

Test Report for:

Nexite

uXciter Antennas:

915 MHz & Wi-Fi 2.4 GHz

(902 – 928 MHz)

(2.412 – 2.472 GHz)

REVISION STATUS

Revision Level	Date	Responsible Person	Description of Change
1.0	12.10.2023	Benny Laufer	New release
1.1	06.02.2024	Benny Laufer	Change gain unit

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General View

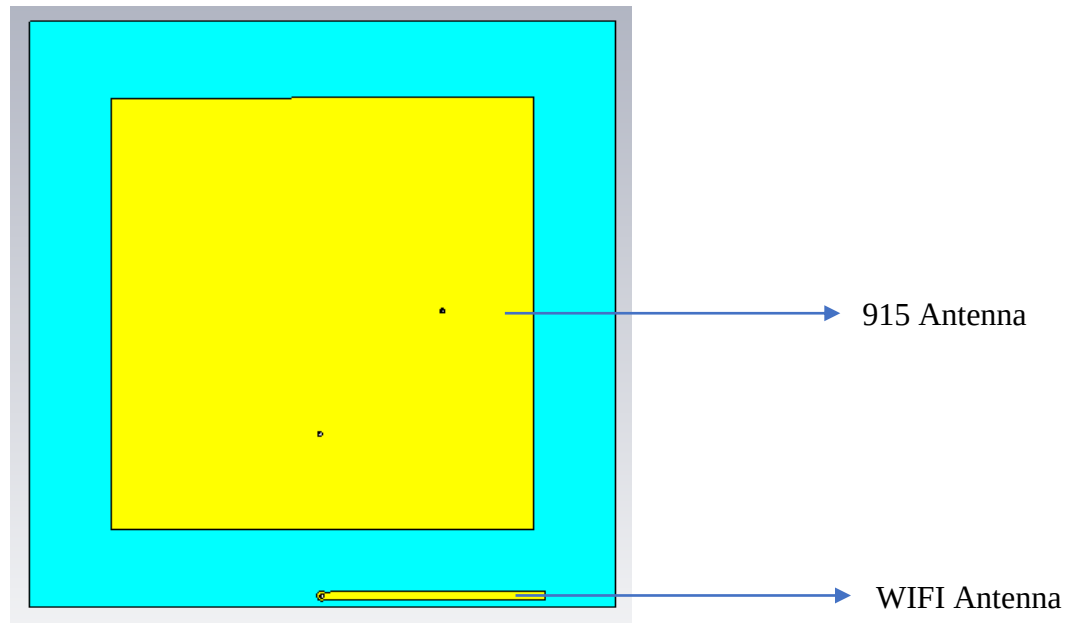


Figure 1 – uXciter 915MHz - Antenna Design – Top view

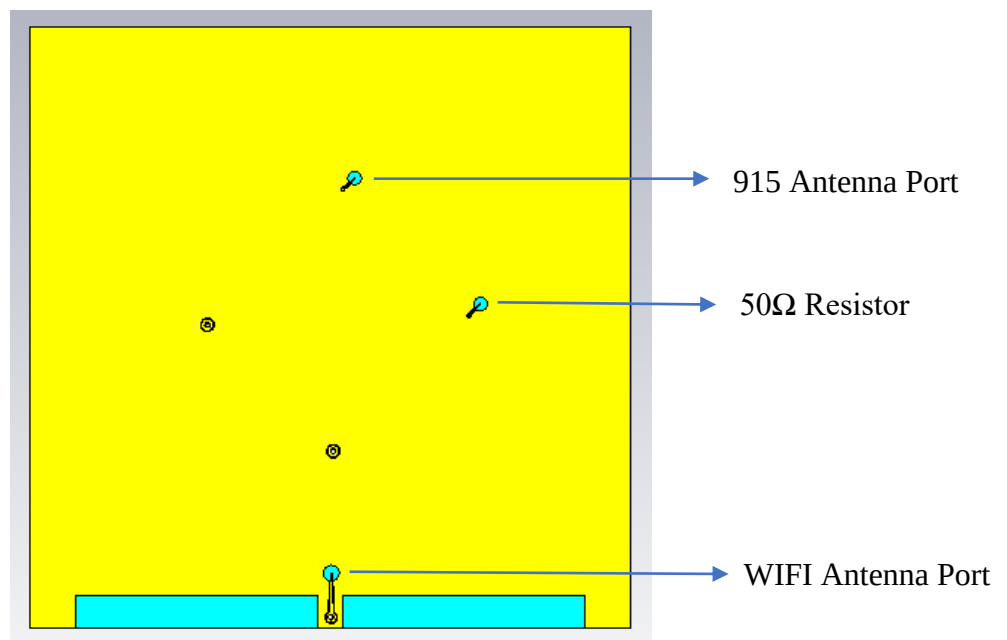


Figure 2 – uXciter 915MHz - Antenna Design – Bottom View

1. Antenna Details

Antenna Model: AS000023

Antenna Manufacturer: Nexite LTD.
Address: Igal Alon 126, Tel Aviv, Israel.

Test Organization: Motorola

2. Test Equipment List

The following table contains a list of the test equipment with which the test was performed.

Nexite Lab Equipment	Model Type	Manufacturer
Network Analyzer	E5063A	KEYSIGHT
OutSource Chamber in Motorola	Model Type	Manufacturer
Chamber	3100	The Howland Company
Network Analyzer	ENA-E5071B	Agilent
Signal Generator	MXG Vector SG	Agilent
Spectrum Analyzer	FSP7	R&S

Table 1 - Test Equipment List

3. Test List

Test Name	Equipment	Location
Return Loss - S11 – 915 & Wi-Fi	VNA	Lab
Radiation Patterns	Test range	OutSource Chamber in MOTOROLA
Axial Ratio	Test range	
Gain	Test range	
Beam Width	Test range	

Table 2 - List of test

4. Frequency List

Band	Frequency List
915 MHz	902, 915, 928 MHz
2.4 GHz - WiFi	2.412, 2.437, 2.472 GHz

