

WiFi Antenna Test Report

KUNSHAN INNOWAVE COMMUNICATION TECHNOLOGY CO., LTD.

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Date: 2023-06-12

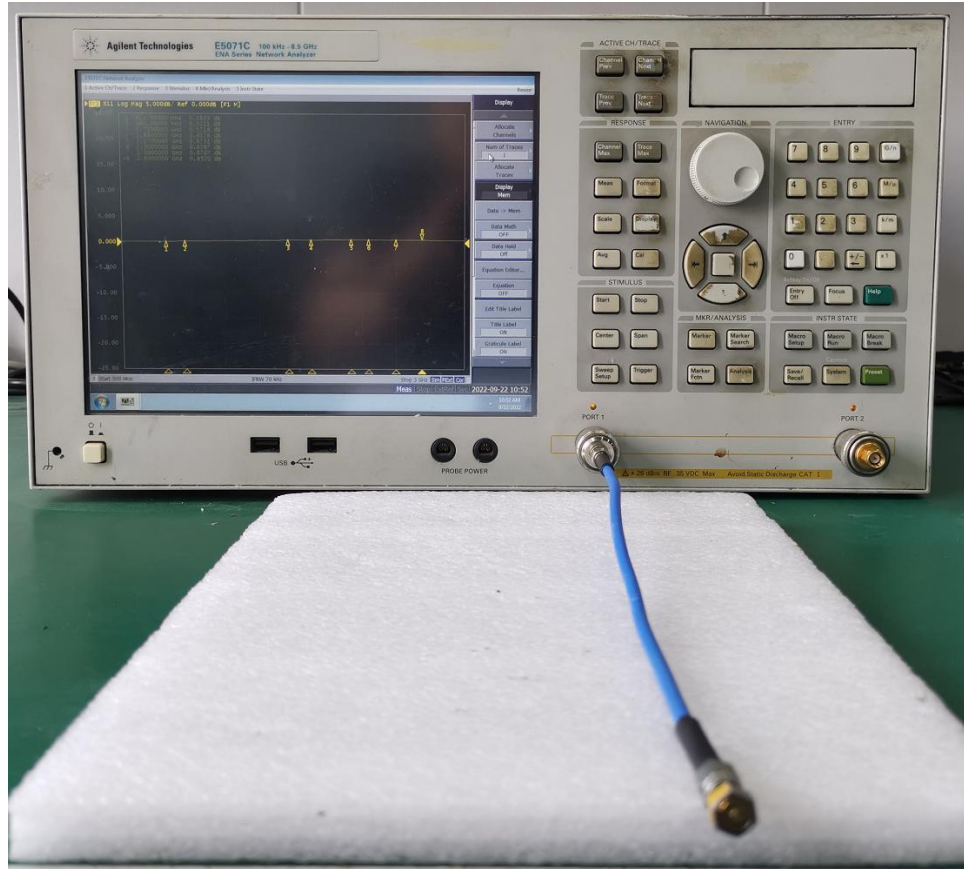
2023



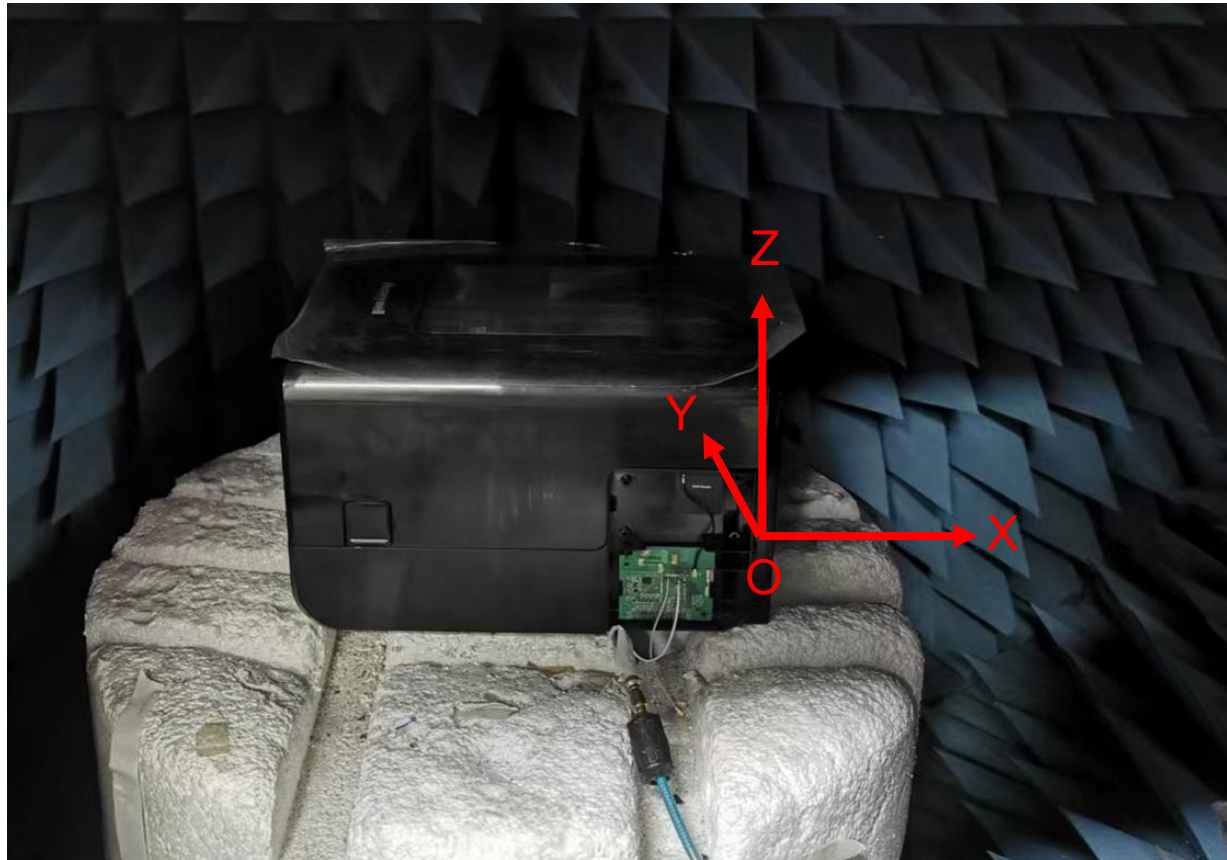
- Test Setup
- Return Loss
- Radiation Pattern
- Gain, Efficiency

Test Setup

Measurement of S-Parameters



- Test Equipment: E5071C/E5063A
