

Test Report for Antenna Specifications for Bigfoot EVT

Product details:

FCC ID: 2AEUPBHARG111

IC: 20271-BHARG111

Product Model Number: 5DFYA6

Date (Report): 11/25/2025

- Test Date: 11/25/2025

Company: Amazon Lab126

Lab address: 1100 Enterprise Way, Sunnyvale, CA 94089

Entity / Grantee Name:

OTA Engineer: Ryan Cook (Amazon Lab126)

Antenna Specification:

Operating Frequency Range:

BLE: 2000 MHz – 3000 MHz

WiFi 802.11g: 2000 MHz – 3000 MHz

WiFi 802.11a: 5000 MHz – 6000 MHz

Band of Interest: 2400 MHz – 2483 MHz; 5150 MHz - 5850MHz

Antenna Type:

Planar Inverted-F Antenna - PIFA

Item	Brand	Part Number
Wi-Fi	DONG GUAN C&I	304001752810
BLE	METAL.CO., LTD	304001752678

Peak Antenna Gain:

Antenna	Frequency (MHz)	Peak antenna gain (dBi)
BLE	2400-2483	3.3
Wi-Fi	2400-2483	2
	5150-5250	3
	5250-5350	2.5
	5470-5725	3
	5725-5850	3

Average Gain (dB):

Technology	Frequency (MHz)	Average Gain (dB)
BLE	2402	-2.6
	2440	-2.7
	2480	-2.8
Wi-Fi	2410	-4
	2437	-3.9

	2462	-4.3
	5180	-2.5
	5240	-3.4
	5500	-3.1
	5720	-3.7
	5745	-2.8
	5825	-3.6

Antenna Gain Measurement:

Measurement Test Method:

Center antenna within the housing in the chamber. With the pigtail on -y axis (Φ 270°) passive antenna performance was measured by VNA and OTA chamber system. The measurement was done in the configuration representative on how it would be with intended end user.

Commercial test software:

WaveStudio25.1.0

Test Procedure: (Passive Antenna Measurement):

1. Mount the Device Under Test (DUT) on the supporting pole at the center of the anechoic chamber.
2. Connect the DUT antenna port to the measurement system using a coaxial cable at the transmitter side of the chamber.
3. Close the chamber door to eliminate external signal interference during measurement.
4. Launch the antenna measurement system, configure the required test parameters (e.g., frequency points or rotation angles), and import the frequency list for testing.

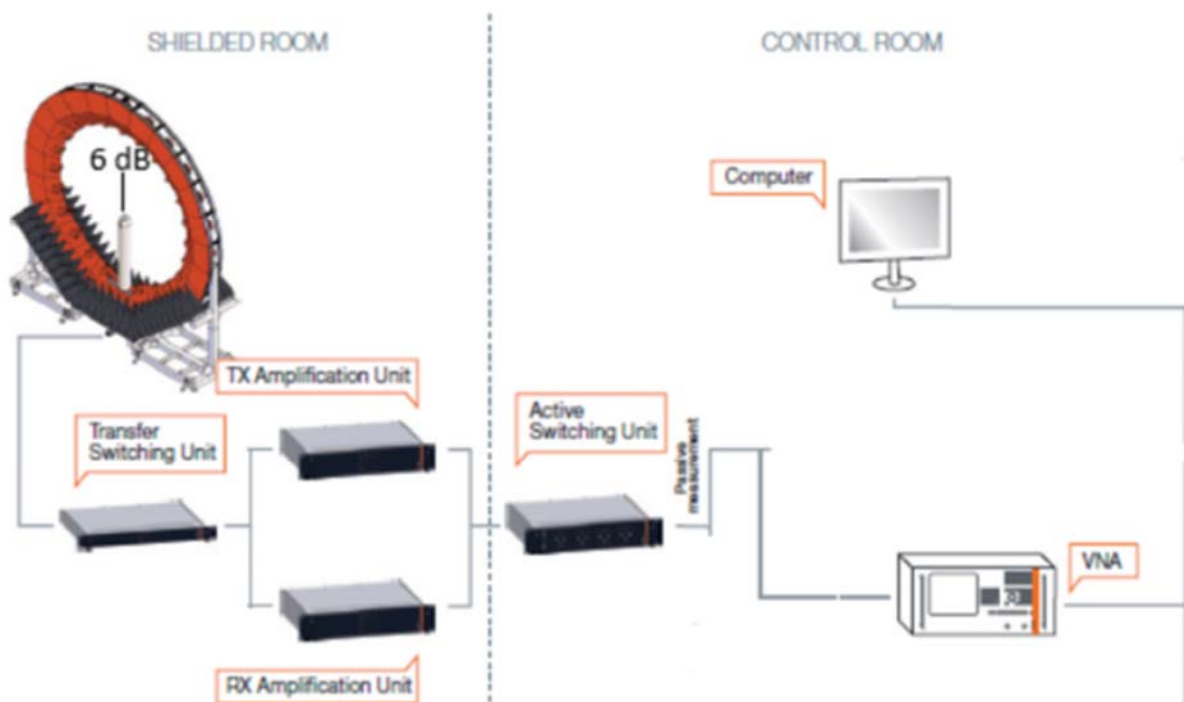
After completing the measurement, process the recorded data and perform far-field data conversion as required

