



ENH500-AX

Antenna Test Report

Senao Networks, Inc.

Project
Description

5G antenna*2
2.4G*1

Test Date

2023/03/21

Tested by

Tony

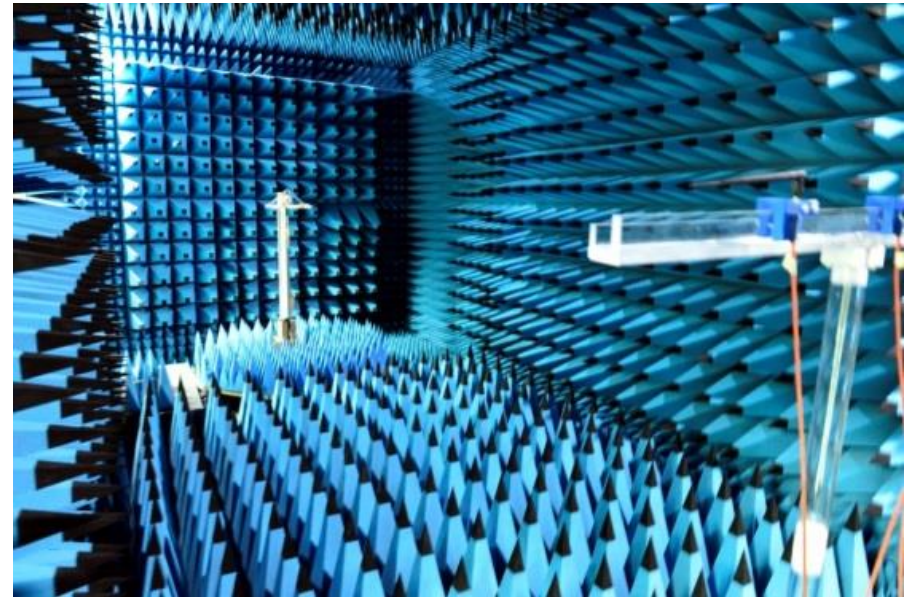
Report Version

A03

- **Agenda**
 - Antenna Development Resource
 - Antenna Testing Set Up
 - Placement and Specification
 - S11 & Isolation
 - Radiation Pattern
 - Efficiency and Gain

3D Anechoic Chamber - BWANT

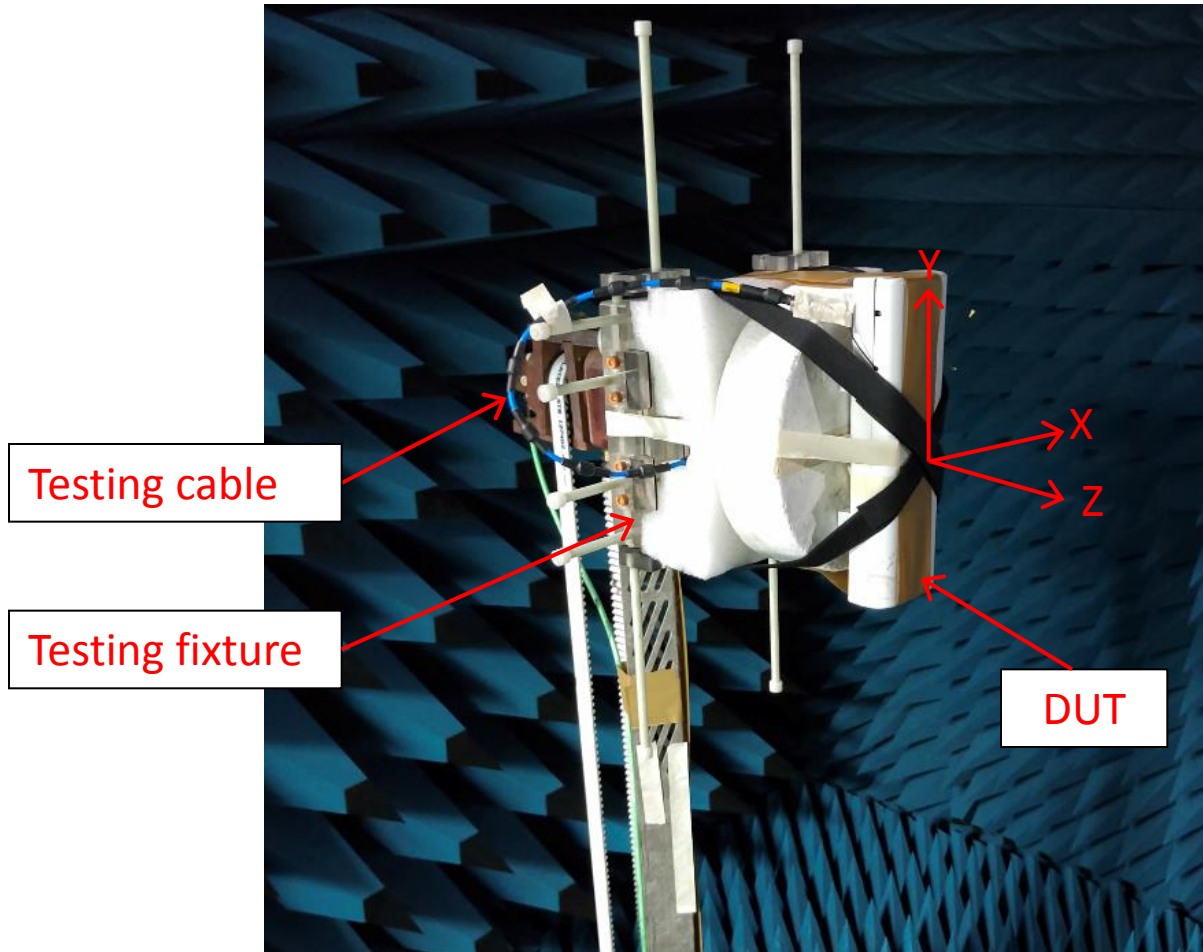
- Size: 7.32M(L)x3.66M(W)x3.66M(H)
- Testing range from 400MHz to 7GHz
- Chamber Isolation : 10KHz to 10GHz >100dB (NSA 94-106)
- Calibration antenna : BWANT SD650 /SD740 /SD900 /SD1150 /SD1575 /SD1800 /SD2140 /SD2450 /SD3200 /SD3600 /SD4550 /SD5400 /HA-0508
- Calibration date: 2022/10/27
- Test software : BWANT 3D Passive



