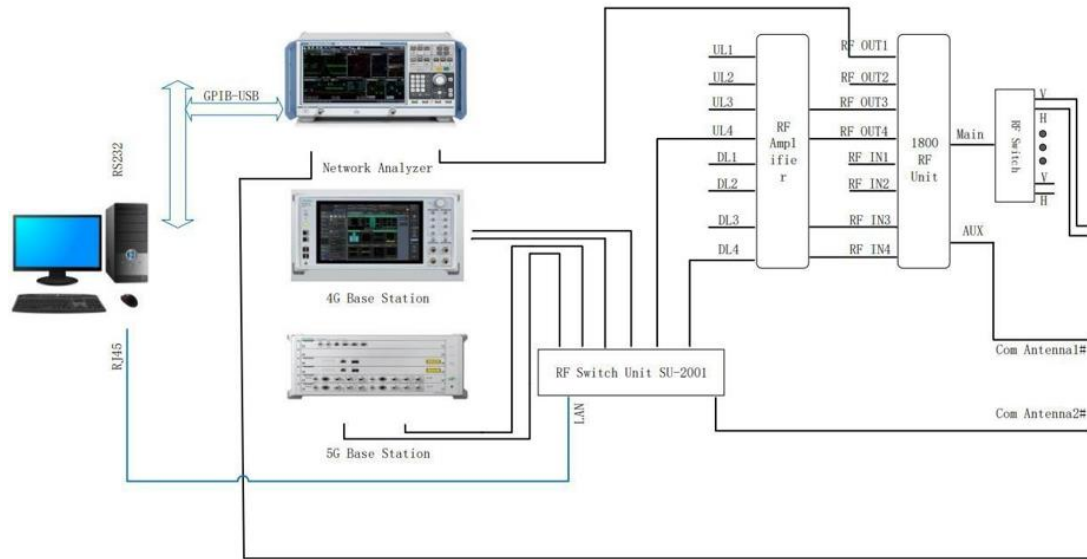


WXT3B WiFi & BT Antenna Test Report

Test setup



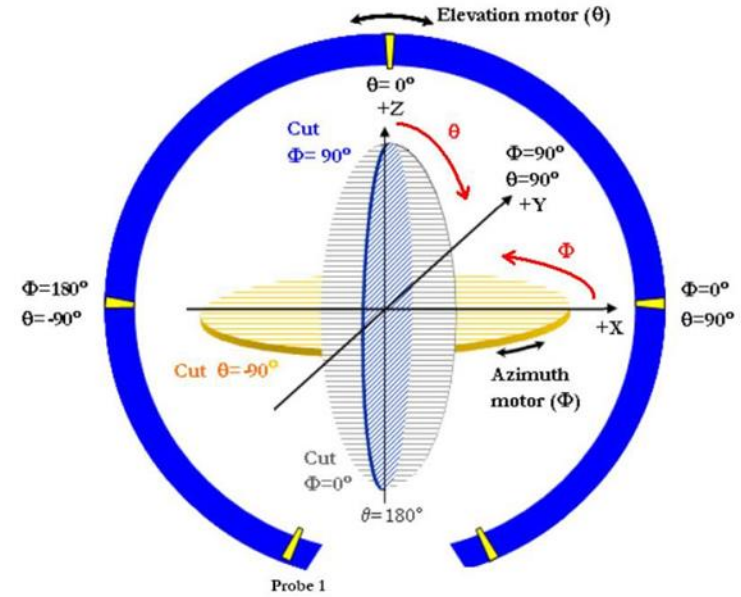
Test setup photo:
Please refer to WXT3B-WiFi &
BT Antenna_Appendix A

Test setup

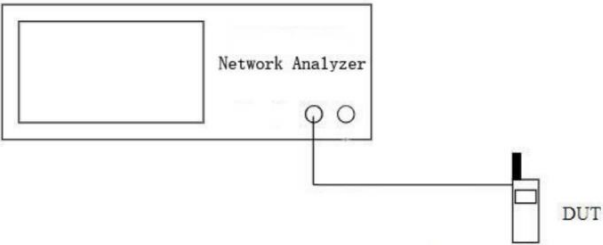
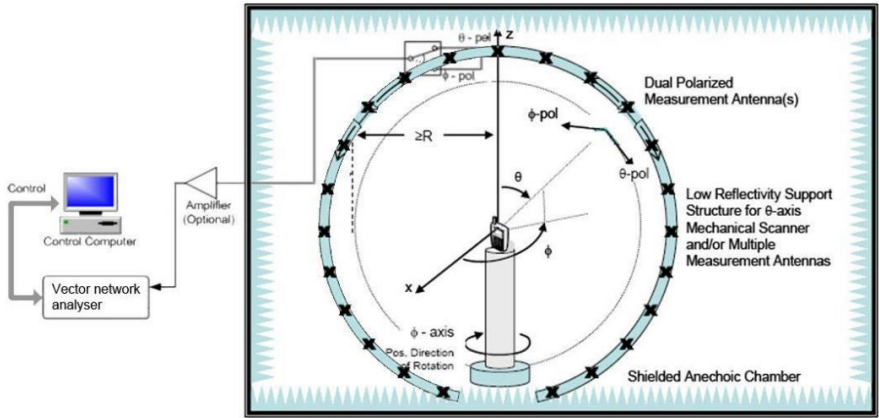
Test Set-up:

1. Set up the device on the turn table and connect the pigtails to the RF cable.
2. Measure the 3D passive performance according to the following coordinate axis.

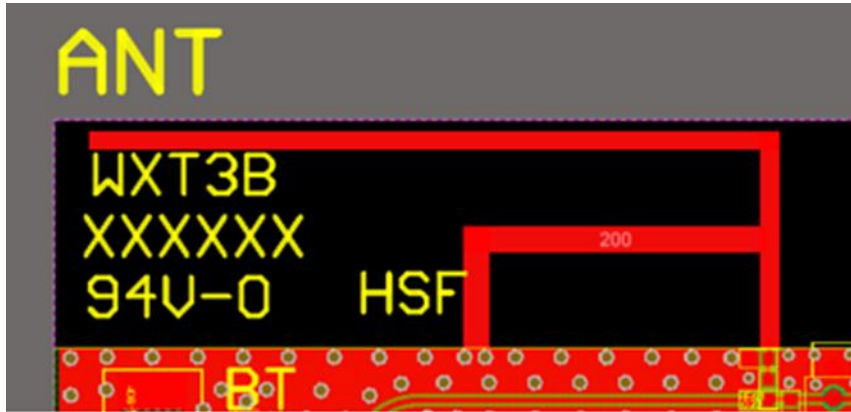
Turntable – Phi: 0-165°, step size: 15°, clockwise rotation



