

Antenna specification

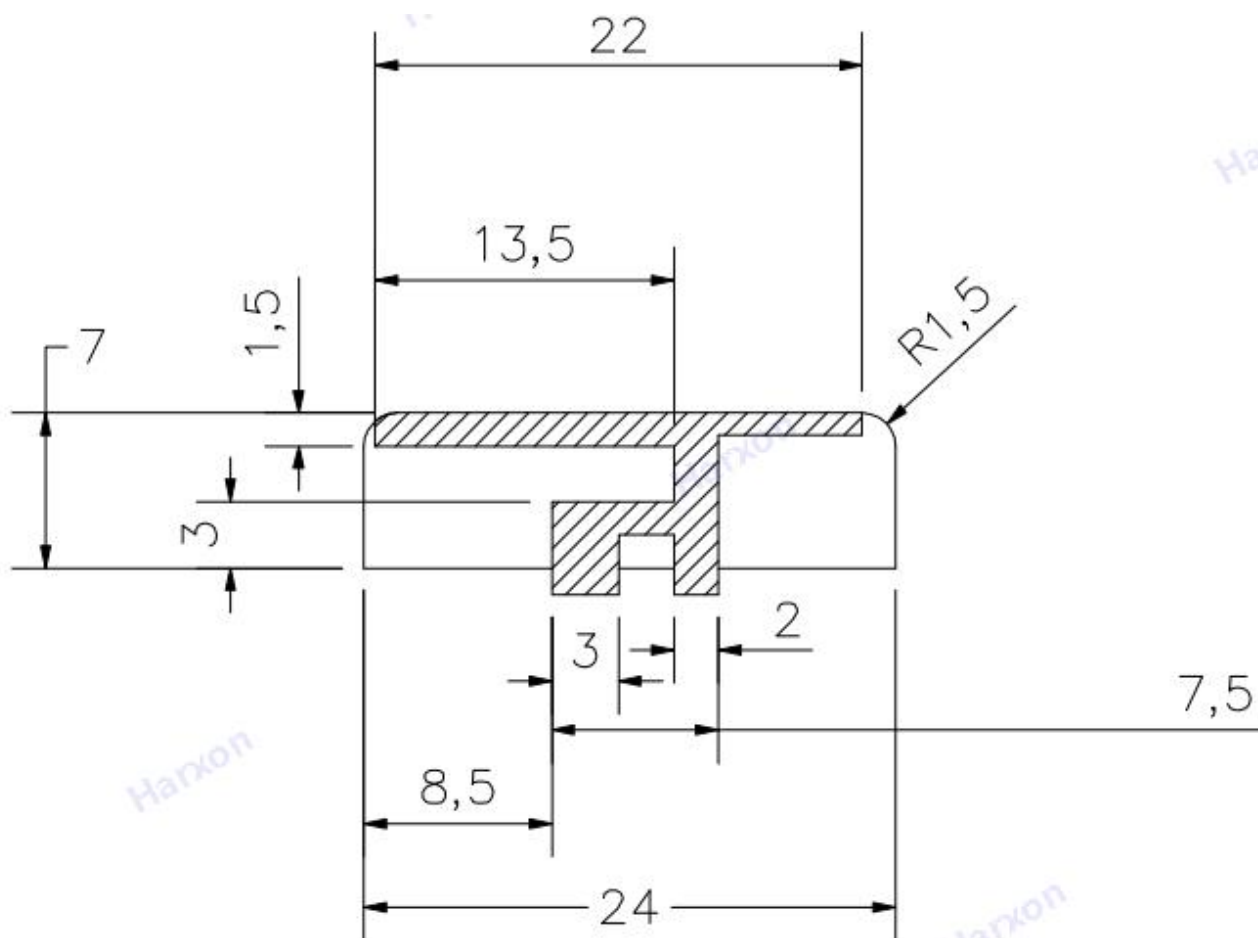
Antenna model: MARB AT V1.0

APPLications

※WIFI/Bluetooth Home RF

※ISM band 2.4GHz/5.5GHz applications

1. Dimensions



2. Specifications

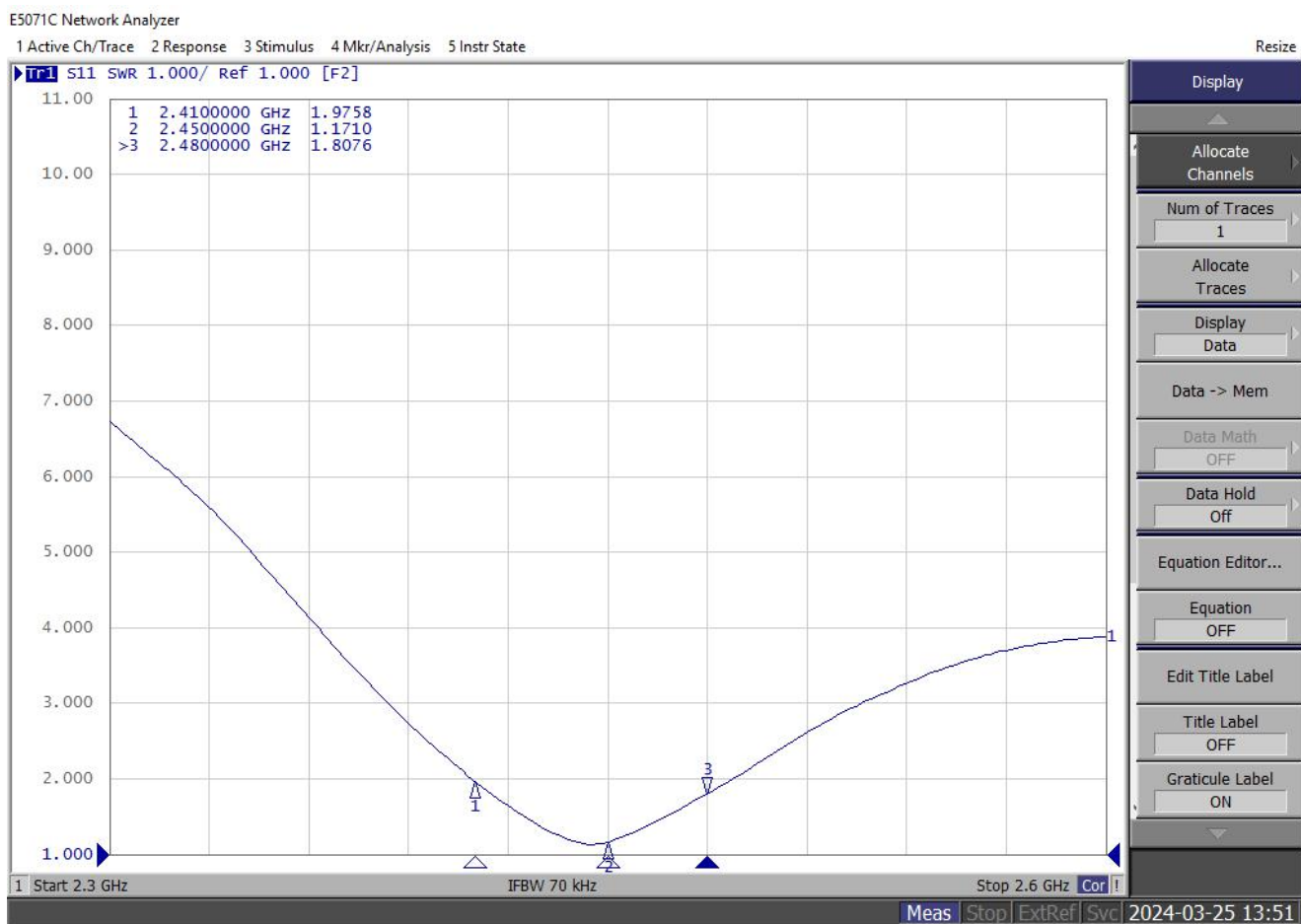
number	Item	Specifications
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1	Working Central Frequency	2441 MHz/5560MHz
2	Band Width	(2402-2480)MHz (5150-5850)MHz
3	Gain	0dBi
4	VSWR	Resonance point $\leq$ 2.0
5	Antenna type	PCB antenna
6	Azimuth Beam width	Omni - directional
7	Impedance	50ohm
8	Modulation mode	GFSK

