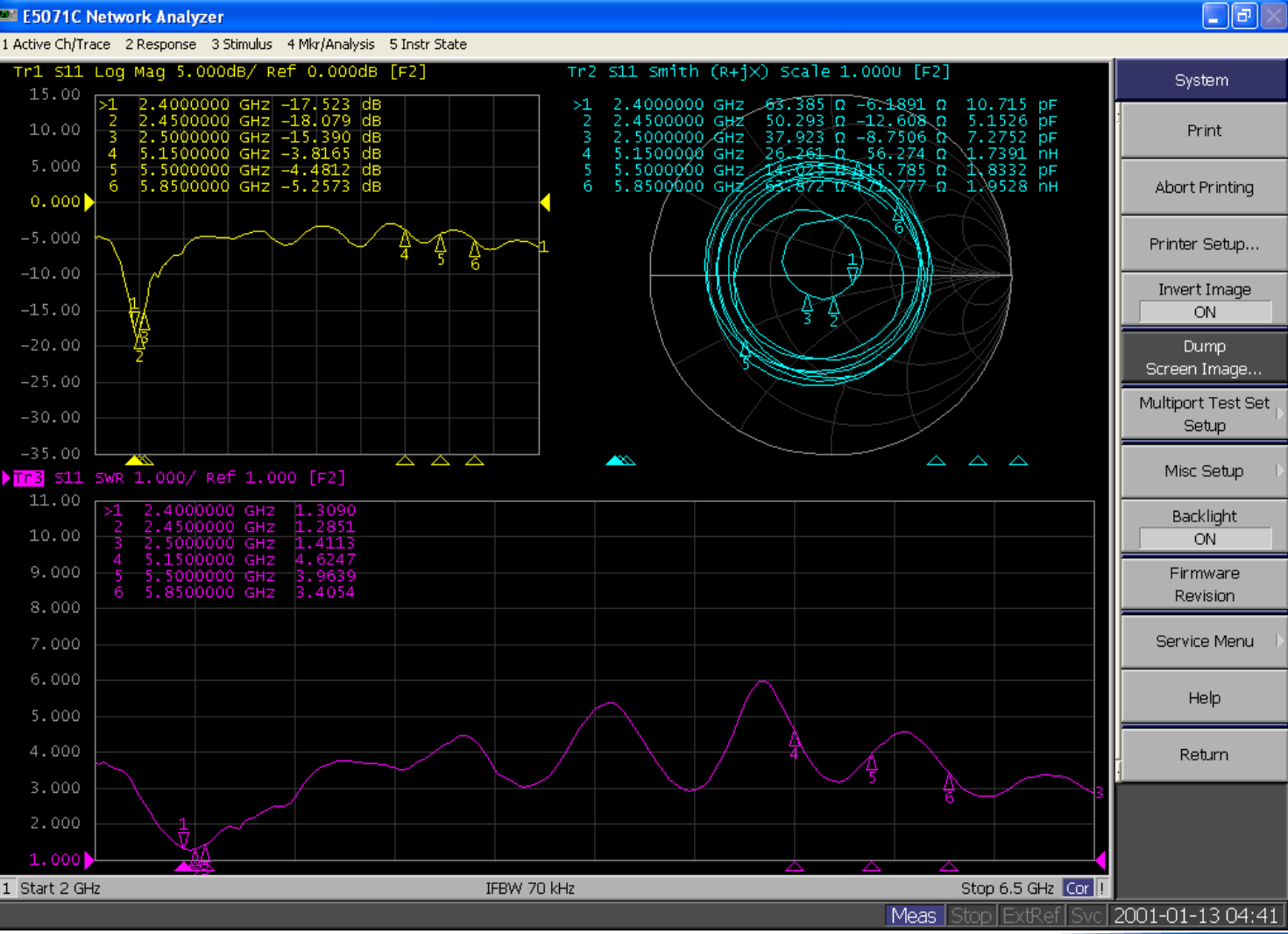


The network Analyzer

Return Loss and Isolation



ANT2



System

Print

Abort Printing

Printer Setup...

Invert Image
ON

Dump Screen Image...

Multiport Test Set Setup

Misc Setup

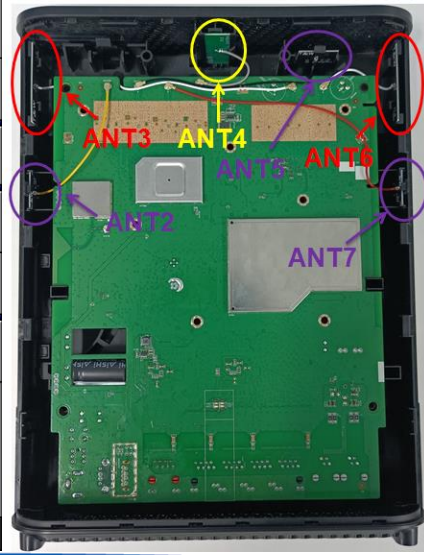
Backlight
ON

Firmware Revision

Service Menu

Help

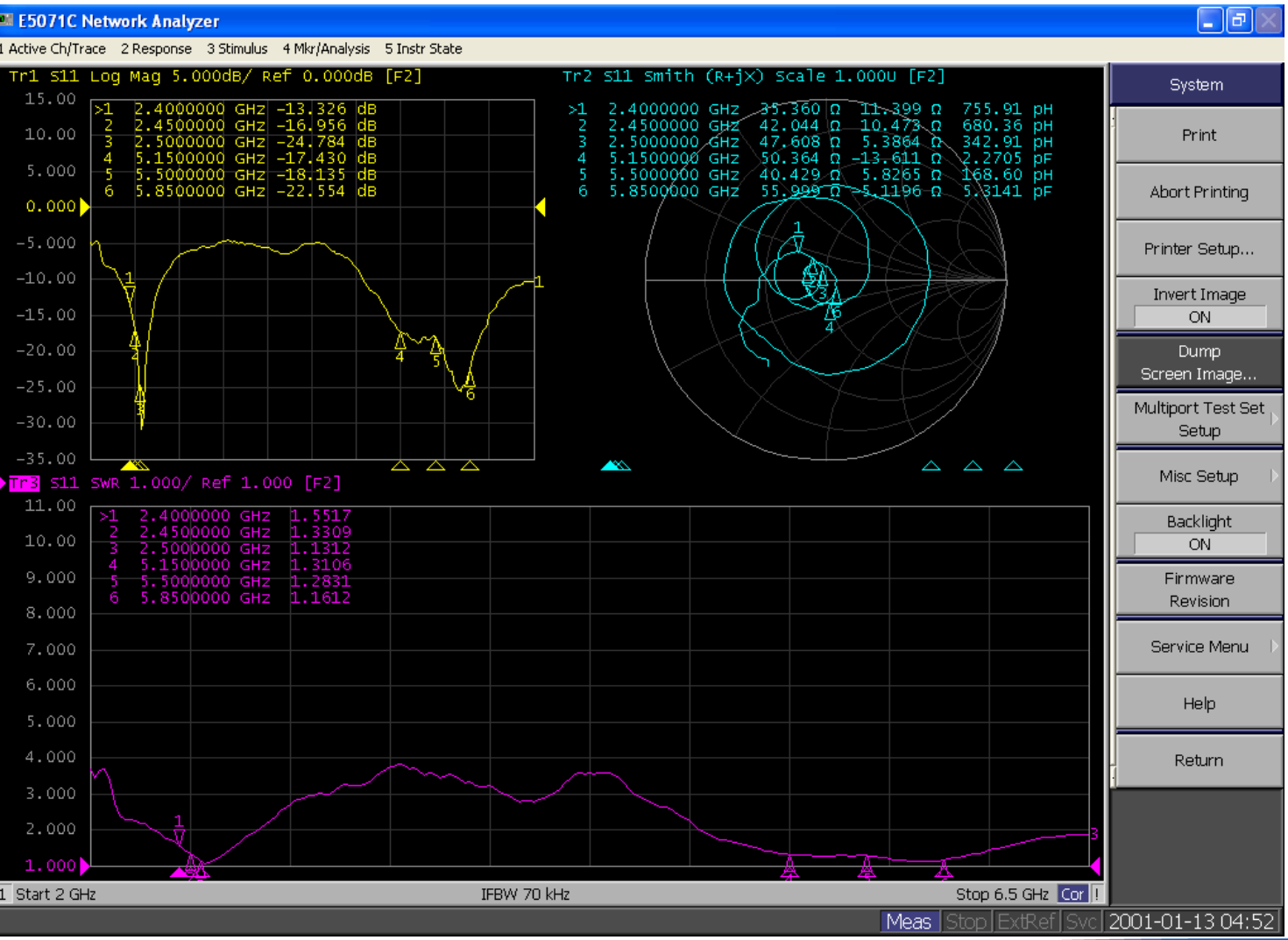
Return



Return Loss and Isolation



ANT3



System

Print

Abort Printing

Printer Setup...

Invert Image
ON

Dump
Screen Image...

Multiport Test Set
Setup

Misc Setup

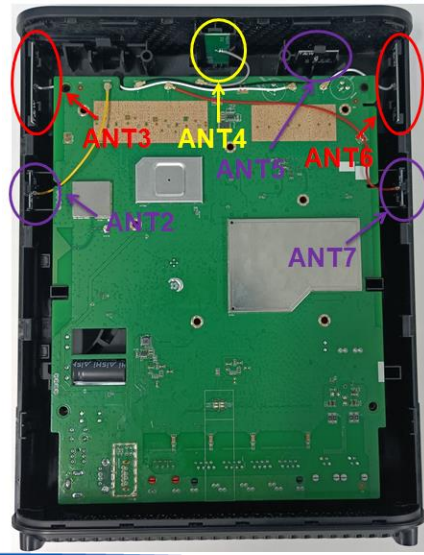
Backlight
ON

Firmware
Revision

Service Menu

Help

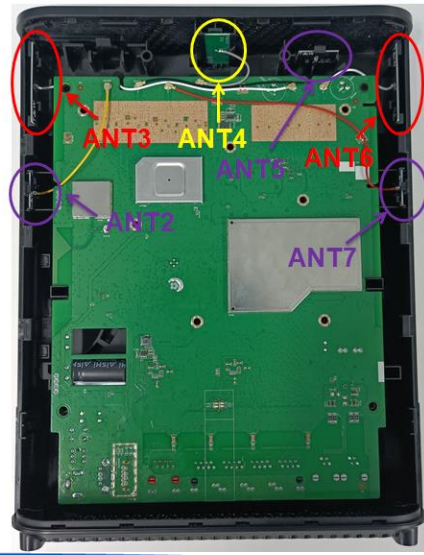
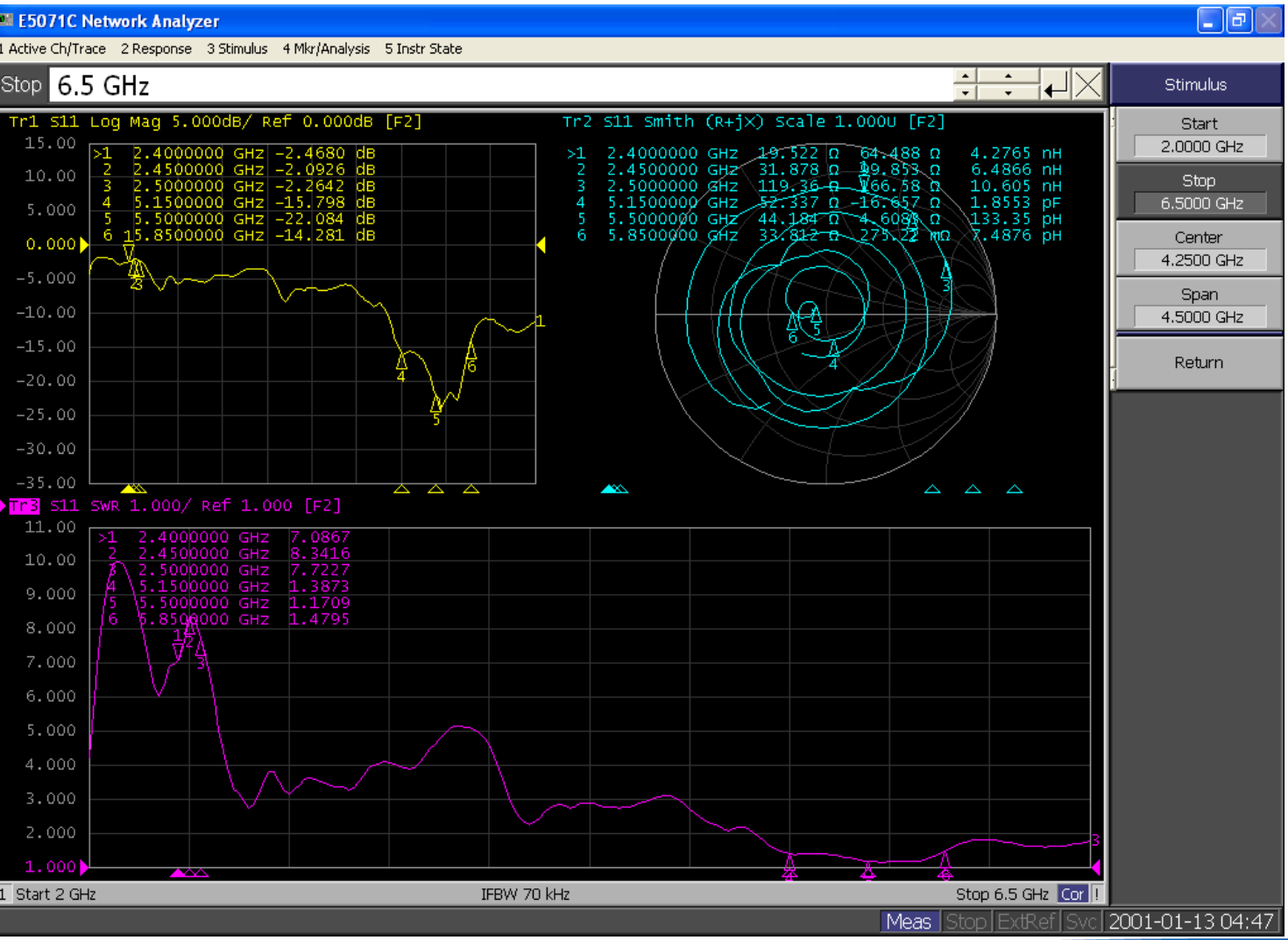
Return



