LWR1050 Antenna Datasheet

Specifications

Specifications	Value
Antenna Type	Chip Antenna
Nominal Impedance	50 Ohms
Frequency Range	2400-2448MHz, 5150-5850MHz
Connector Type	Direct Solder onto PC Board
VSWR 2.4 GHz Band	2.4 GHz – 1.64 / 2.44 GHz – 1.08 / 2.48 GHz – 1.48
VSWR 5 GHz Band	5.15 GHz – 1.57 / 5.46 GHz – 1.71 / 5.85 GHz – 2.8

Antenna Description

The LWR-1050 uses a “Chip Antenna,” a TDK ANT162442DT-2200A1 Multilayer Antenna for 2400-2484MHz / 5150-5850MHz. The chip antenna is soldered directly onto the pc board. Antenna chip location in conjunction with the length and width of the substrates that the chip antenna mounts to on the PC board, as well as its mounting position is what sets the parameters for the 2.4GHz and 5.5GHz antennas. Tuning component values for impedance matching and frequency tuning for each antenna depend on the PC board size, antenna location, and other mechanical conditions.

Physical Dimensions

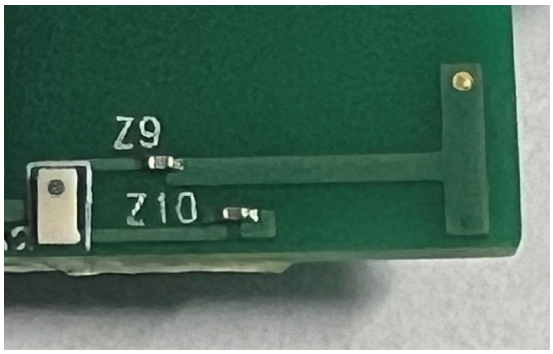
TDK ANT162442DT-2200A1: 0.80mm x 1.60mm x .40mm (w x length x thickness).

Picture

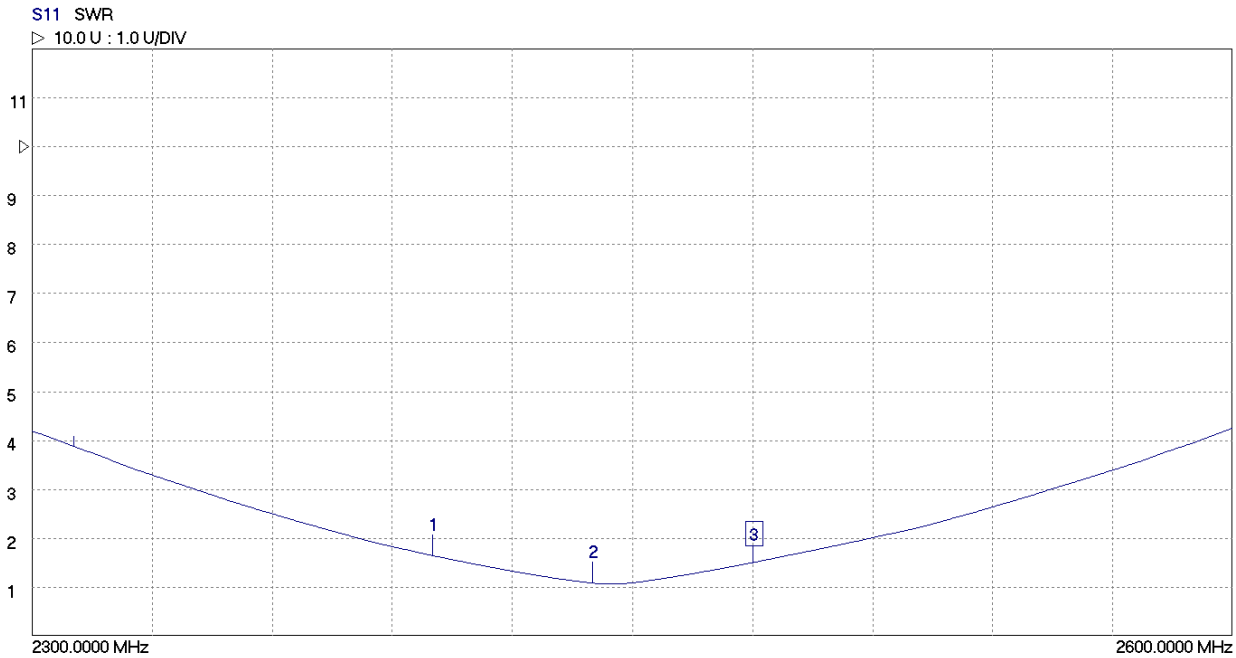
Z9: Frequency tuning component 2.4 GHz band

Z10: Frequency tuning component 5.5 GHz band.