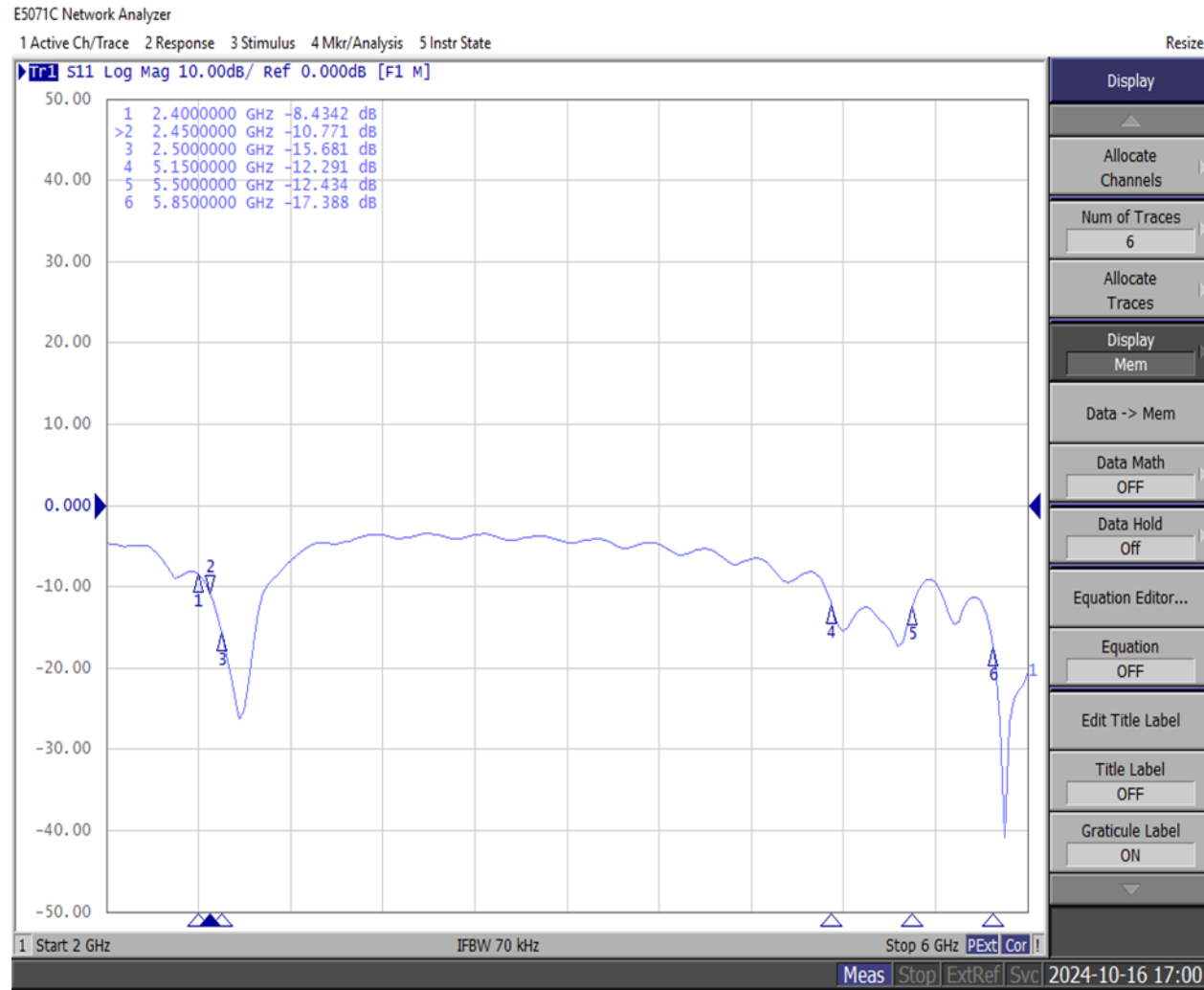
Test laboratory name	中天迅 SATIMO SG24暗室 ZTX SATIMO SG24 Chamber																													
Test laboratory address	深圳市宝安区石岩街道石龙大道34号 No. 34, Shilong Avenue, Shiyan Subdistrict, Bao'an District, Shenzhen, China																													
Test date	2024/10/16																													
Tester name	赵烽 Zhao Feng																													
Test software name	Satimo.Spm																													
Test software version number	1.5.5																													
Test standard	GB/T 9410-2008																													
Calibration Equipment List	<table><tr><td>Test Instruments</td><td>Manufacturer</td><td>Model</td><td>Serial Number</td><td>Calibration Date</td><td>Calibration Expiry Date</td></tr><tr><td>Network Analyzer</td><td>Keysight</td><td>E5071C</td><td>MY47002902</td><td>2024. 04. 16</td><td>2025. 04. 15</td></tr><tr><td>Network Analyzer</td><td>Agilent</td><td>E5071C</td><td>MY46521960</td><td>2024. 04. 16</td><td>2025. 04. 15</td></tr><tr><td>SG24 Antenna Testing System</td><td>SATIMO</td><td>SG24</td><td></td><td>2024. 04. 16</td><td>2025. 04. 15</td></tr></table>						Test Instruments	Manufacturer	Model	Serial Number	Calibration Date	Calibration Expiry Date	Network Analyzer	Keysight	E5071C	MY47002902	2024. 04. 16	2025. 04. 15	Network Analyzer	Agilent	E5071C	MY46521960	2024. 04. 16	2025. 04. 15	SG24 Antenna Testing System	SATIMO	SG24		2024. 04. 16	2025. 04. 15
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SG24 Antenna Testing System	SATIMO	SG24		2024. 04. 16	2025. 04. 15																									

Test Set Up	Antenna Efficiency, Gain, and Radiation Pattern Testing: Refer to WXT3B-WiFi & BT Antenna_Appendix A
Test procedure	Antenna S11 and S12 Parameter Measurement:  Antenna Efficiency, Gain, and Radiation Pattern Testing:  The diagram illustrates a radiation pattern measurement setup within a shielded anechoic chamber. A control computer is connected to a vector network analyzer (VNA) via a control line. The VNA is also connected to an optional amplifier. The amplifier's output is fed into a mechanical scanner, which is a circular structure with a low reflectivity support structure for the θ-axis. The scanner contains multiple dual polarized measurement antennas. The scanner is mounted on a vertical axis, and its position and direction of rotation are indicated. The measurement antennas are labeled with θ-pol and ϕ-pol. The scanner is also labeled with ϕ-axis and Pos. Direction of Rotation. The entire setup is enclosed in a shielded anechoic chamber.

BT_onboard antenna(PCB Antenna)