Table 3 - List of Frequency

5. Antenna Summary of Results

5.1. Laboratory test results

5.1.1. Return Loss – S11 - Results

5.1.1.1. 915 MHz Antenna

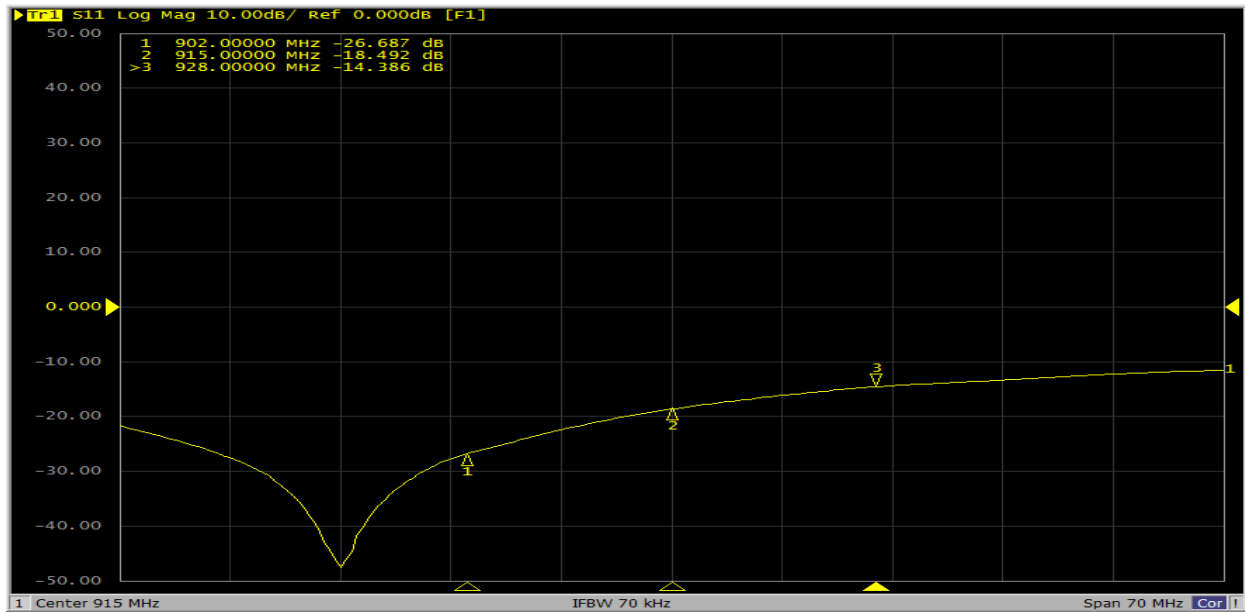


Figure 3 – S11 – 915MHz Antenna

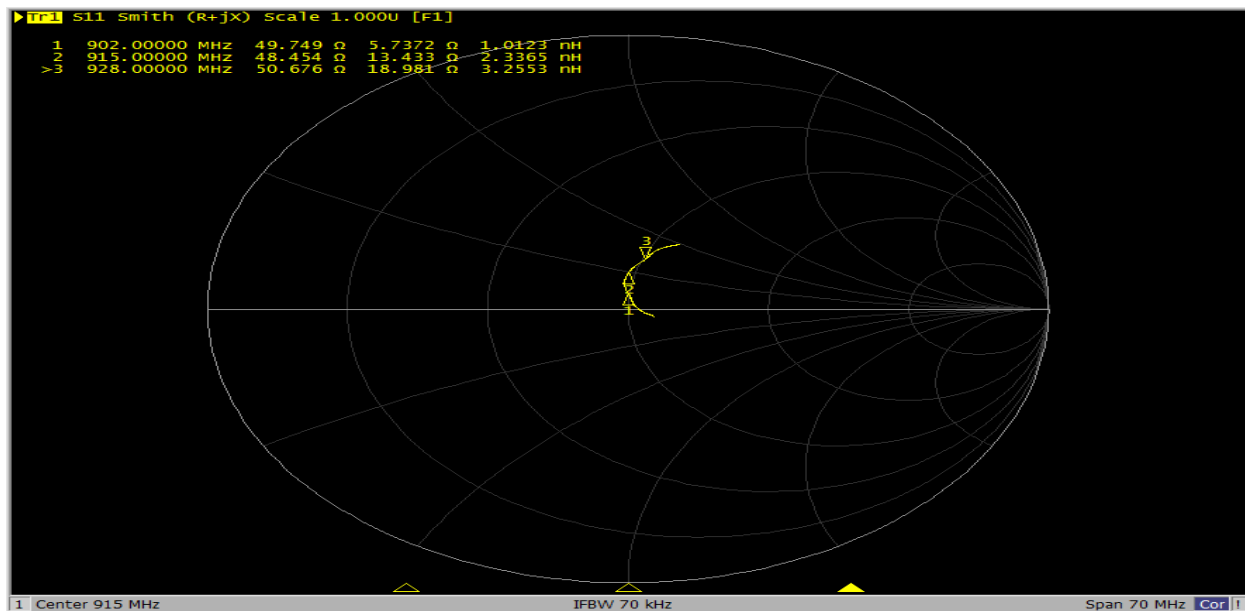