3. simulation parameter

① VSWR

Mkr1: 2410MHz 1.97 Mkr2: 2450MHz 1.17 Mkr3: 2480 MHz 1.8



Antenna specification

Doc No. IS-QR-PD-010

Rev. V1.0

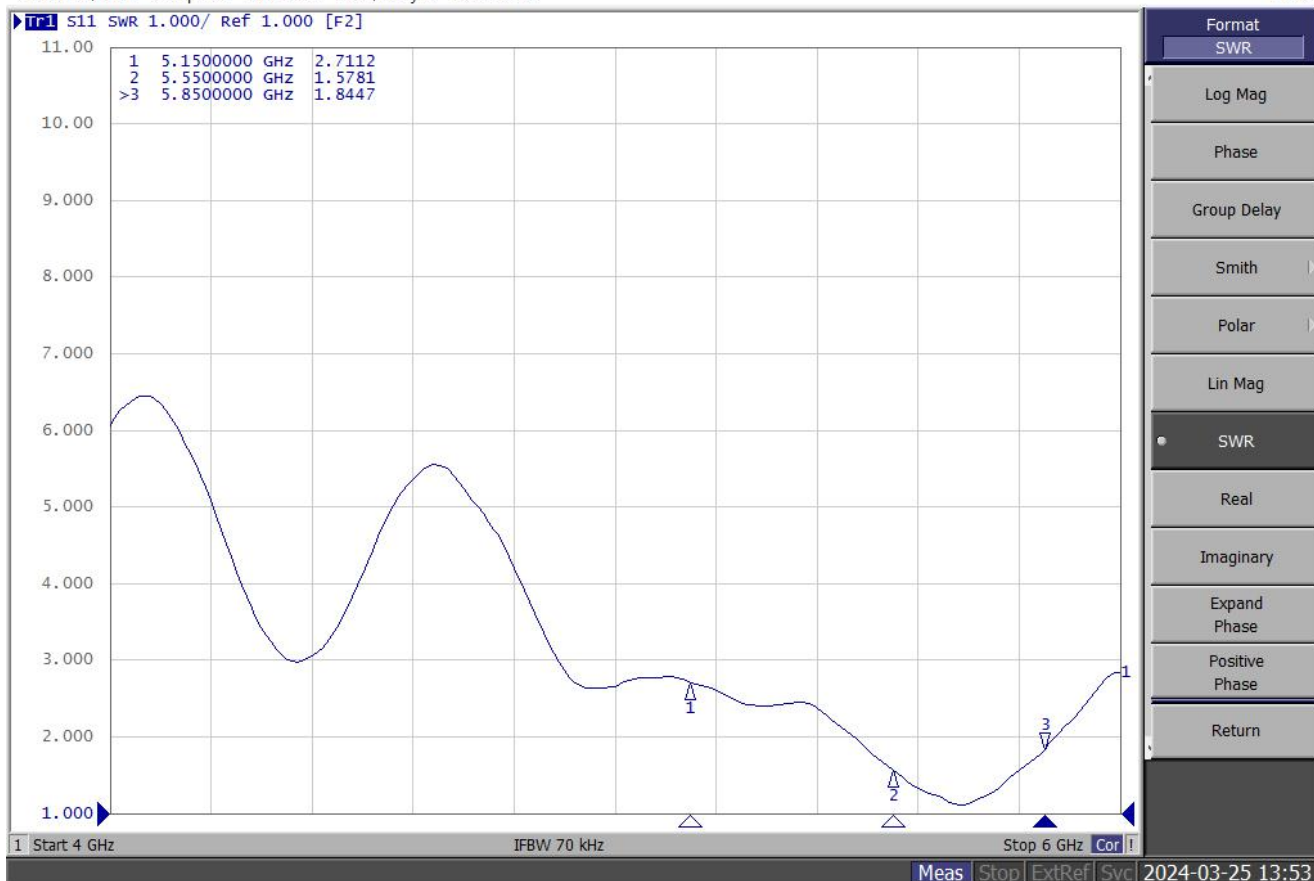
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Mkr1: 5150MHz 2.7 Mkr2: 5550MHz 1.57 Mkr3: 5850 MHz 1.84