- S parameters were measured by Keysight 2-Port VNA connecting with 2 coaxial cables, which would be calibrated before the test.



DUT setup in an anechoic chamber

Antenna Placement



WiFi Antenna

S11_WiFi Antenna 2.4/5GHz

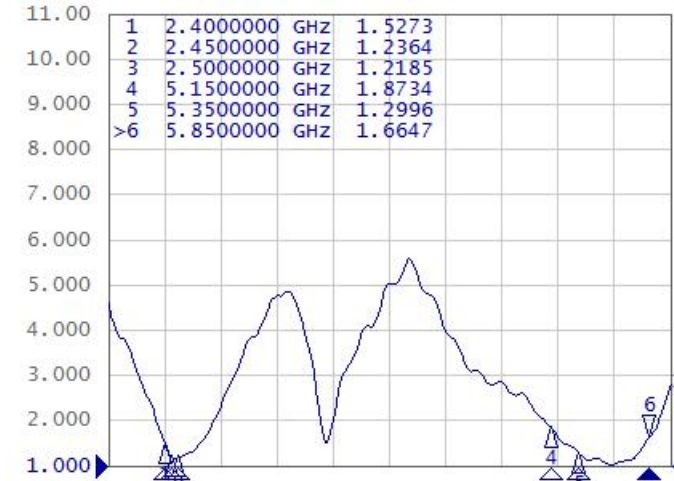


E5063A Network Analyzer

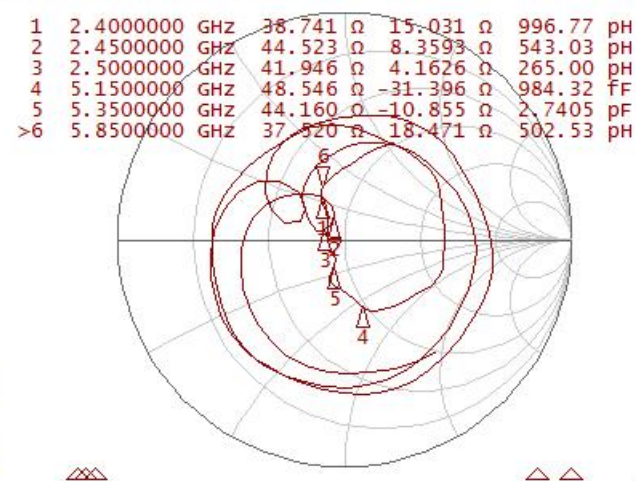
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize

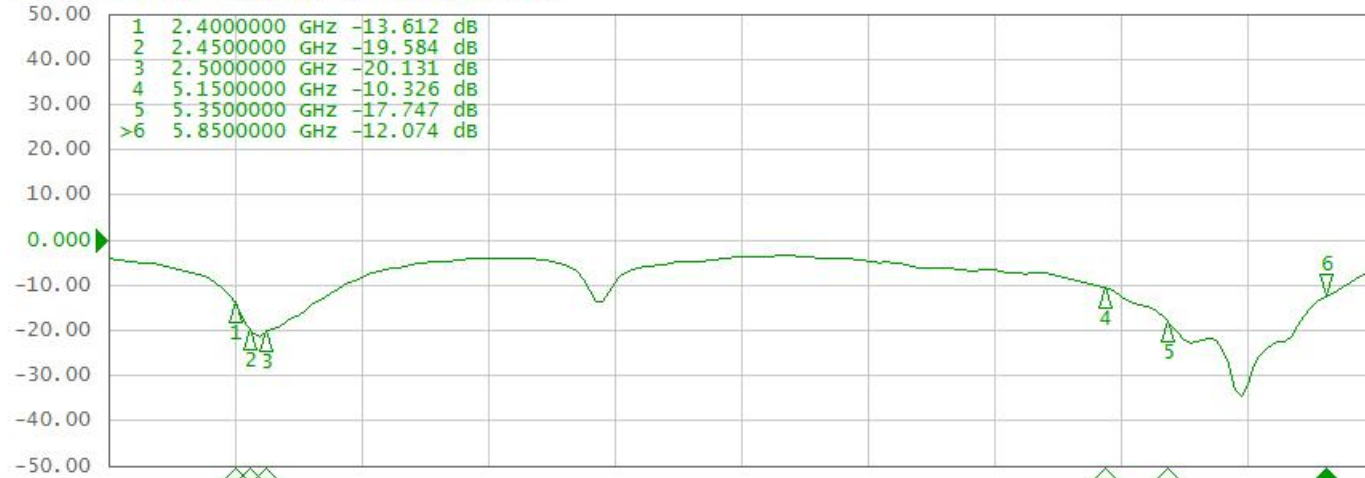
Tr1 S11 SWR 1.000 / Ref 1.000 [F1]



Tr2 S11 Smith (R+jX) Scale 1.000 U [F1]



Tr3 S11 Log Mag 10.00 dB/ Ref 0.000 dB [F1]