Figure 4 – Smith – 915MHz Antenna

5.1.1.2. Wi-Fi 2.4 GHz Antenna

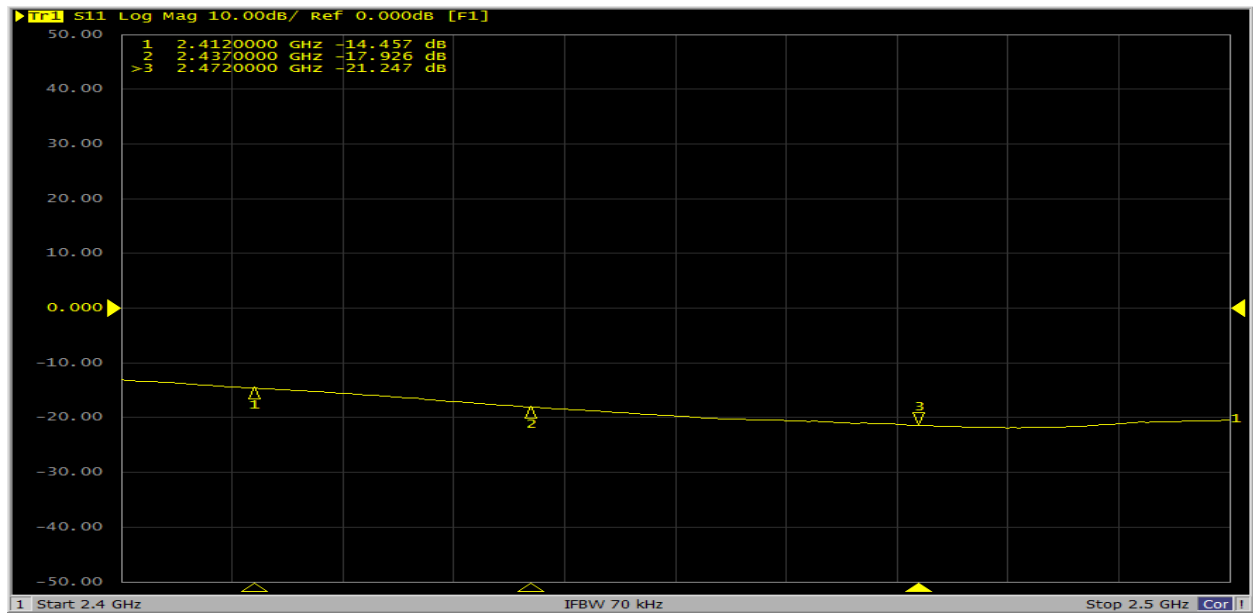


Figure 5 – S11 – 2.4GHz Antenna

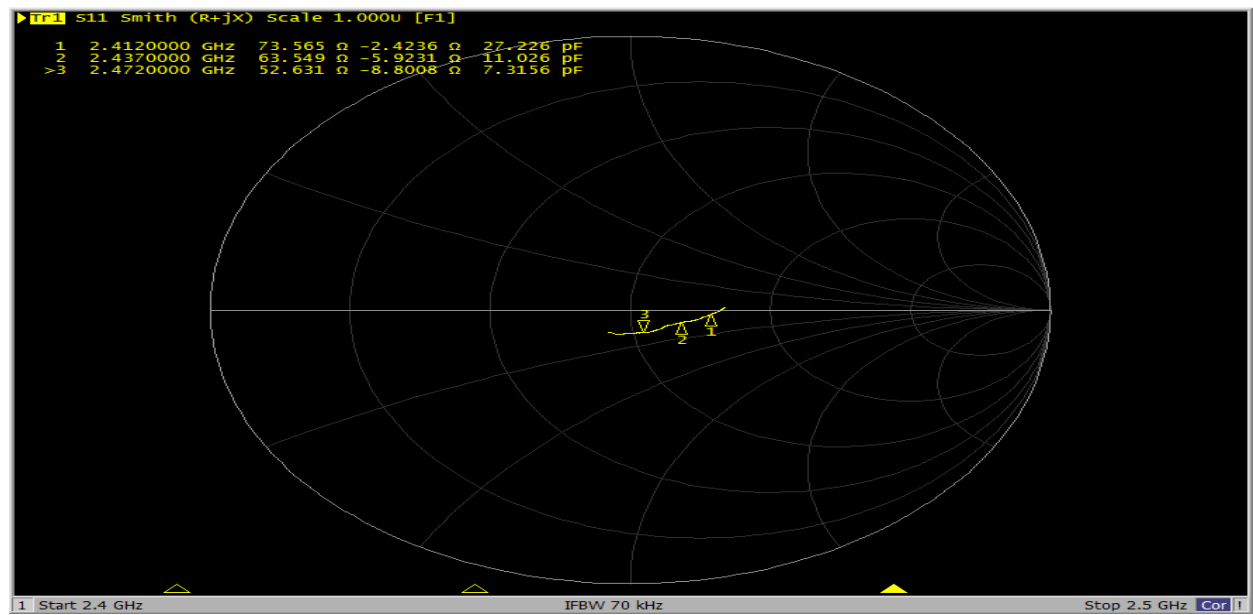


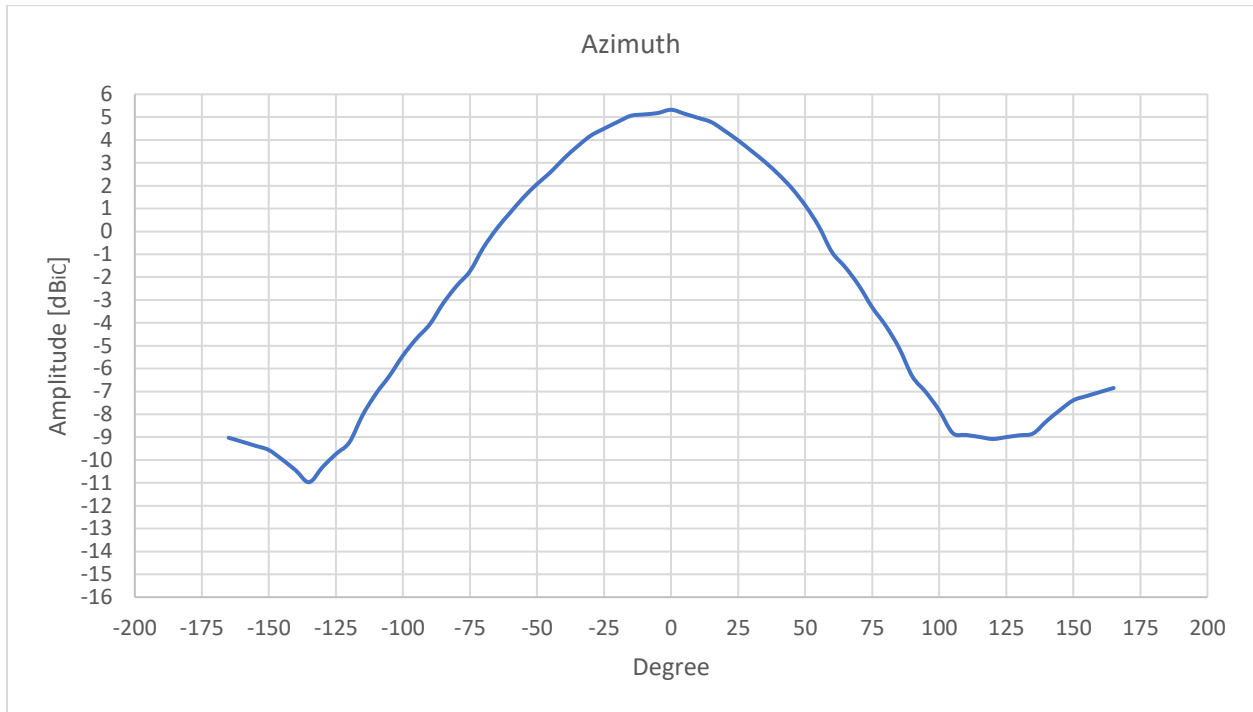
Figure 6 – Smith – 2.4GHz Antenna