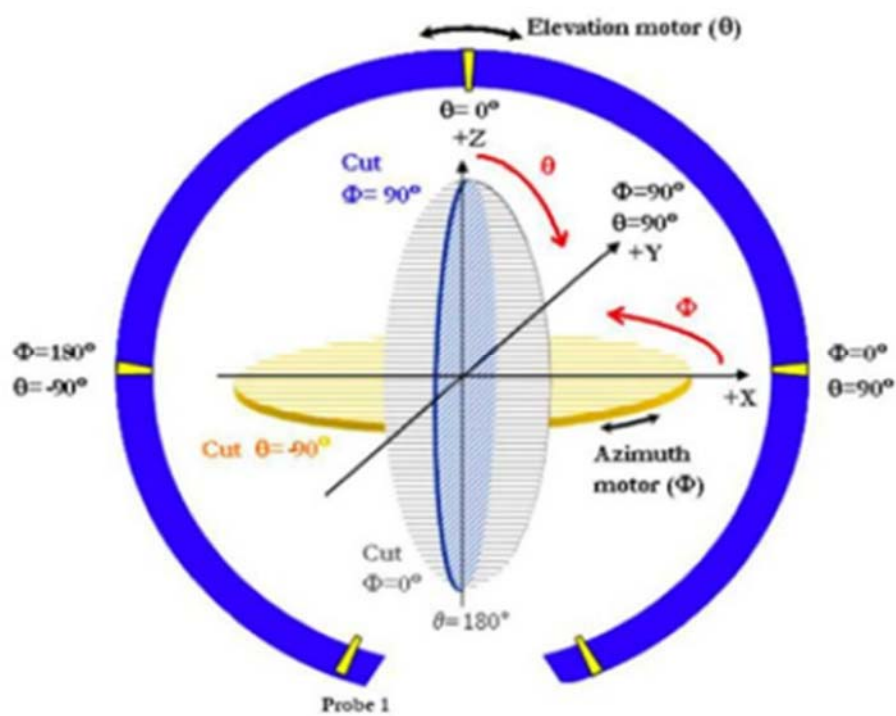
Test Equipment Used:

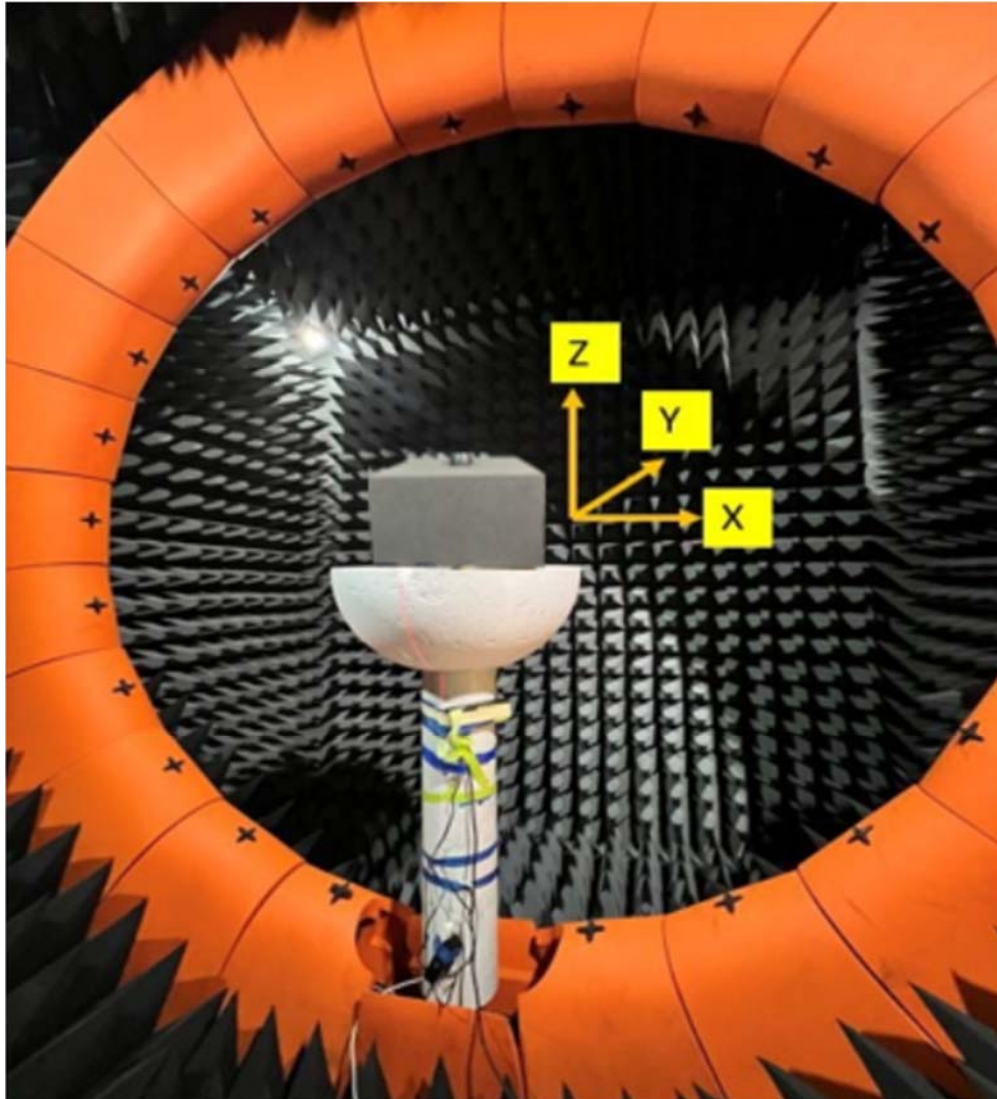
Description	Manufacturer	Model	Serial Number	Cal from	Cal Due
Test Chamber	Satimo-MVG	Star Gate 24	ATL541S	March 2025	-
Vector Network Analyzer	Rohde & Schwarz	ZNB 8	1311.6010K44-102143-Wv	September 25 2025	1 year

Test Setup:

- Below is a block diagram of the antenna measurement setup.







2D Radiation Pattern:

BLE

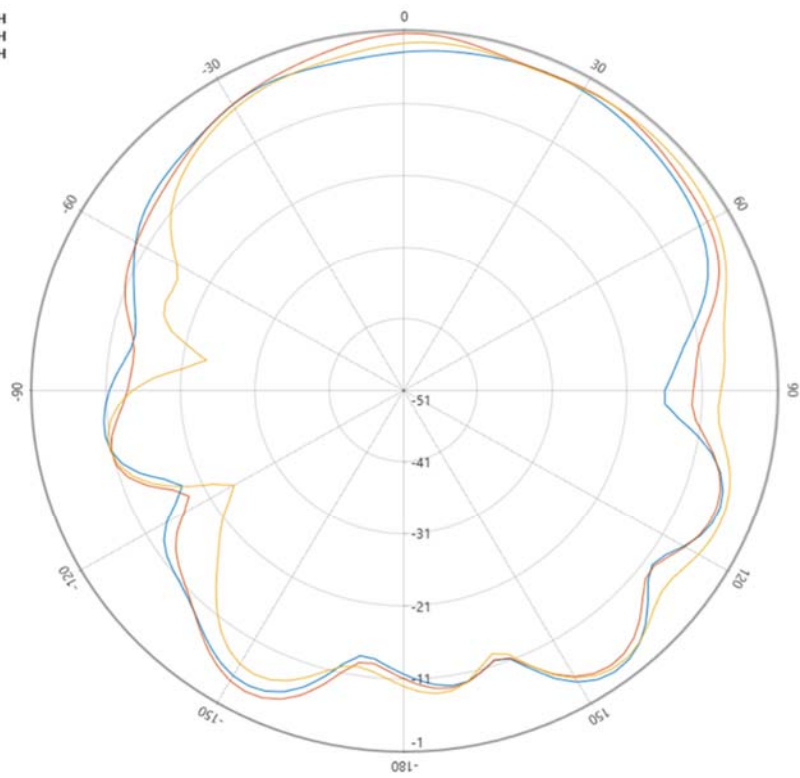
BLE Frequencies: 2400 MHz, 2440 MHz, 2480 MHz