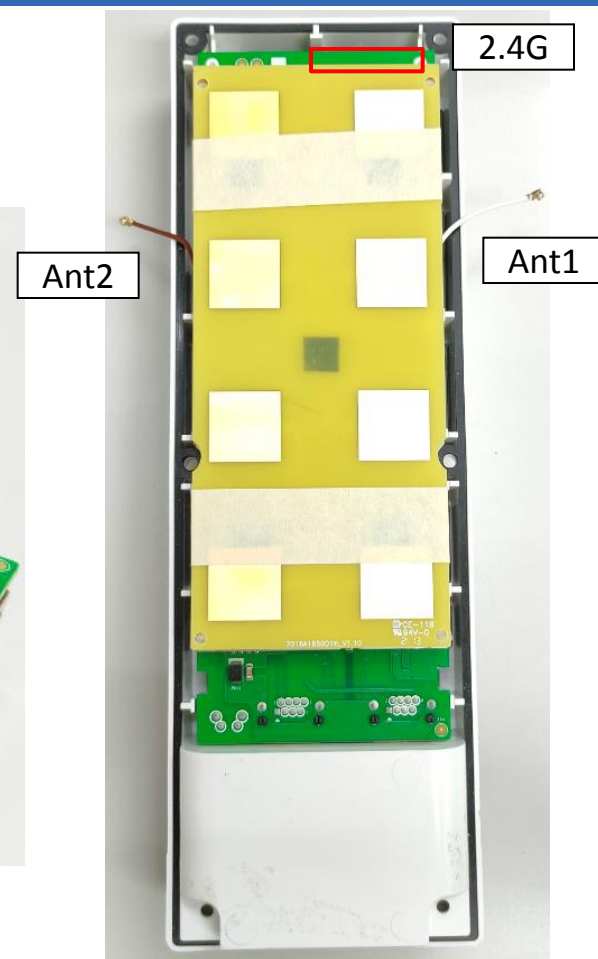
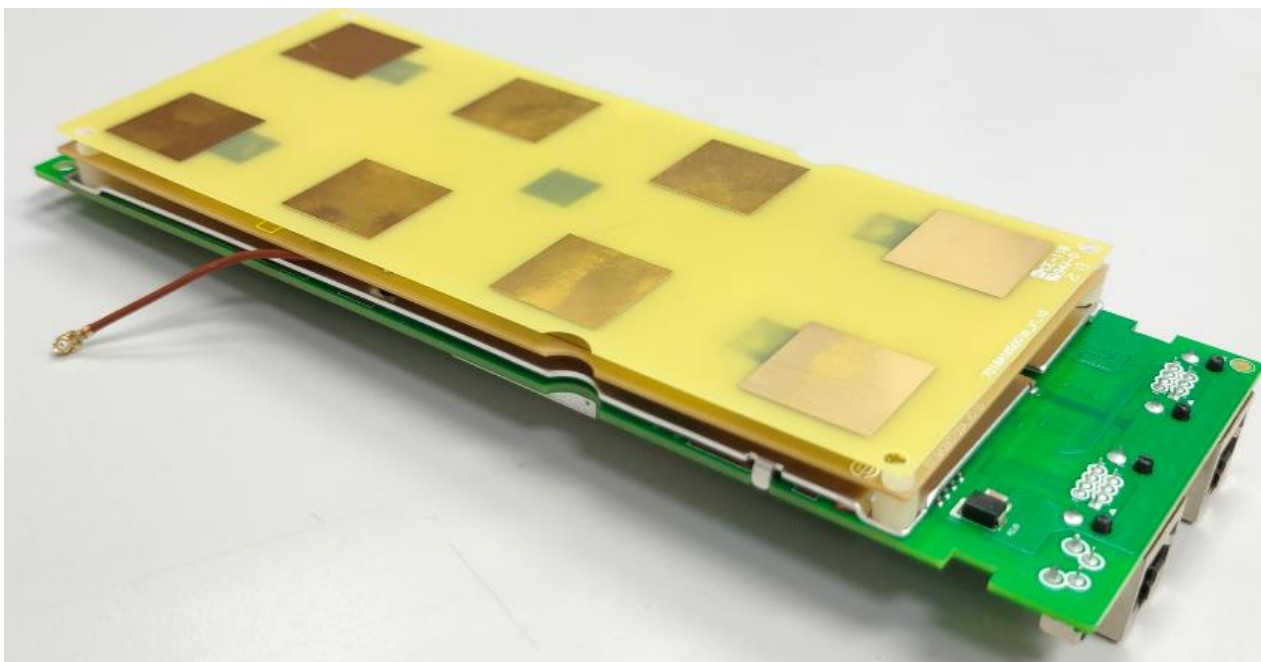
3D Anechoic Chamber