5.2. Chamber test results

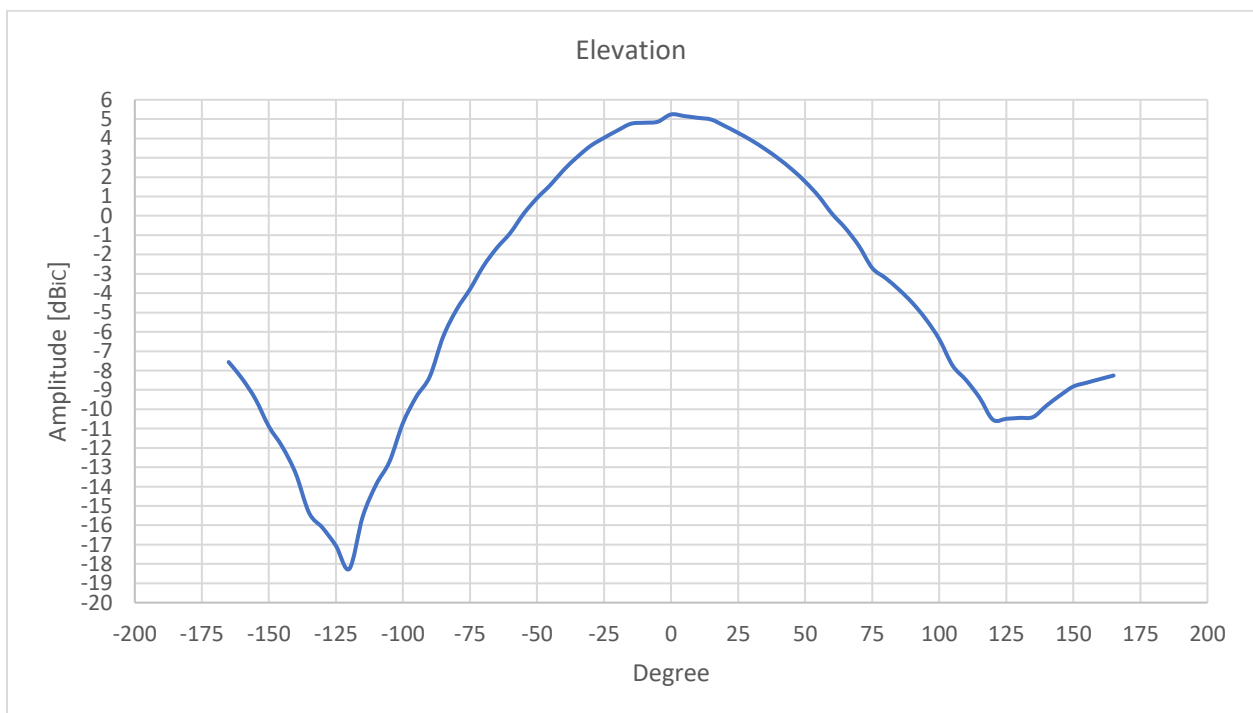
5.2.1. Radiation Patterns

5.2.1.1. Radiation Pattern for 915 MHz Antenna

5.2.1.1.1. Frequency: 902 MHz

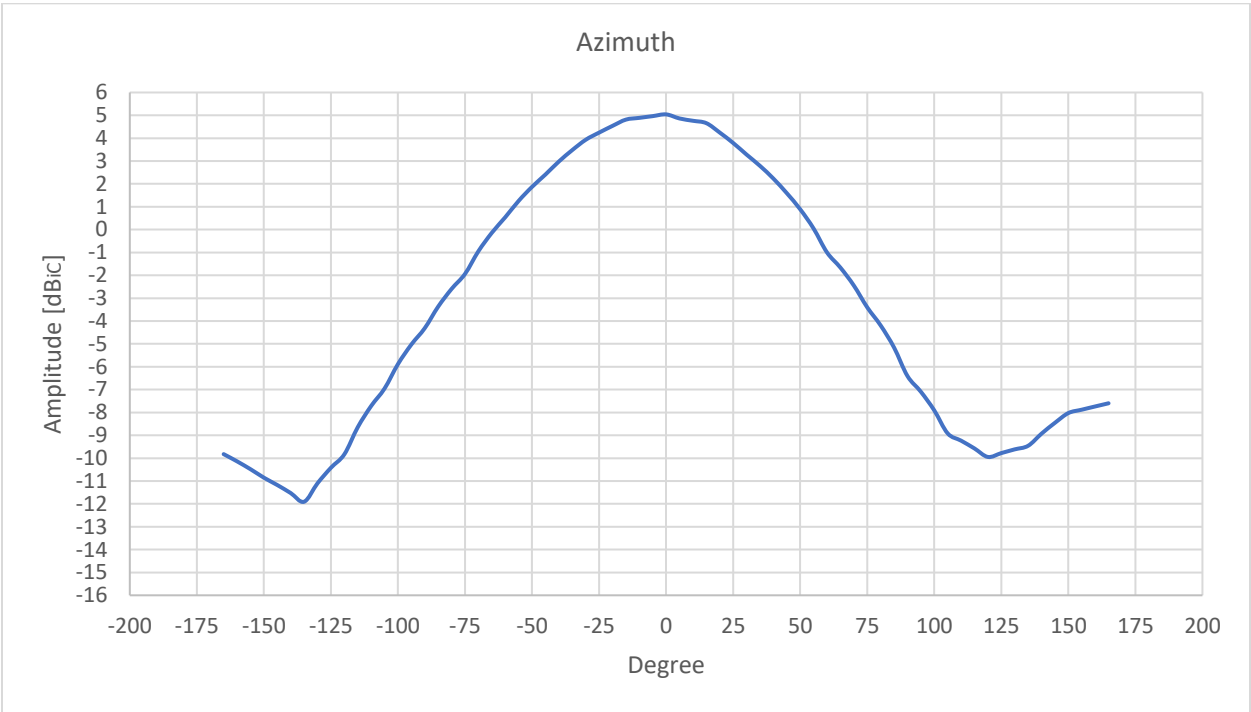


Graph 1 - 915MHz Antenna – Freq: 902MHz – Azimuth