Return Loss and Isolation



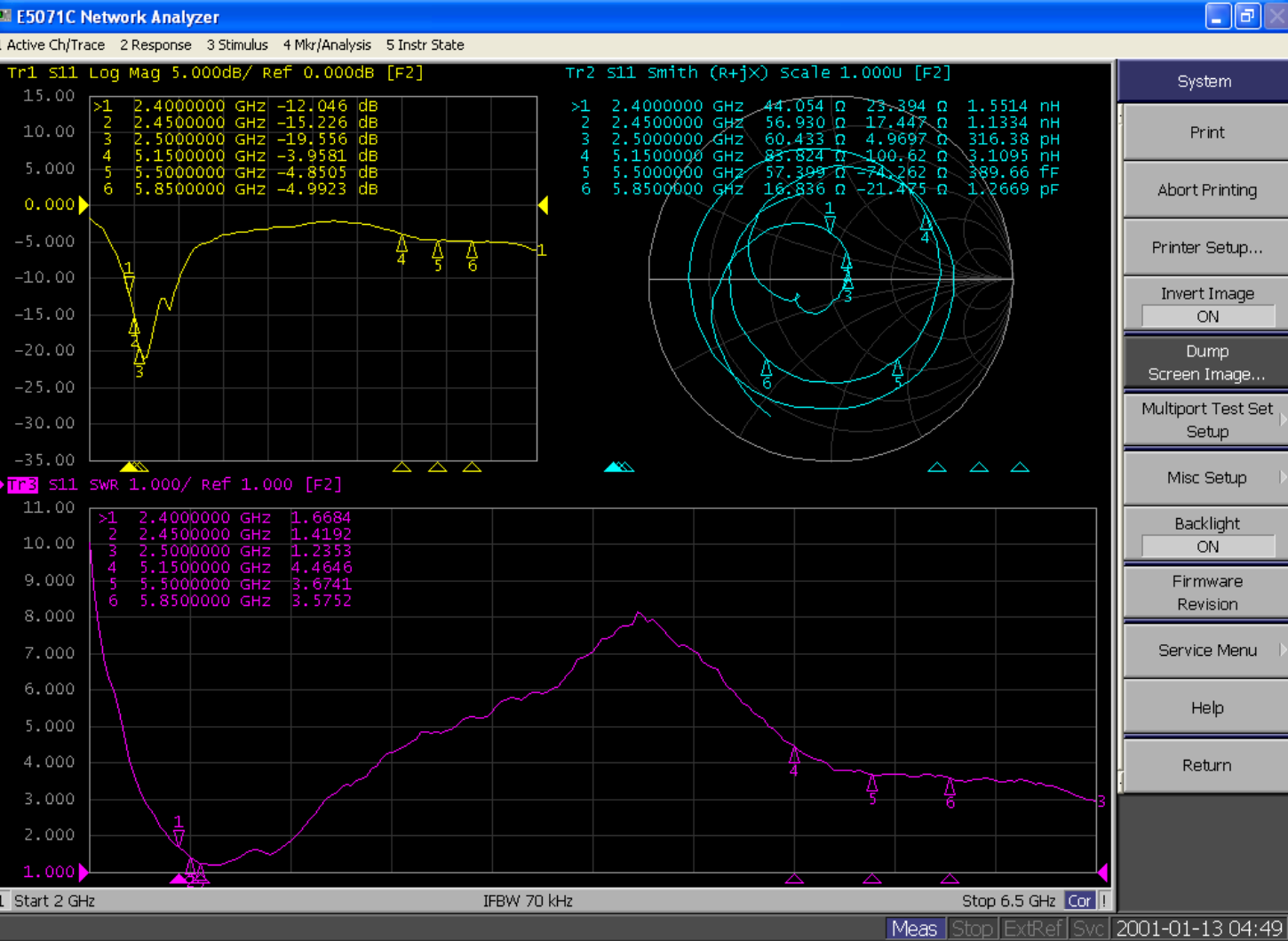
ANT4



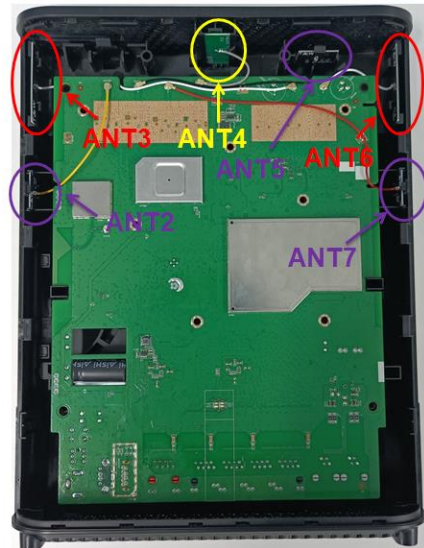
Return Loss and Isolation



ANT5



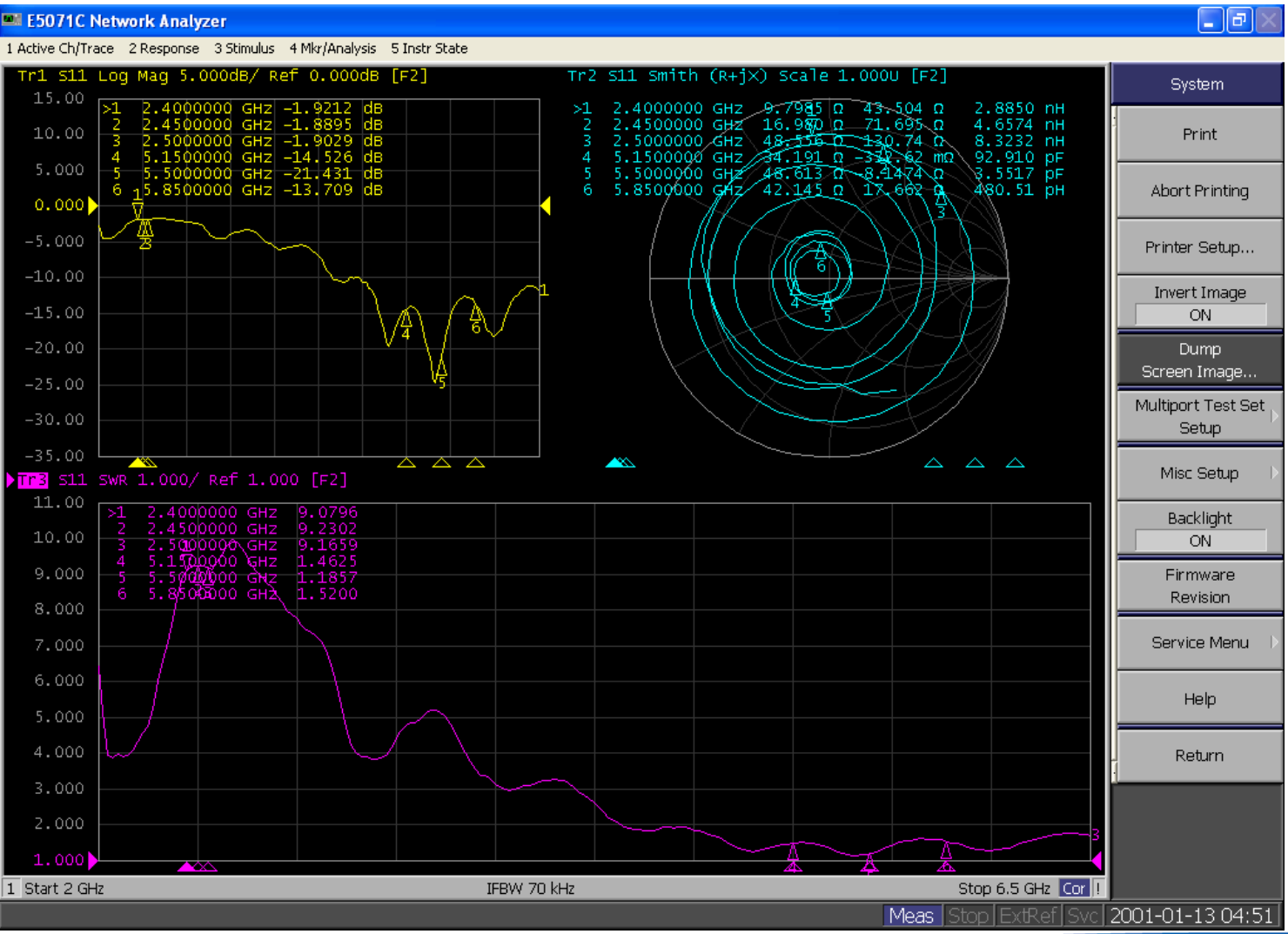
- System
- Print
- Abort Printing
- Printer Setup...
- Invert Image ON
- Dump Screen Image...
- Multiport Test Set Setup
- Misc Setup
- Backlight ON
- Firmware Revision
- Service Menu
- Help
- Return



Return Loss and Isolation



ANT6



System

Print

Abort Printing

Printer Setup...

Invert Image
ON

Dump
Screen Image...

Multiport Test Set
Setup

Misc Setup

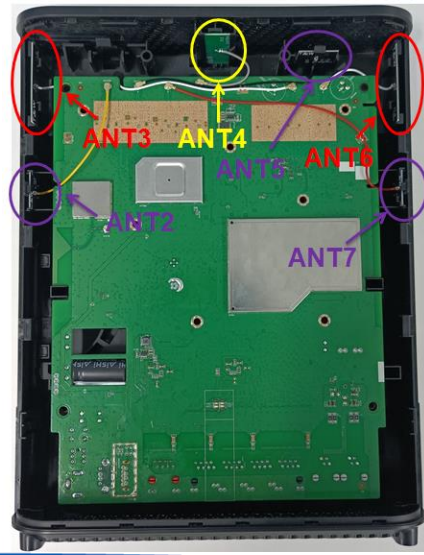
Backlight
ON

Firmware
Revision

Service Menu

Help

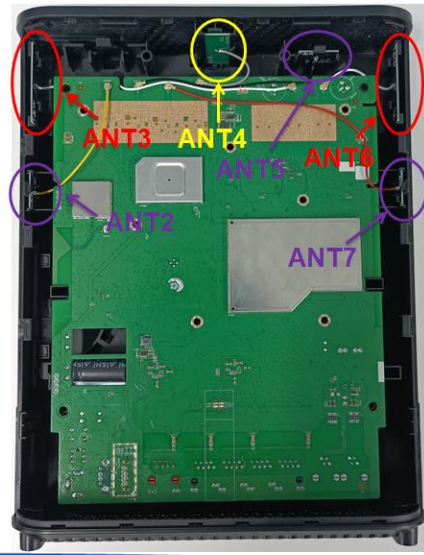
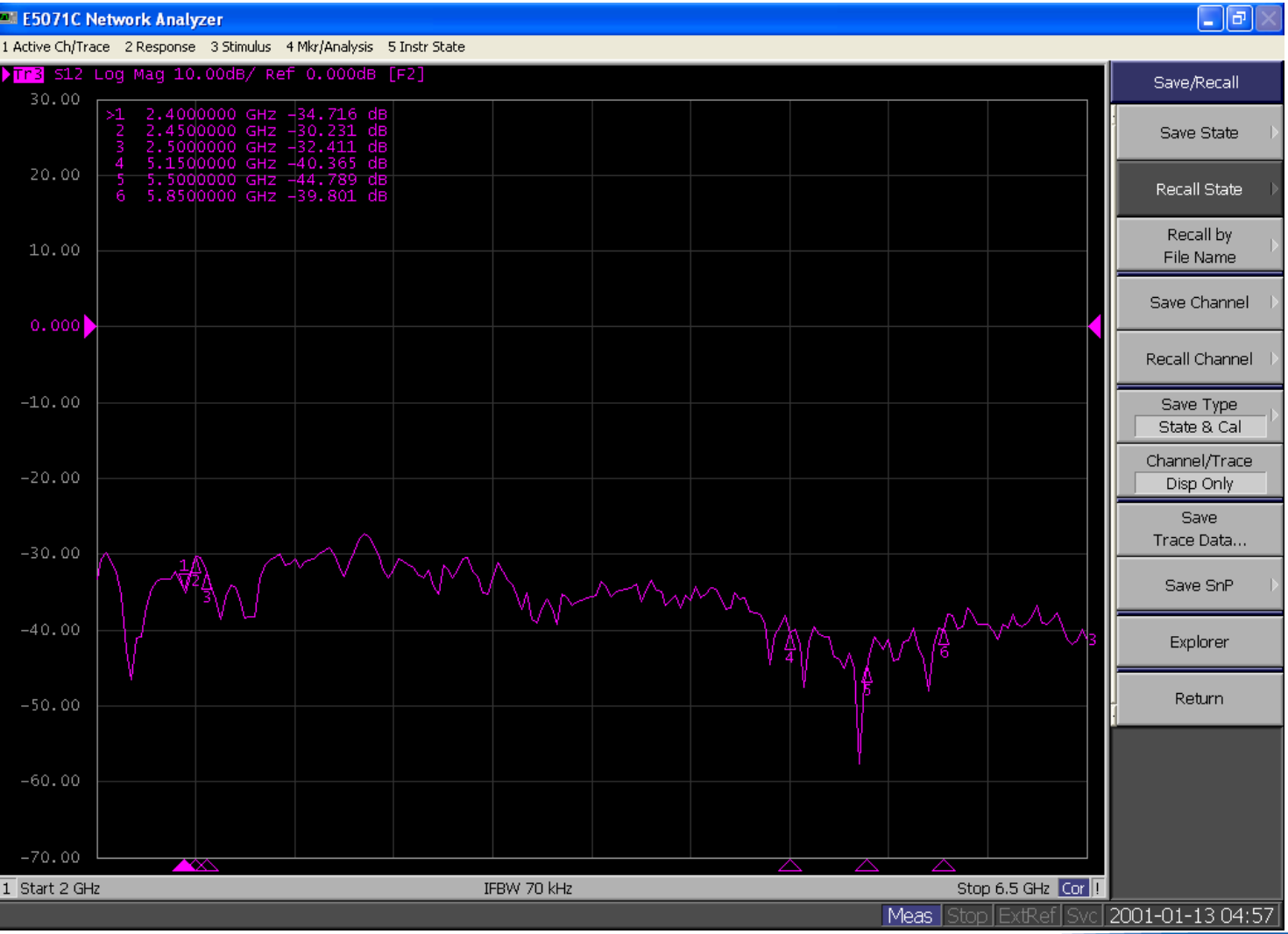
Return