Antenna Testing Set Up

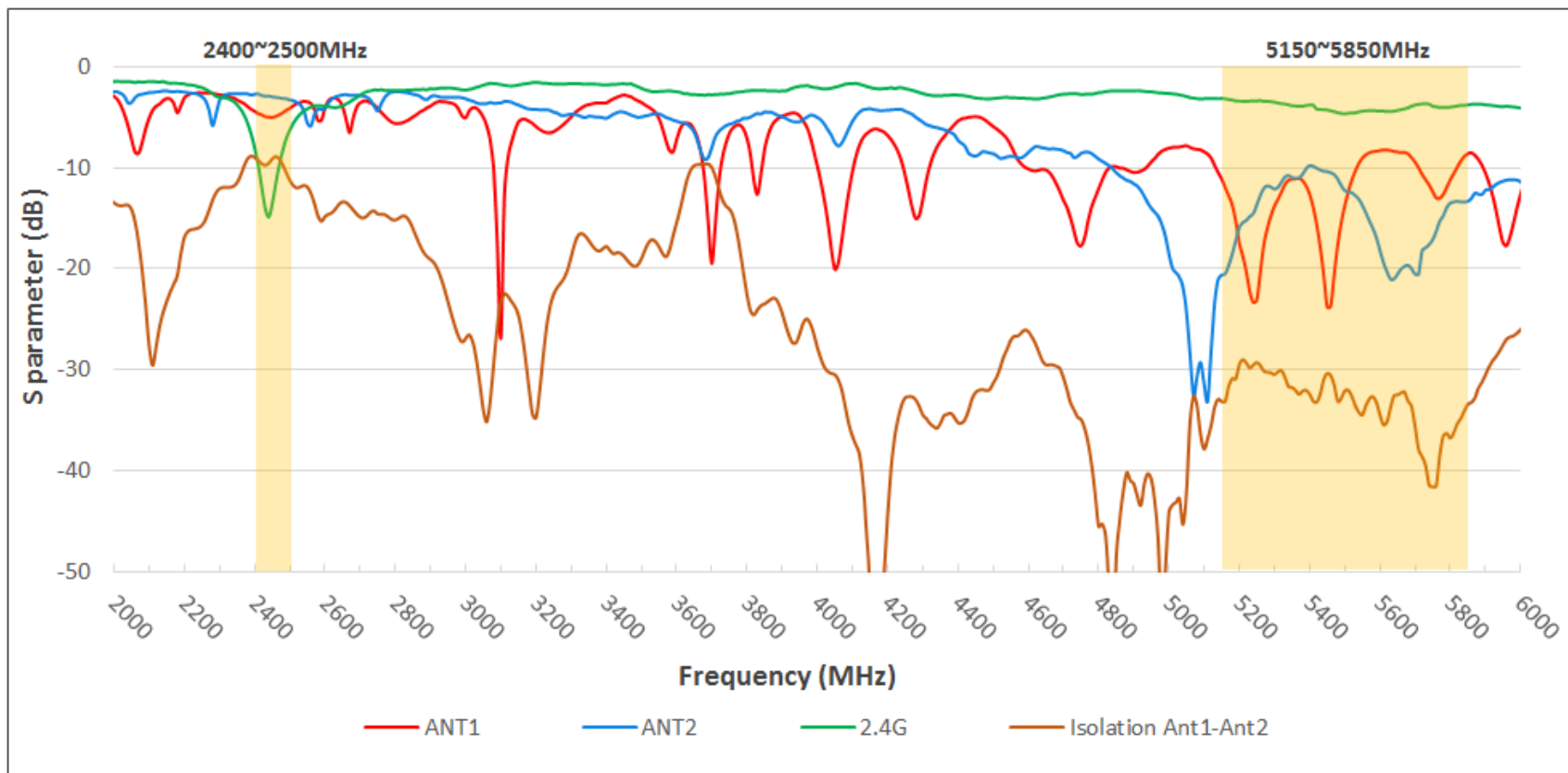
- The DUT is set up on the test fixture and the antenna is connected to the test cable to measure the antenna performance.



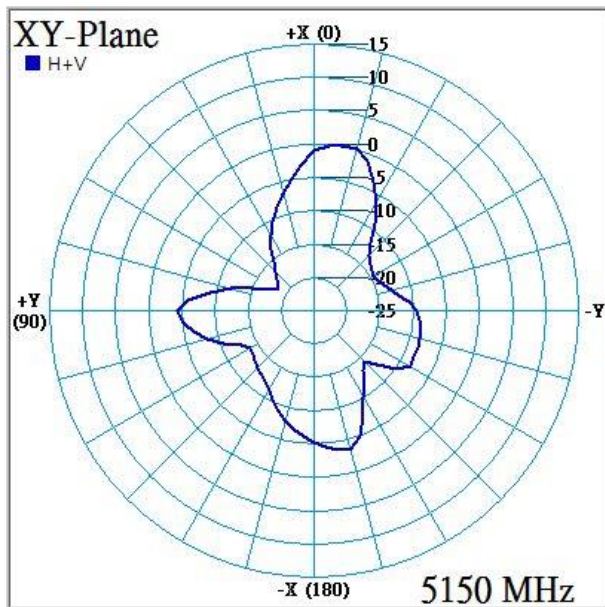
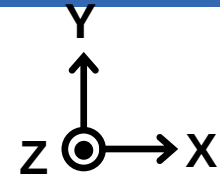
Placement and specification