Chip Antenna

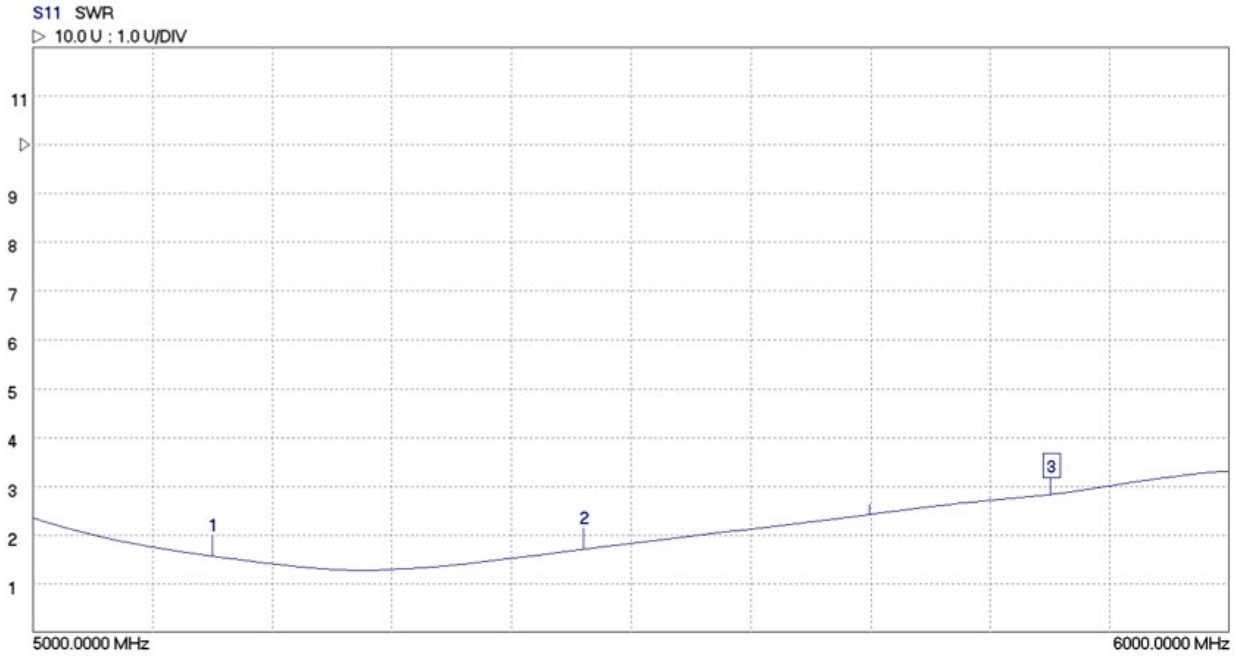


VSWR - 2.4 GHz Band



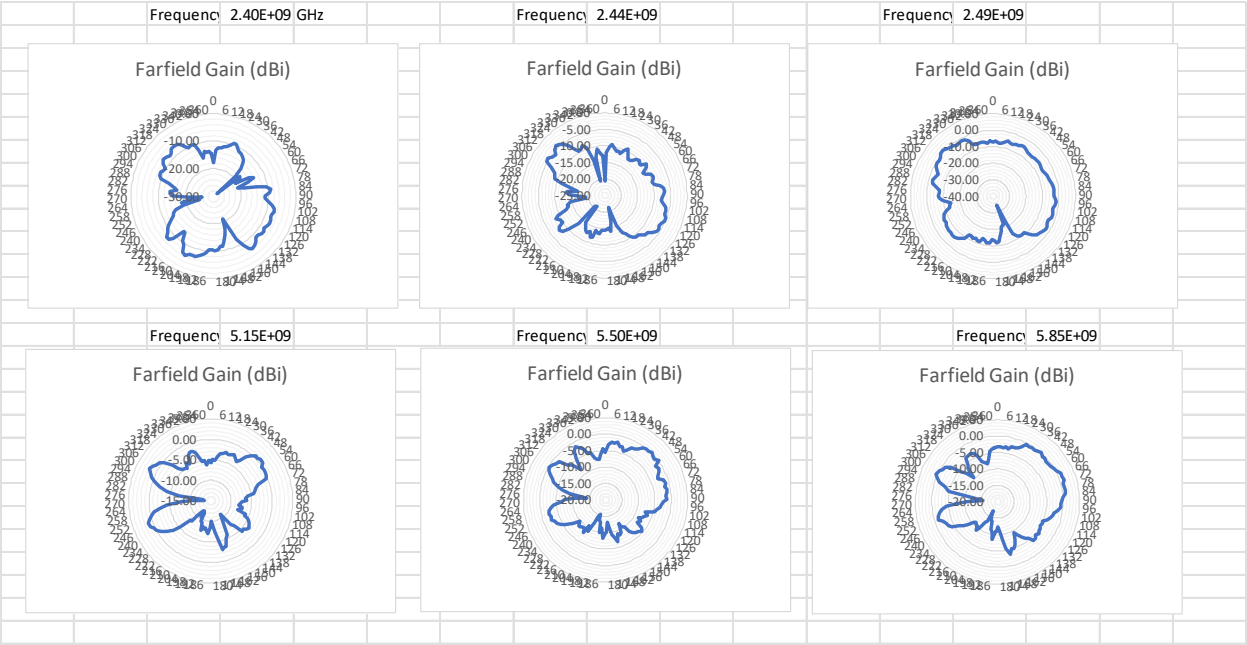
Data Point 1: 2.4 GHz – 1.64
Data Point 2: 2.44 GHz – 1.08
Data Point 3: 2.48 GHz – 1.48