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize



②Smith Chart

Mkr1: 2410MHz 95.1 Mkr2: 2450MHz 43.7 Mkr3: 2480MHz 31.9

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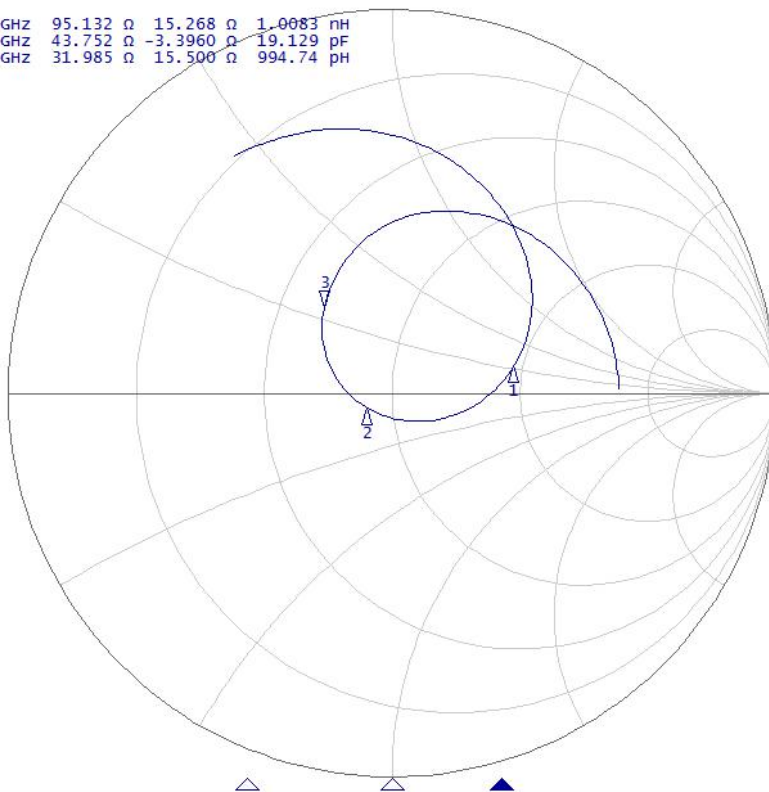
E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize

► Tr1 S11 Smith (R+jX) Scale 1.000U [F2]

1	2.4100000	GHZ	95.132	Ω	15.268	Ω	1.0083	nH
2	2.4500000	GHZ	43.752	Ω	-3.3960	Ω	19.129	pF
>3	2.4800000	GHZ	31.985	Ω	15.500	Ω	994.74	pH



1 Start 2.3 GHz

IFBW 70 kHz

Stop 2.6 GHz

Cor

Meas

Stop

ExtRef

Svc

2024-03-25 13:51

Mkr1: 5150MHz 19.5 Mkr2: 5550MHz 66.2 Mkr3: 5850 MHz 28.1

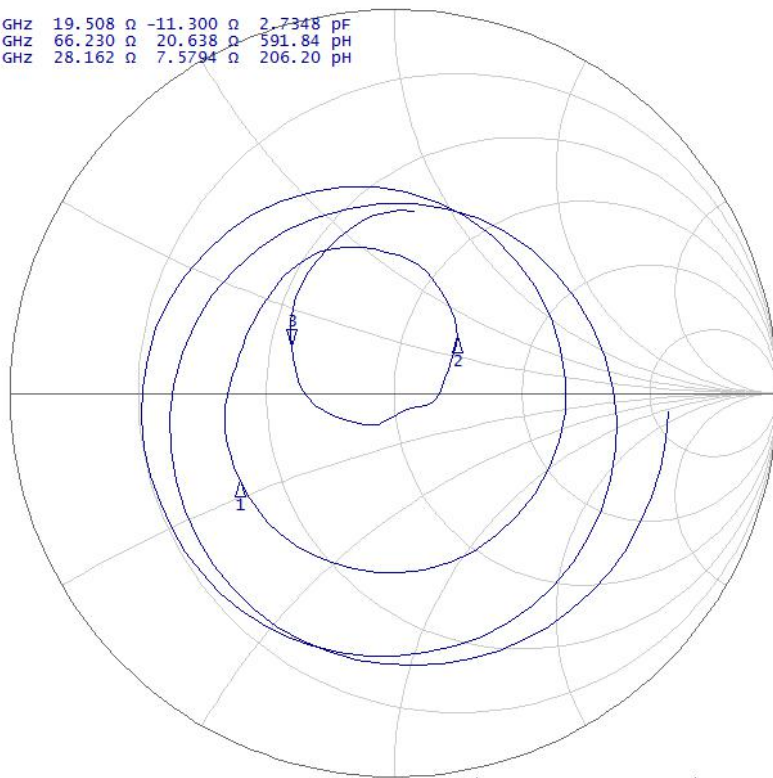
E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize

► Tr1 S11 Smith (R+jX) Scale 1.000U [F2]

1	5.1500000	GHZ	19.508	Ω	-11.300	Ω	2.7348	pF
2	5.5500000	GHZ	66.230	Ω	20.638	Ω	591.84	pH
>3	5.8500000	GHZ	28.162	Ω	7.5794	Ω	206.20	pH



1 Start 4 GHz

IFBW 70 kHz

Stop 6 GHz Cor I

Meas Stop ExtRef Svc 2024-03-25 13:53

Format

Smith (R+jX)