1 Start 2 GHz

IFBW 70 kHz

Stop 6 GHz PExt Cor I

Recall State

State01

State02

State03

State04

State05

State06

State07

State08

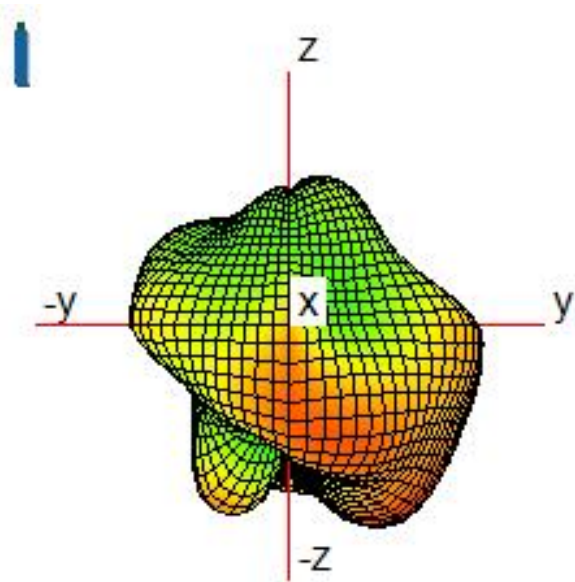
Autorec

UserPres

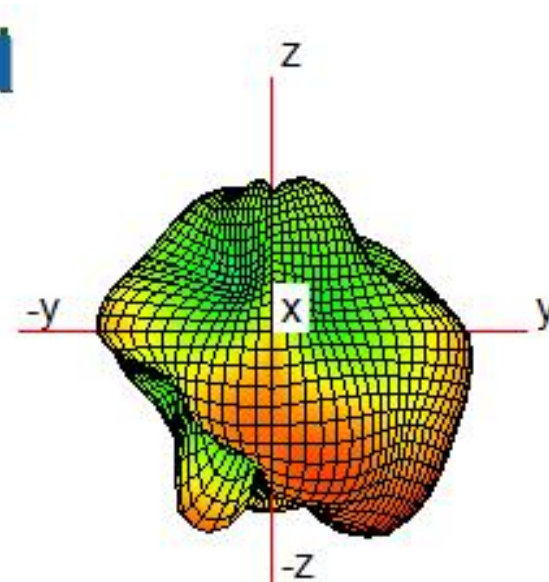
File Dialog...