VSWR - 5 GHz Band



Data Point 1: 5.15 GHz – 1.57
Data Point 2: 5.46 GHz – 1.71
Data Point 3: 5.85 GHz – 2.8

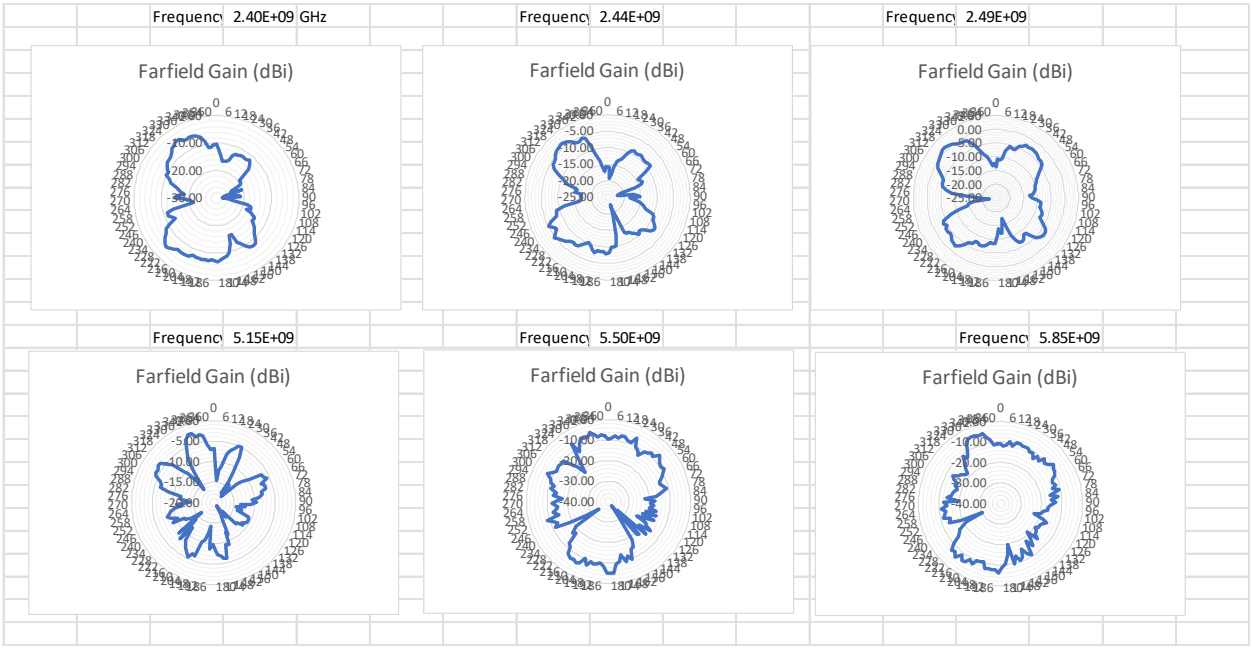
Antenna Horizontal, X Polar Plots, 2.4GHz and 5.5GHz