Log Mag

Phase

Group Delay

Smith

R + jX

Polar

Lin Mag

SWR

Real

Imaginary

Expand Phase

Positive Phase

Return

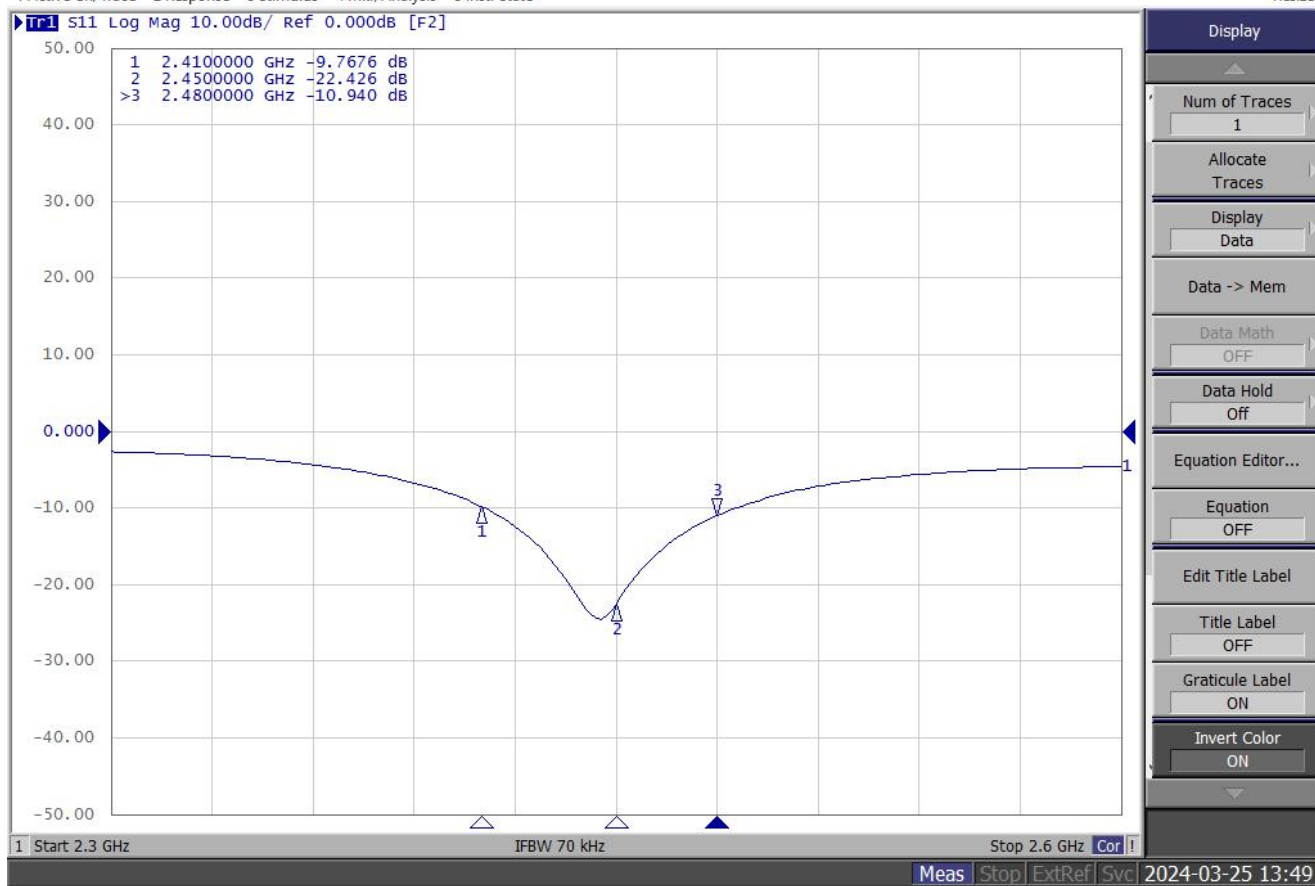
③Return Loss

Mkr1: 2410MHz -9.7 Mkr2: 2450MHz -22.4 Mkr3: 2480 MHz -10.9

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize

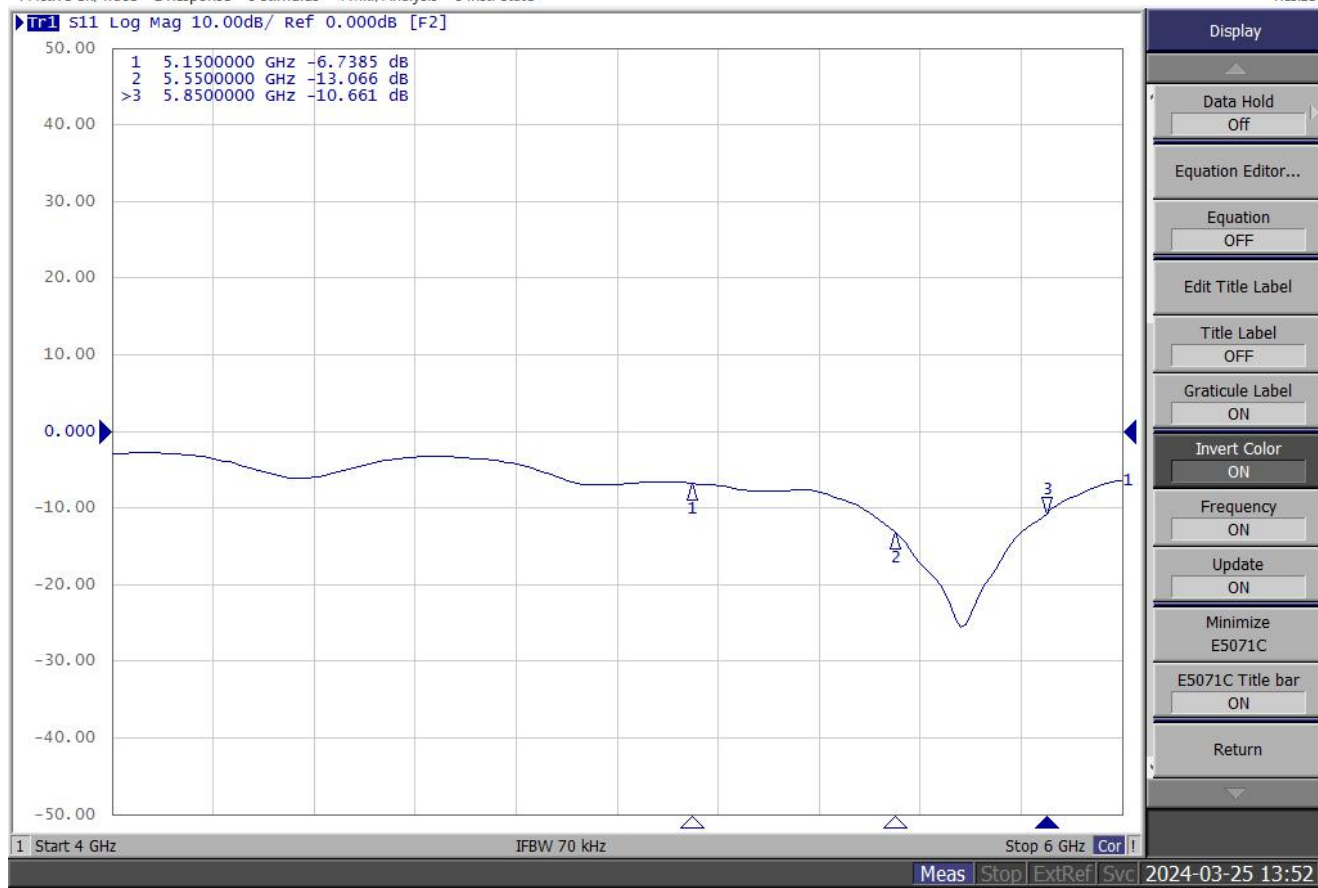


Mkr1: 5150MHz -6.7 Mkr2: 5550MHz -13 Mkr3: 5850 MHz -10.6

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize



④Smith Chart

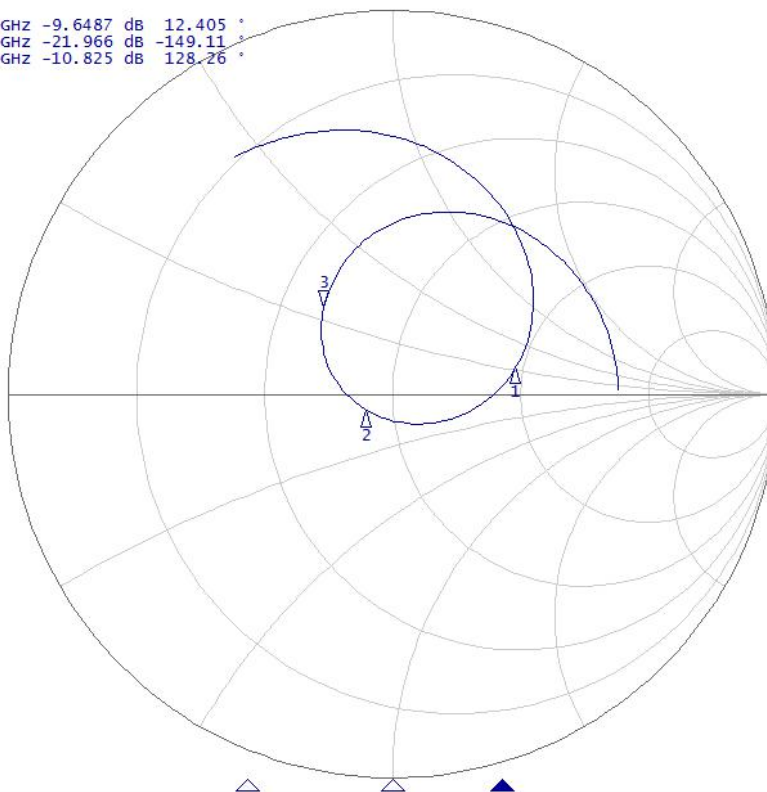
Mkr1: 2410MHz -9.6 Mkr2: 2450MHz -21.9 Mkr3: 2480 MHz -10.8

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

► S11 Smith (Log/Phase) Scale 1.000u [F2]

1 2.410000 GHz -9.6487 dB 12.405 °
2 2.450000 GHz -21.966 dB -149.11 °
>3 2.480000 GHz -10.825 dB 128.26 °



1 Start 2.3 GHz

IFBW 70 kHz

Stop 2.6 GHz Cor I

Meas Stop ExtRef Svc 2024-03-25 13:52

Format

Smith (Log)