Return Loss and Isolation



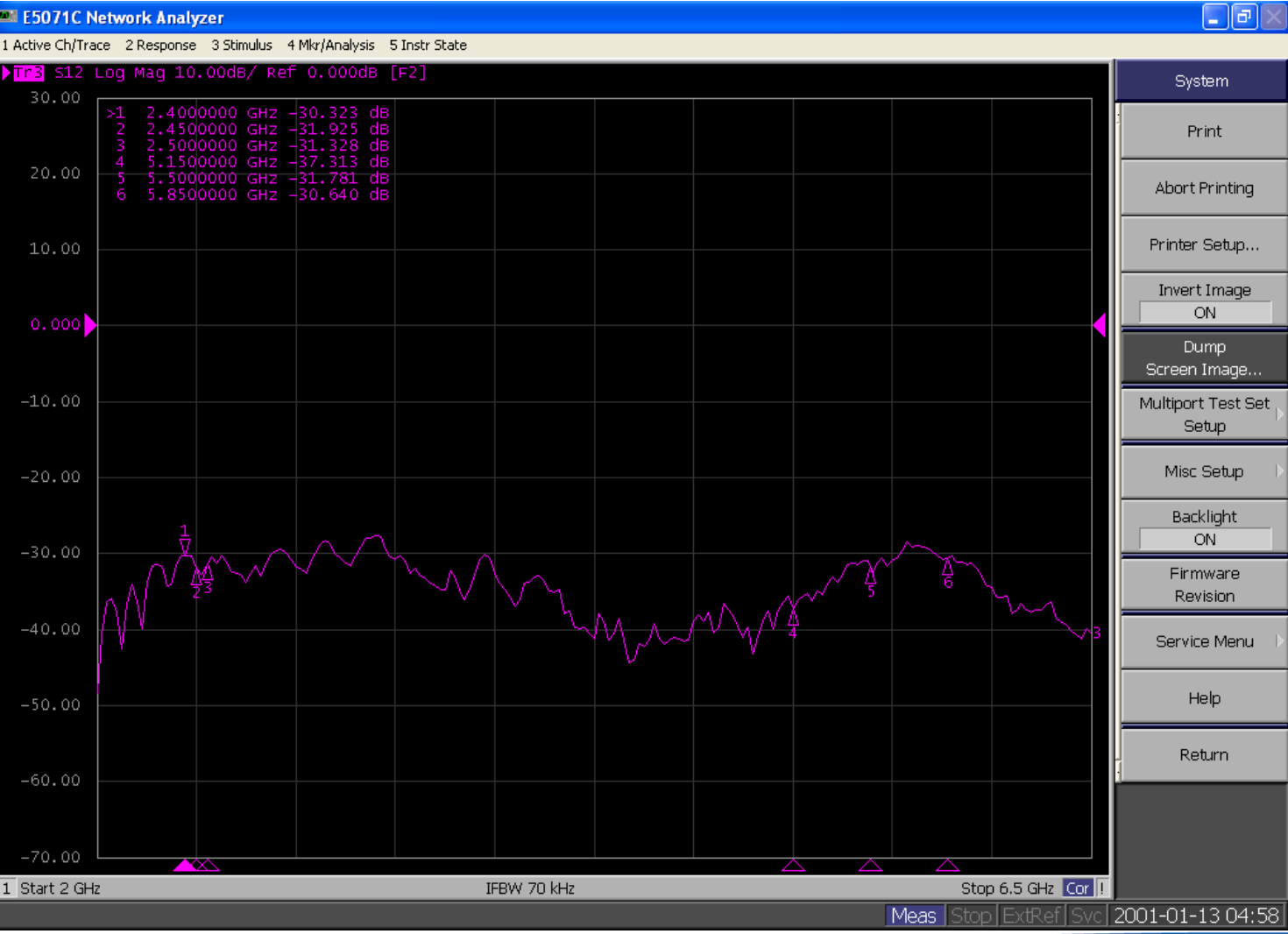
ANT2&ANT3



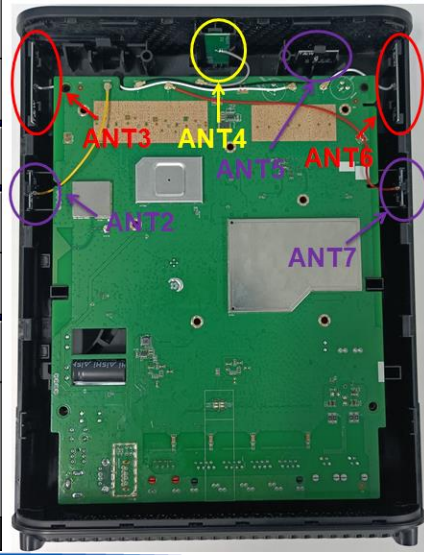
Return Loss and Isolation



ANT2&ANT4



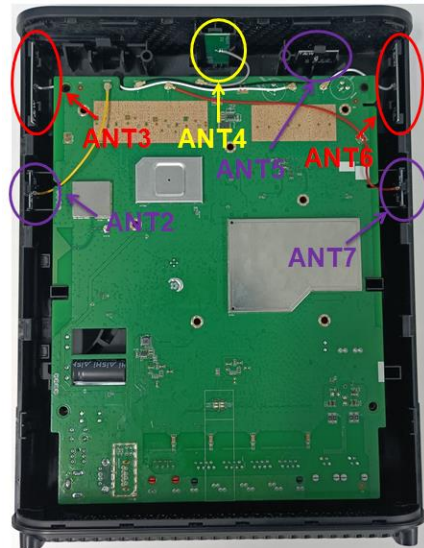
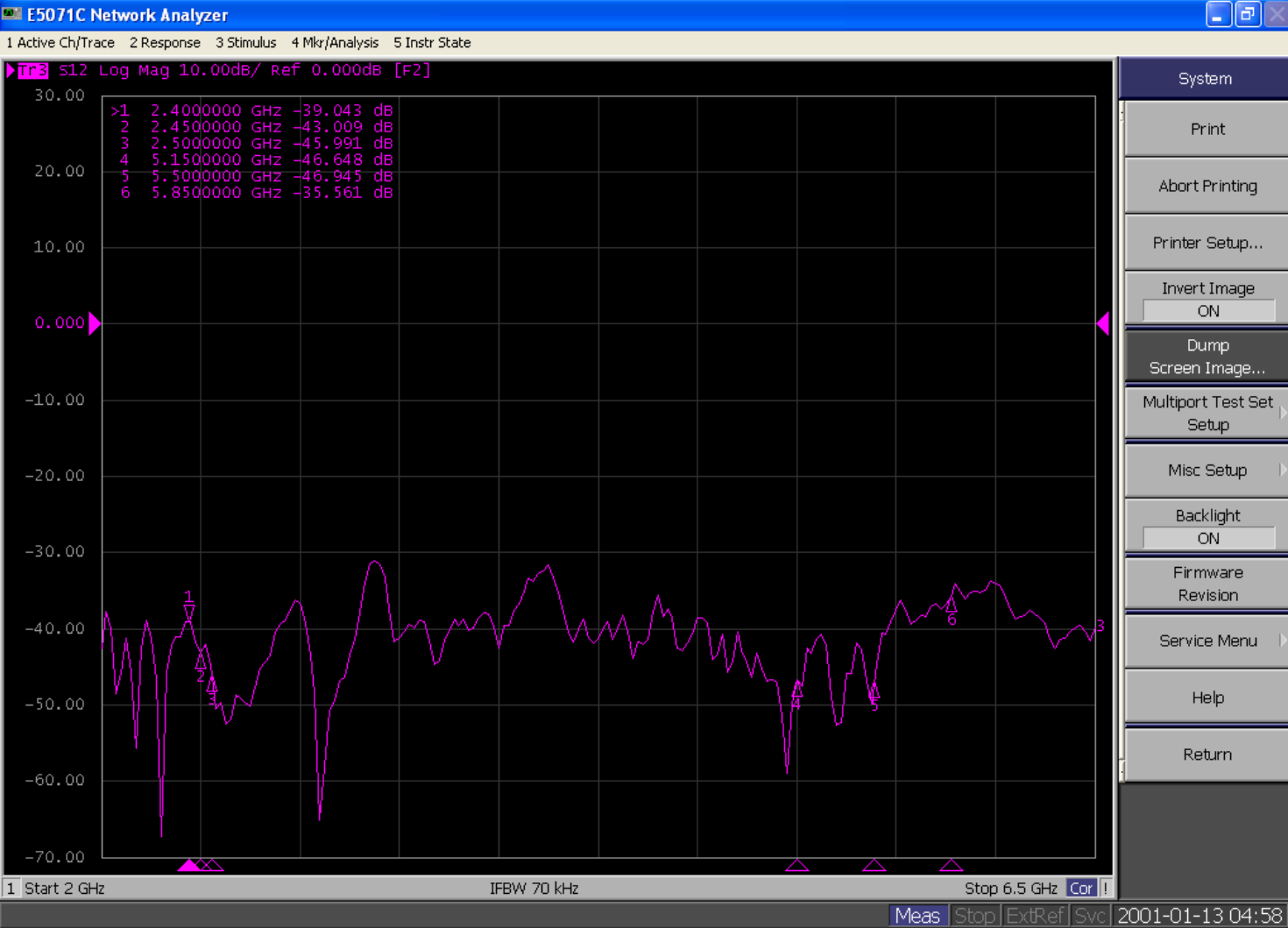
- System
- Print
- Abort Printing
- Printer Setup...
- Invert Image
ON
- Dump Screen Image...
- Multiport Test Set Setup
- Misc Setup
- Backlight
ON
- Firmware Revision
- Service Menu
- Help
- Return



Return Loss and Isolation



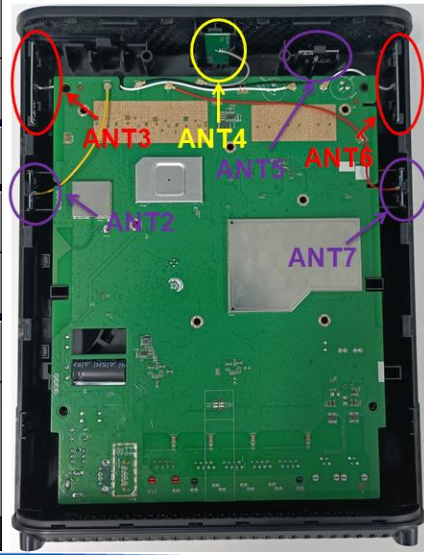
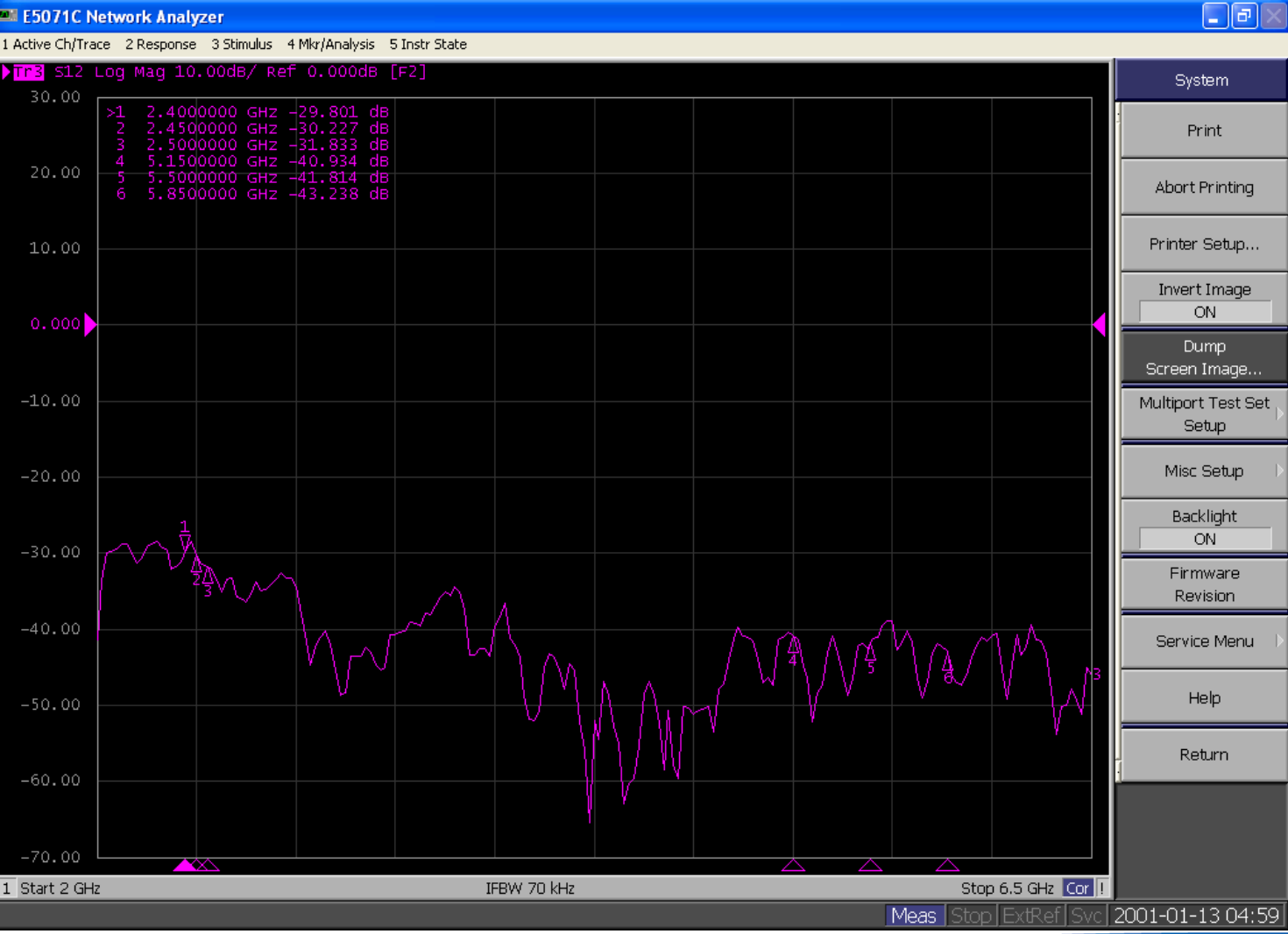
ANT2&ANT5



Return Loss and Isolation



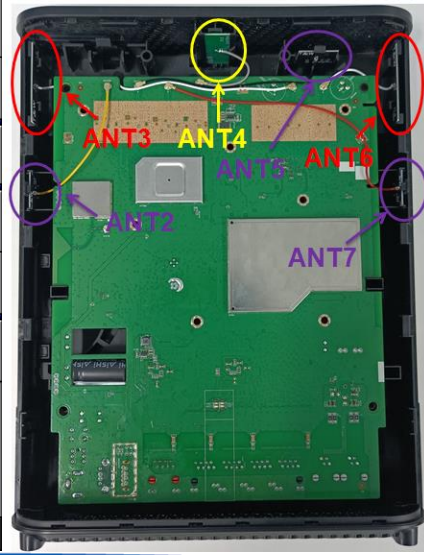
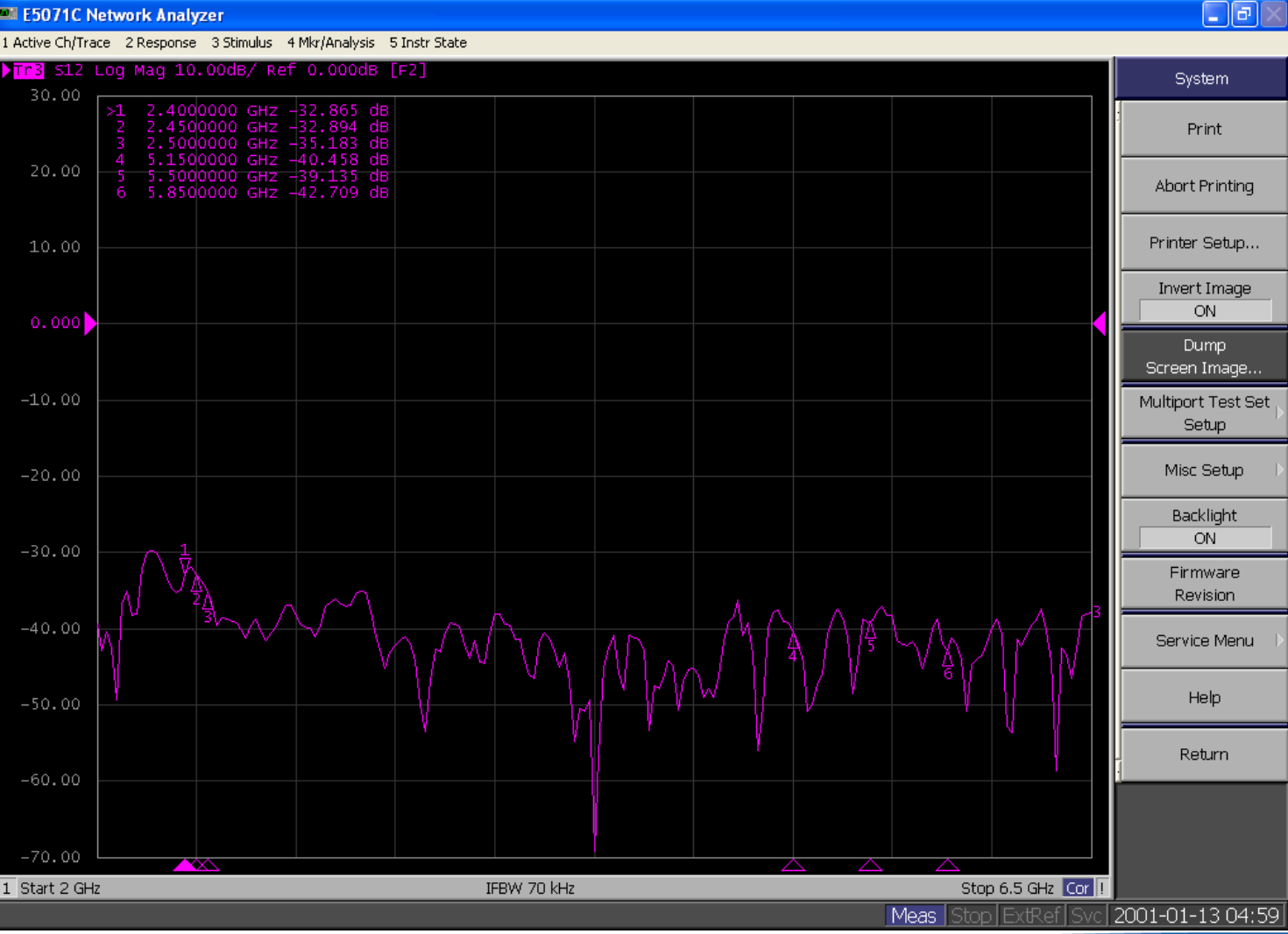
ANT2&ANT6