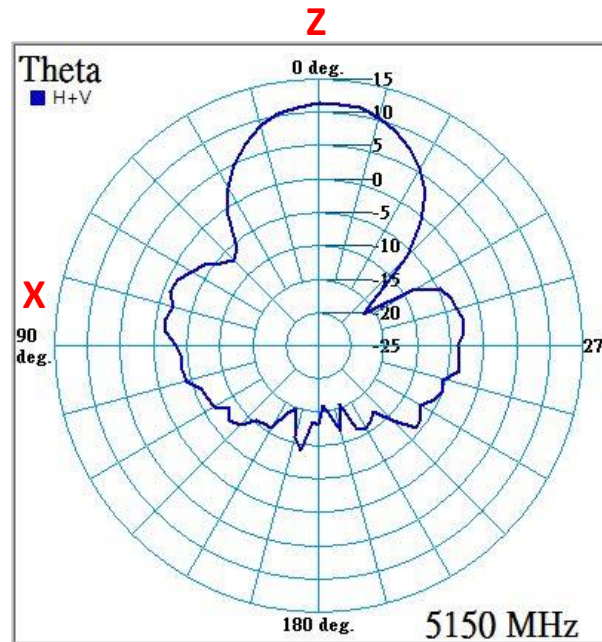
Ant No.	Brand name	P/N	Operating Band	Gain (dBi)	Ant Type	Material	Feeding
Ant1	Senao	5718A0724300	5150MHz ~ 5850MHz	11.60	Patch	PCB	Cable
Ant2	Senao	5718A0724300		14.04	Patch	PCB	Cable
2.4G	Senao	7016A265400n	2400MHz ~ 2500MHz	2.12	PIFA	PCB	RF trace



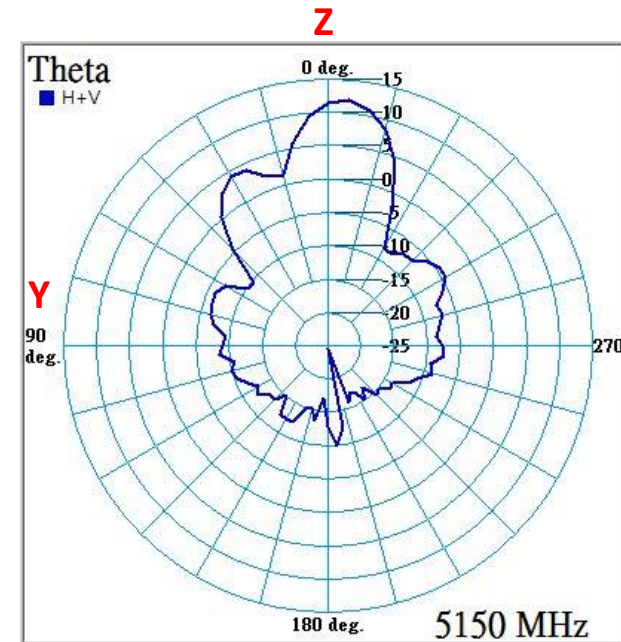
2D Radiation Pattern – ANT1 @ 5.15GHz



XY-Plane

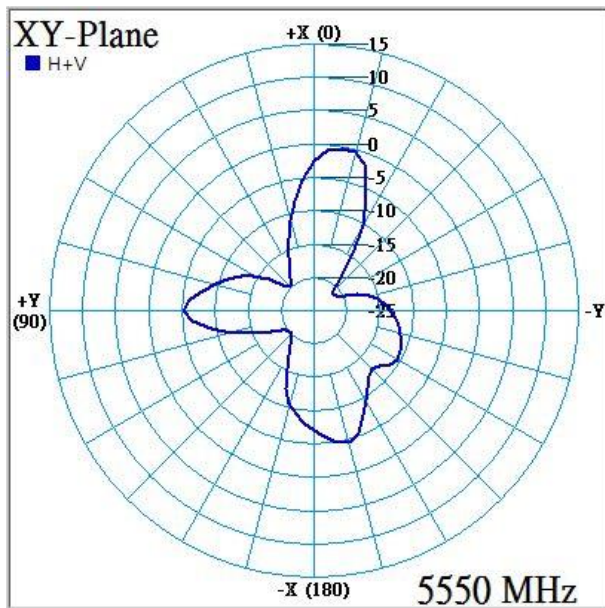
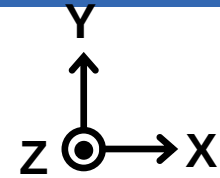