Log Mag

Phase

Group Delay

Smith

Log / Phase

Polar

Lin Mag

SWR

Real

Imaginary

Expand

Phase

Positive

Phase

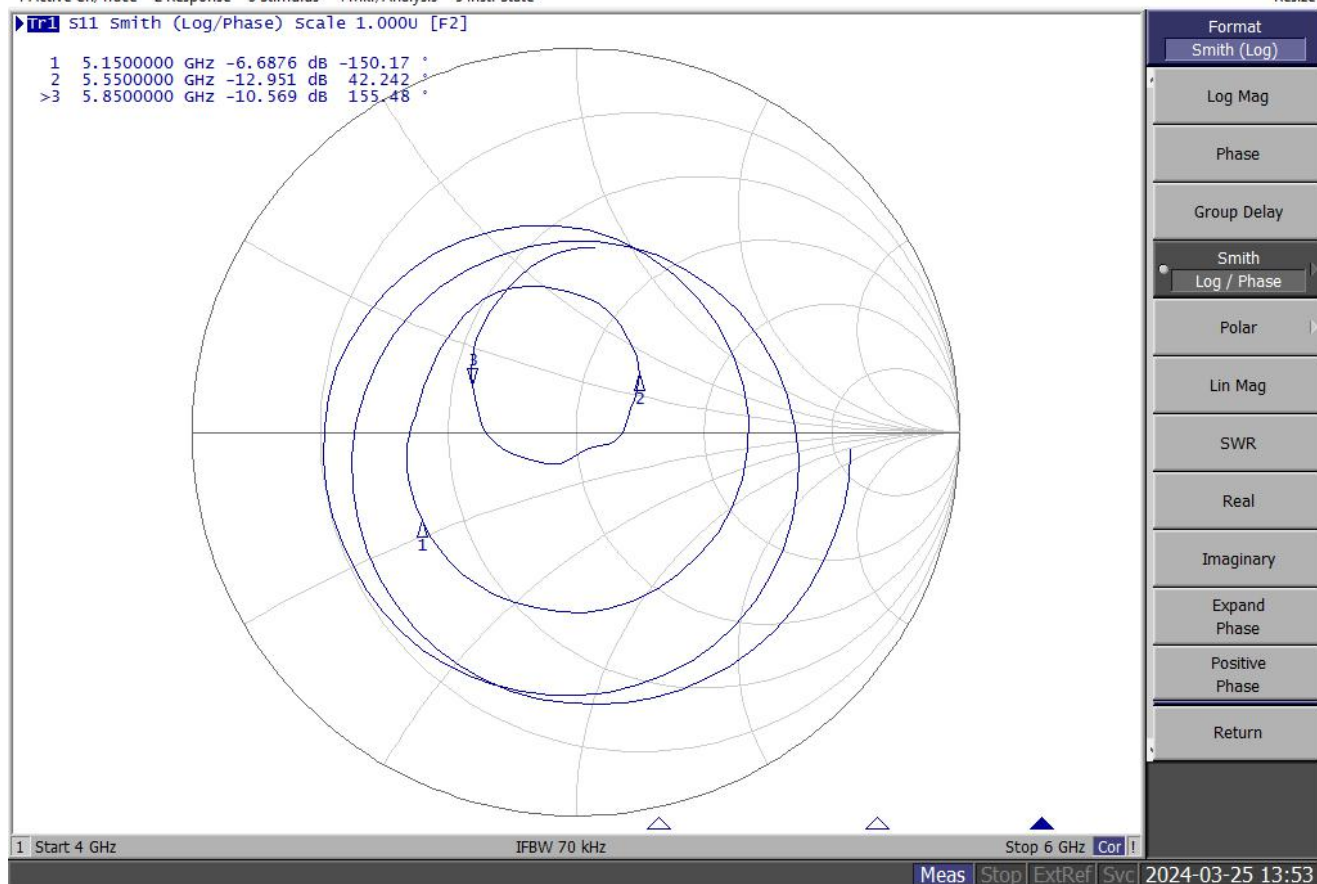
Return

Mkr1: 5150MHz -17.3 Mkr2: 5550MHz -11.4 Mkr3: 5850 MHz -11.6

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize



⑤Phase

Mkr1: 2410MHz 59 Mkr2: 2450MHz -98 Mkr3: 2480MHz 174

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1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

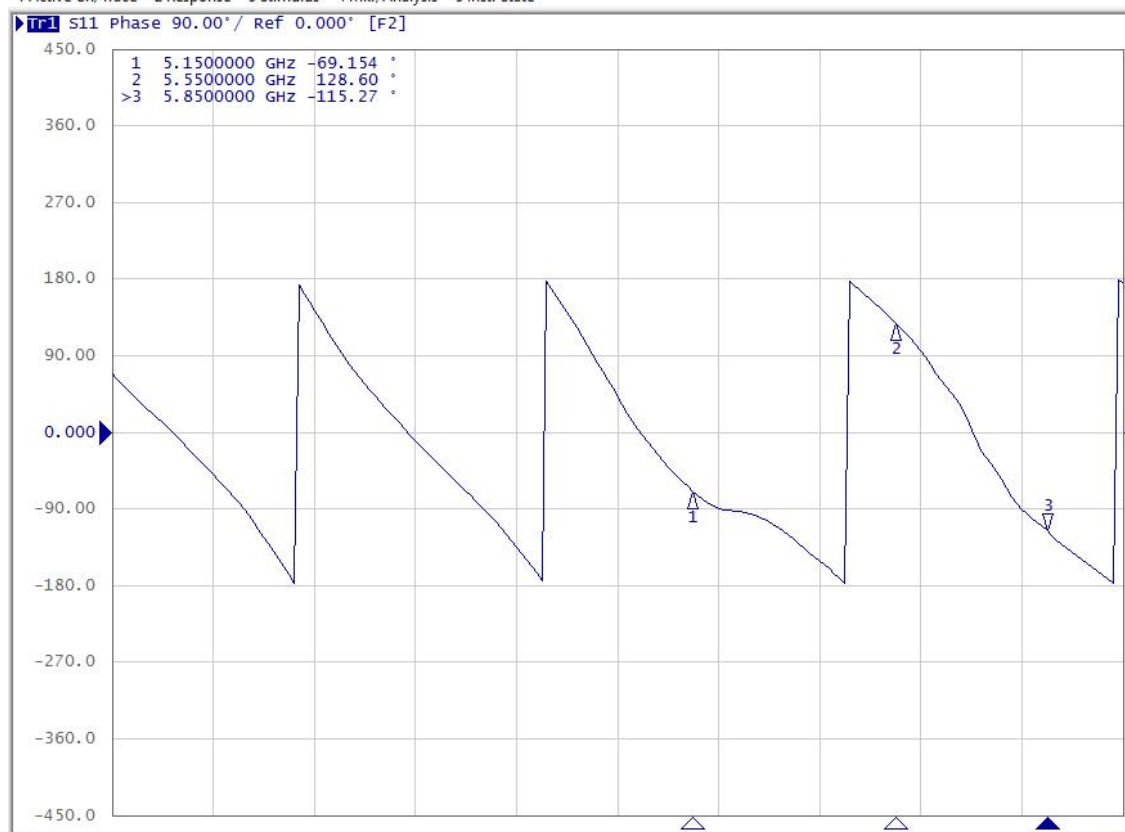
Resize



Mkr1: 5180MHz -69.1 Mkr2: 5560MHz 128.6 Mkr3: 5825 MHz -115.2

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State



1 Start 4 GHz

IFBW 70 kHz

Stop 6 GHz

Meas Stop ExtRef Svc

2024-03-25 14:27

Display

Data Hold

Off

Equation Editor...