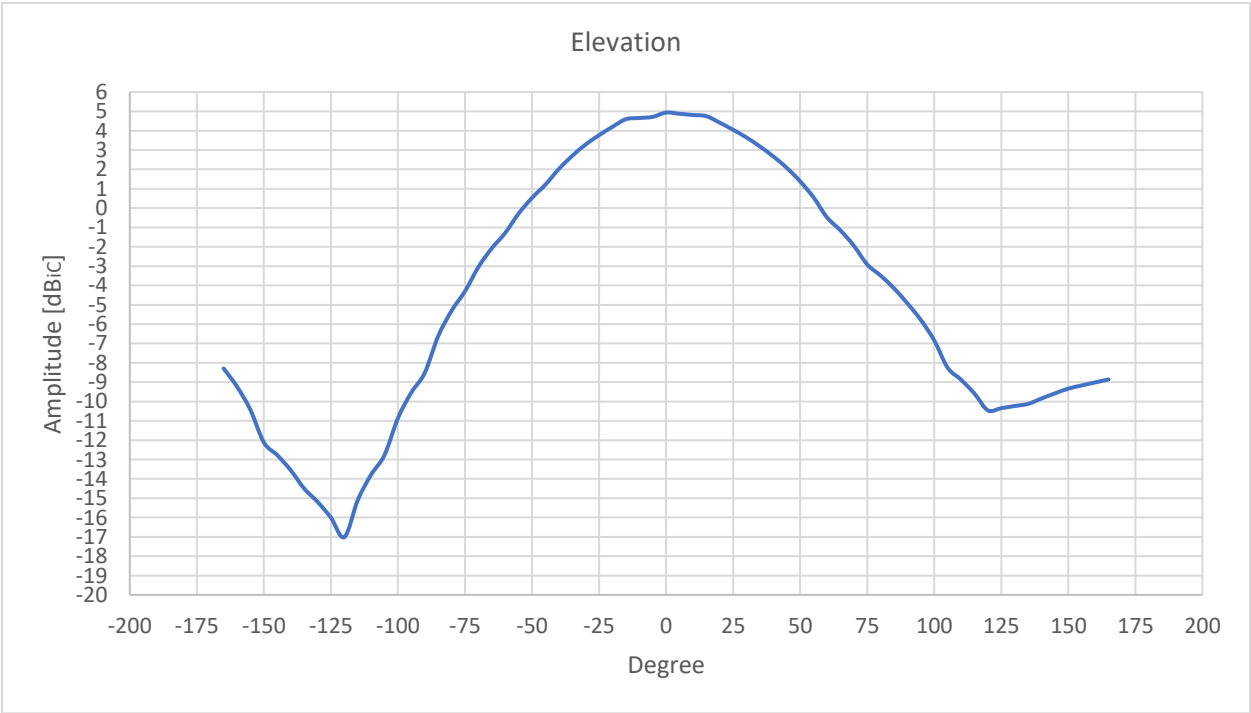


Graph 2 - 915MHz Antenna – Freq: 902MHz - Elevation

5.2.1.1.2. Frequency: 915 MHz

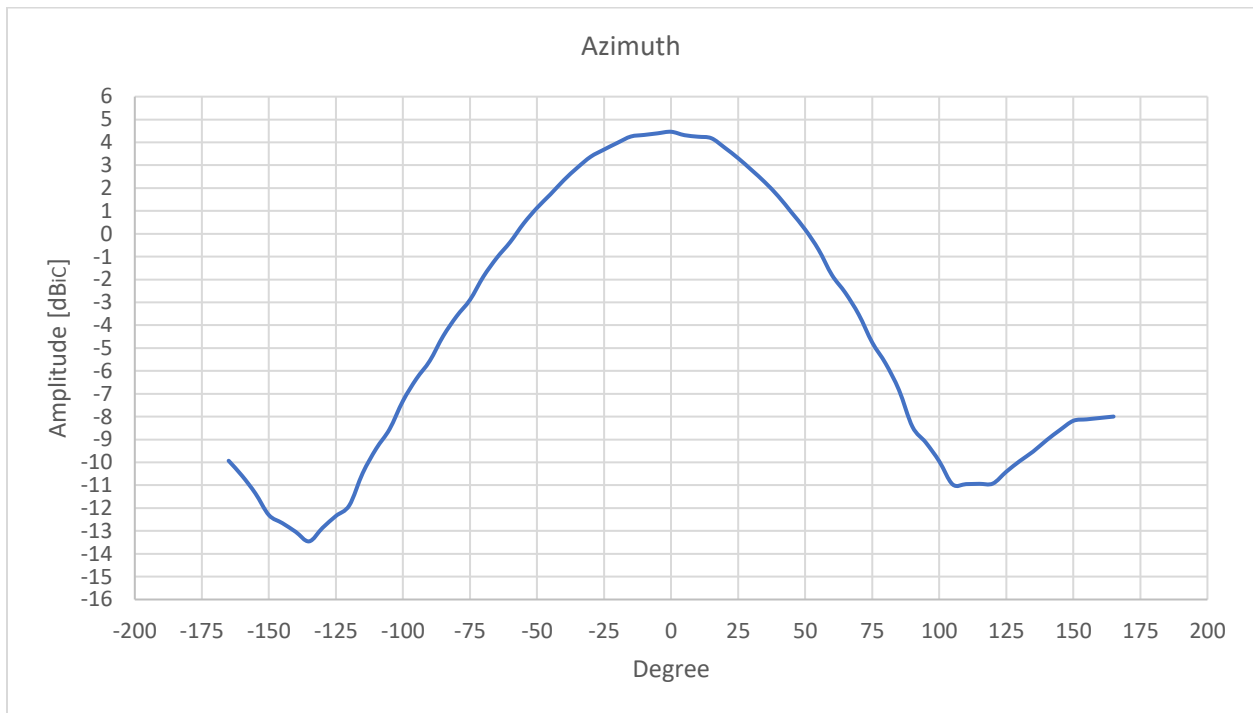


Graph 3 - 915MHz Antenna – Freq: 915MHz - Azimuth

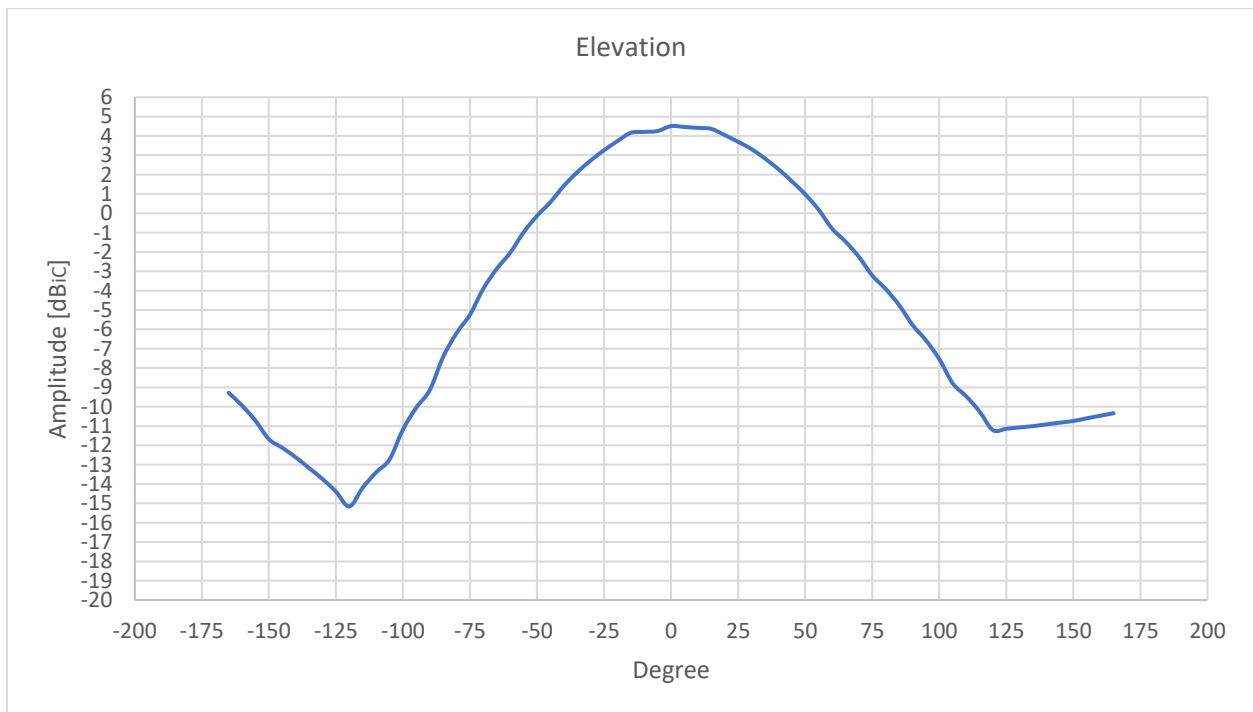