XZ-Plane

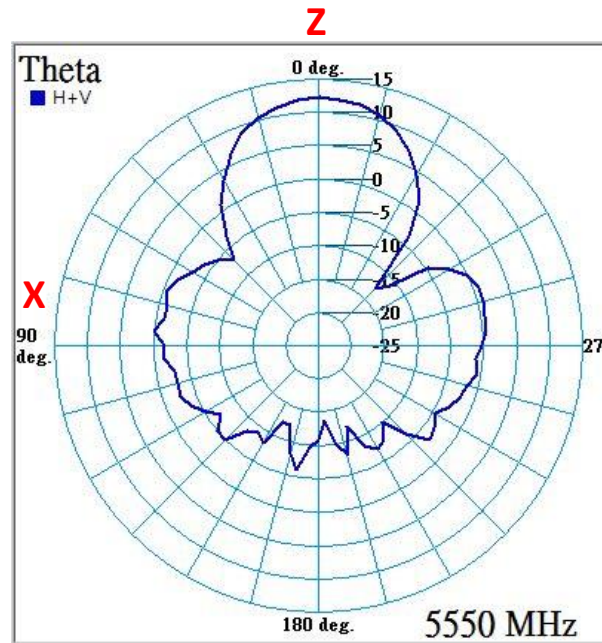


YZ-Plane

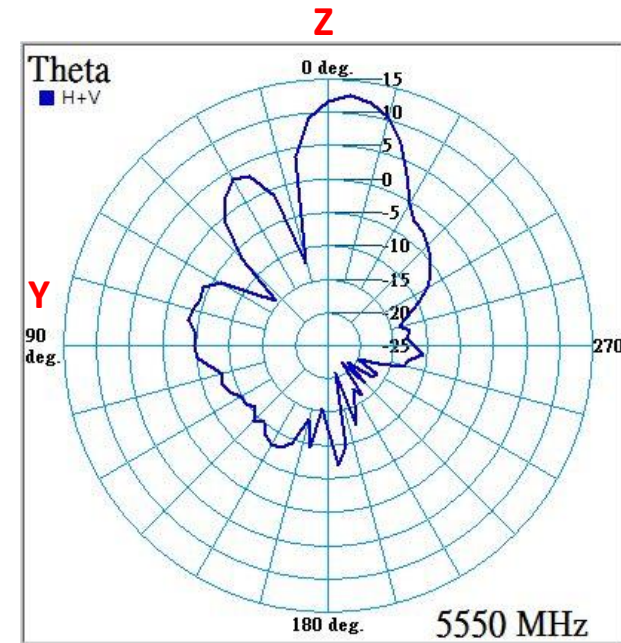
2D Radiation Pattern – ANT1 @ 5.55GHz



XY-Plane

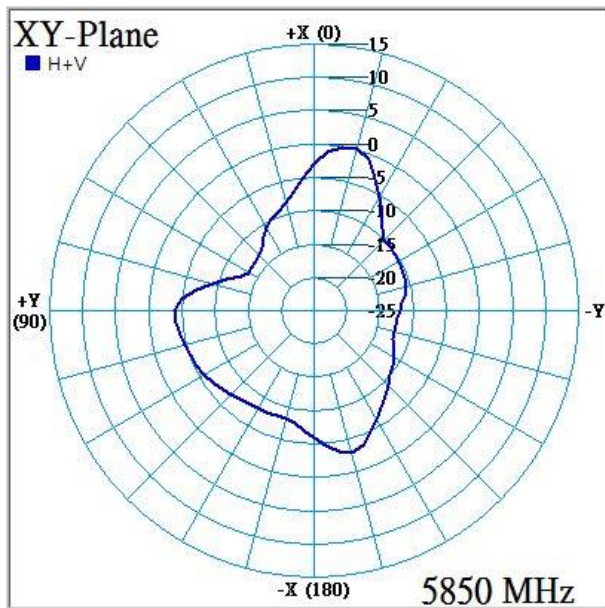
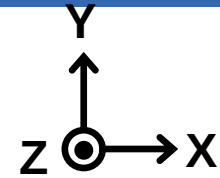