Return

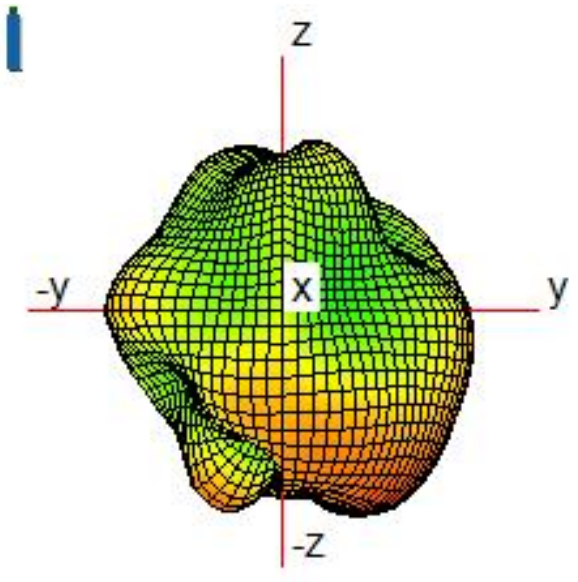
Radiation Pattern



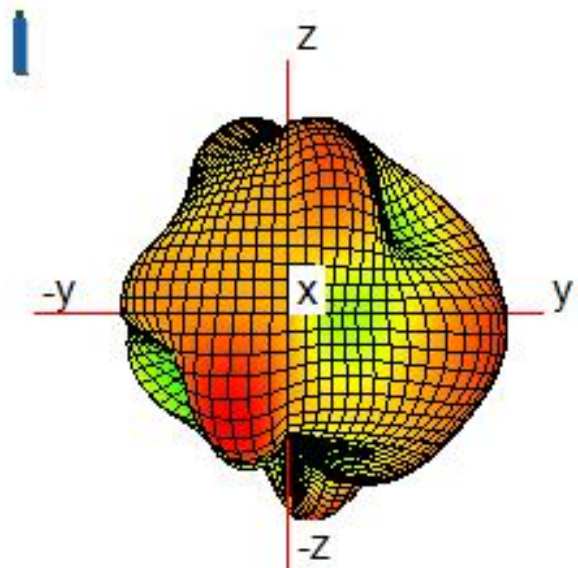
2.4GHz



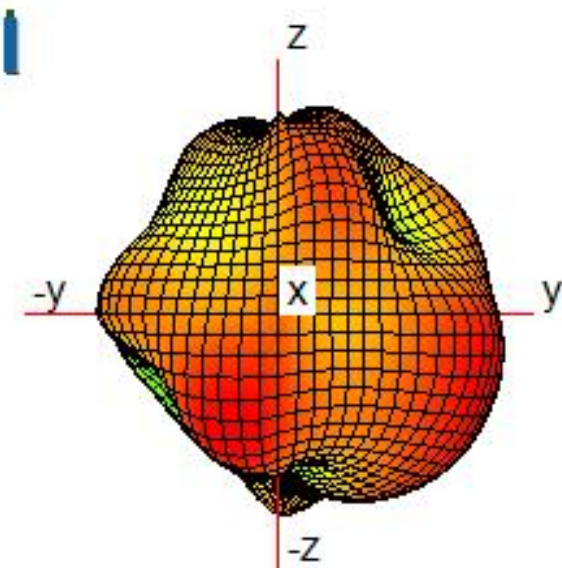
2.45GHz