Graph 4 - 915MHz Antenna – Freq: 915MHz - Elevation

5.2.1.1.3. Frequency: 928 MHz



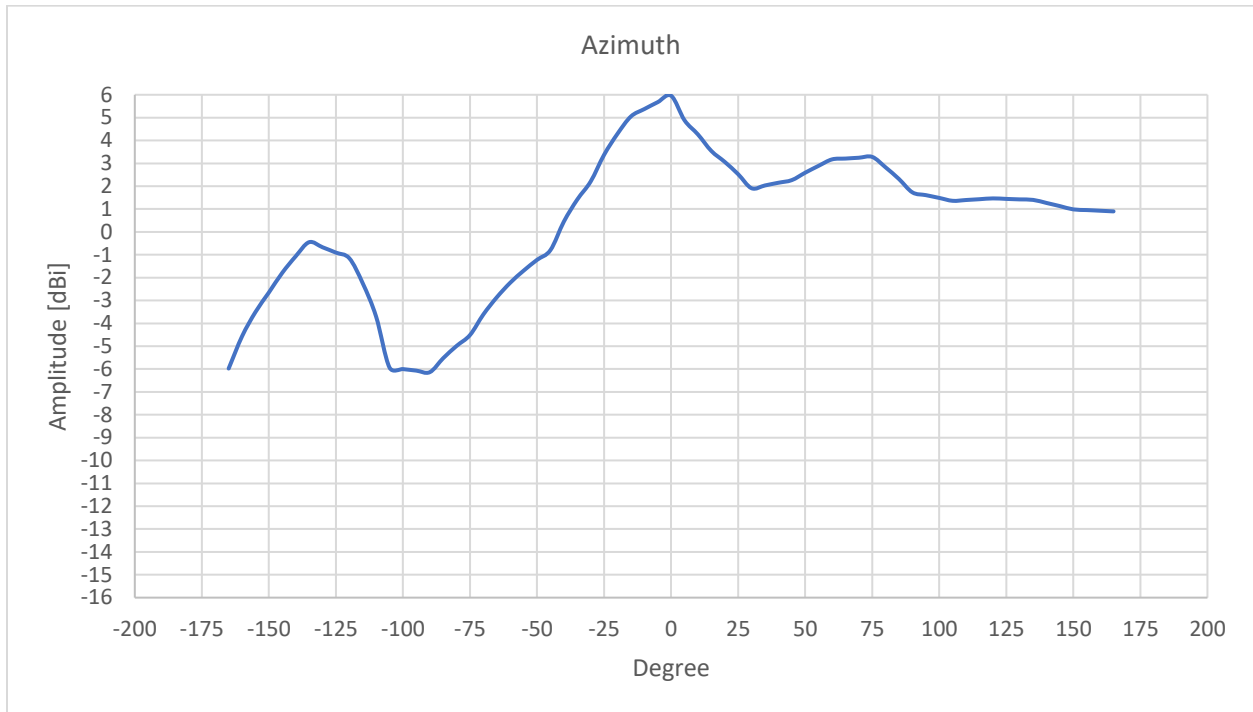
Graph 5 - 915MHz Antenna – Freq: 928MHz - Azimuth



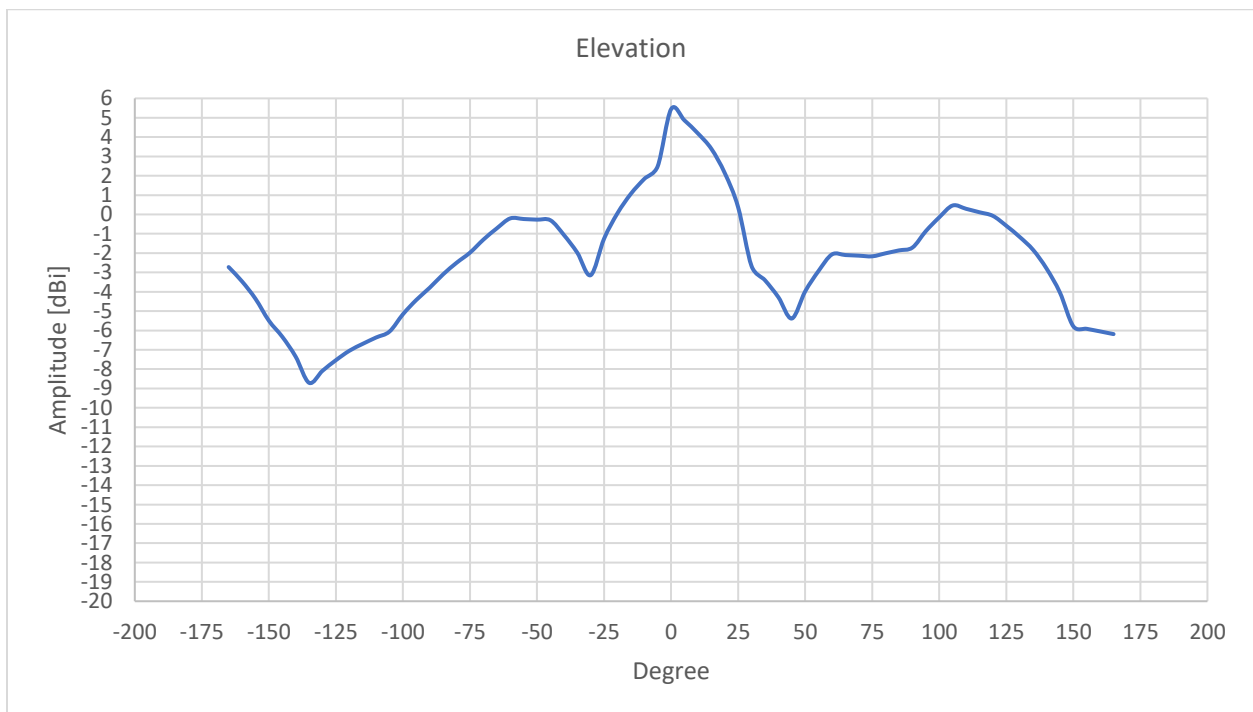
Graph 6 - 915MHz Antenna – Freq: 928MHz - Elevation