Return Loss and Isolation



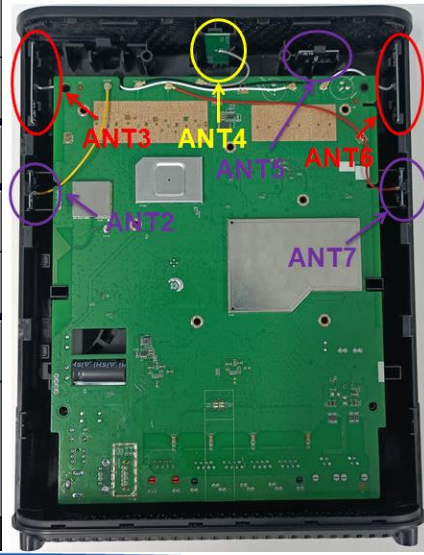
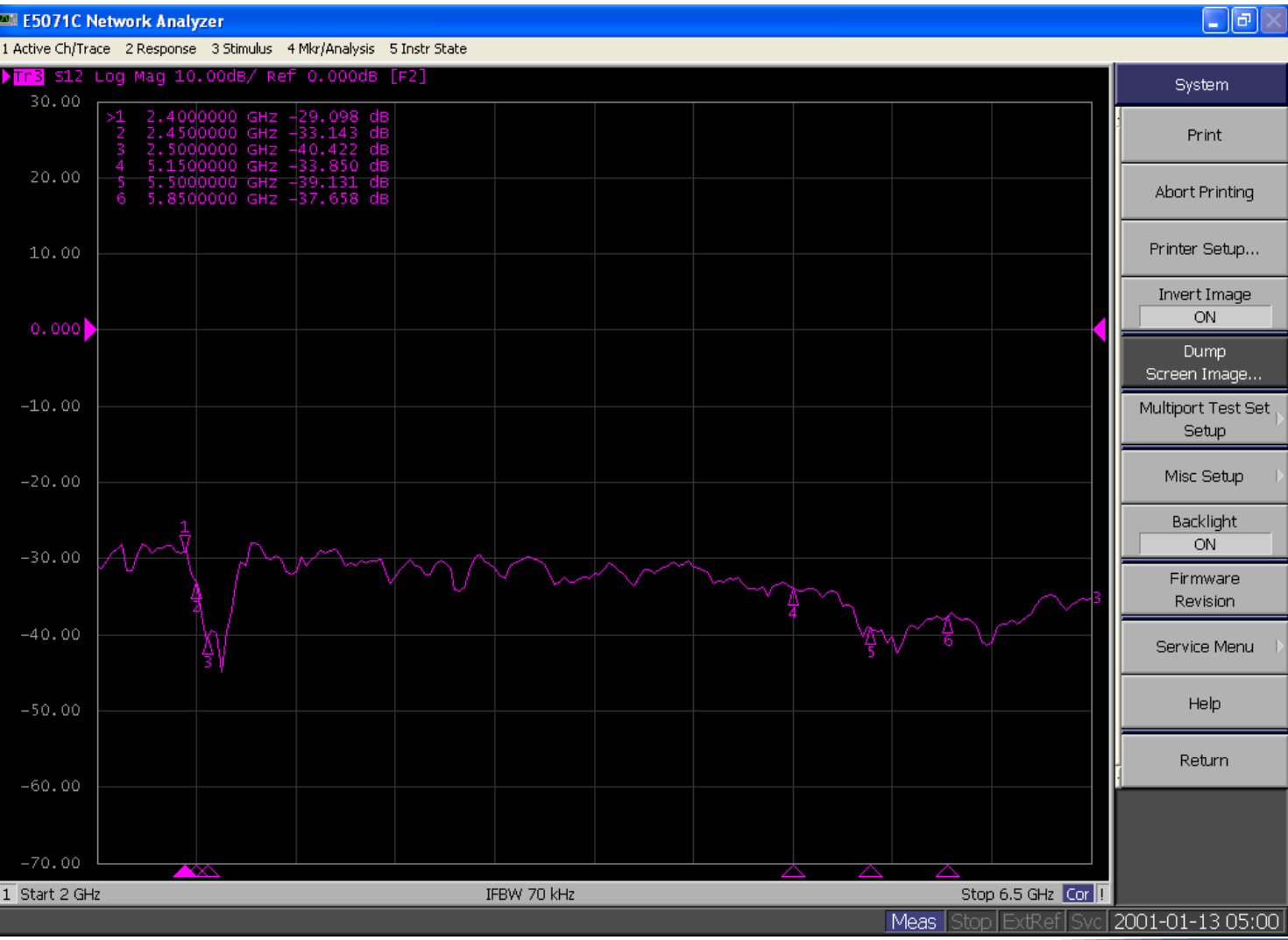
ANT2&ANT7



Return Loss and Isolation



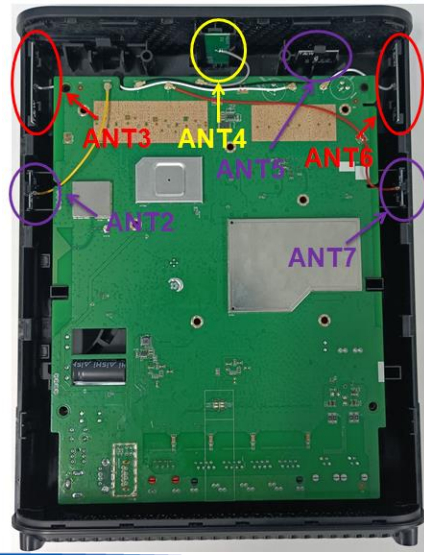
ANT3&ANT4



Return Loss and Isolation



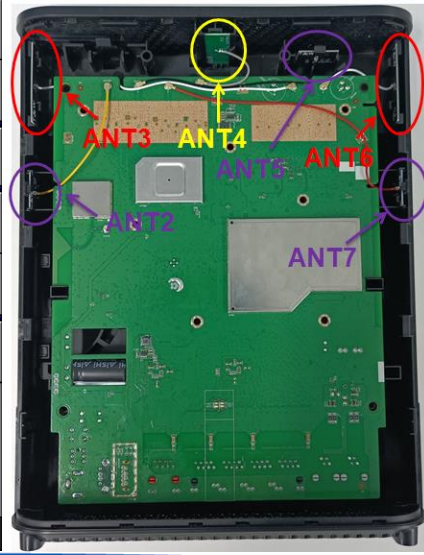
ANT3&ANT5



Return Loss and Isolation



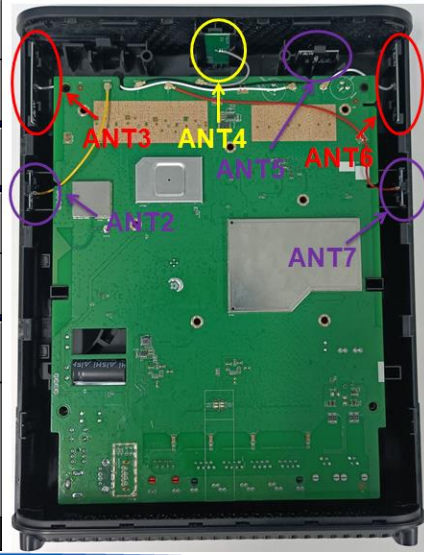
ANT3&ANT6



Return Loss and Isolation



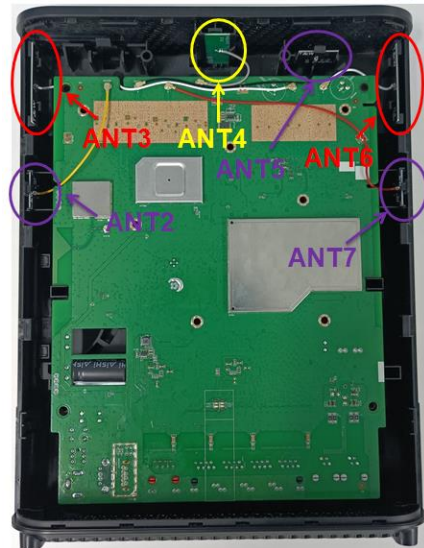
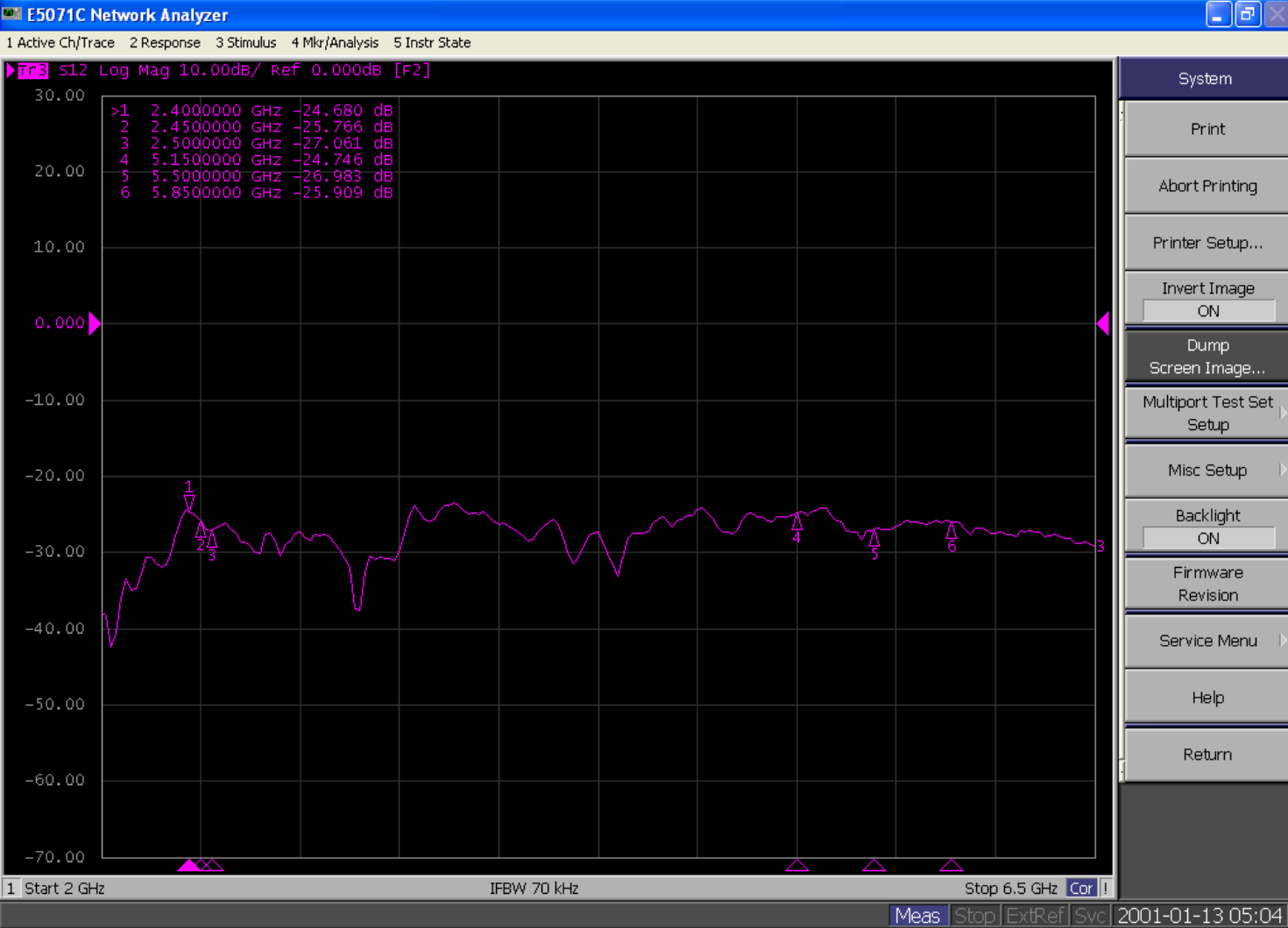
ANT3&ANT7