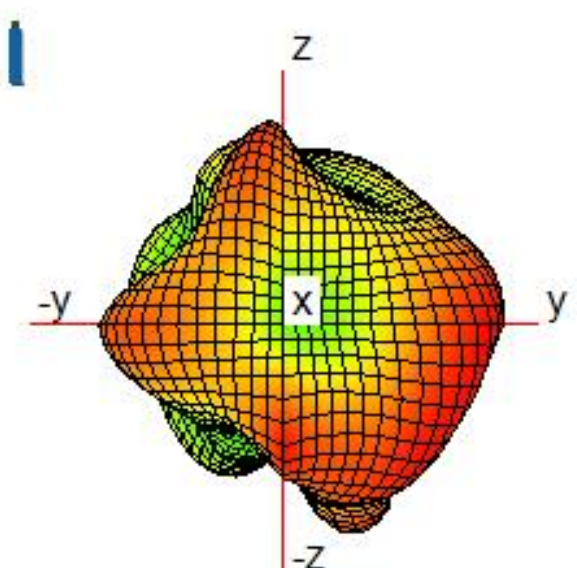
2.5GHz



5.15GHz

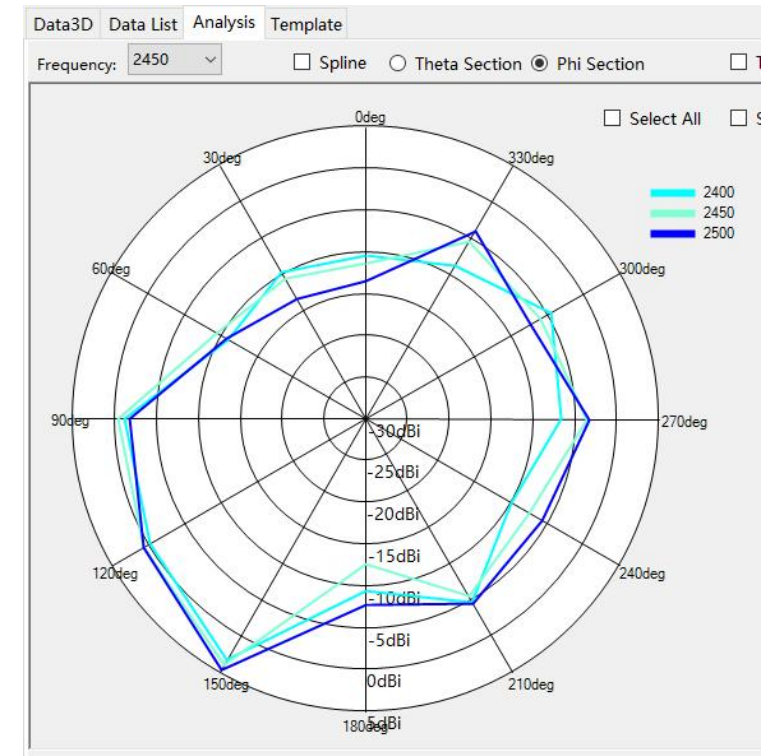
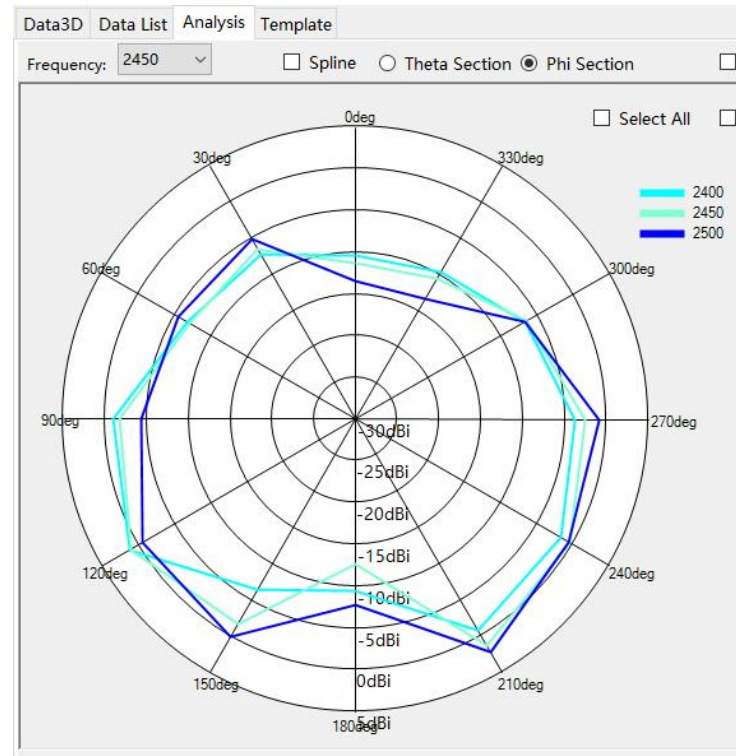
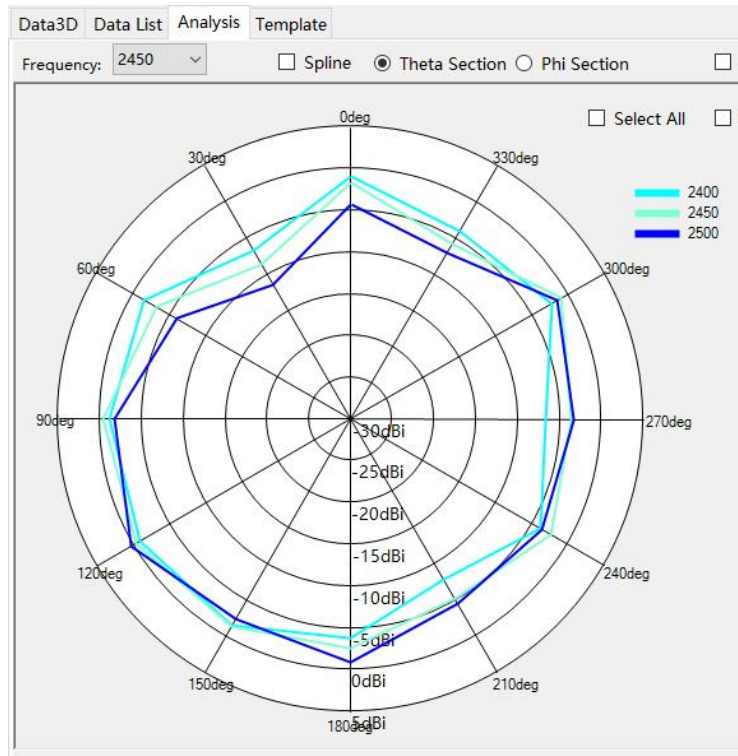