Tx1 antenna:

[Gain] Elevation cut (90 deg)

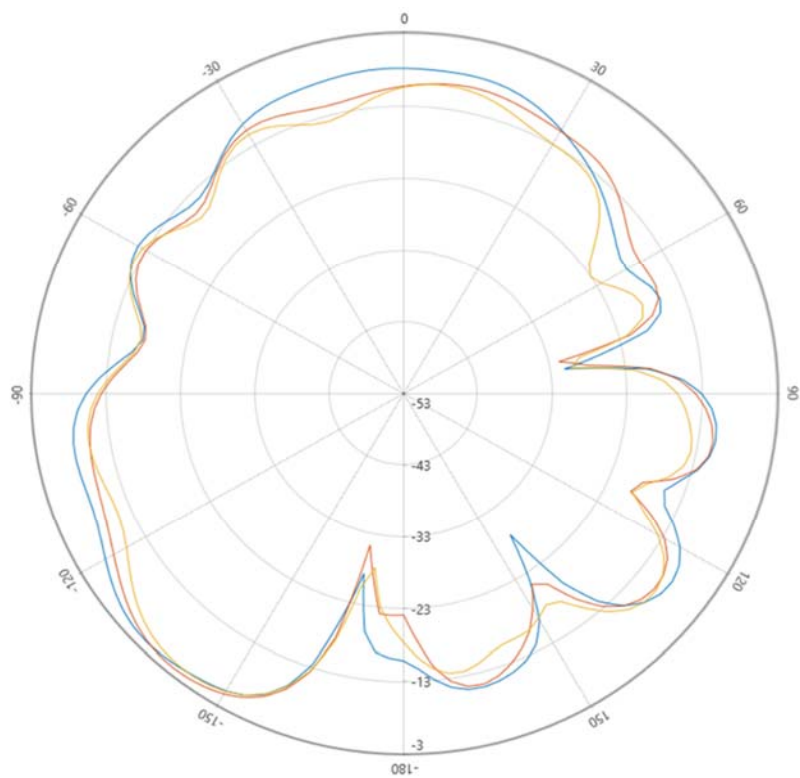
XZ plane

✓ 90° 2400.00 MHz EH
 ✓ 90° 2440.00 MHz EH
 ✓ 90° 2480.00 MHz EH



[Gain] Elevation cut (0 deg)
 XY plane

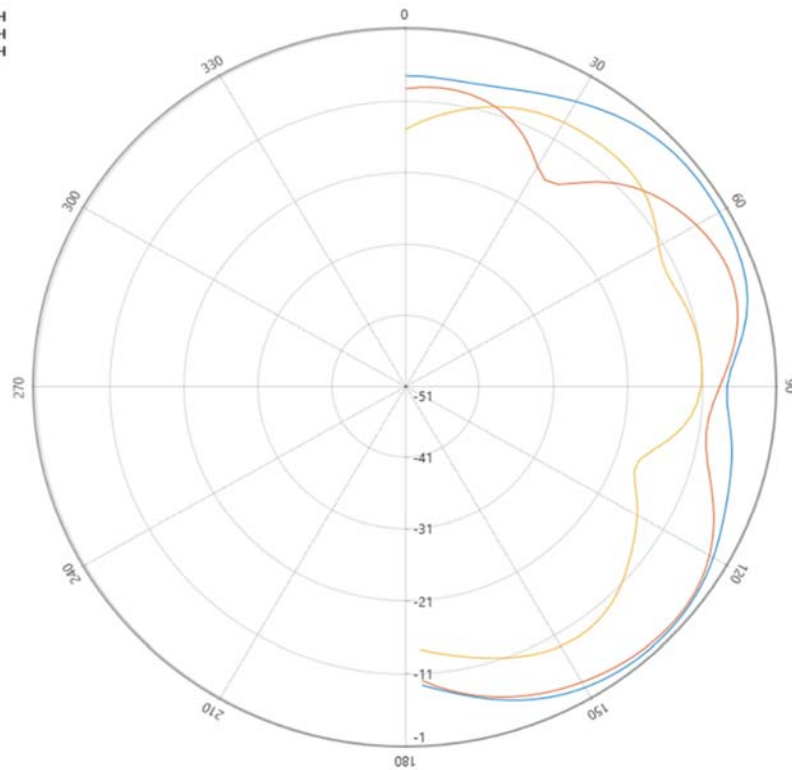
✓ 0° 2400.00 MHz EH
 ✓ 0° 2440.00 MHz EH
 ✓ 0° 2480.00 MHz EH