Return Loss and Isolation



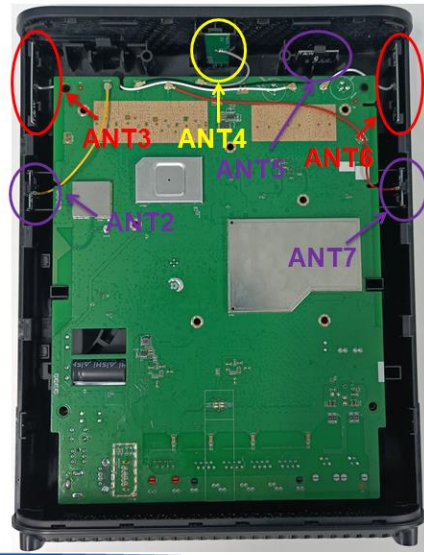
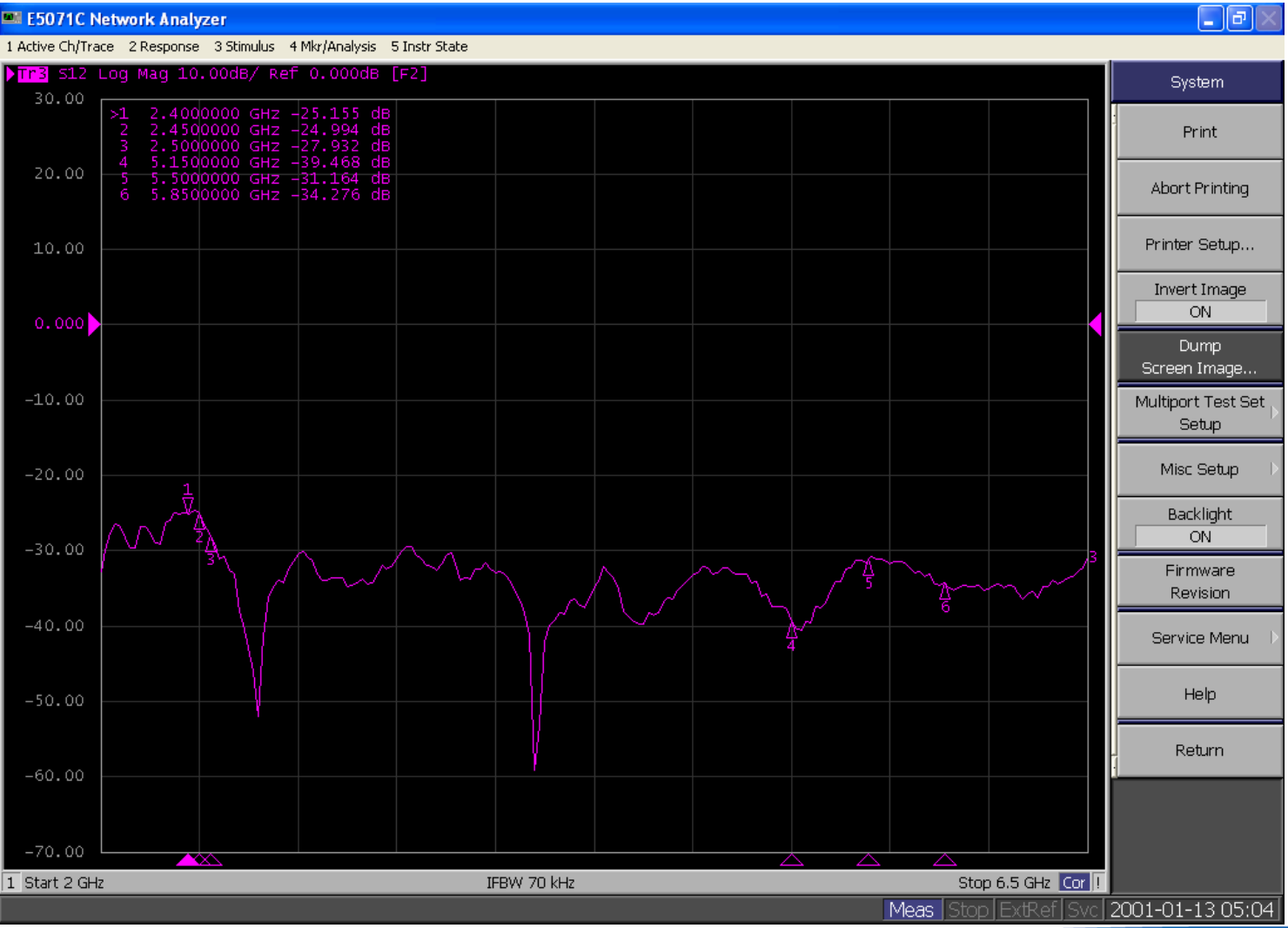
ANT4&ANT5



Return Loss and Isolation



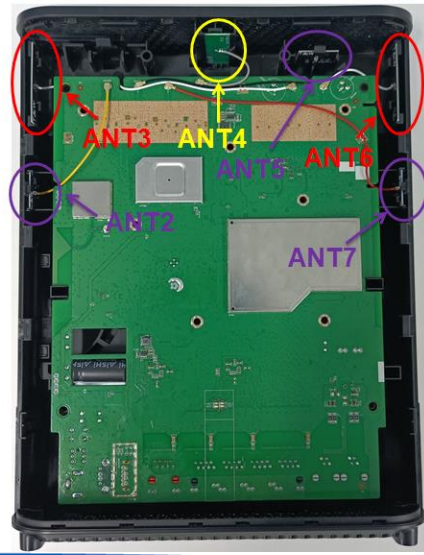
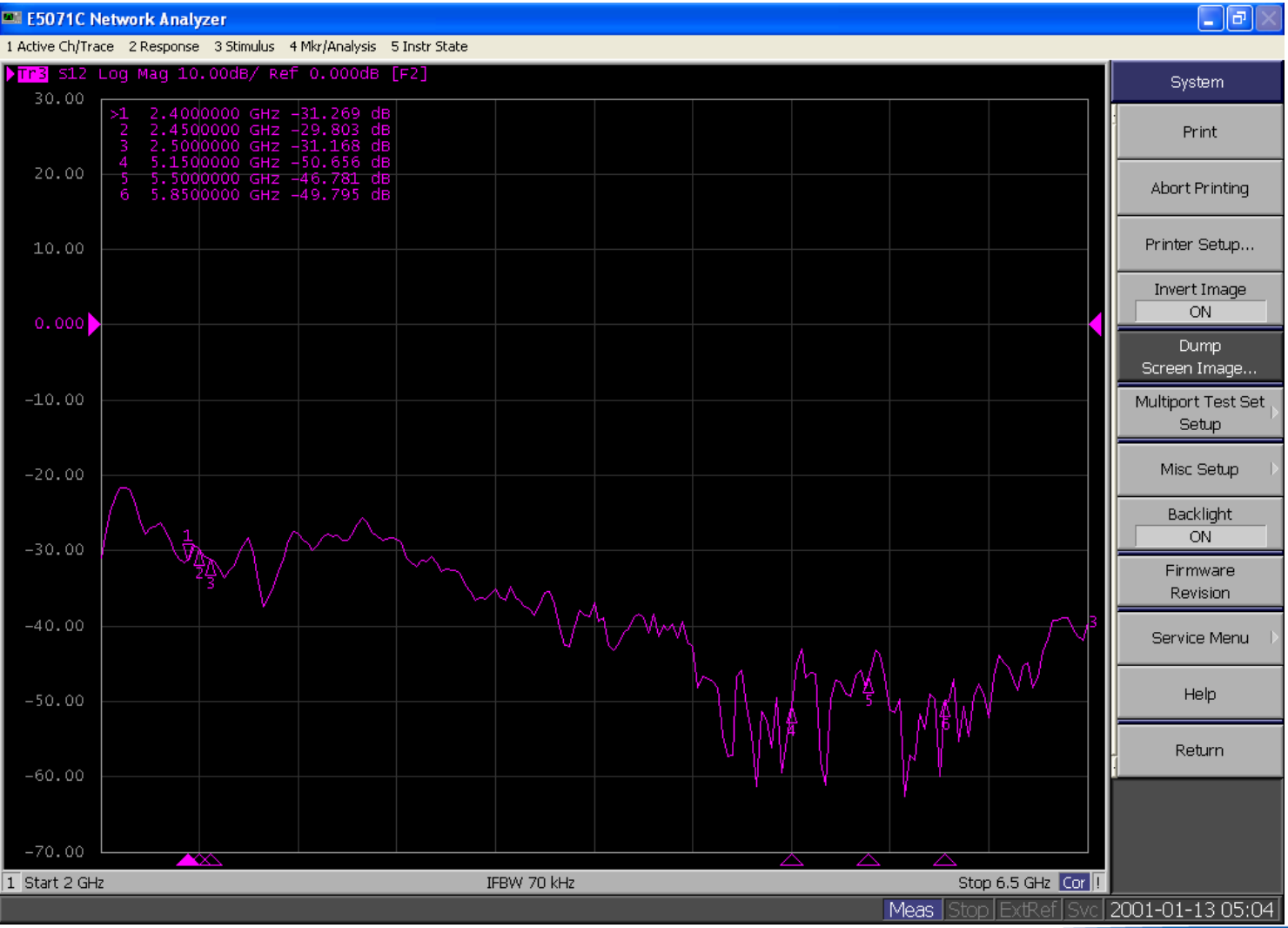
ANT4&ANT6



Return Loss and Isolation



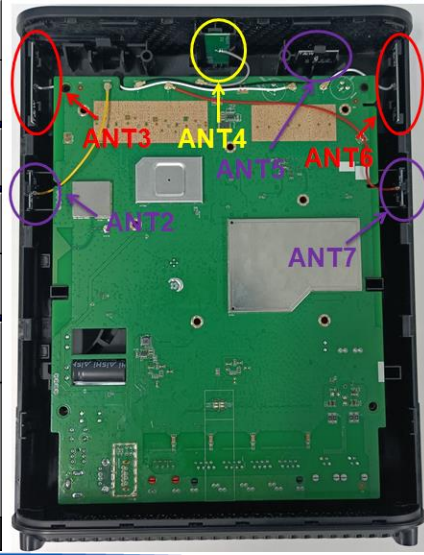
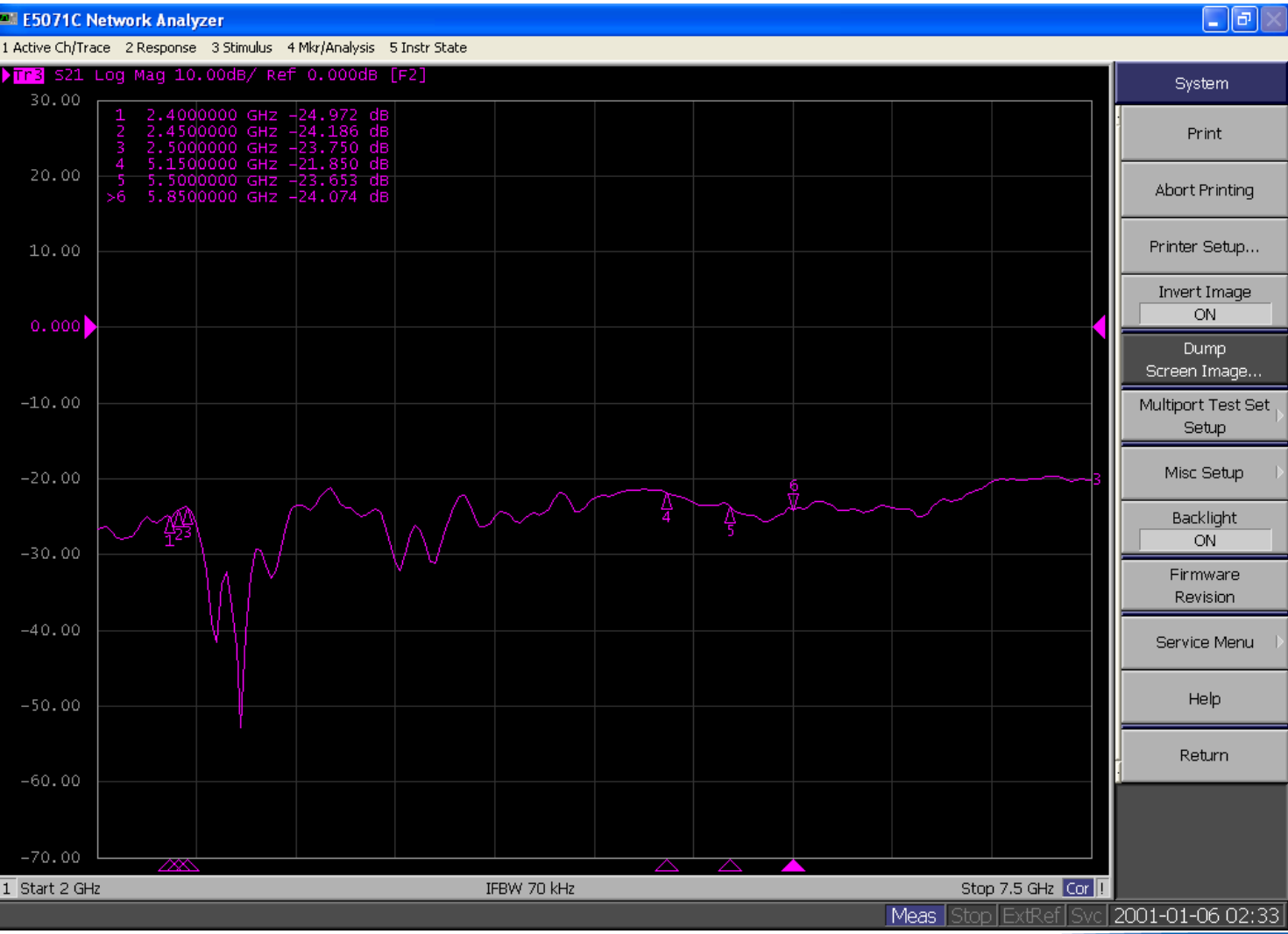
ANT4&ANT7



Return Loss and Isolation



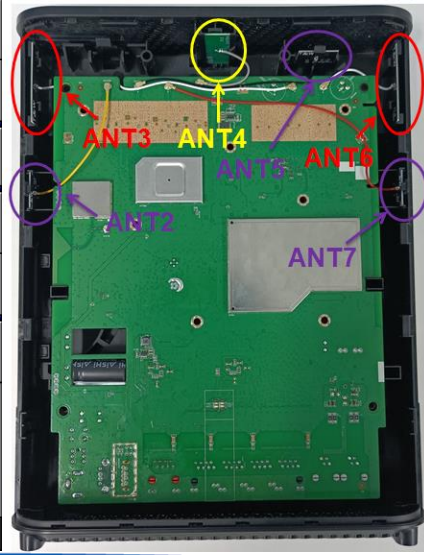
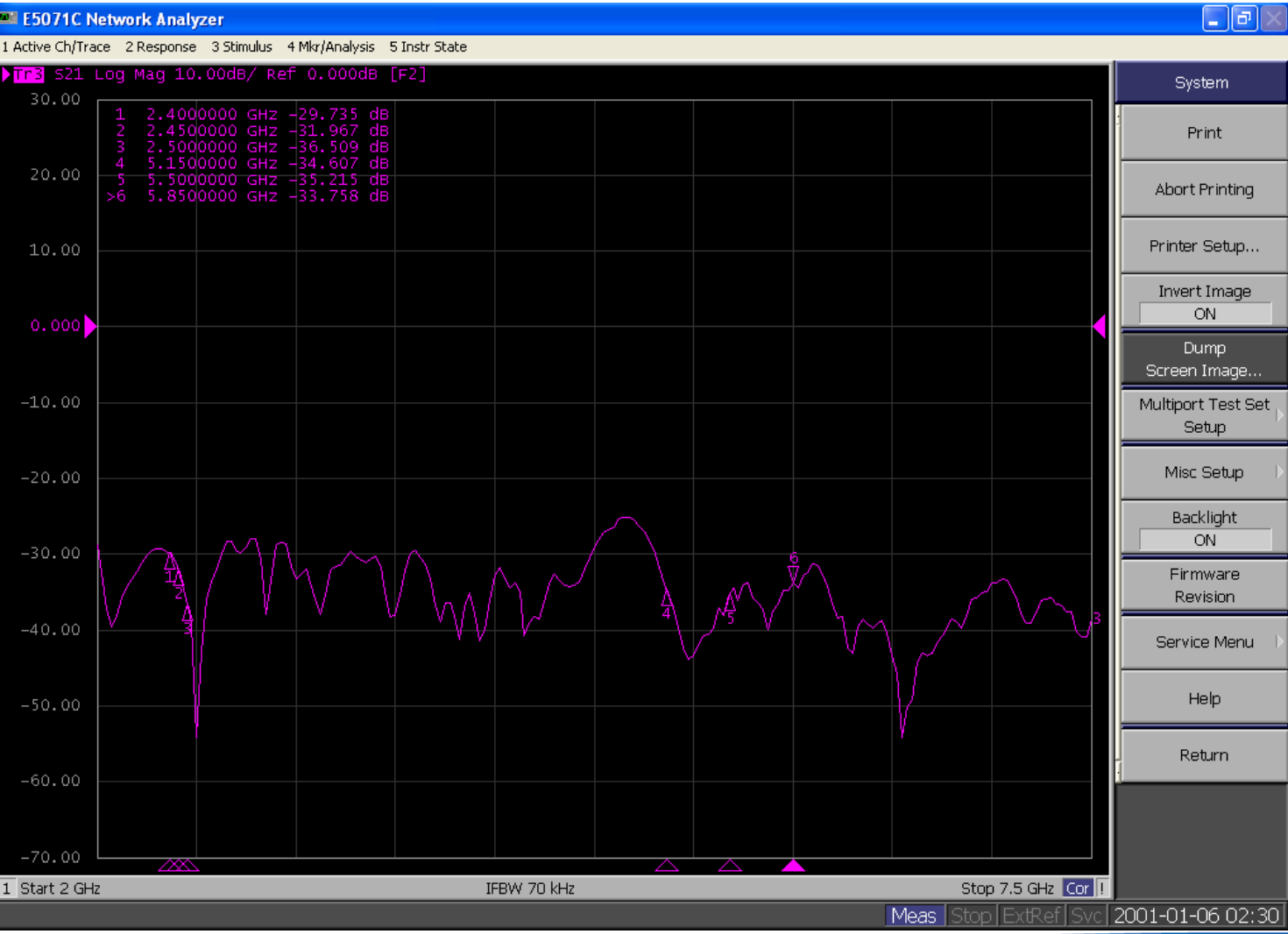
ANT5&ANT6