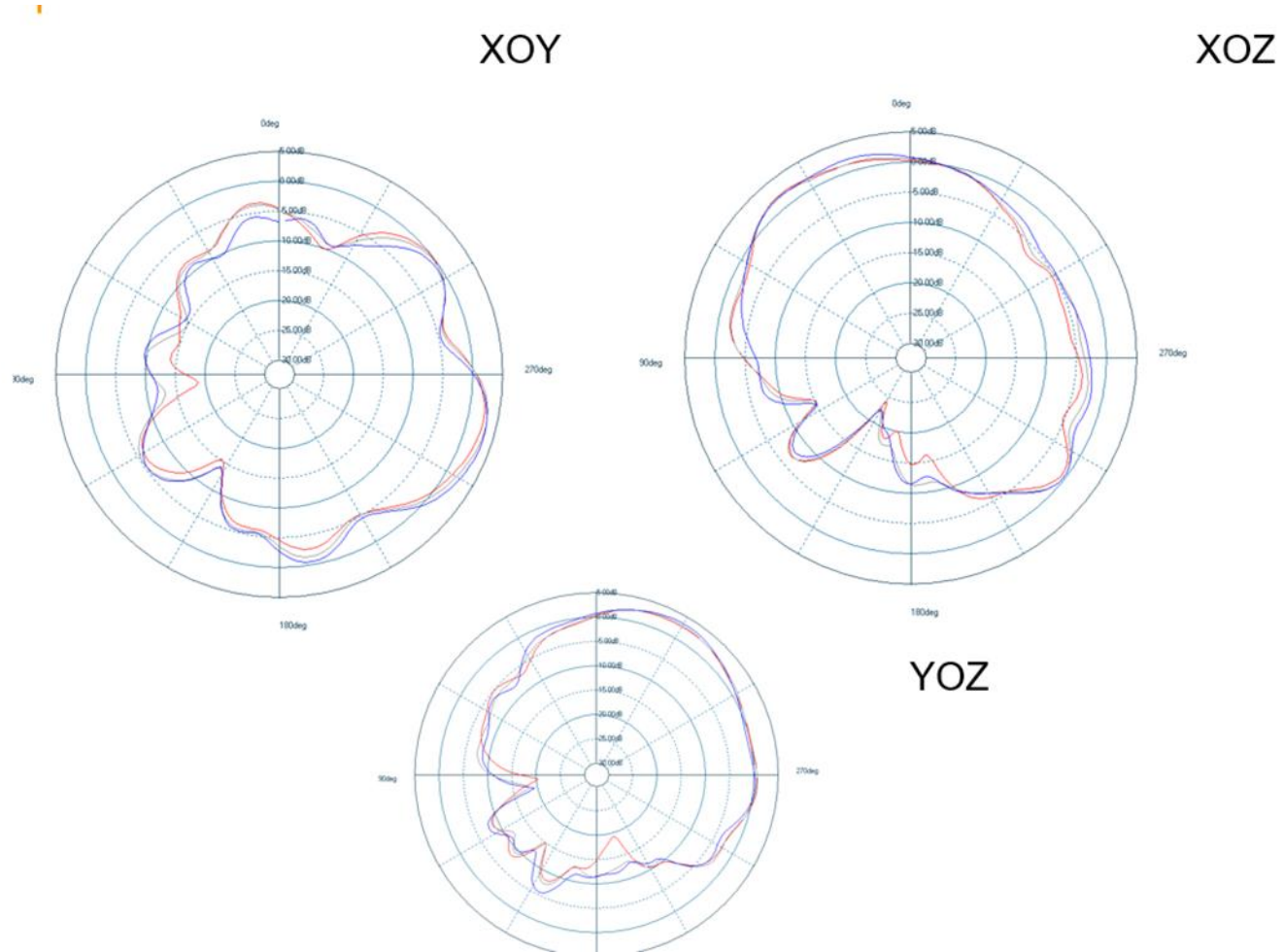
BT_onboard antenna(PCB Antenna)_S11



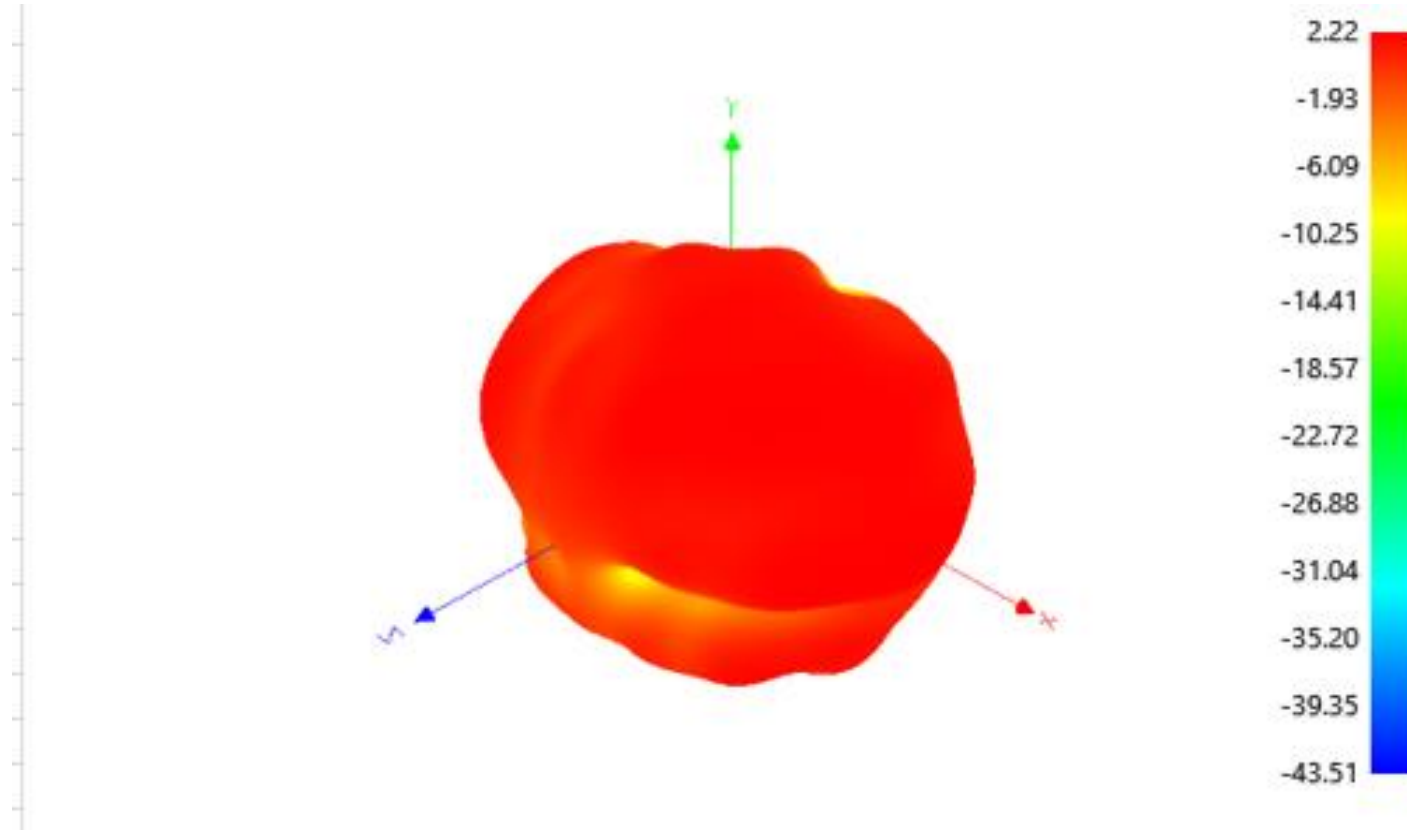
BT_onboard antenna(PCB Antenna)_Eff&Peakgain

BT onboard		
Frequen	Eff	Gain . dB
2.4	-2.68	5.50
2.41	-2.52	5.42
2.42	-2.52	5.32
2.43	-2.93	5.32
2.44	-2.73	5.30
2.45	-2.46	5.29
2.46	-2.31	5.04
2.47	-2.61	4.94
2.48	-2.70	4.63
2.49	-2.45	4.35
2.5	-2.57	4.50

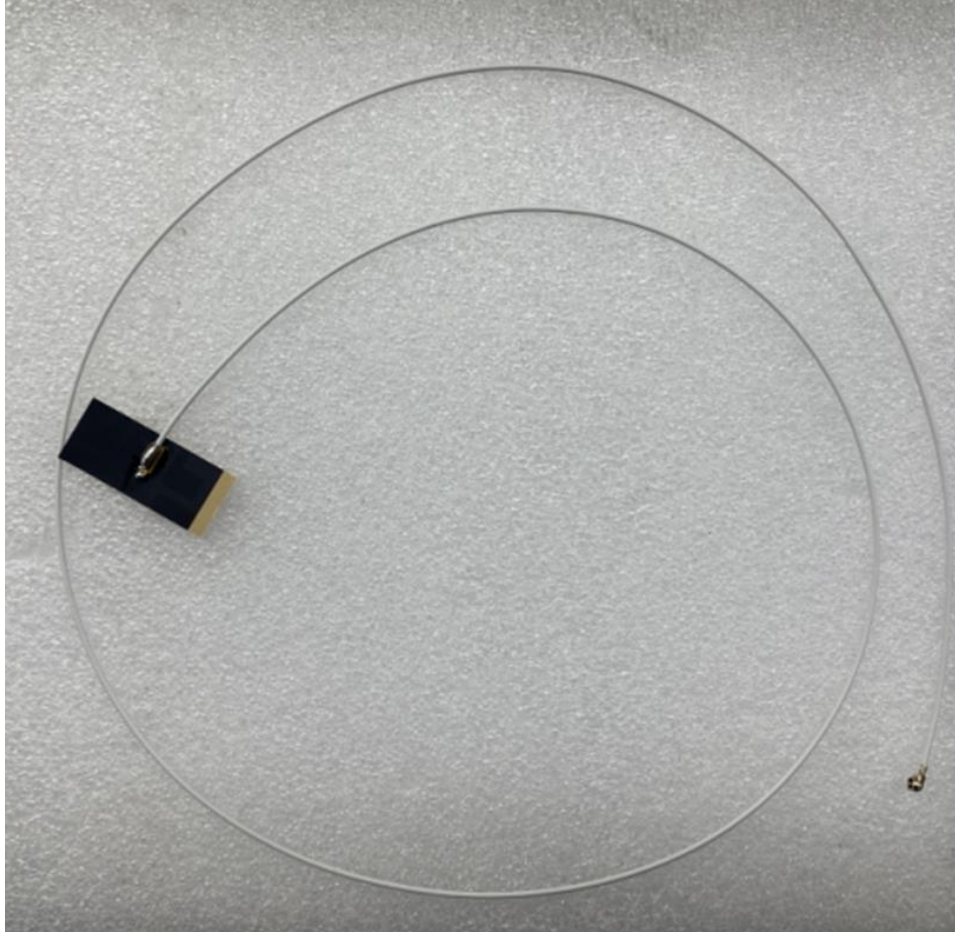
BT_onboard antenna(PCB Antenna)_2D



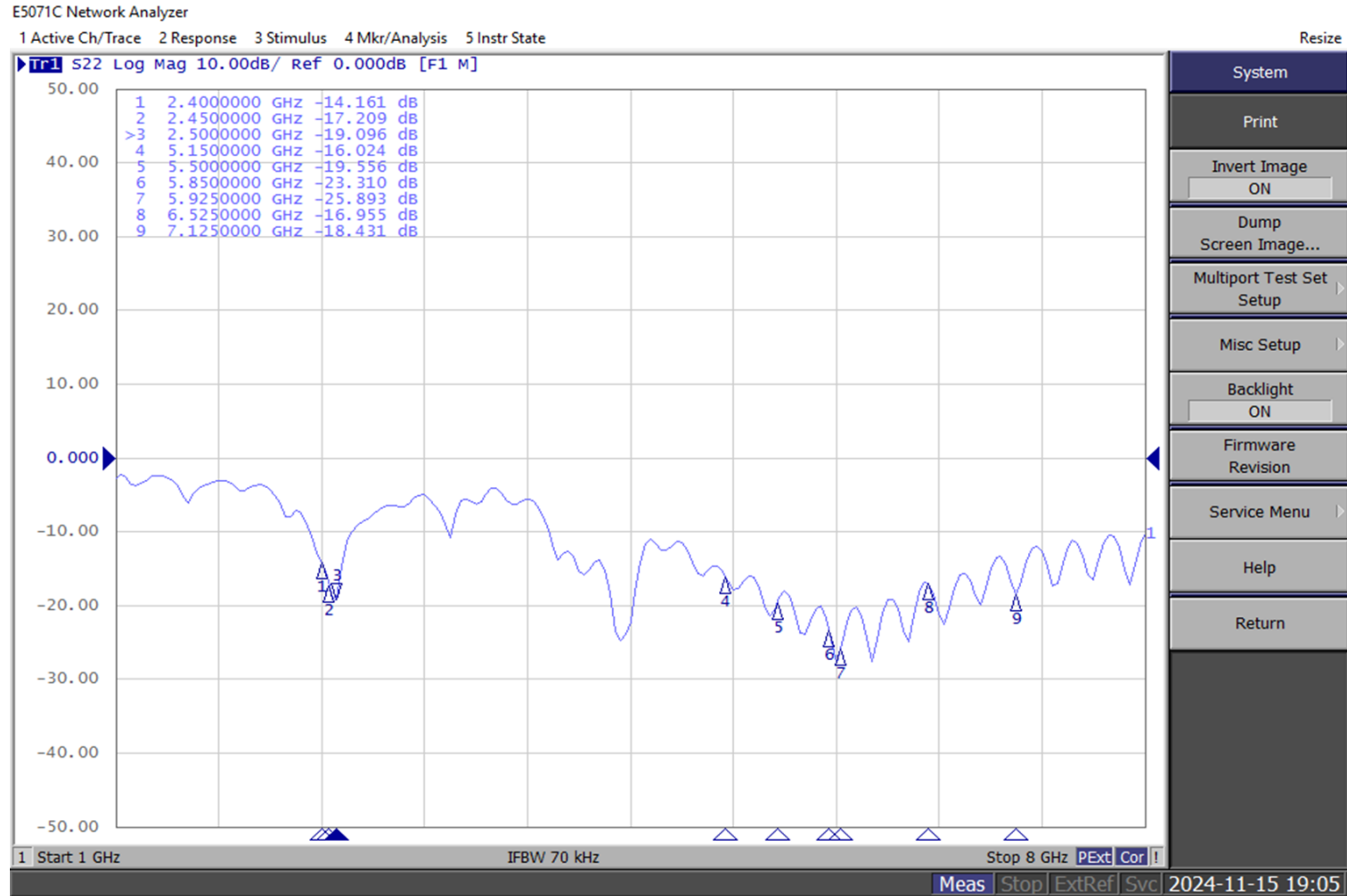
BT_onboard antenna(PCB Antenna)_3D



BT_external antenna(FPC Antenna)