Equation

OFF

Edit Title Label

Title Label

OFF

Graticule Label

ON

Invert Color

ON

Frequency

ON

Update

ON

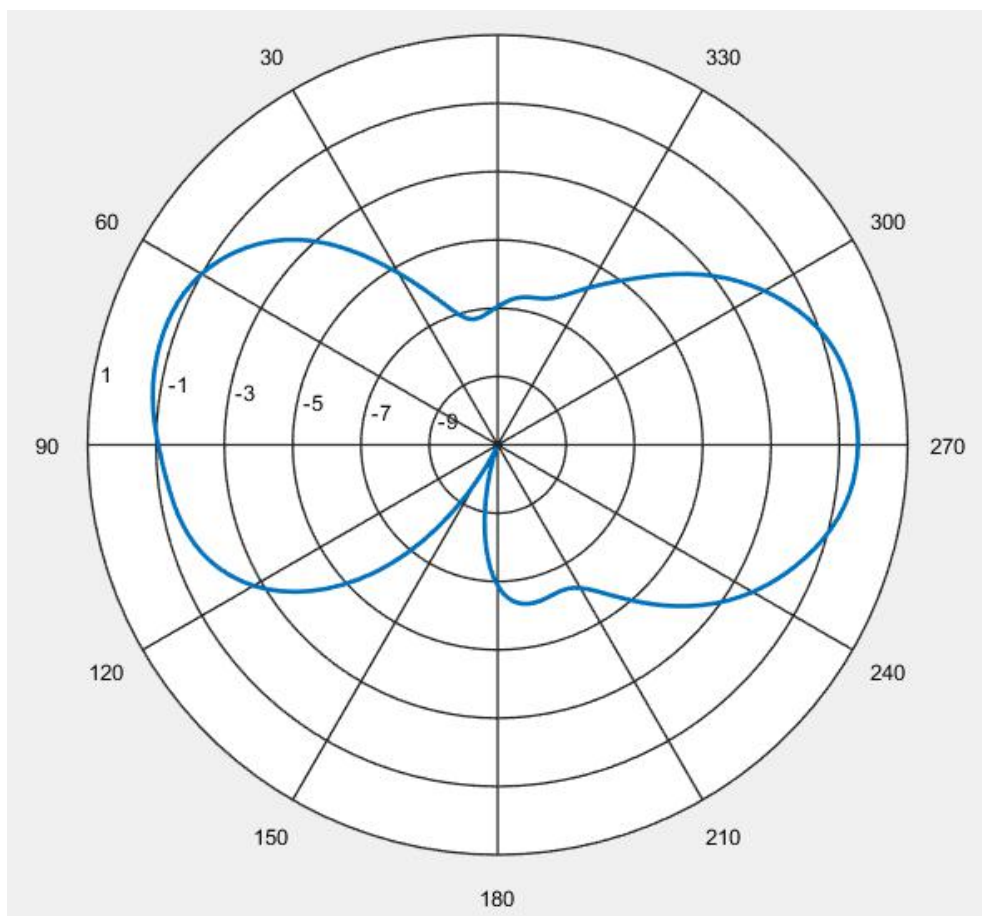
Minimize

E5071C

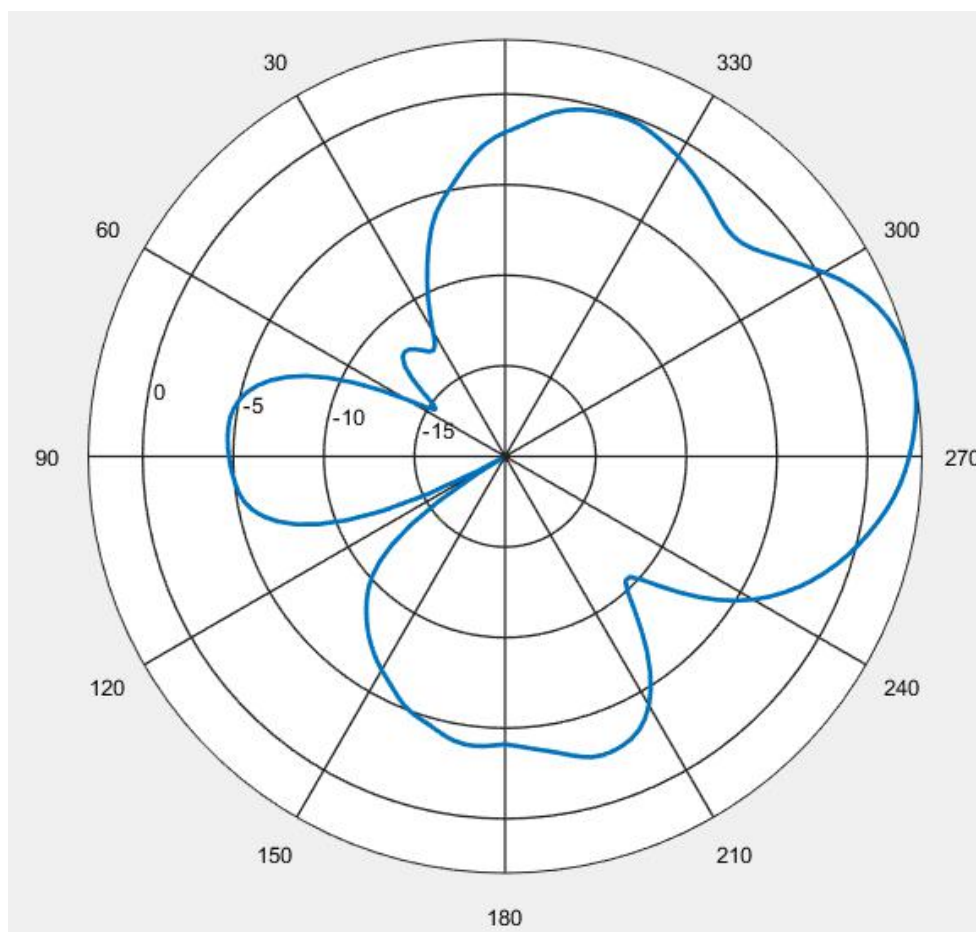