Return Loss and Isolation



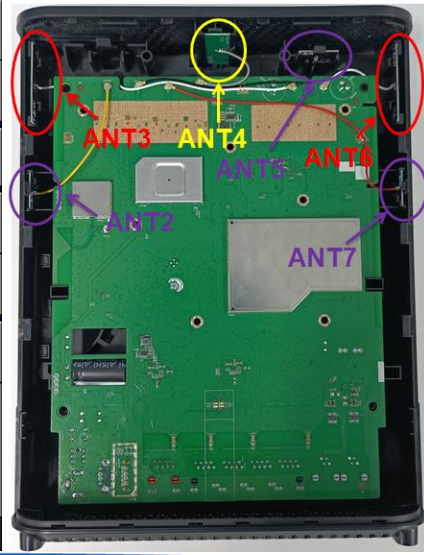
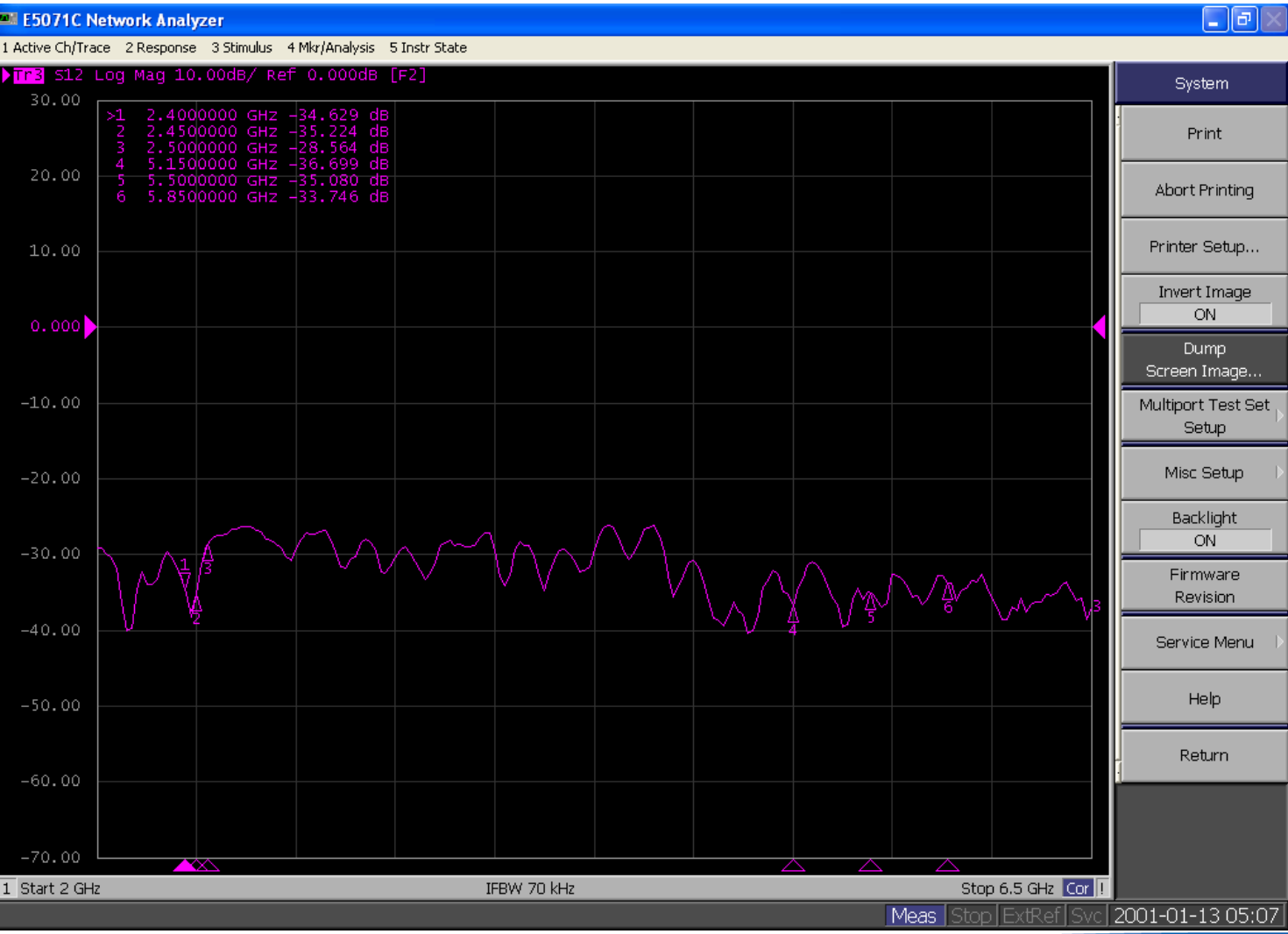
ANT5&ANT7



Return Loss and Isolation



ANT6&ANT7

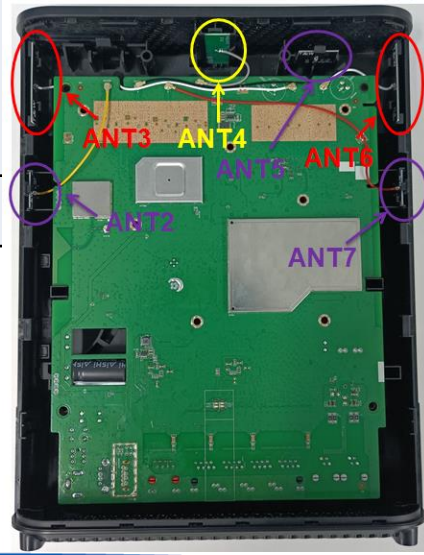


Return Loss and Isolation

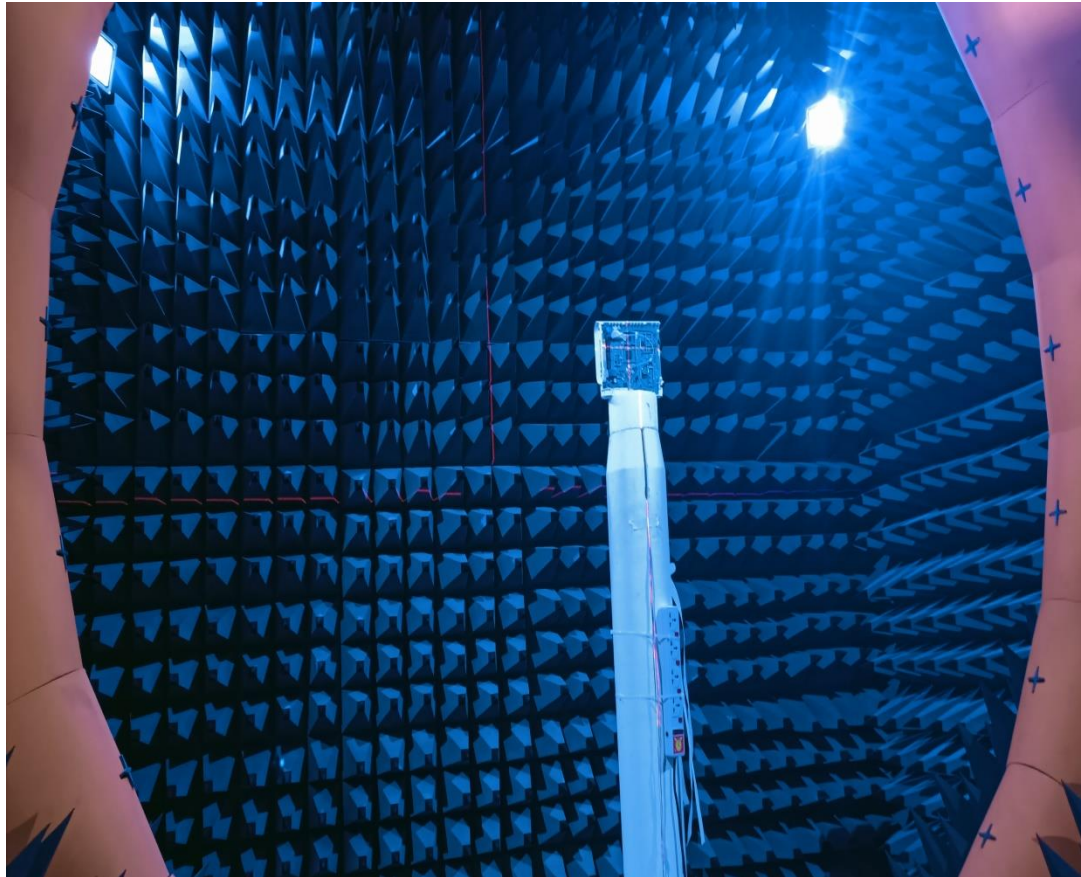


Test results

Frequency (GHz)	Return loss		Isolation	
	2.4-2.5GHz	5.15-5.85GHz	2.4-2.5GHz	5.15-5.85GHz
5G_ANT2	NA	<-13dB	<-20dB	
2.4G_ANT3	<-15dB	NA		
Dual band_ANT4	<-13dB	<-15dB		
5G_ANT5	NA	<-14dB		
2.4G_ANT6	<-12dB	NA		
5G_ANT7	NA	<-13dB		
Results	PASS			



Test Condition

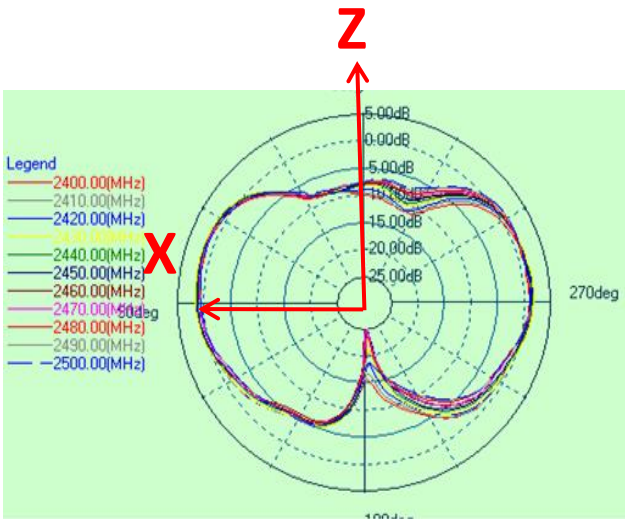
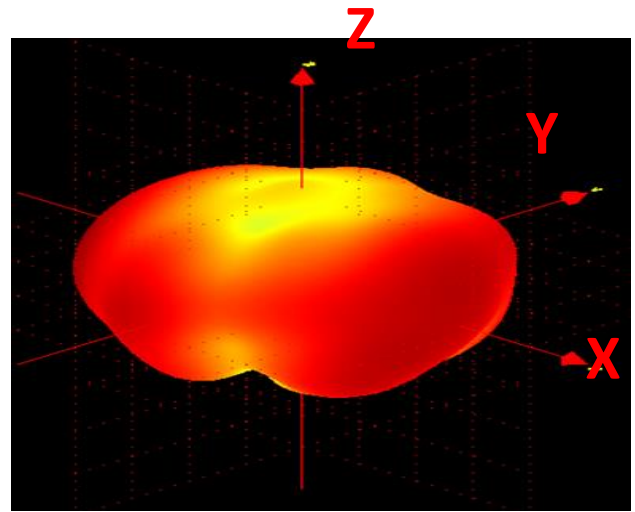
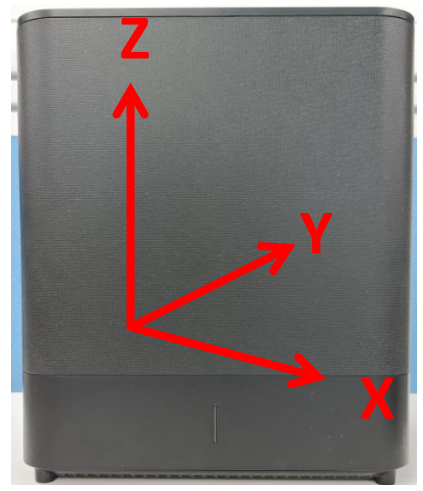


Microwave anechoic chamber

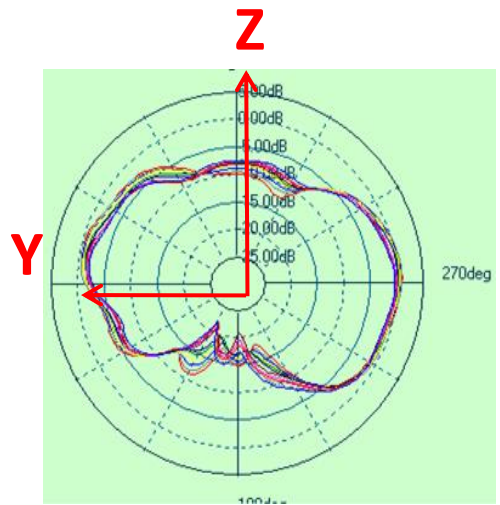
2D/3D Radiation pattern-2.4G



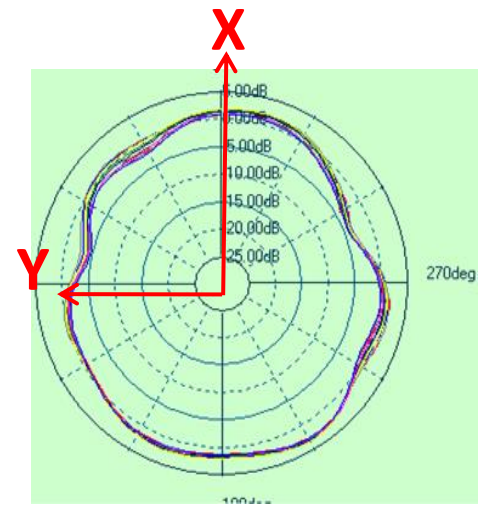
2.4G-WIFI



E1 (Phi=0)



E1 (Phi=90)