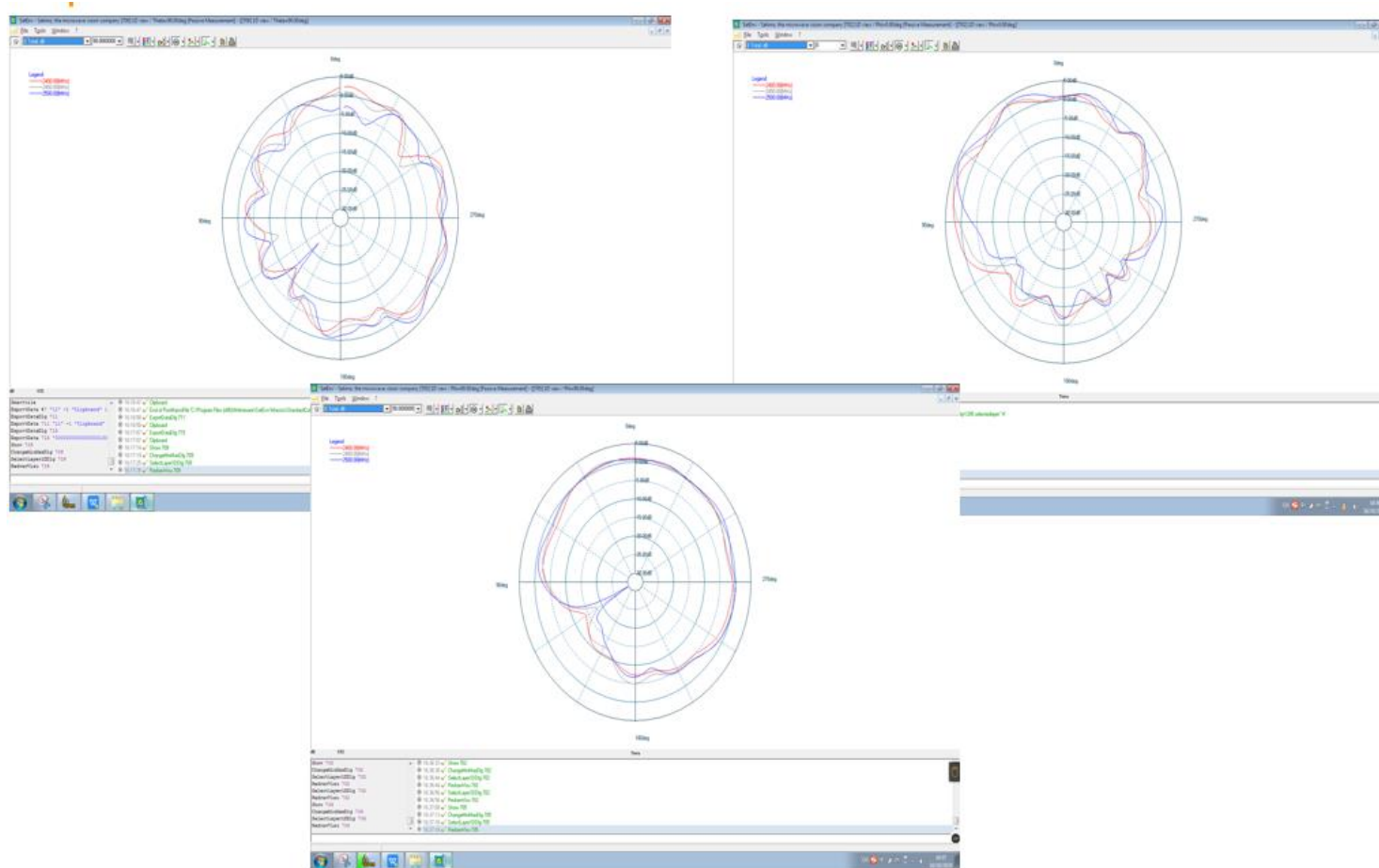
BT_external antenna(FPC Antenna)_S11



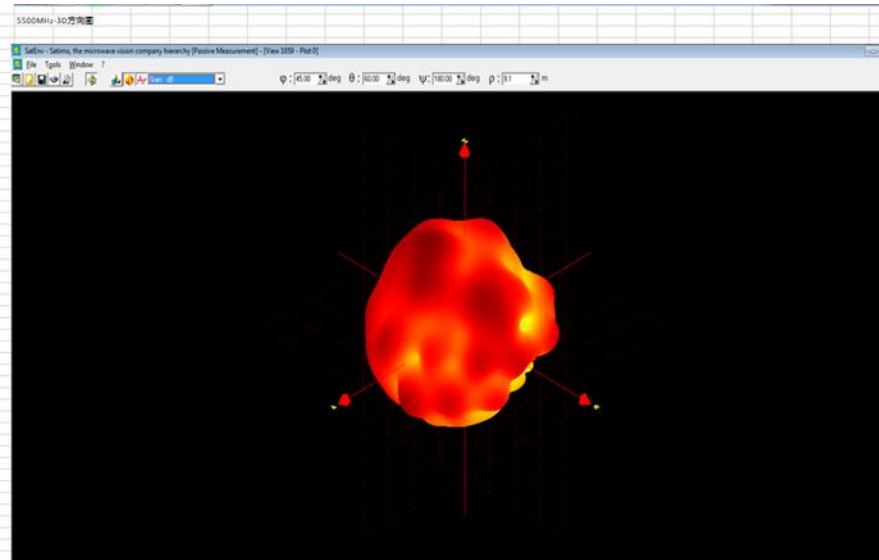
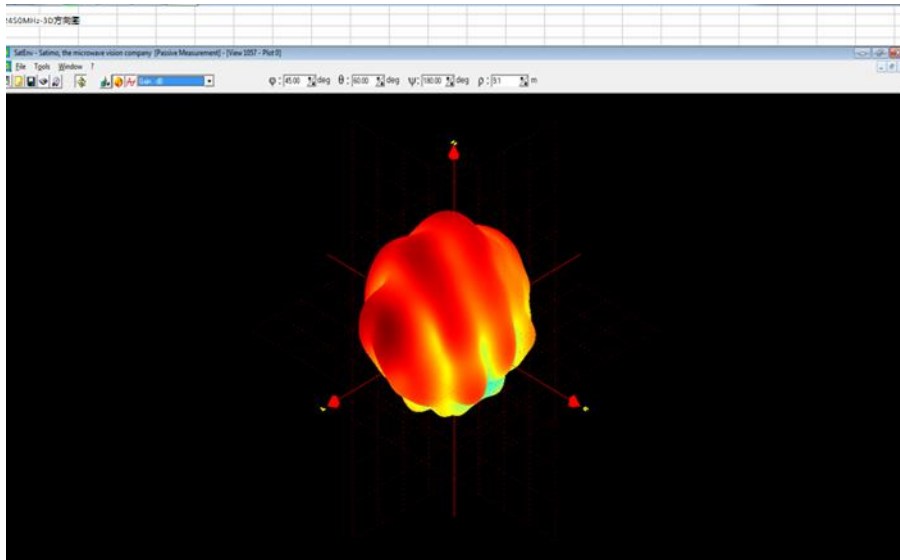
BT_external antenna(FPC Antenna)_Eff&Peakgain

BT External		
Frequency	Eff	Gain . dB
2.4	-2.23	4.24
2.41	-2.29	4.40
2.42	-2.13	4.73
2.43	-2.08	5.04
2.44	-1.99	5.34
2.45	-1.91	5.43
2.46	-1.91	5.50
2.47	-1.94	5.45
2.48	-1.79	5.36
2.49	-1.67	5.32
2.5	-1.67	5.14