Antenna Gain, X Axis Horizontal

Frequency (GHz)	2.40E+09	2.44E+09	2.49E+09	5.15E+09	5.50E+09	5.85E+09
Gain (dBi)	-6.11	-4.02	1.20	1.97	0.41	1.37

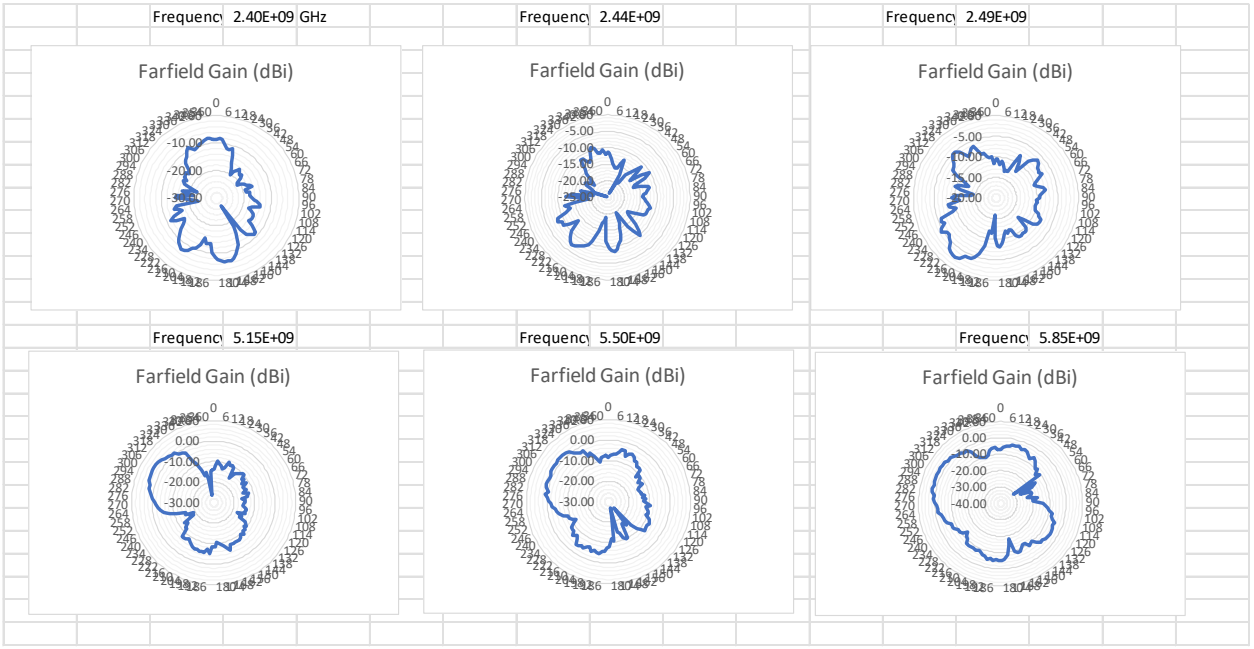
Antenna Horizontal, Y Polar Plots, 2.4GHz and 5.5GHz



Antenna Gain, Y Axis Horizontal

Frequency (GHz)	2.40E+09	2.44E+09	2.49E+09	5.15E+09	5.50E+09	5.85E+09
Gain (dBi)	-4.54	-3.64	1.19	-2.20	-5.03	-4.70