[Gain] Azimuth cut (90 deg)

YZ plane

✓ 90° 5100.00 MHz EH
✓ 90° 5500.00 MHz EH
✓ 90° 5820.00 MHz EH



Wi-Fi

WiFi 802.11g Frequencies: 2410 MHz, 2440 MHz, 2480 MHz

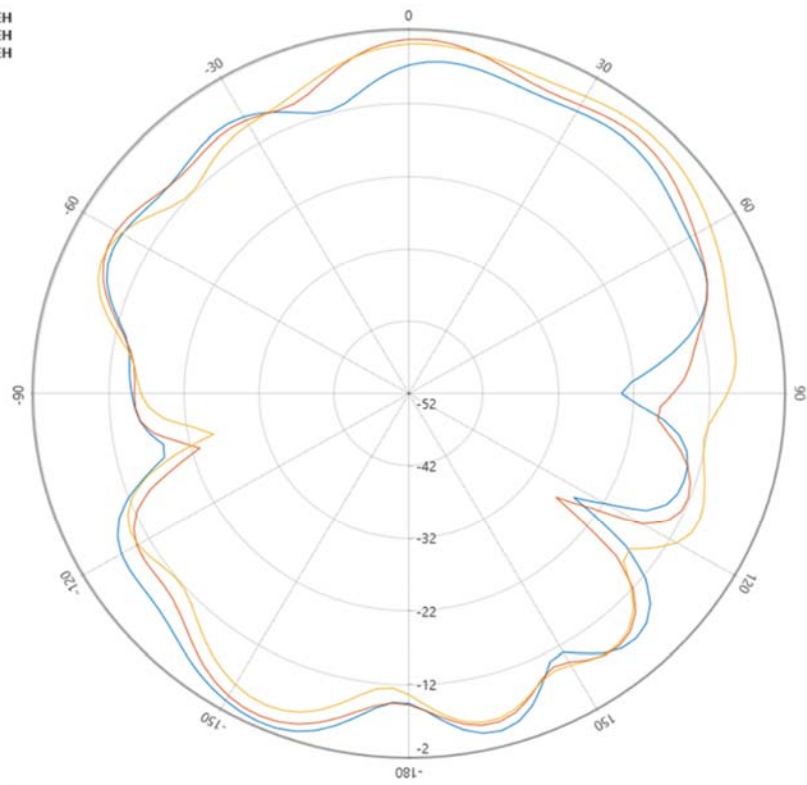
WiFi 802.11a Frequencies: 5100 MHz, 5500 MHz, 5820 MHz

Tx1 antenna:

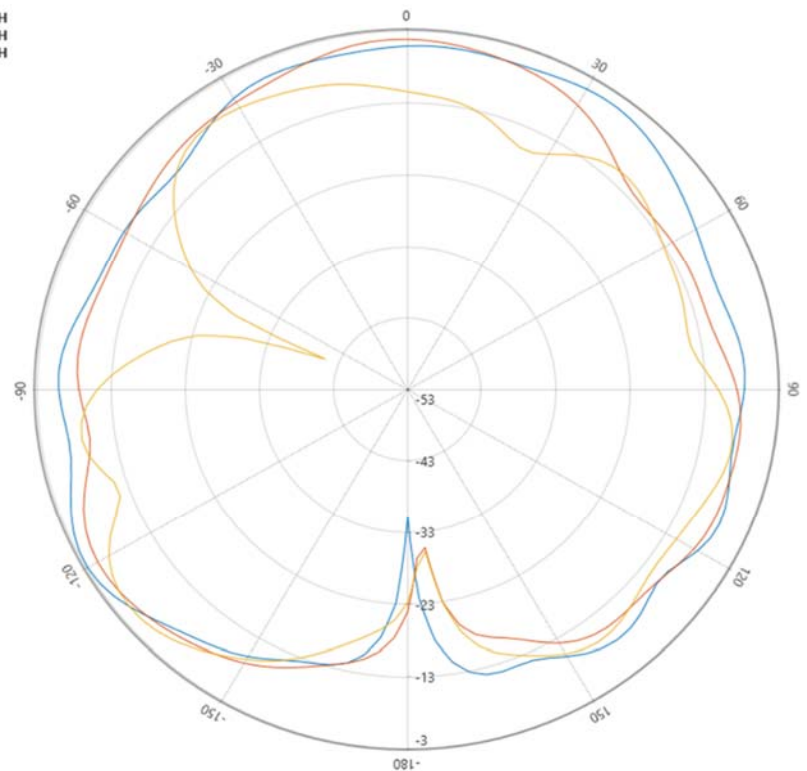
[Gain] Elevation cut (90 deg)

XZ plane

✓ 90° 2410.00 MHz EH
 ✓ 90° 2440.00 MHz EH
 ✓ 90° 2480.00 MHz EH



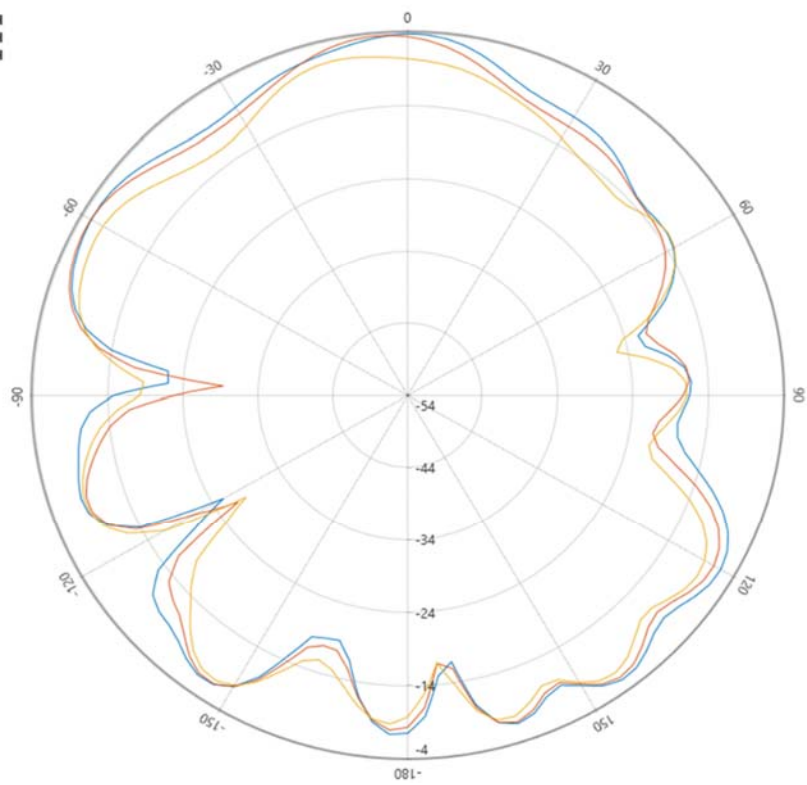
✓ 90° 5100.00 MHz EH
 ✓ 90° 5500.00 MHz EH
 ✓ 90° 5820.00 MHz EH