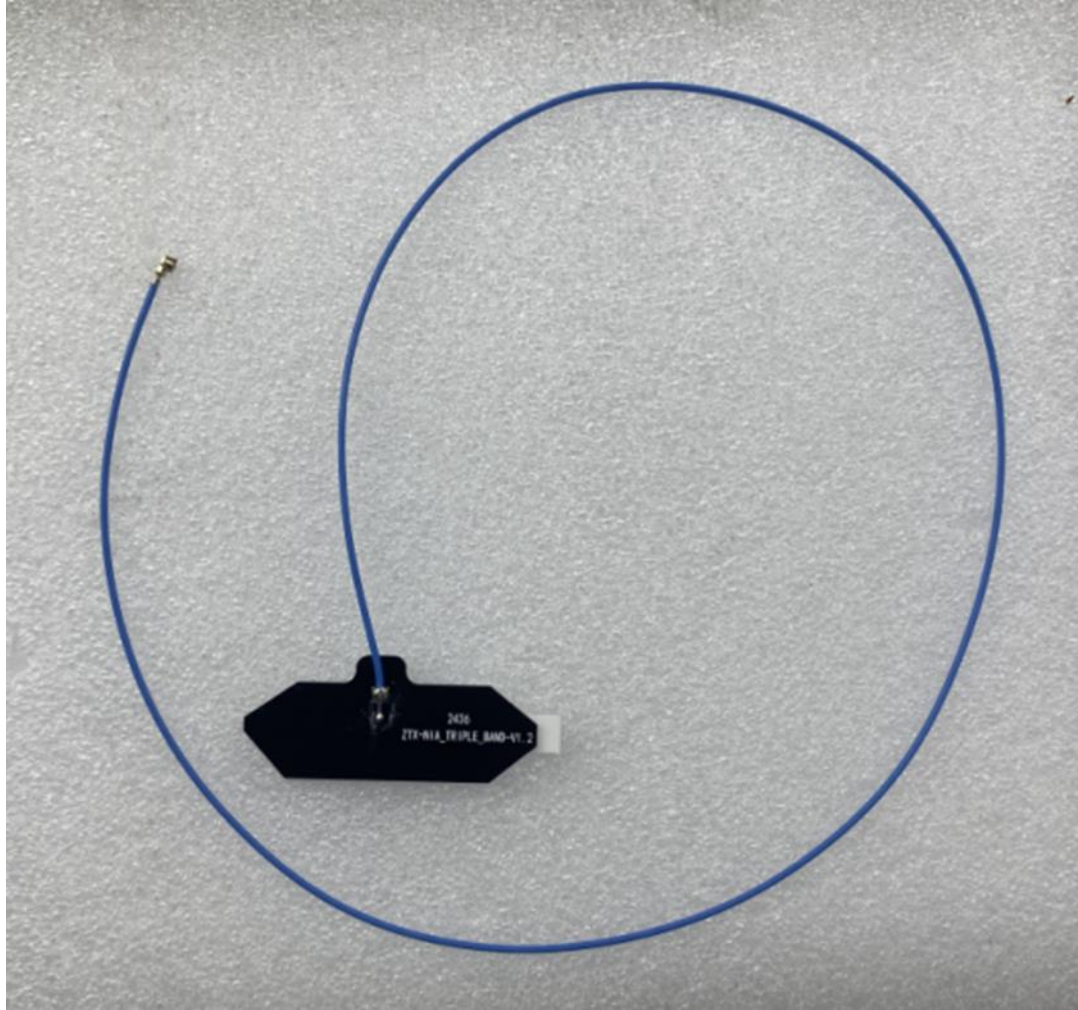
BT_external antenna(FPC Antenna)_2D



BT_external antenna(FPC Antenna)_3D



WiFi antenna(PCB Antenna)(Ant 3)



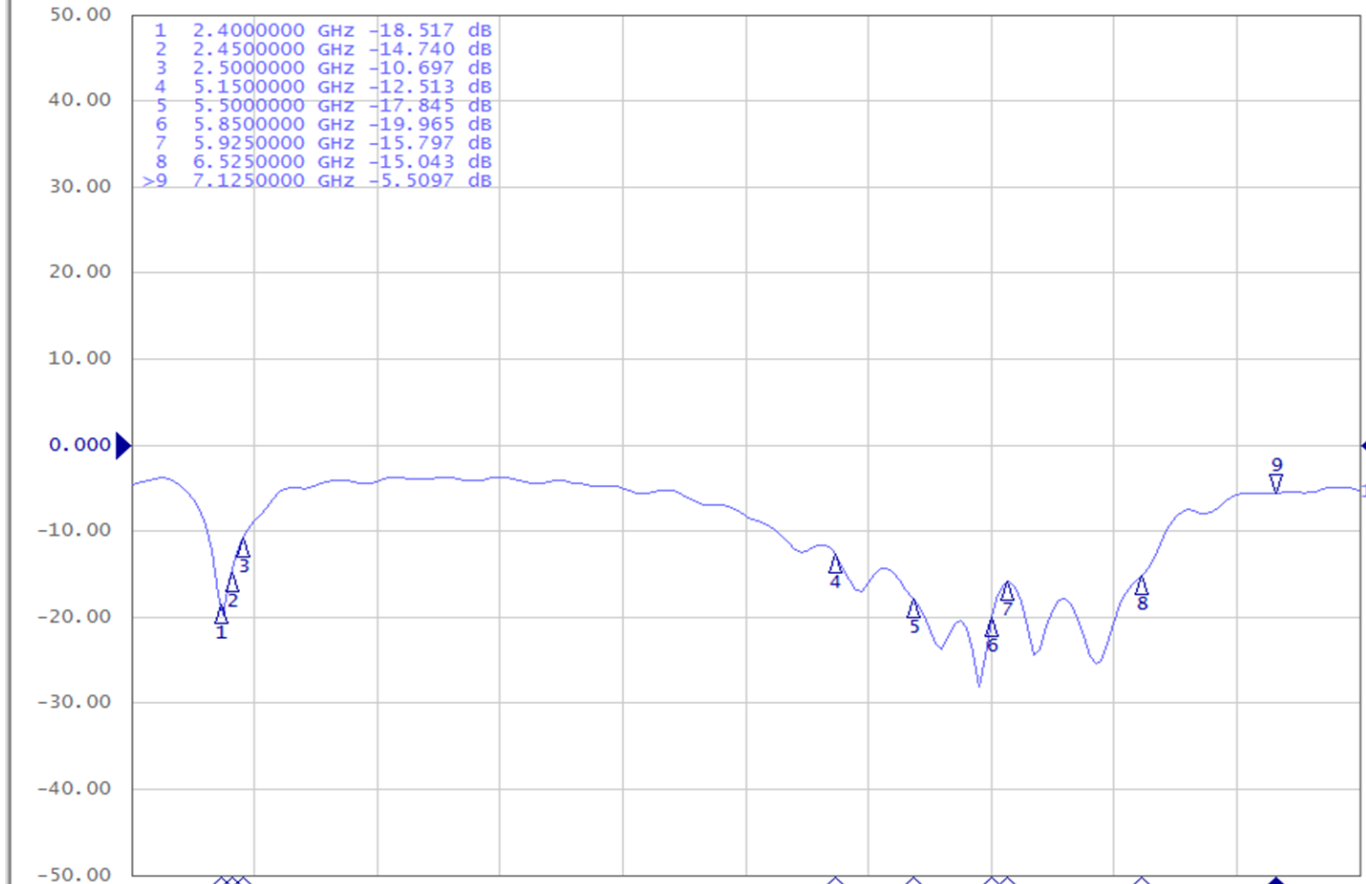
WiFi antenna(PCB Antenna)(Ant 3)_S11

E5071C Network Analyzer

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

Resize

► Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 M]



1 Start 2 GHz

IFBW 70 kHz

Stop 7.5 GHz Cor I

Meas

Stop

ExtRef Svc

2024-11-06 18:41

Display

Allocate
Channels

Num of Traces
1

Allocate
Traces

Display
Mem

Data -> Mem

Data Math
OFF

Data Hold
Off

Equation Editor...