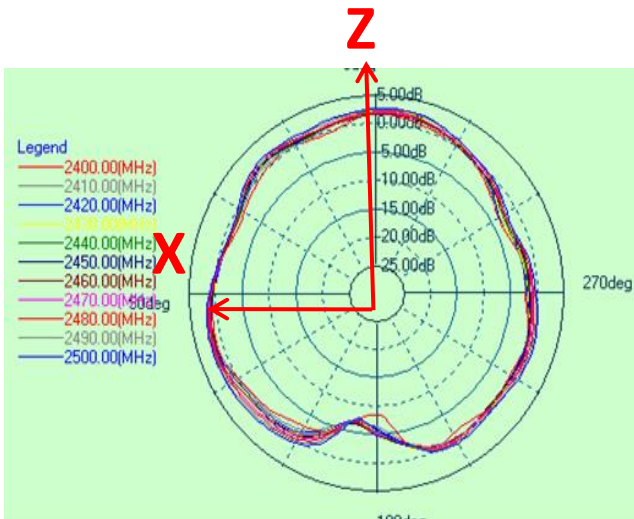
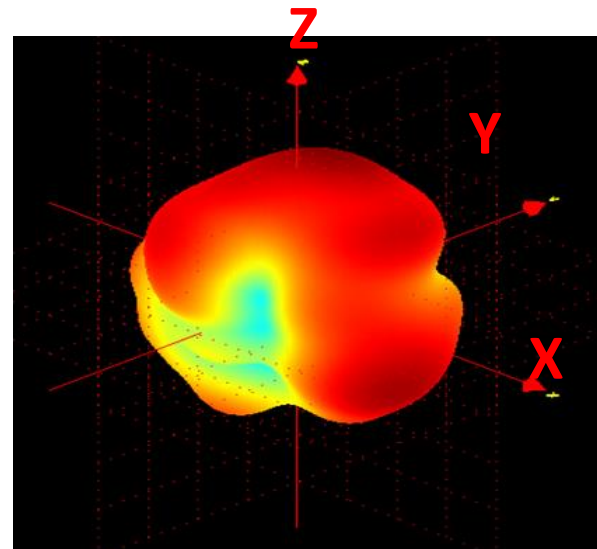
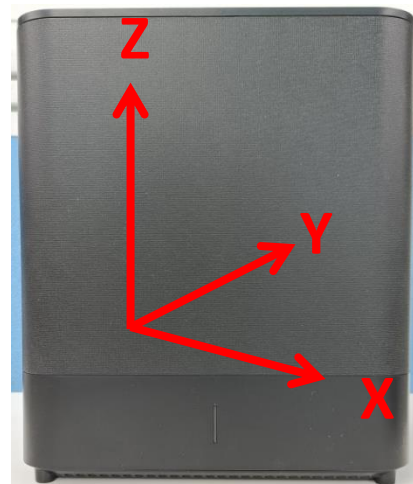


H (Theta=90)

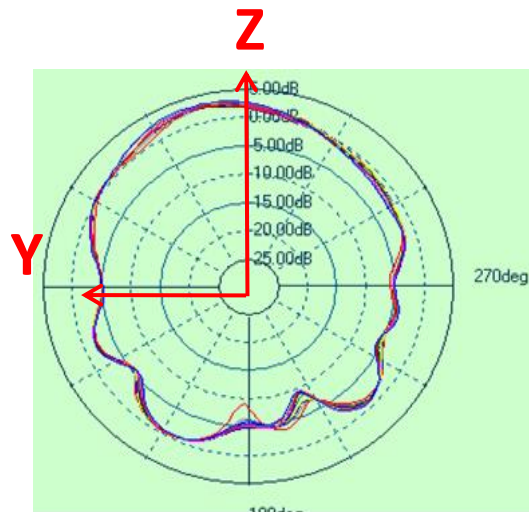
2D/3D Radiation pattern-2.4G



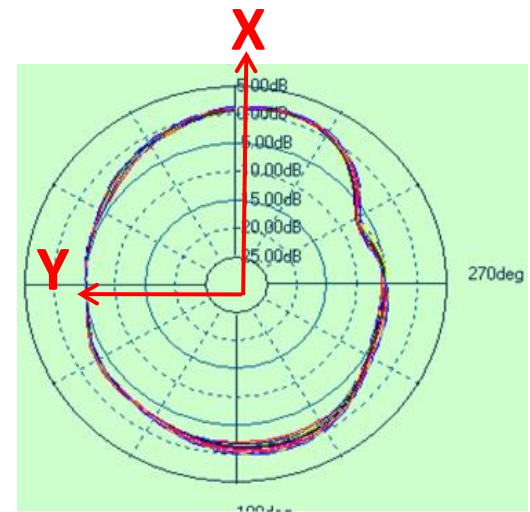
2.4G-WIFI



E1 (Phi=0)



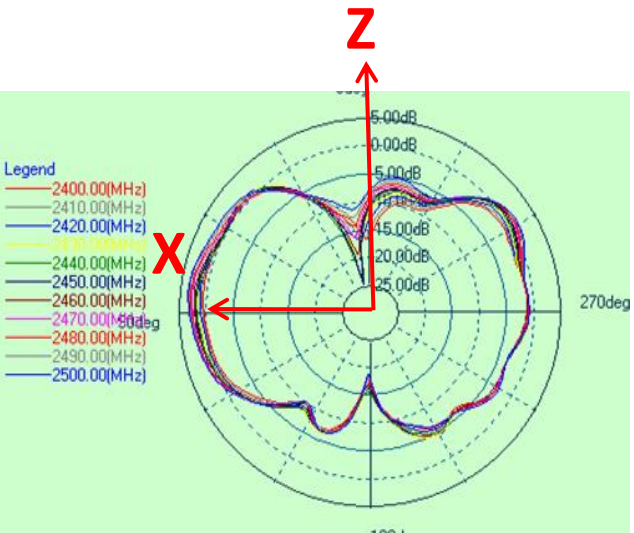
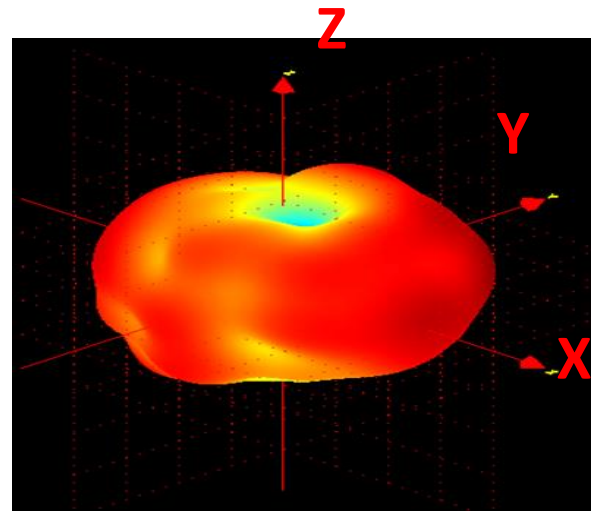
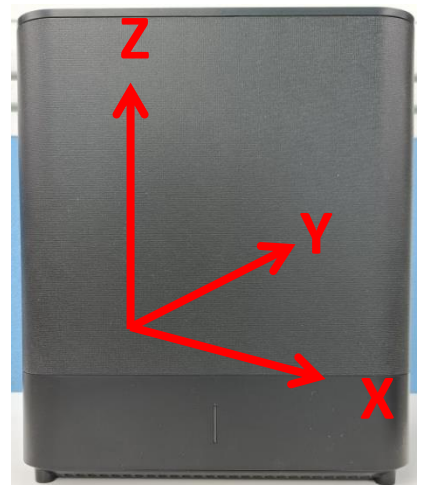
E1 (Phi=90)



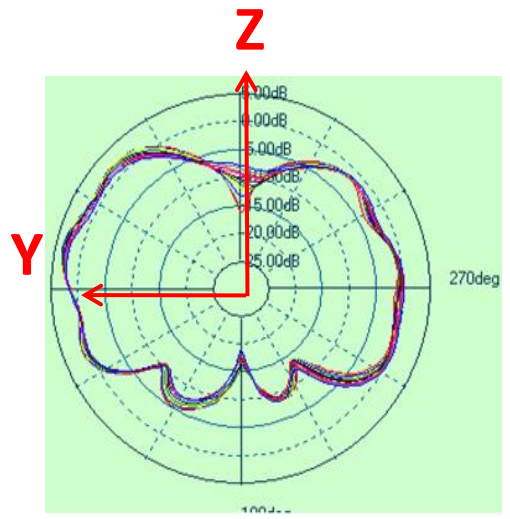
H (Theta=90)

2D/3D Radiation pattern-2.4G

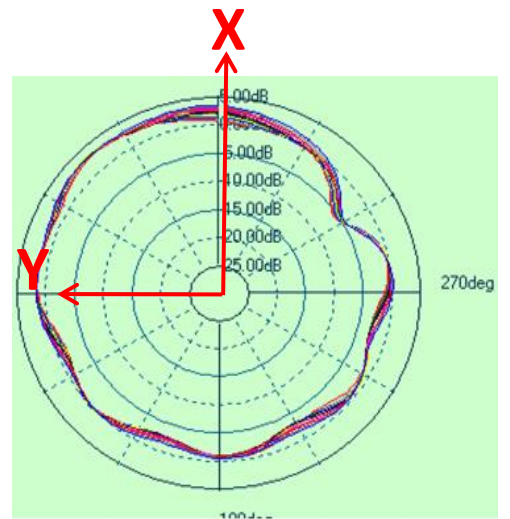
2.4G-WIFI



E1 (Phi=0)



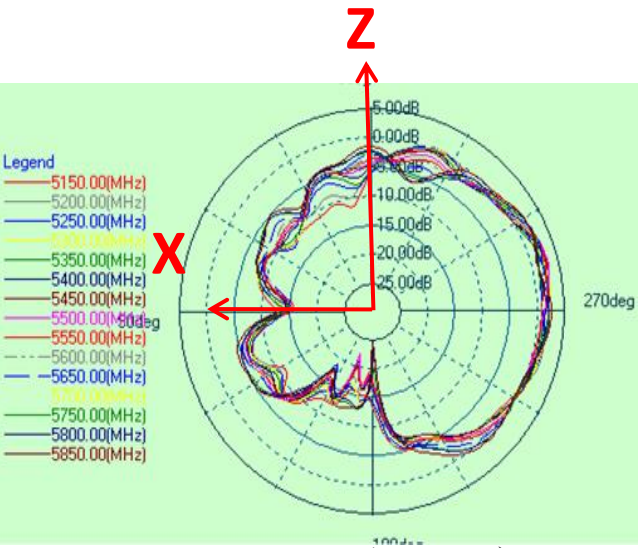
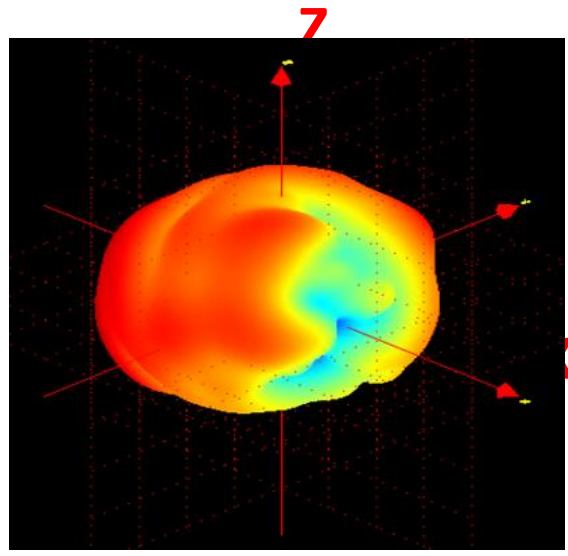
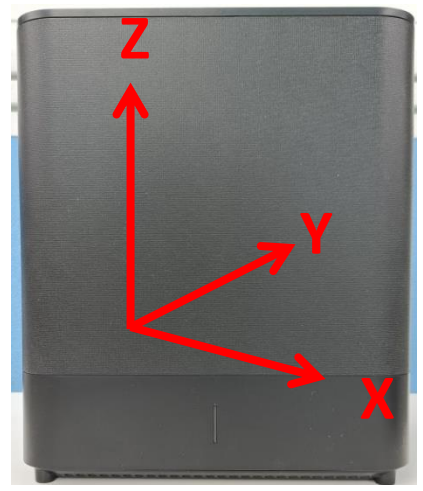
E1 (Phi=90)



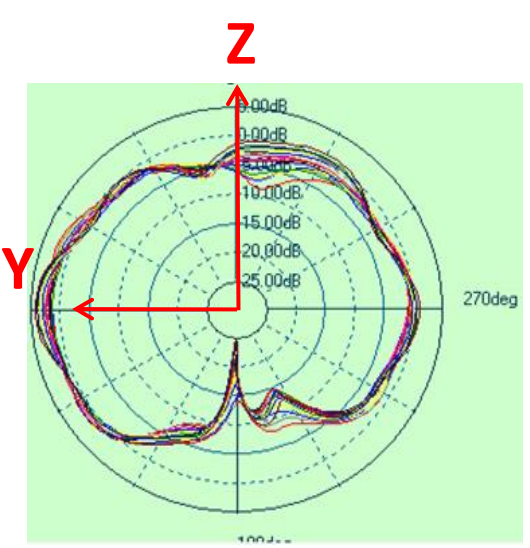
H (Theta=90)

2D/3D Radiation pattern-5G

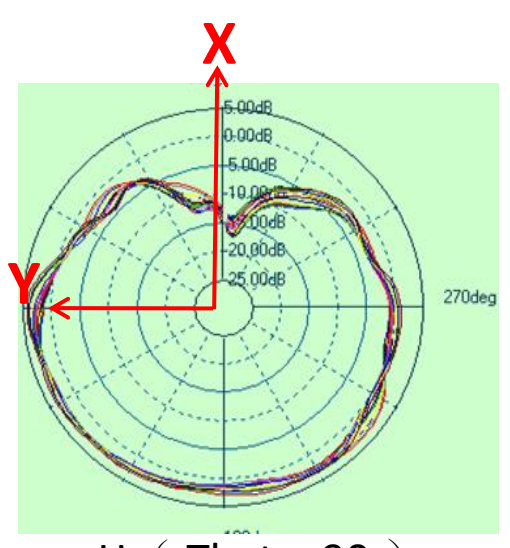
5G-WIFI



E1 (Phi=0)



E1 (Phi=90)

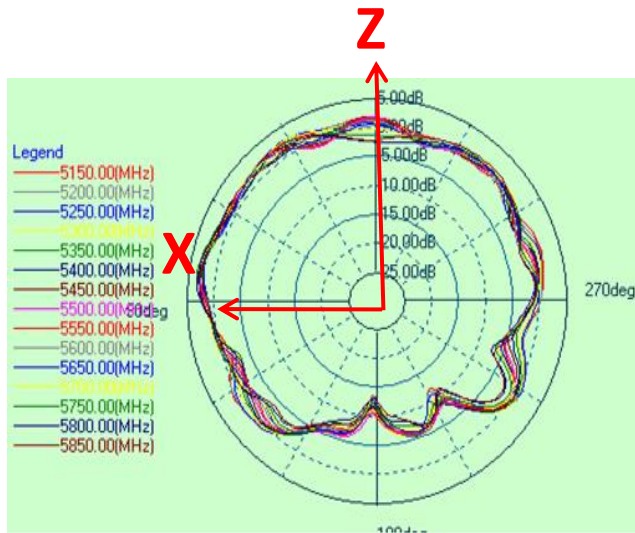
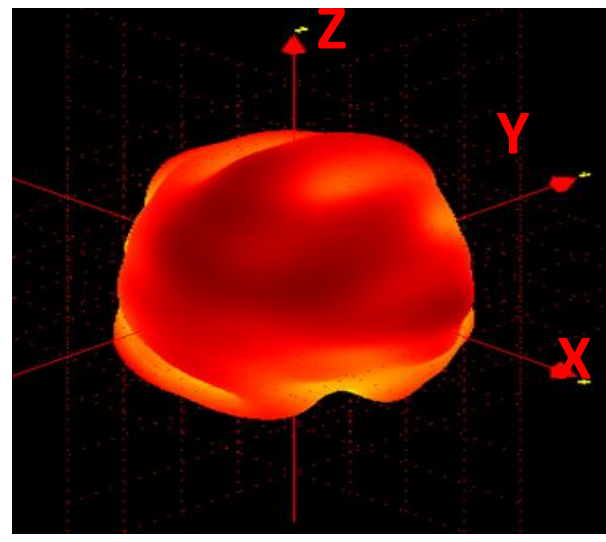
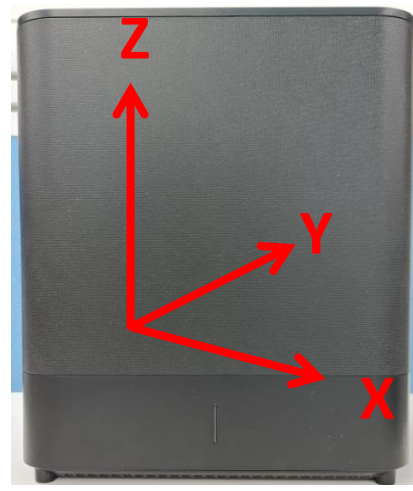