5.35GHz

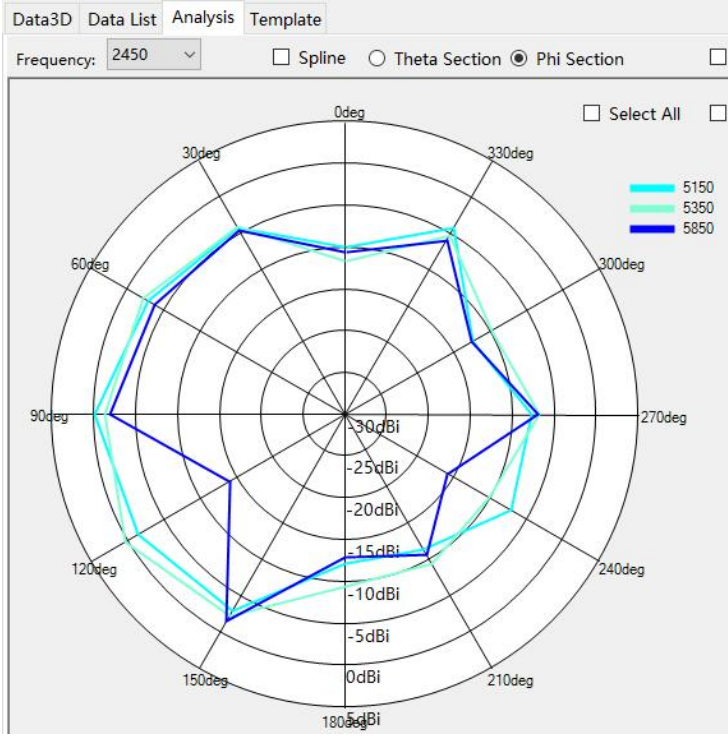
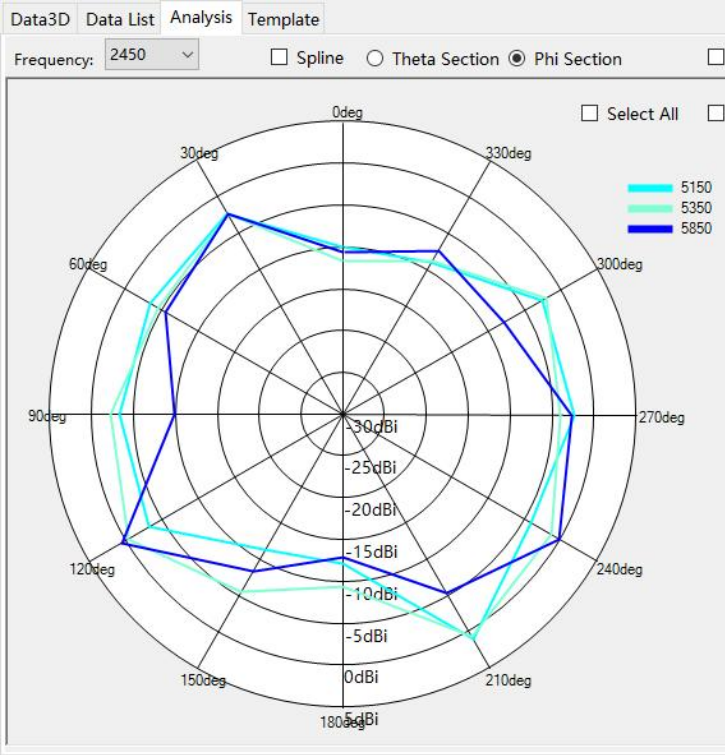
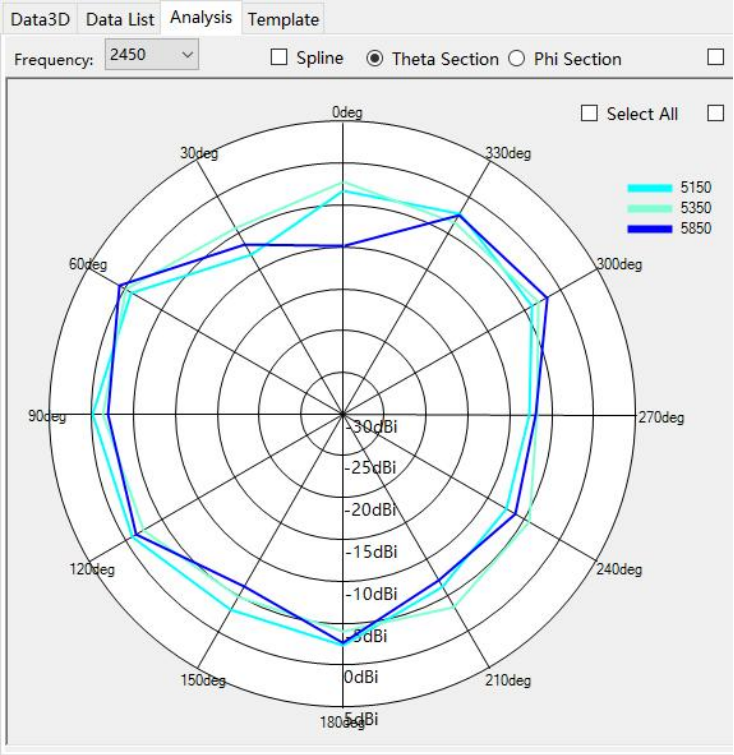


5.85GHz

WiFi Antenna_2.4G



WiFi Antenna_5G



Gain, Efficiency

Antenna Gain, Efficiency



Freq.	Efficiency(dB)	Gain (dBi)	Efficiency (%)
2400	-3.3	3.3	47.1
2410	-3.2	3.4	48.2
2420	-3.1	3.6	49.1
2430	-2.7	4.1	53.2
2440	-2.6	4.1	54.9
2450	-2.6	4.0	54.6
2460	-2.5	4.4	56.5
2470	-2.6	4.7	55.0
2480	-2.5	4.9	56.0
2490	-2.6	5.2	54.4
2500	-2.5	5.5	56.5

Freq.	Efficiency (dB)	Gain (dBi)	Efficiency (%)
5150	-4.2	1.2	38.1
5200	-3.6	1.6	44.0
5250	-3.6	2.2	43.3
5300	-3.9	1.0	40.9
5350	-3.8	0.6	41.8
5400	-3.4	1.6	46.2
5450	-3.3	0.9	46.3
5500	-3.3	1.6	46.4
5550	-3.5	1.4	44.3
5600	-3.6	1.9	43.5
5650	-3.7	2.6	42.7
5700	-3.8	2.8	41.9
5750	-3.6	2.7	43.3
5800	-3.9	1.3	41.0
5850	-4.2	0.9	38.4



Thanks