Equation
OFF

Edit Title Label

Title Label
OFF

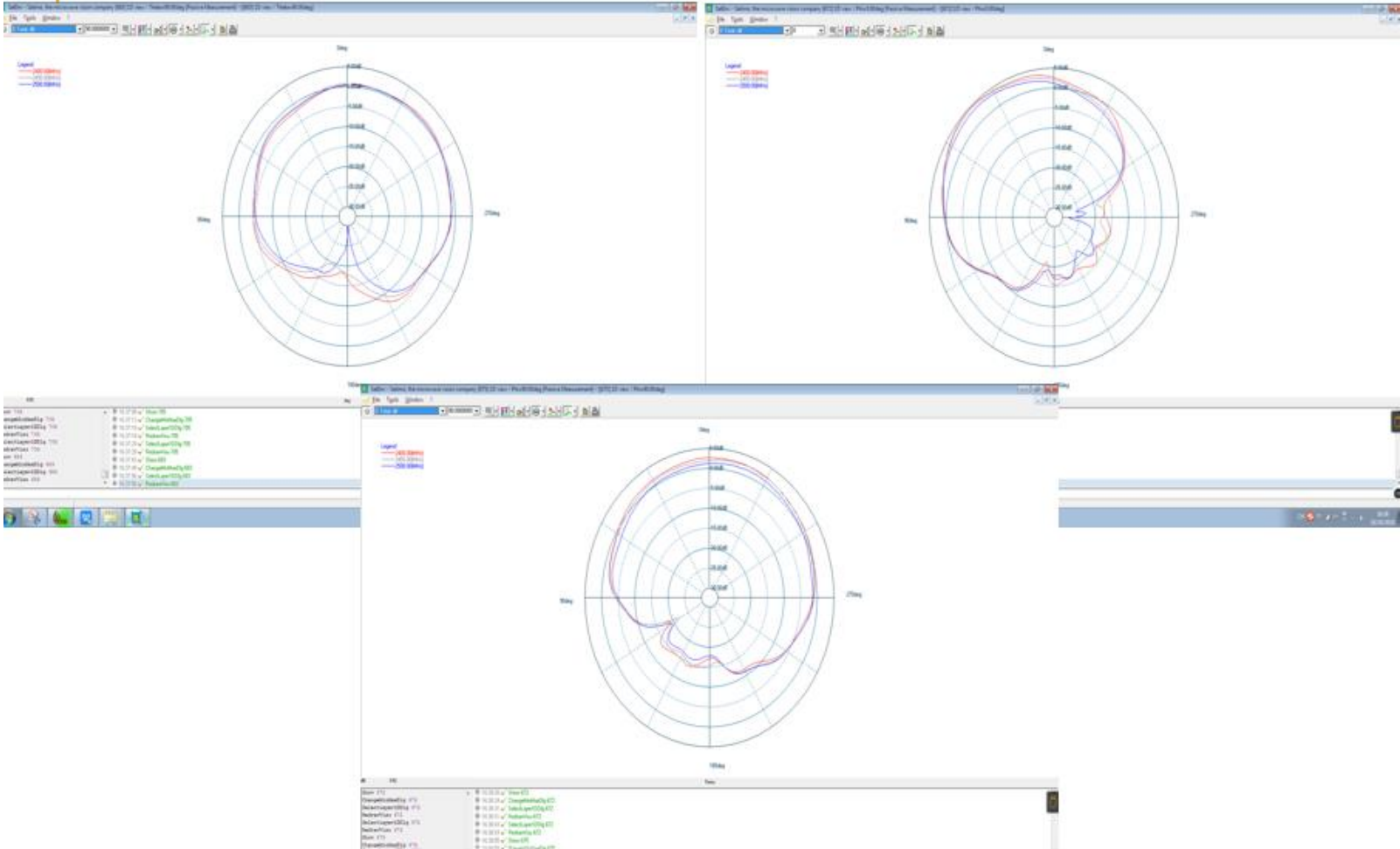
Graticule Label
ON

WiFi antenna(PCB Antenna)(Ant 3)_Eff&Peakgain

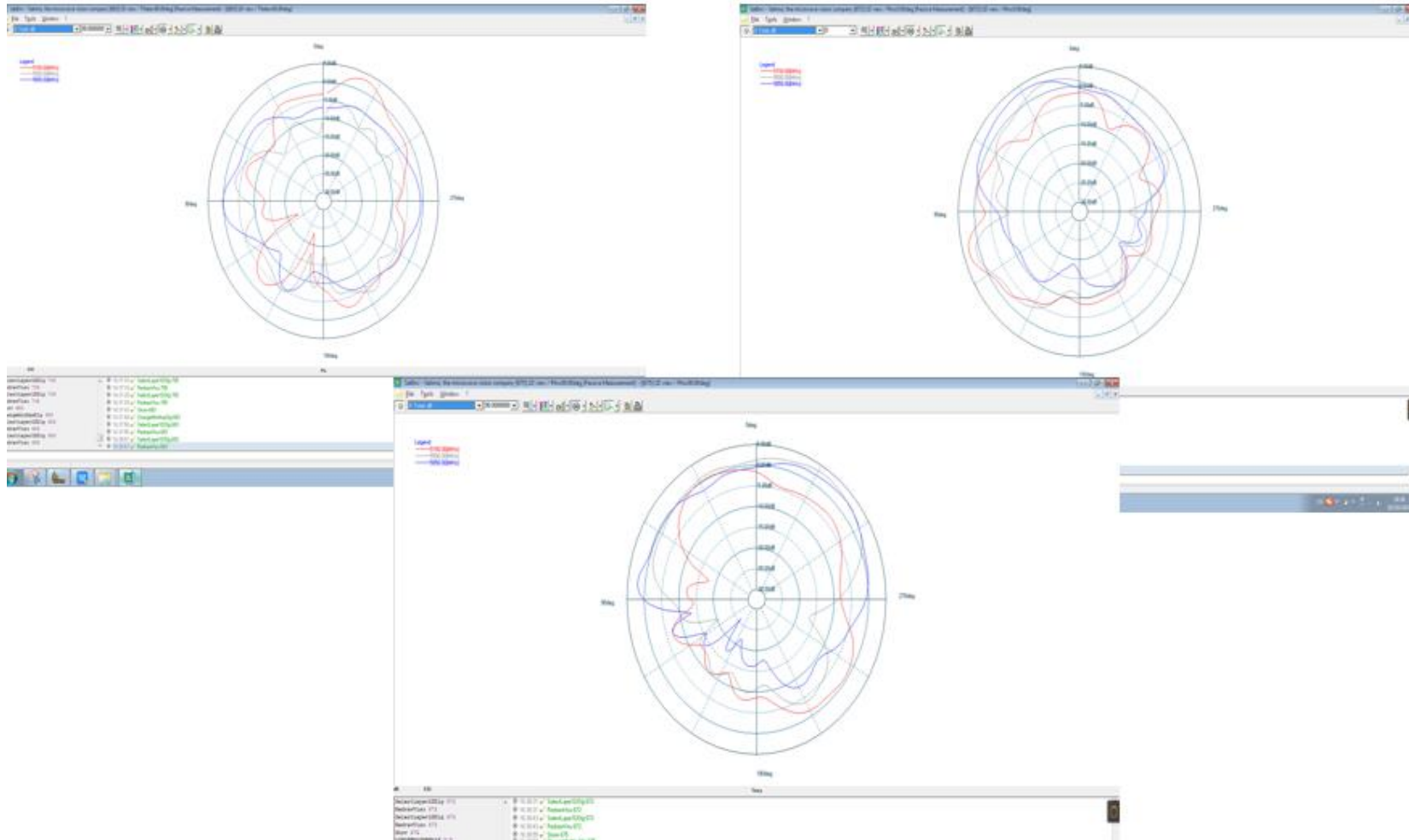
WiFi PCB(ANT0)		
Frequency	Eff	Gain . dB
2.4	-1.90	5.70
2.41	-2.01	5.57
2.42	-2.02	5.48
2.43	-1.97	5.60
2.44	-2.02	5.56
2.45	-2.03	5.39
2.46	-2.22	5.14
2.47	-2.40	3.96
2.48	-2.44	3.91
2.49	-2.50	3.66
2.5	-2.64	3.59

Frequency	Eff	Gain . dB
5.15	-3.74	5.73
5.2	-3.62	5.30
5.25	-3.57	5.80
5.3	-3.93	4.56
5.35	-4.41	3.62
5.4	-3.82	4.04
5.45	-3.45	5.07
5.5	-3.42	5.56
5.55	-3.31	5.56
5.6	-3.24	5.80
5.65	-3.04	5.78
5.7	-3.24	5.55
5.75	-3.17	5.80
5.8	-2.89	5.69
5.85	-2.91	5.64
6	-3	5.40
6.15	-3.12	5.32
6.3	-3.5	4.90
6.45	-3.7	5.80
6.6	-3.8	5.20
6.75	-4.5	4.90
6.9	-5.12	4.30
7.05	-5.43	4.00