XZ-Plane

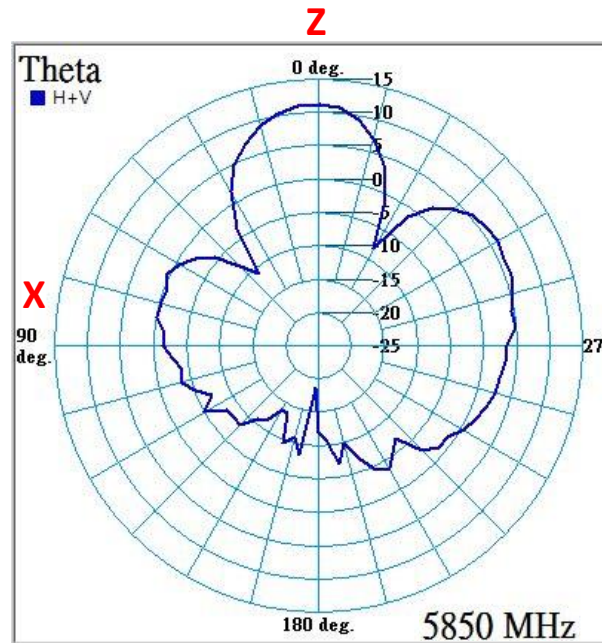


YZ-Plane

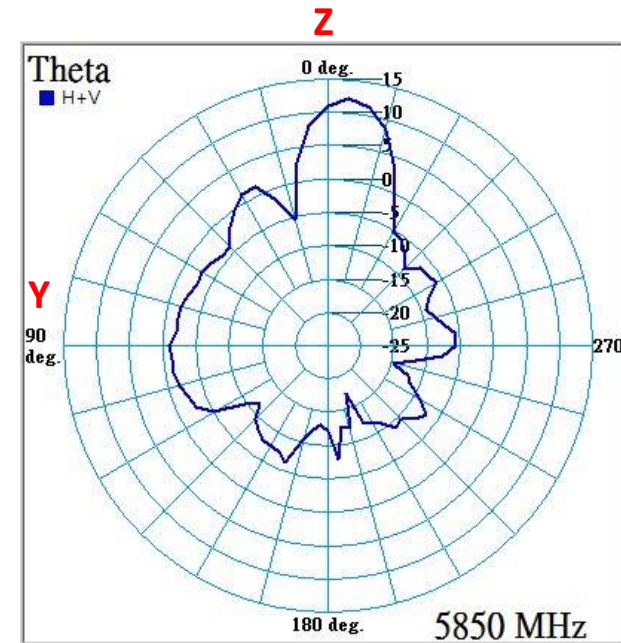
2D Radiation Pattern – ANT1 @ 5.85GHz



XY-Plane

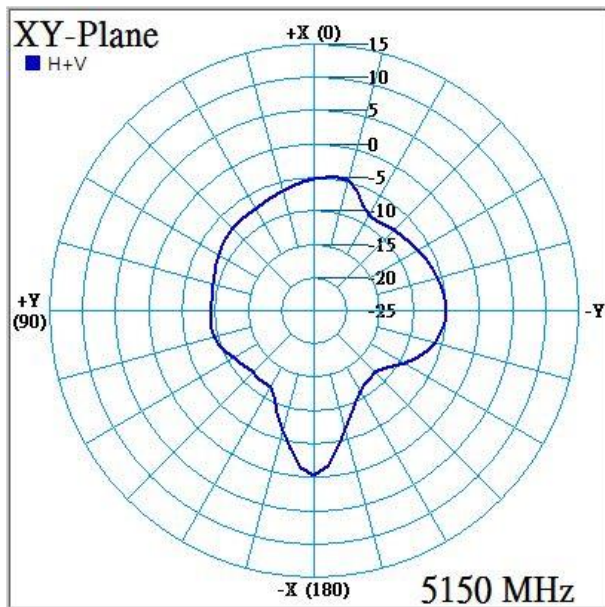
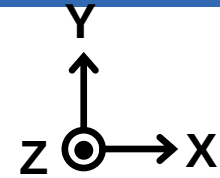


XZ-Plane

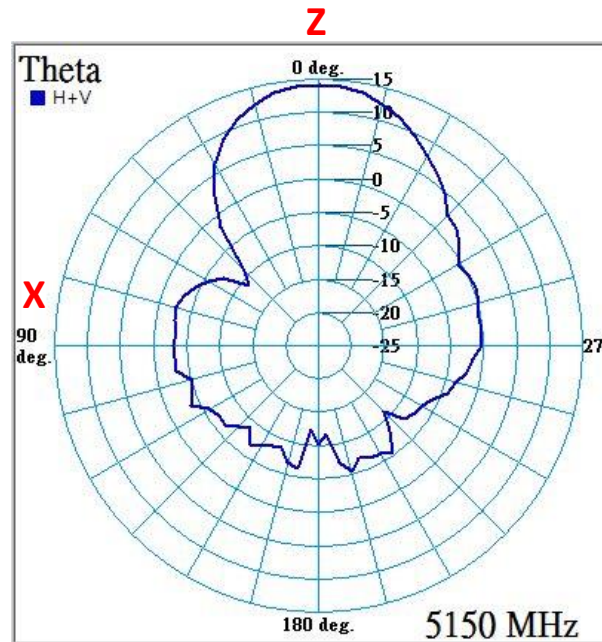


YZ-Plane

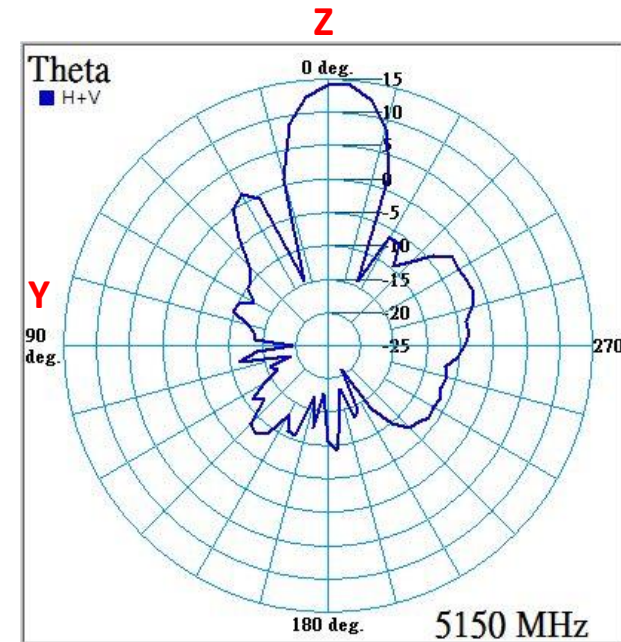
2D Radiation Pattern – ANT2 @ 5.15GHz



XY-Plane

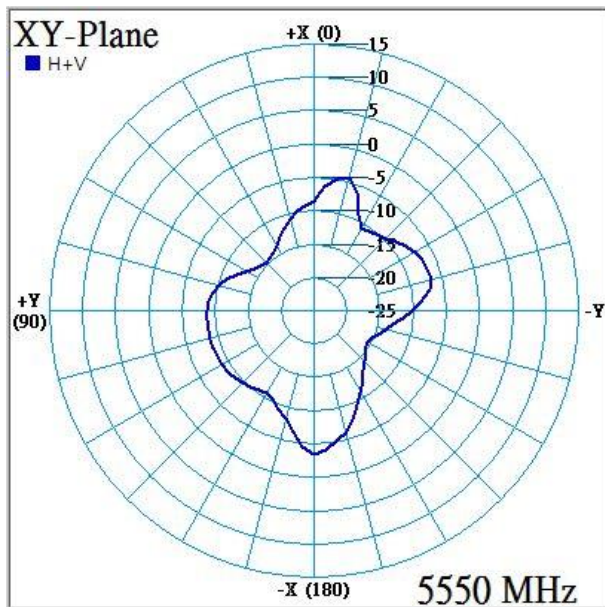
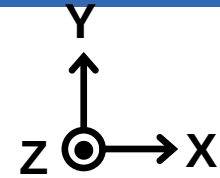