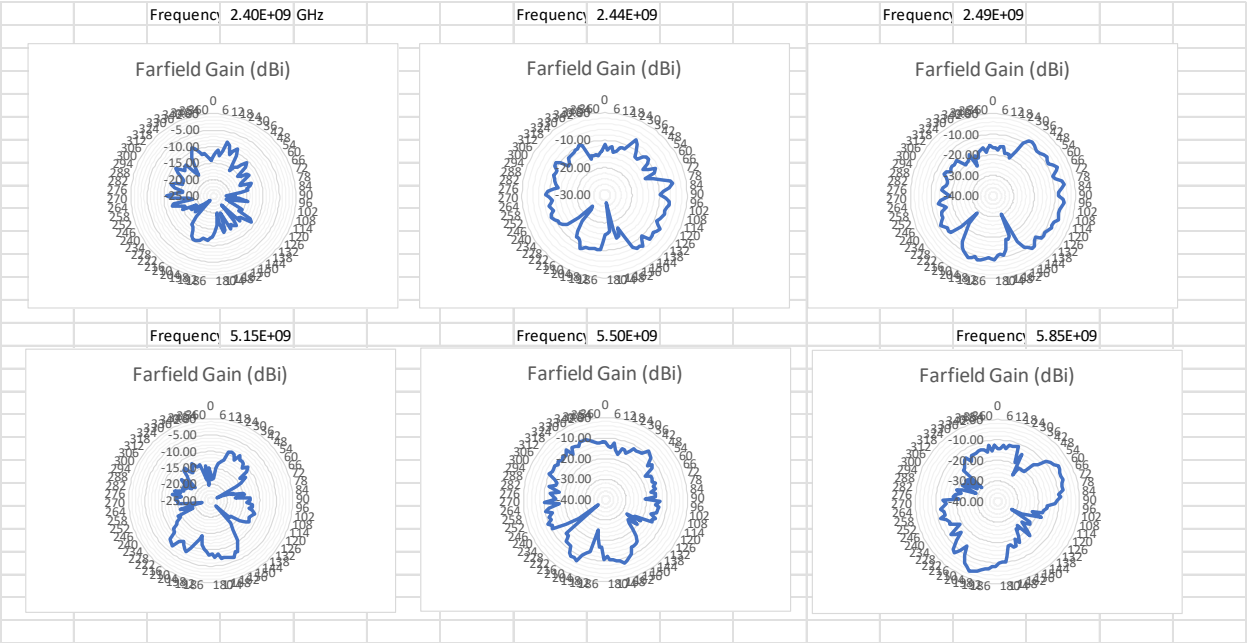
Antenna Horizontal, Z Polar Plots, 2.4GHz and 5.5GHz



Antenna Gain, Z Axis Horizontal

Frequency (GHz)	2.40E+09	2.44E+09	2.49E+09	5.15E+09	5.50E+09	5.85E+09
Gain (dBi)	-6.59	-6.97	-2.52	3.85	1.90	2.63

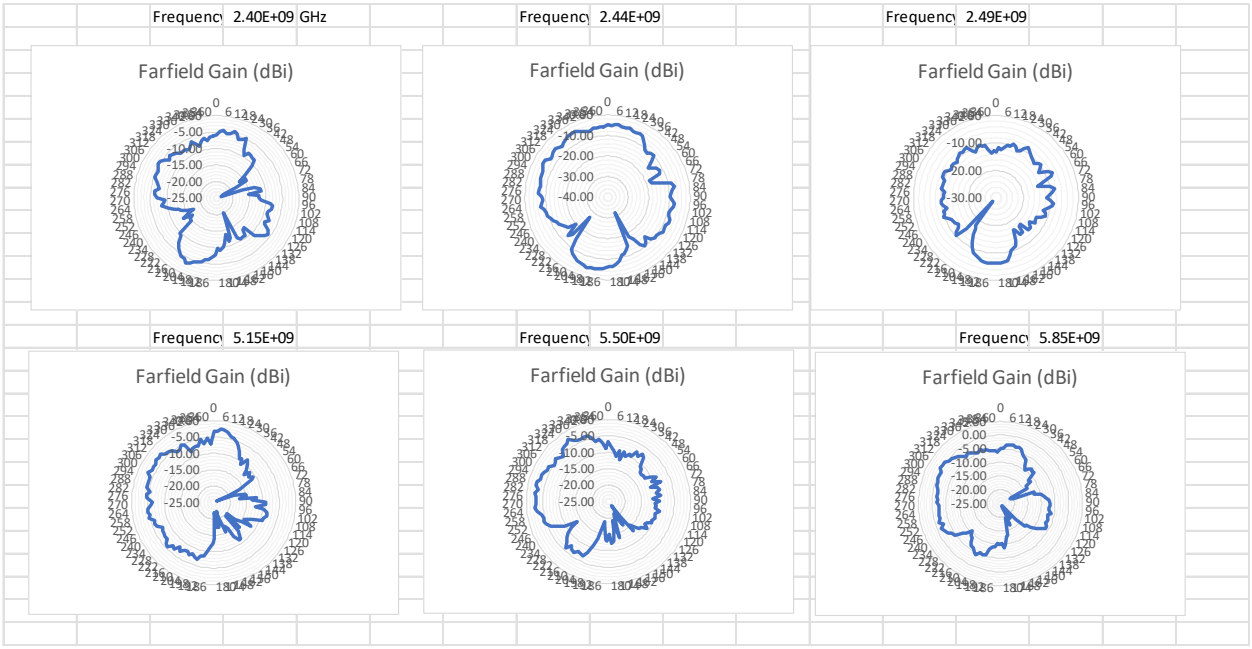
Antenna Vertical, X Polar Plots, 2.4GHz and 55GHz