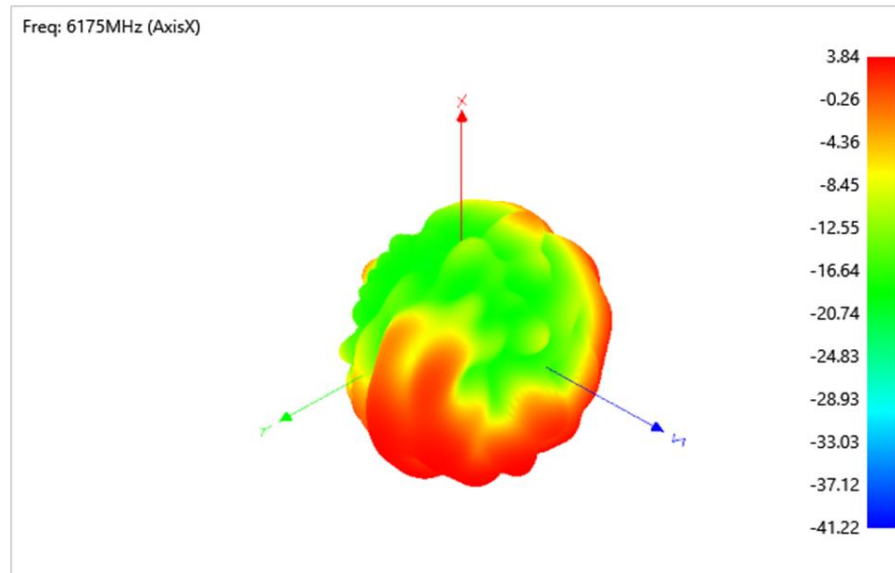
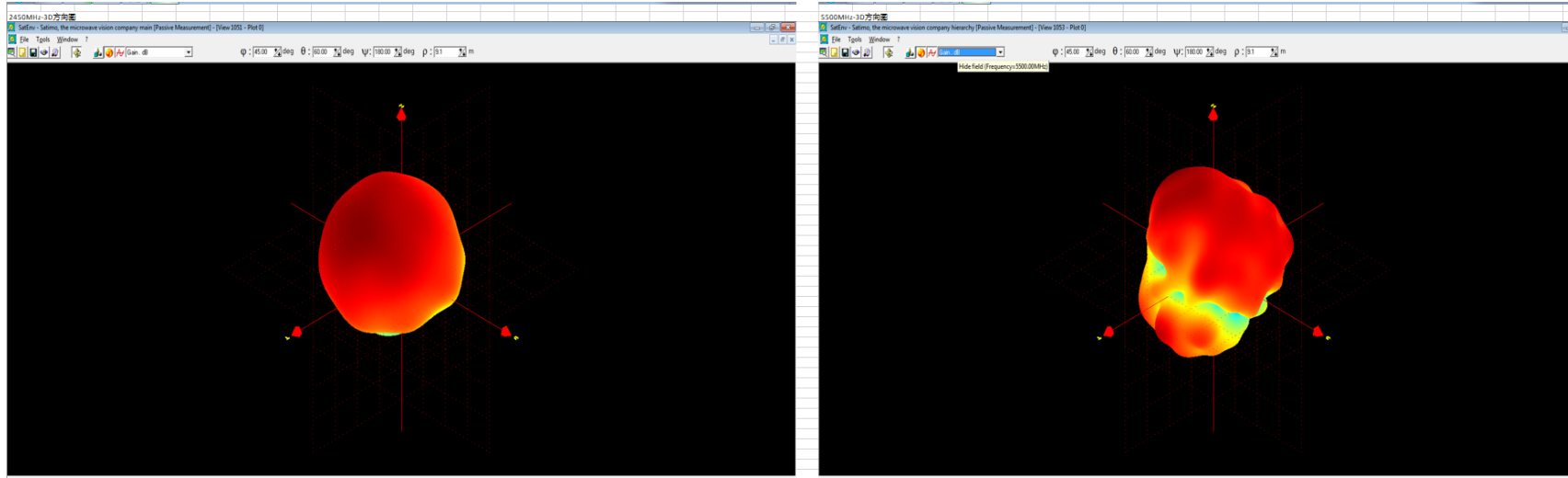
WiFi antenna(PCB Antenna)(Ant 3)_2D_2.4G



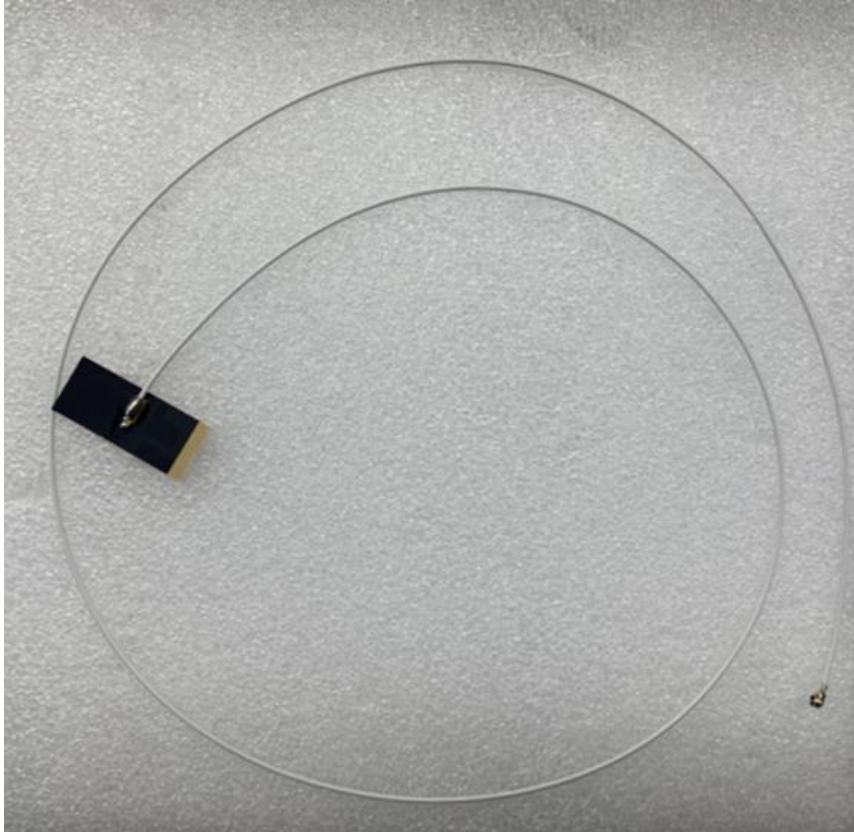
WiFi antenna(PCB Antenna)(Ant 3)_2D_5G



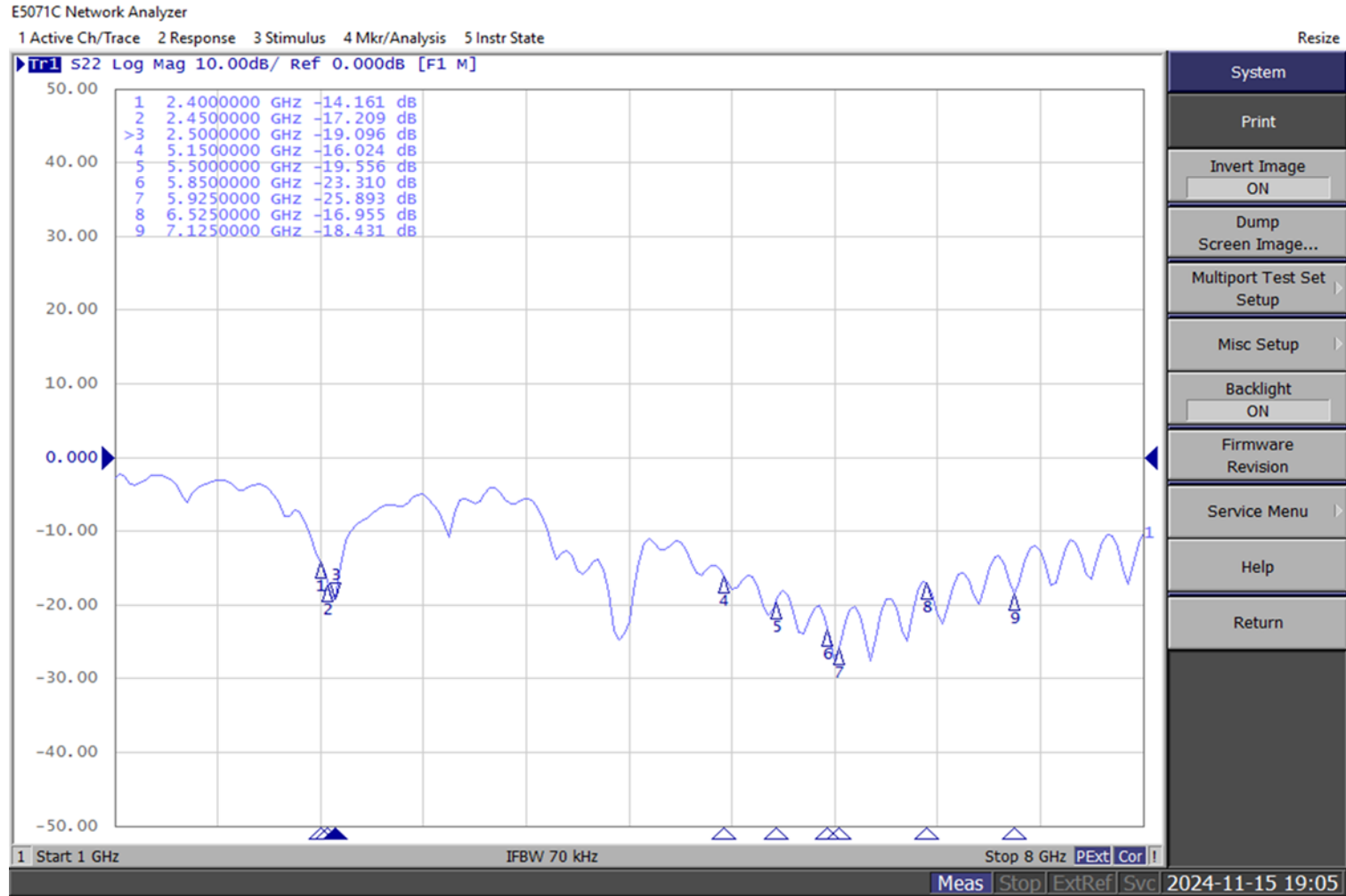
WiFi antenna(PCB Antenna)(Ant 3)_3D



WiFi antenna(FPC Antenna)(Alternative)