XZ-Plane

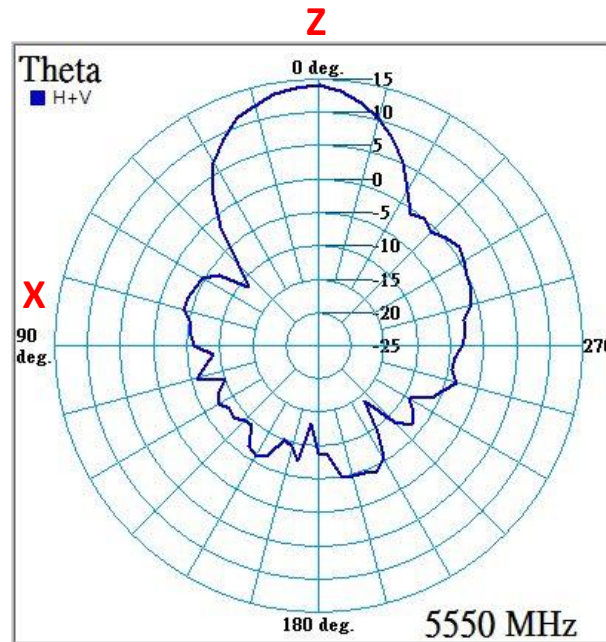


YZ-Plane

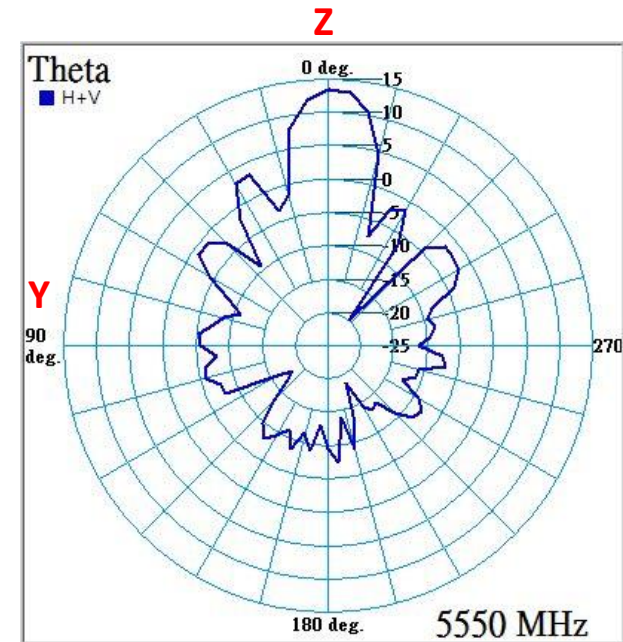
2D Radiation Pattern – ANT2 @ 5.55GHz



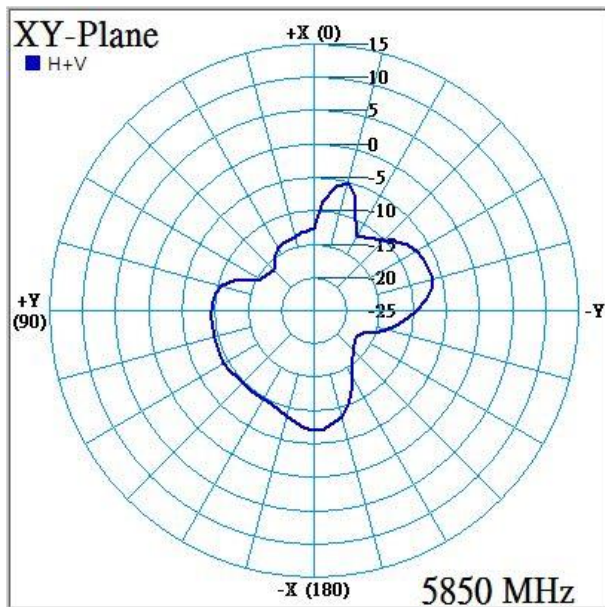
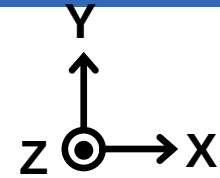
XY-Plane