E5071C Title bar

ON

Return

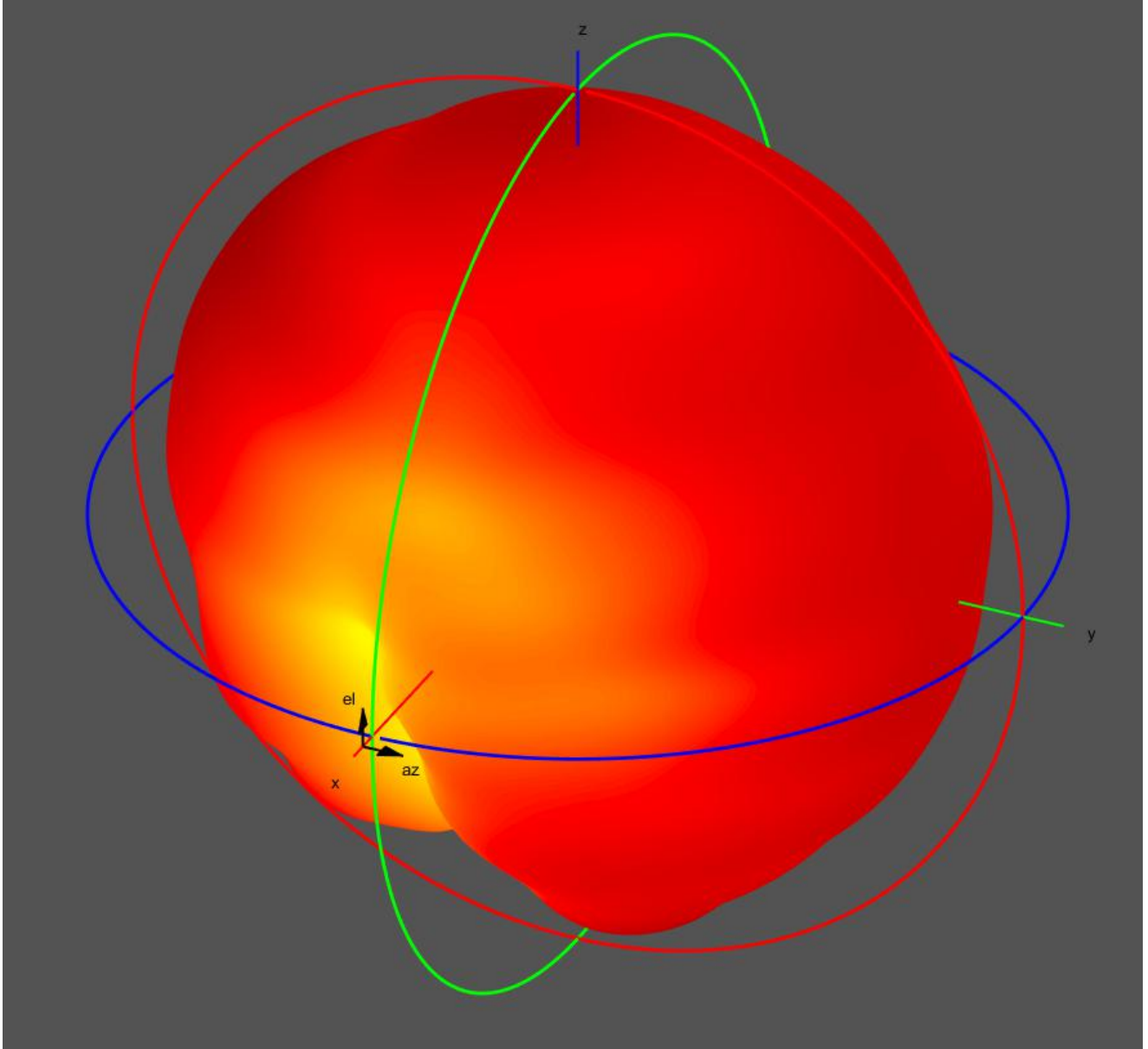


2450MHz

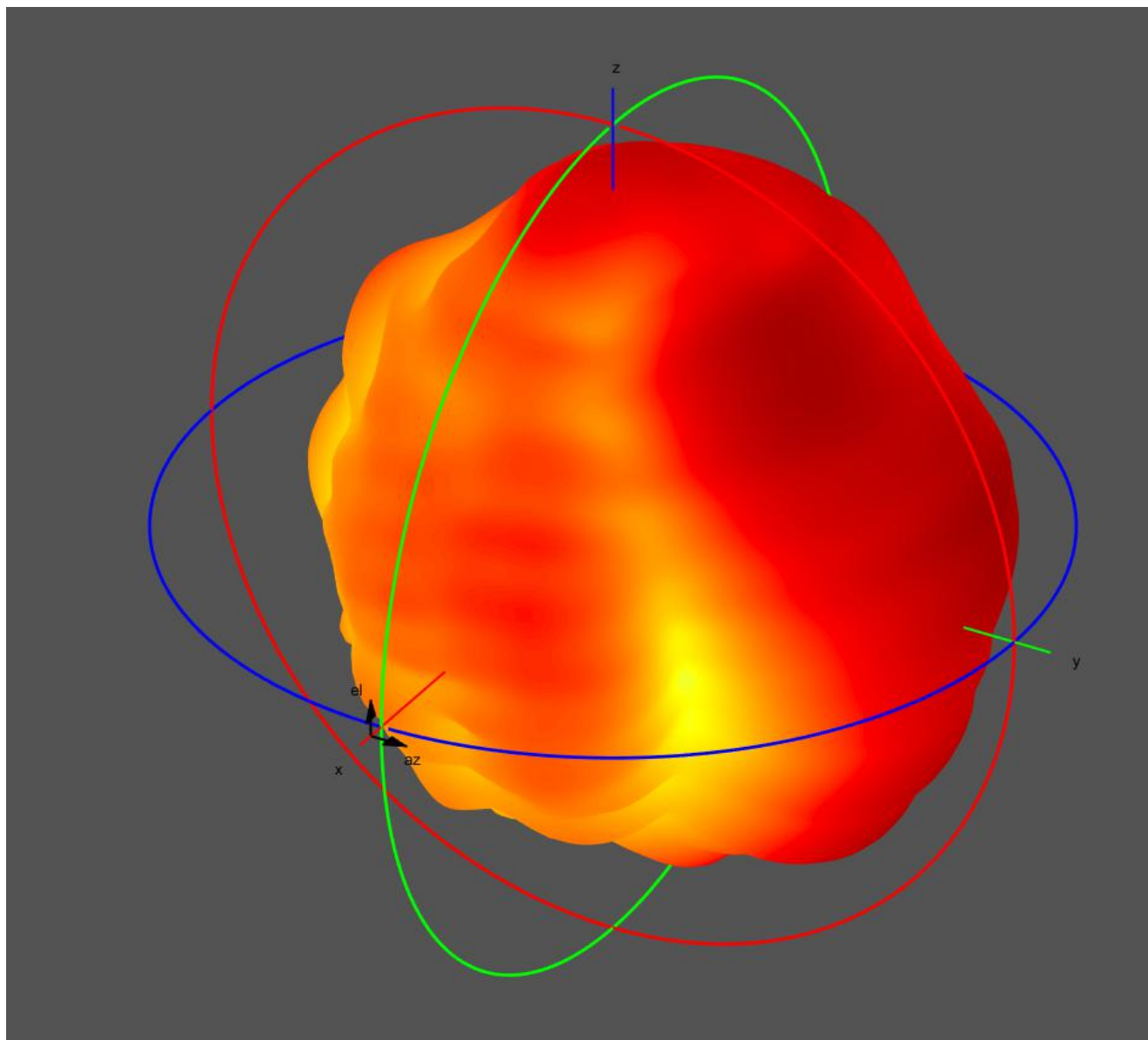


5550MHz

- 3D Radiation patterns



2450MHz



5550MHz

NFC



频率 (MHZ)	13.56
阻抗	49.01 Ω