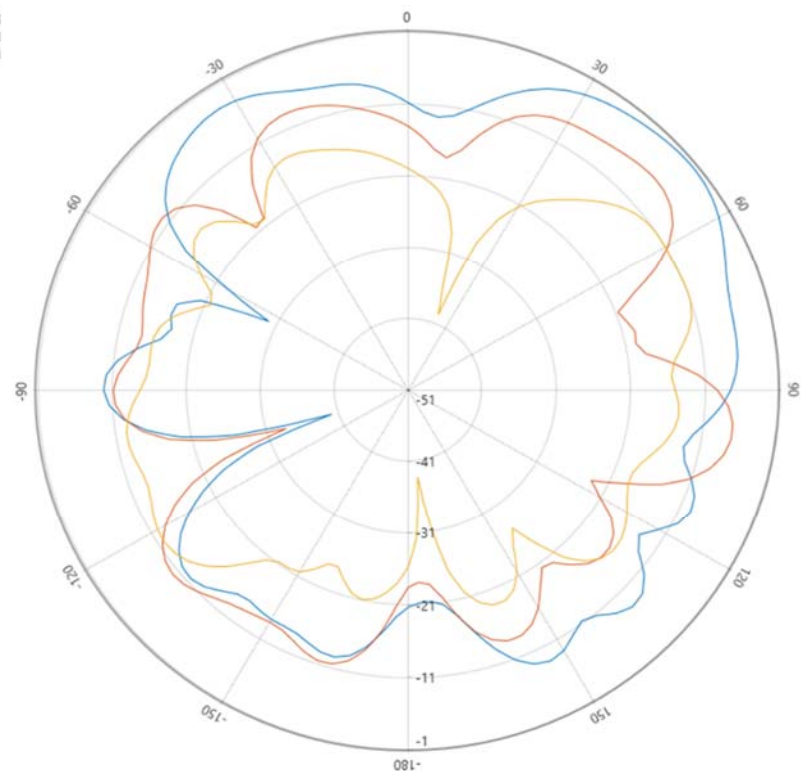
[Gain] Elevation cut (0 deg)

XY plane

✓ 0° 2410.00 MHz EH
 ✓ 0° 2440.00 MHz EH
 ✓ 0° 2480.00 MHz EH

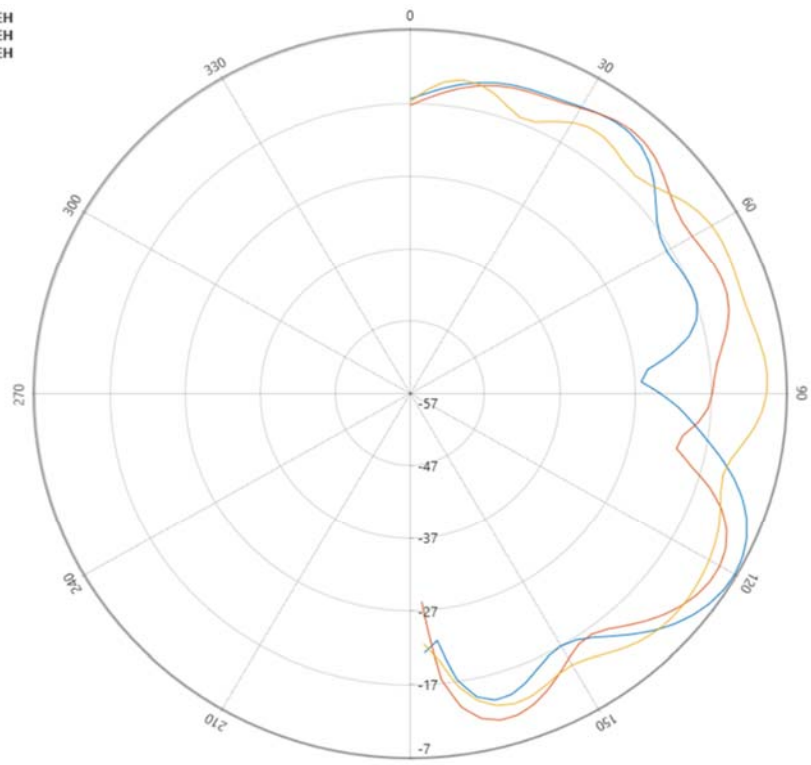


✓ 0° 5100.00 MHz EH
 ✓ 0° 5500.00 MHz EH
 ✓ 0° 5820.00 MHz EH



[Gain] Azimuth cut (90 deg)
 YZ plane

- ✓ 90° 2410.00 MHz EH
- ✓ 90° 2440.00 MHz EH
- ✓ 90° 2480.00 MHz EH



- ✓ 90° 5100.00 MHz EH
- ✓ 90° 5500.00 MHz EH
- ✓ 90° 5820.00 MHz EH