Antenna Gain, X Axis Vertical

Frequency (GHz)	2.40E+09	2.44E+09	2.49E+09	5.15E+09	5.50E+09	5.85E+09
Gain (dBi)	-8.17	-5.04	-4.84	-6.29	-7.09	-2.96

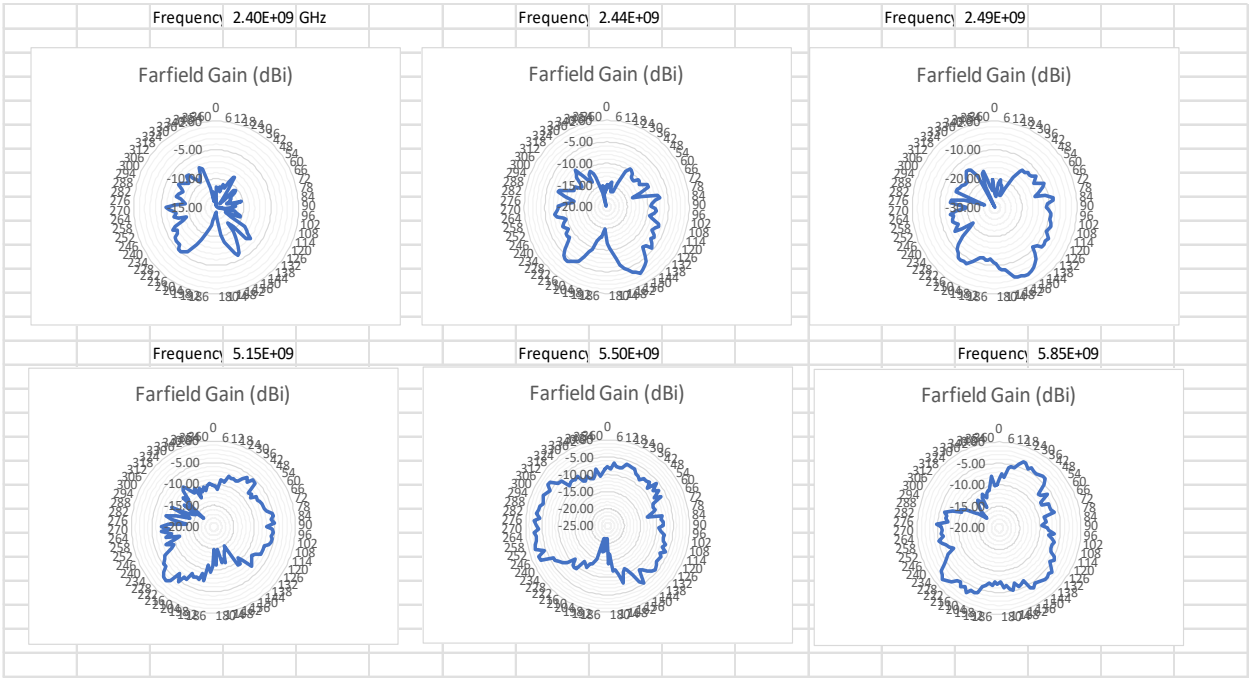
Antenna Vertical, Y Polar Plots, 2.4GHz and 5GHz



Antenna Gain, Y Axis Vertical

Frequency (GHz)	2.40E+09	2.44E+09	2.49E+09	5.15E+09	5.50E+09	5.85E+09
Gain (dBi)	-3.43	-4.35	-6.19	-2.58	-2.47	0.74