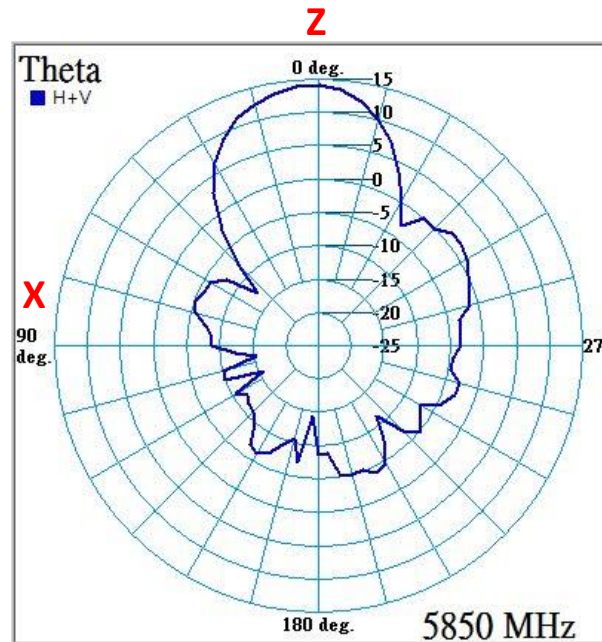
XZ-Plane



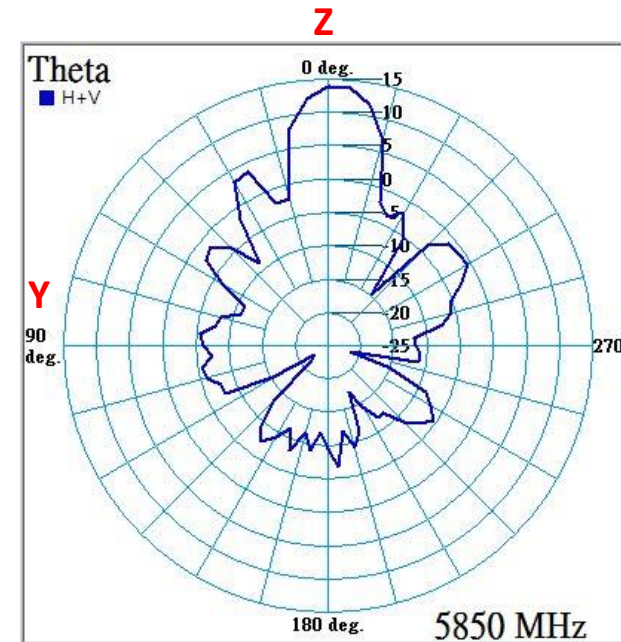
YZ-Plane



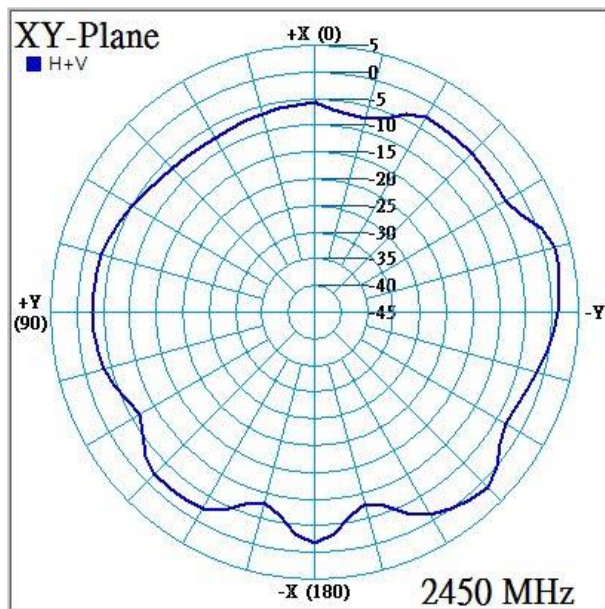
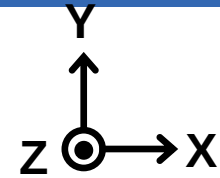
XY-Plane



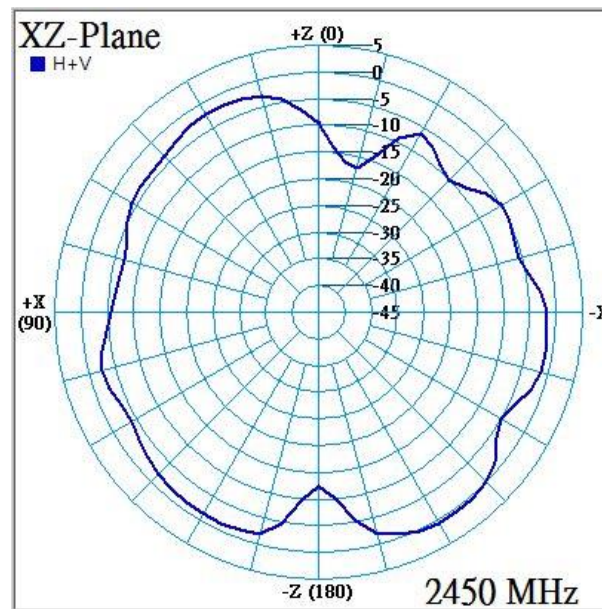
XZ-Plane



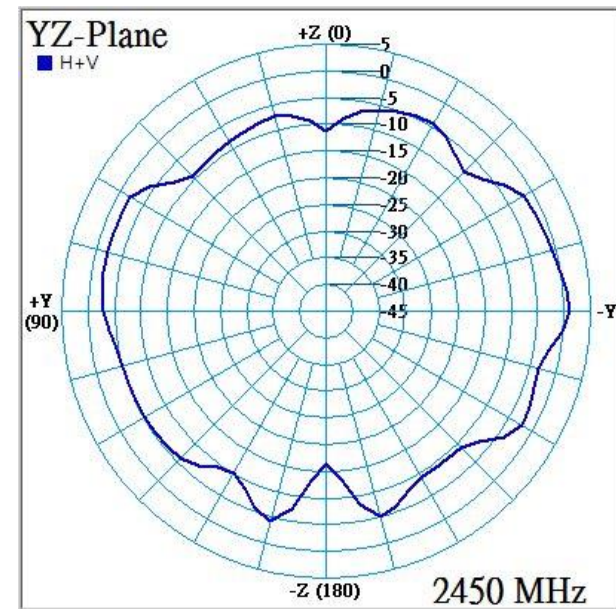
YZ-Plane



XY-Plane



XZ-Plane



YZ-Plane

5G Ant 1				
Frequency (GHz)	5.15	5.47	5.55	5.85
Gain (dBi)	11.60	10.79	10.36	11.13
Azi. 3dB BW (degree)	40			
Ele. 3dB BW (degree)	20			

5G Ant 2				
Frequency (GHz)	5.15	5.47	5.55	5.85
Gain (dBi)	14.04	13.93	13.99	13.26
Azi. 3dB BW (degree)	40			
Ele. 3dB BW (degree)	20			

2.4G			
Frequency (GHz)	2.4	2.45	2.5
Efficiency (%)	36.22	44.53	41.02
Gain (dBi)	1.52	2.12	1.53