WiFi antenna(FPC Antenna)(Alternative)_S11

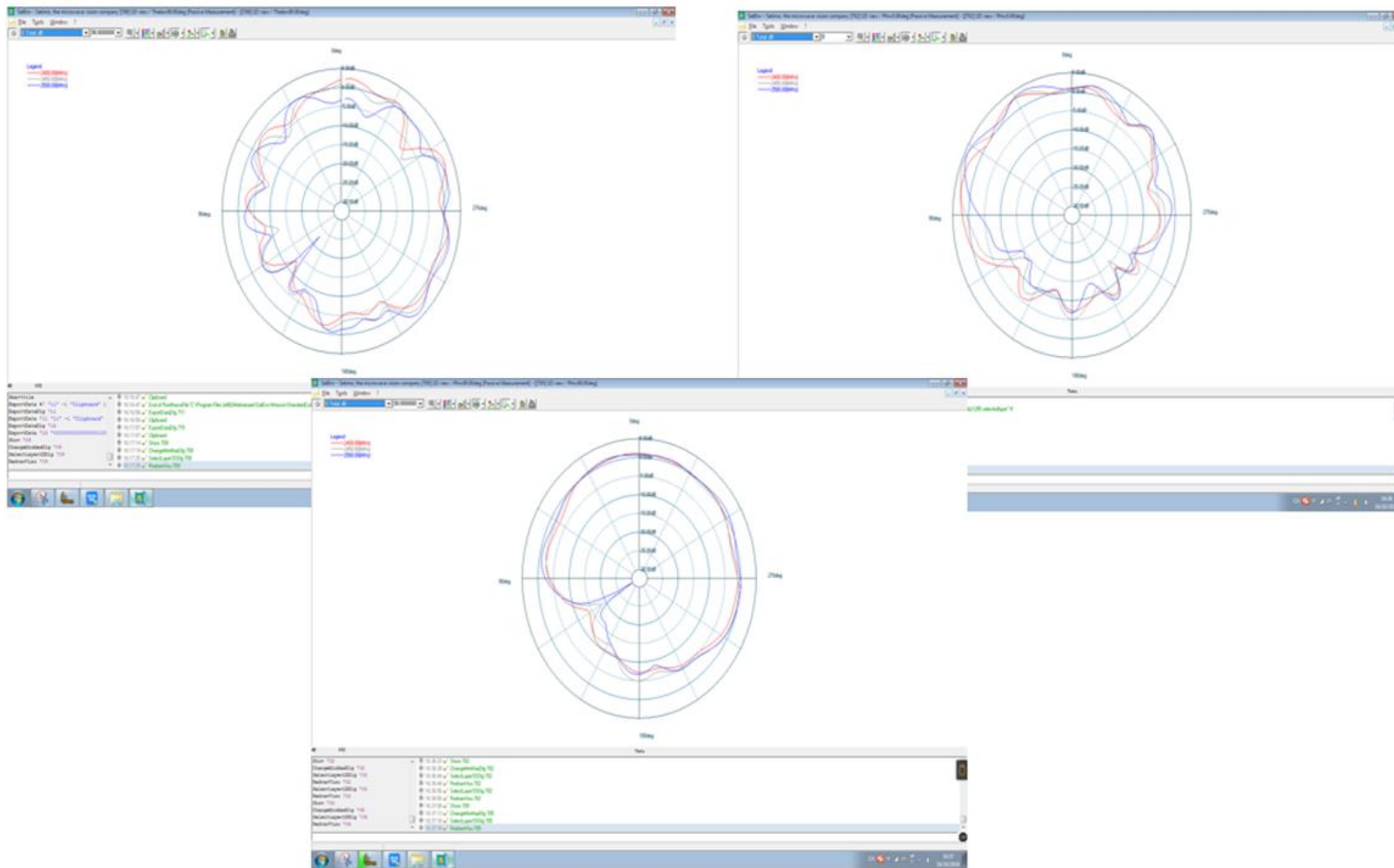


WiFi antenna(FPC Antenna)(Ant 3)_Eff&Peakgain

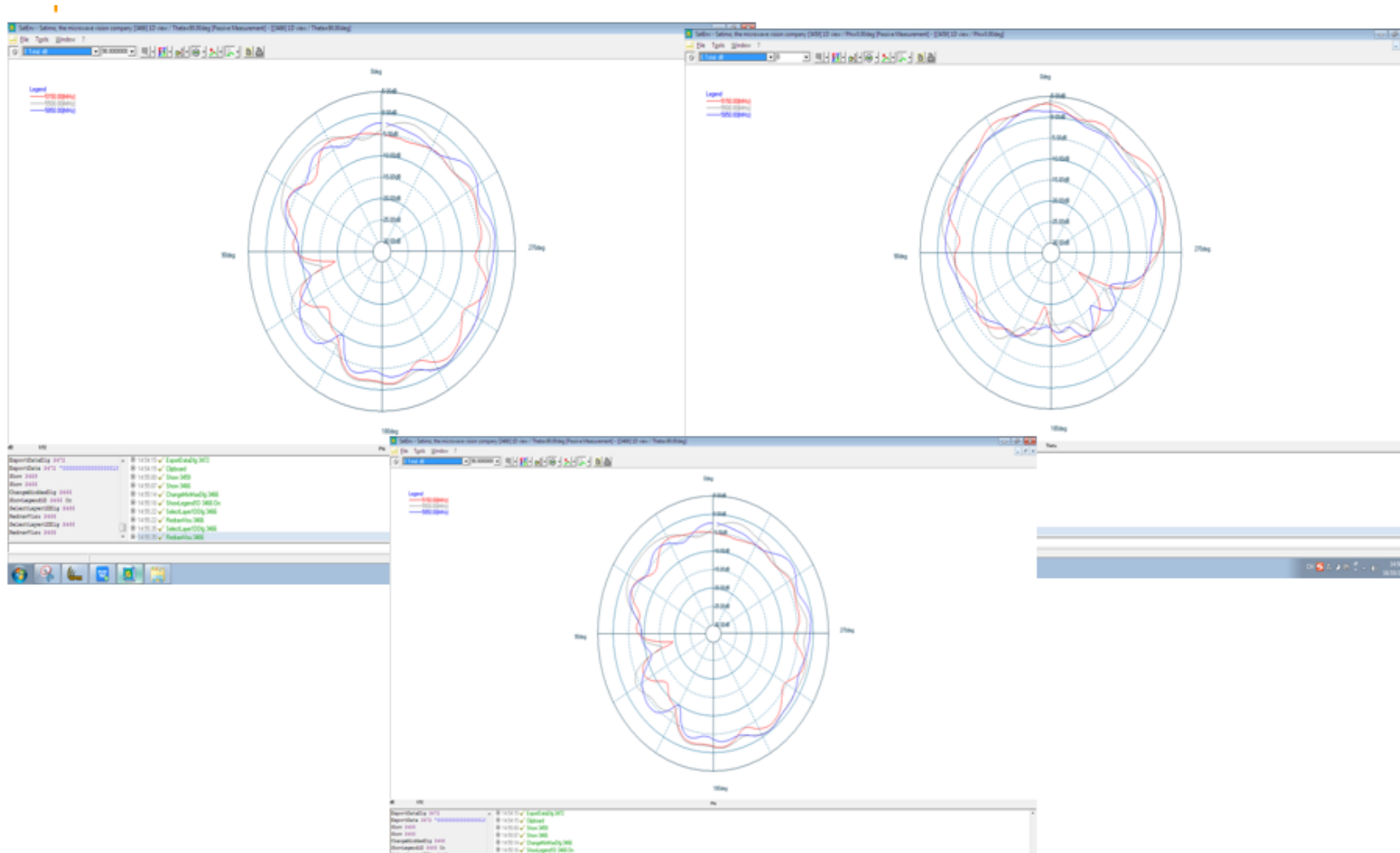
WiFi FPC(Alternative)		
Frequency	Eff	Gain . dB
2.4	-2.23	4.24
2.41	-2.29	4.40
2.42	-2.13	4.73
2.43	-2.08	5.04
2.44	-1.99	5.34
2.45	-1.91	5.43
2.46	-1.91	5.50
2.47	-1.94	4.75
2.48	-1.79	4.56
2.49	-1.67	4.32
2.5	-1.67	4.14

Frequency	Eff	Gain . dB
5.15	-2.60	3.18
5.2	-2.53	3.44
5.25	-2.64	4.80
5.3	-2.64	3.66
5.35	-2.76	3.63
5.4	-2.32	4.11
5.45	-2.23	4.09
5.5	-2.13	4.23
5.55	-2.16	4.39
5.6	-2.11	4.46
5.65	-2.05	4.80
5.7	-2.35	3.90
5.75	-2.50	3.65
5.8	-2.38	4.55
5.85	-2.24	4.80
6	-2.56	4.30
6.15	-2.86	4.21
6.3	-3.21	4.20
6.45	-3.45	4.50
6.6	-3.97	4.80
6.75	-4.35	4.53
6.9	-4.68	4.20
7.05	-5.78	3.91

WiFi antenna(FPC Antenna)(Ant 3)_2D2.4G



WiFi antenna(FPC Antenna)(Ant 3)_2D5G



WiFi antenna(FPC Antenna)(Ant 3)_3D