5.2.1.2. Radiation Pattern for Wi-Fi 2.4 GHz Antenna

5.2.1.2.1. Frequency: 2.412 GHz

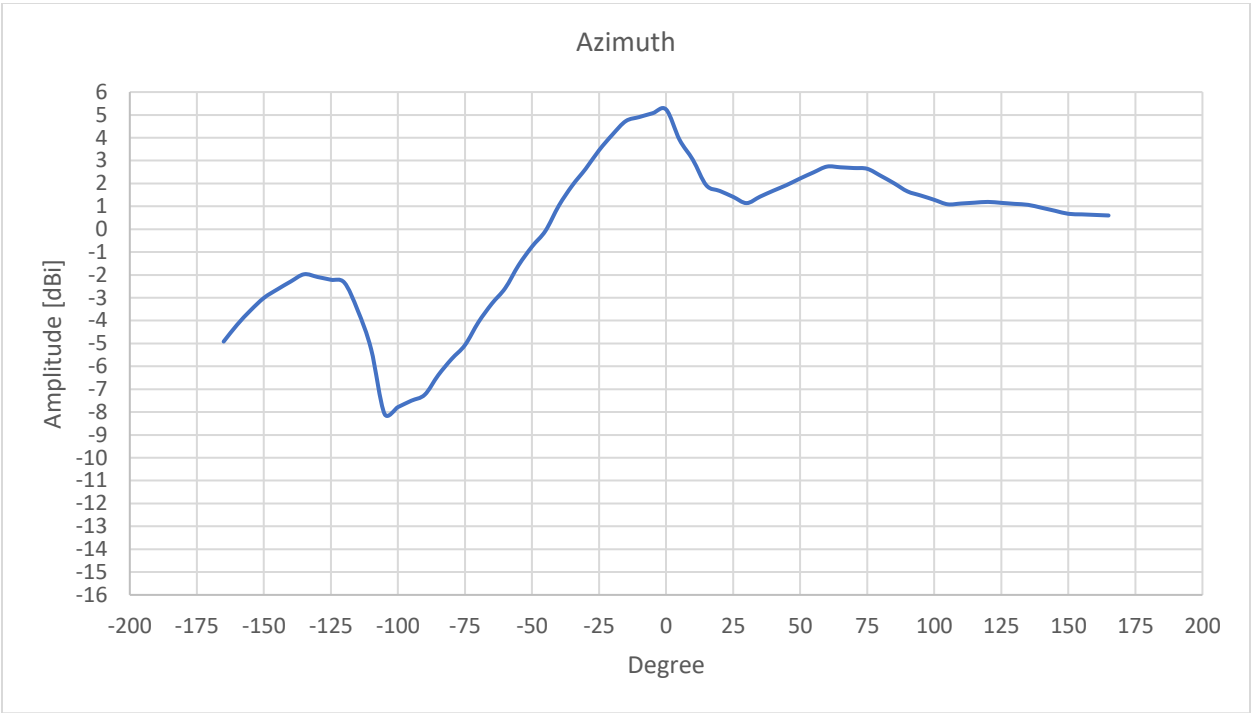


Graph 7 – 2.4GHz Antenna – Freq: 2.412GHz - Azimuth

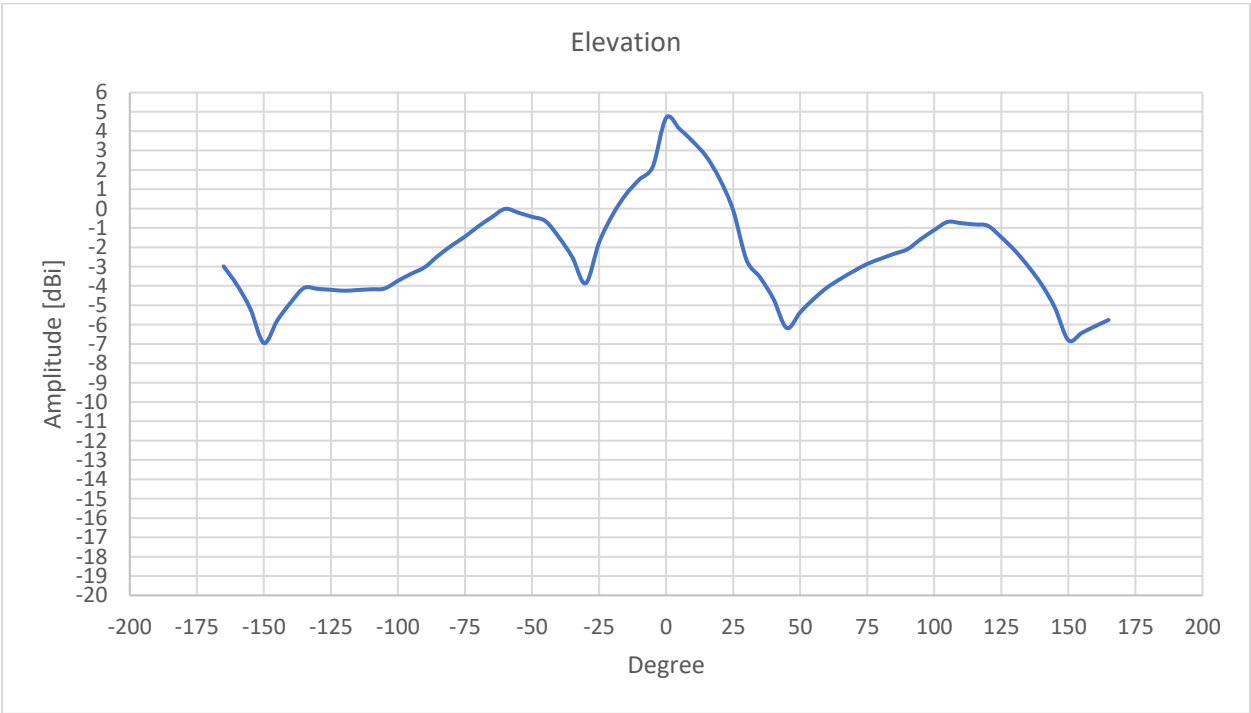


Graph 8 – 2.4GHz Antenna – Freq: 2.412GHz - Elevation

5.2.1.2.2. Frequency: 2.437 GHz

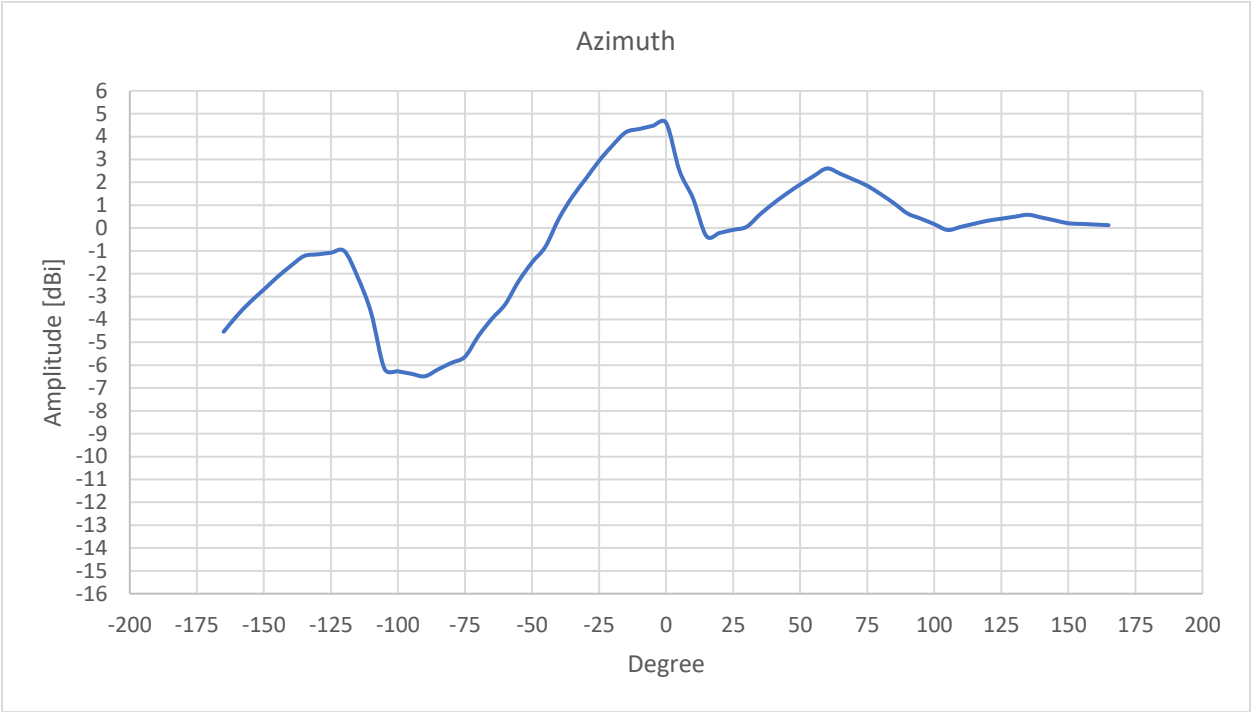


Graph 9 – 2.4GHz Antenna – Freq: 2.437GHz - Azimuth

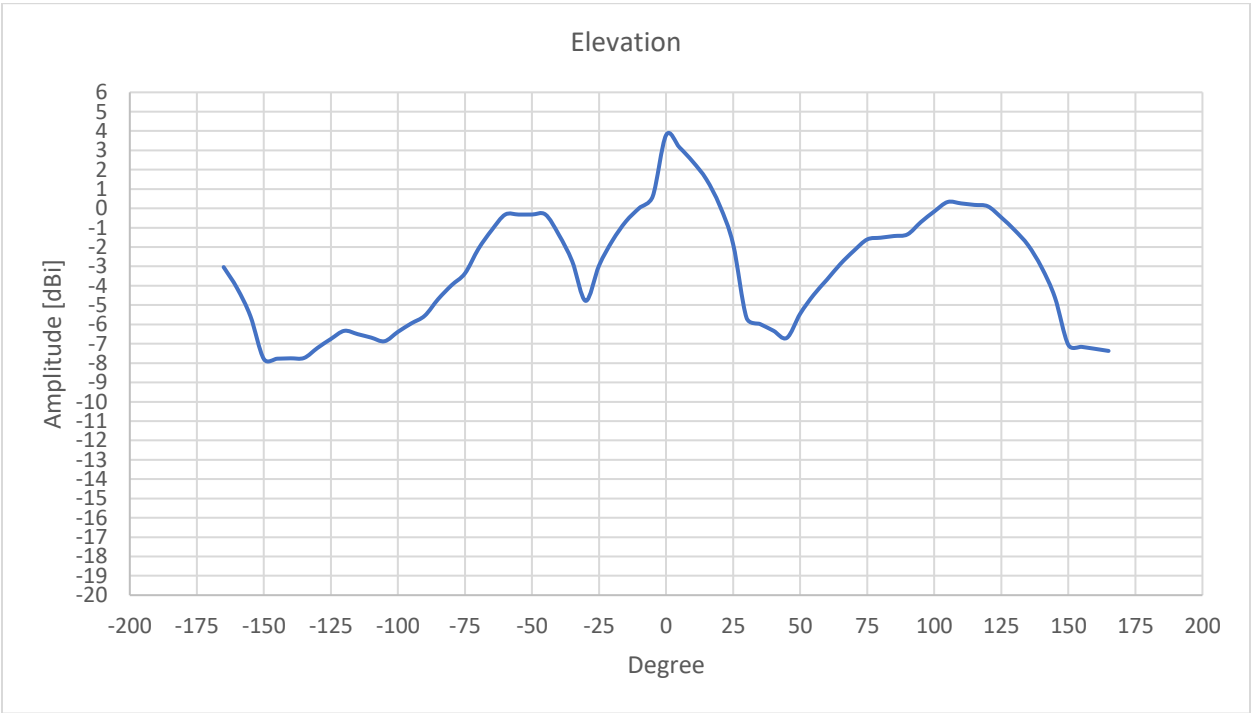


Graph 10 – 2.4GHz Antenna – Freq: 2.437GHz - Elevation

5.2.1.2.3.Frequency: 2.472 GHz



Graph 11 – 2.4GHz Antenna – Freq: 2.472GHz - Azimuth



Graph 12 – 2.4GHz Antenna – Freq: 2.472GHz - Elevation

5.2.2. Gain Results

5.2.2.1. Gain for 915 MHz Antenna

Gain Results	
Frequency [MHz]	Gain [dBiC]
902	5.32
915	5.04
928	4.51

Table 4 – Antenna 915MHz - Gain Results

5.2.2.2. Gain for 2.4 GHz – Wi-Fi Antenna

Gain Results	
Frequency [GHz]	Gain [dBi]
2.412	5.96
2.437	5.25
2.472	4.60

Table 5 – Antenna 2.4GHz - Gain Results

5.2.3. Beam Width Results

5.2.3.1. BW for 915 MHz Antenna

	Frequency [MHz]	-3 dB Beam Width [deg]	
		Ver	Hor
915 MHz	902	85	80
	915	85	80
	928	85	80

Table 6 – Antenna 915MHz - BW Results

5.2.3.2. BW for 2.4 GHz – Wi-Fi Antenna

	Frequency [GHz]	-3 dB Beam Width [deg]	
		Ver	Hor
Wi-Fi - 2.4 GHz	2.412	50	20
	2.437	40	15
	2.472	35	10

Table 7 – Antenna 2.4GHz - BW Results

6. Signature

	Title	Name	Signature	Date
Test Report Prepared By	Antenna Engineer	Benny Laufer		27.09.2023

Table 8 – Signature