H (Theta=90)

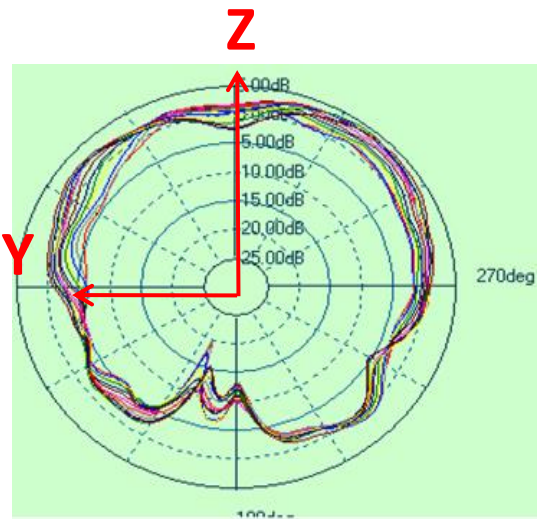
2D/3D Radiation pattern-5G



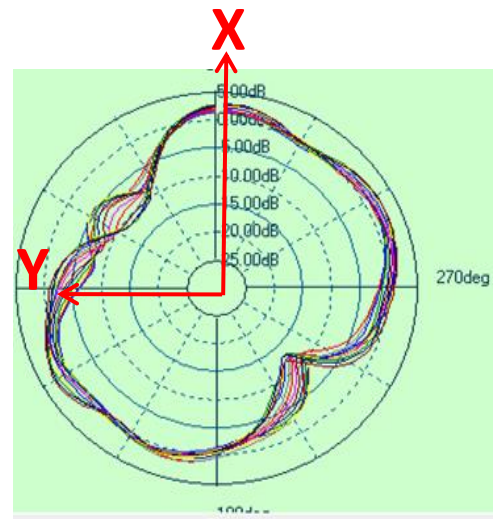
5G-WIFI



E1 (Phi=0)



E1 (Phi=90)

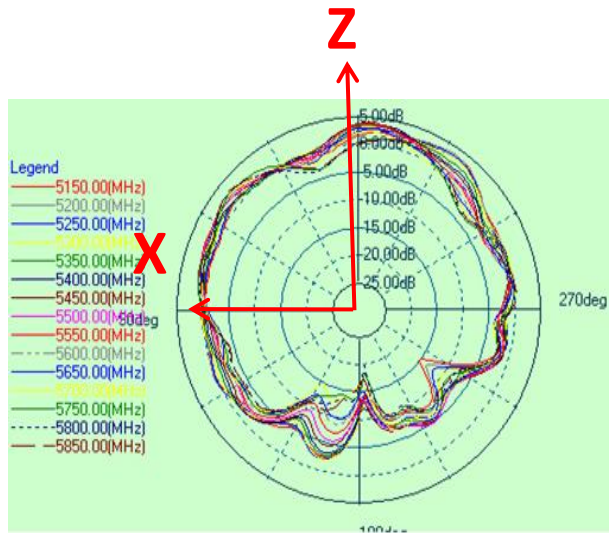
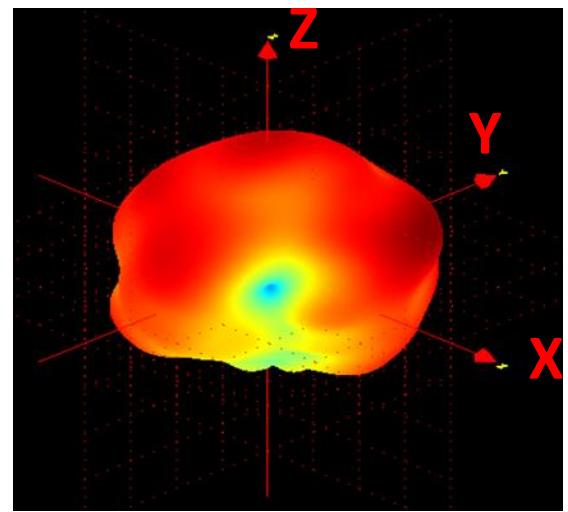
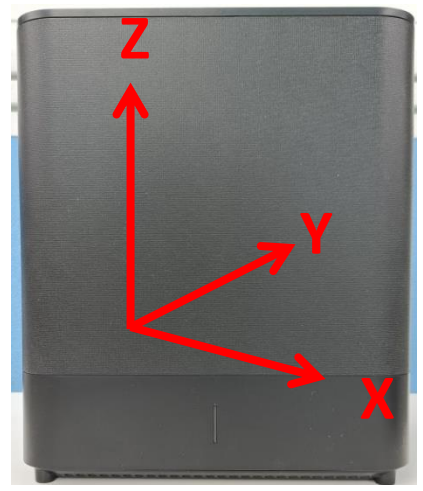


H (Theta=90)

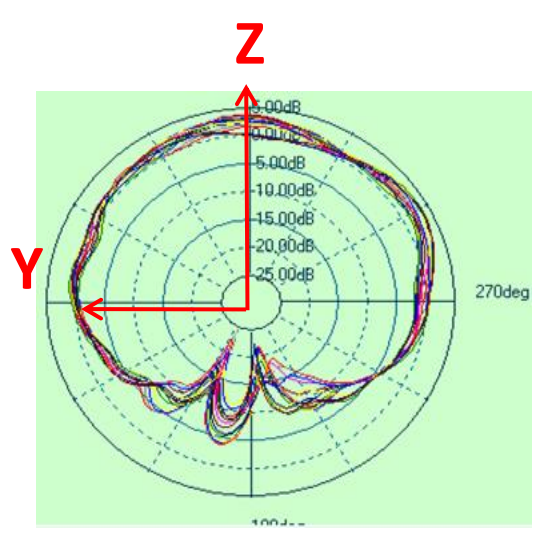
2D/3D Radiation pattern-5G



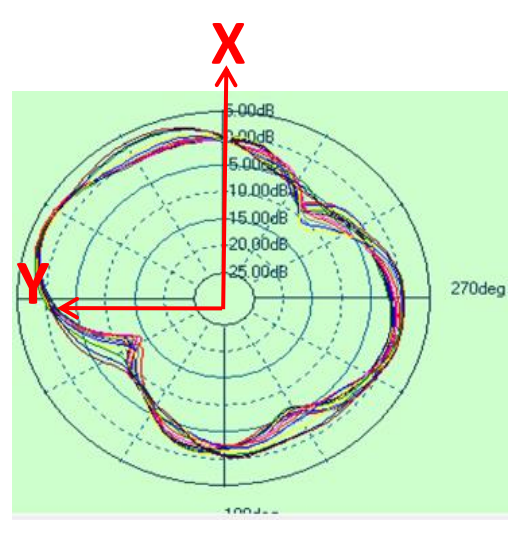
5G-WIFI



E1 (Phi=0)



E1 (Phi=90)

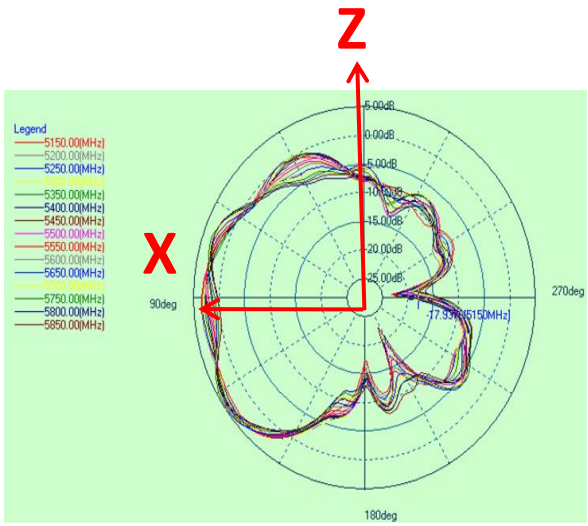
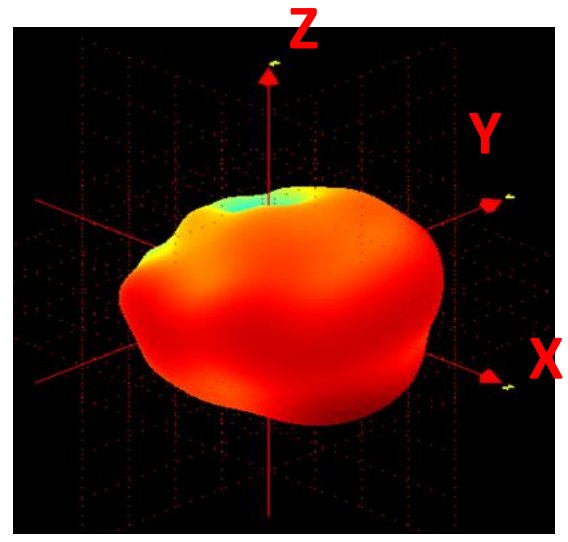
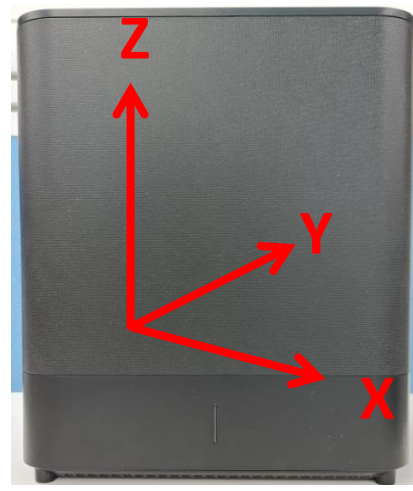


H (Theta=90)

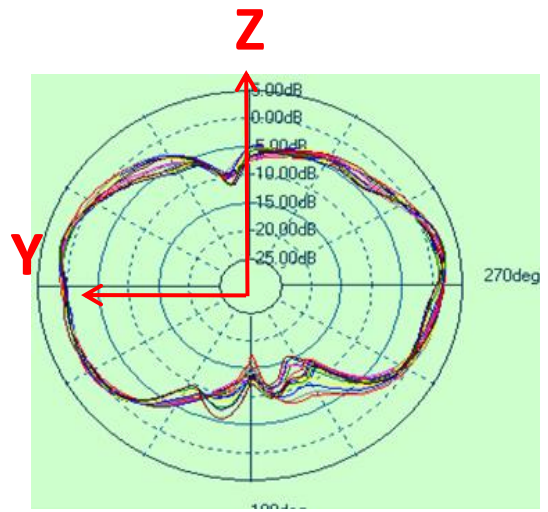
2D/3D Radiation pattern-5G



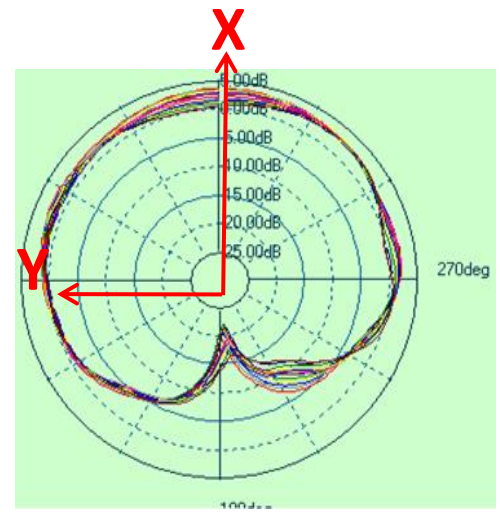
5G-WIFI



E1 (Phi=0)



E1 (Phi=90)



H (Theta=90)

Efficiency and Peak Gain(2)



Test results

Used for FCC and CE certification

Frequency (GHz)		2.400	2.412	2.422	2.437	2.452	2.462	2.500
Peak Gain (dBi)	ANT3	2.81	2.76	2.72	2.71	2.66	2.73	2.67
	ANT4	2.54	2.49	2.52	2.61	2.77	2.86	3.01
	ANT6	3.37	3.22	3.20	3.19	3.34	3.37	3.43
Directional Gain (dBi)	1S3T	6.41	6.27	6.19	6.35	6.35	6.23	6.44
	3S3T	2.33	2.41	2.45	2.33	2.75	2.61	2.50

Frequency (GHz)		5.15	5.18	5.19	5.21	5.2	5.23	5.24	5.25	5.26	5.27	5.28	5.29	5.31	5.32
Peak Gain (dBi)	ANT2	3.57	3.53	3.55	3.61	3.67	3.71	3.78	3.75	3.89	3.87	3.94	3.87	3.92	3.98
	ANT4	4.03	4.08	4.12	4.13	4.16	4.23	4.12	4.14	4.12	4.23	4.31	4.27	4.33	4.41
	ANT5	4.28	4.19	4.27	4.24	4.32	4.35	4.38	4.43	4.41	4.42	4.46	4.44	4.34	4.38
	ANT7	3.49	3.75	3.89	3.87	3.94	3.87	3.92	4.18	4.24	4.39	4.34	4.28	4.37	4.56
Directional Gain(dBi)	1S4T	6.74	6.69	6.47	6.48	6.39	6.31	6.26	6.78	6.15	6.37	6.37	6.32	6.25	6.72
	4S4T	2.36	2.35	2.29	2.06	1.99	1.96	2.03	2.11	2.13	2.25	2.13	2.04	1.91	2.19

Frequency (GHz)		5.5	5.51	5.53	5.55	5.58	5.61	5.67	5.7	5.745	5.755	5.775	5.785	5.795	5.825	5.85
Peak Gain (dBi)	ANT2	3.99	4.17	4.08	4.19	4.25	4.27	4.31	4.43	4.26	4.37	4.42	4.53	4.42	4.51	4.48
	ANT4	4.32	4.36	4.51	4.54	4.47	4.48	4.37	4.49	4.26	4.24	4.19	4.29	4.33	4.28	4.32
	ANT5	4.46	4.48	4.41	4.32	4.28	4.24	4.36	4.38	4.44	4.49	4.4	4.28	4.37	4.56	4.48
	ANT7	4.38	4.43	4.41	4.42	4.46	4.44	4.34	4.46	4.48	4.41	4.32	4.28	4.24	4.35	4.43
Directional Gain(dBi)	1S4T	6.55	6.57	6.57	6.61	6.61	6.49	6.31	6.32	6.42	6.47	6.48	6.39	6.31	6.36	6.29
	4S4T	2.11	2.19	2.08	1.99	1.85	2.01	2.24	2.13	2.27	2.39	2.26	2.19	2.06	2.03	1.97

Summary



According to the measured data, all passive targets of the antenna are basically up to standard .

Thanks!