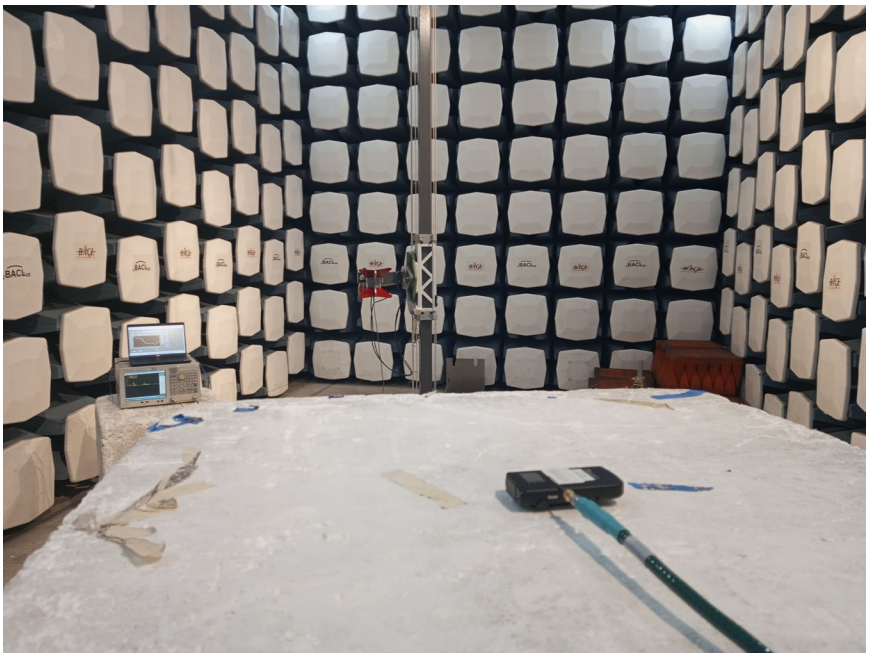
Antenna Vertical, Z Polar Plots, 2.4GHz & 5GHz



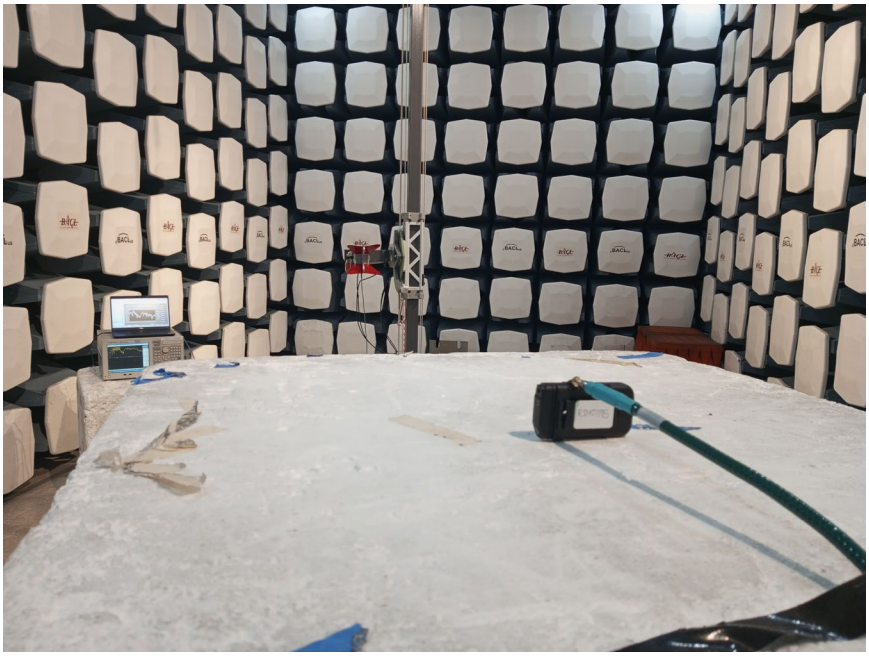
Antenna Gain, Z Axis Vertical

Frequency (GHz)	2.40E+09	2.44E+09	2.49E+09	5.15E+09	5.50E+09	5.85E+09
Gain (dBi)	-5.00	-2.62	-3.83	-2.93	-1.95	-1.65

Test Setup Photo, EUT in X Position



Test Setup Photo, EUT in Y Position



Test Setup Photo, EUT in Z Position