

Author of the document	Luca Niccolai-Technical Director
Site of Test	Dynaflex Srl Via Parini 1 60027 Osimo Italy
Equipment under Test	Datamars IDMyCow V4_4
Manufacturer of the device	Datamars SA Via Industria 16 6814 Lamone CH

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Measurement of Radiation Parameters Test Report

Test Report DM0023109_3

Rev 1

Date 03 April 2024

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1.Scope

The scope of this document is to provide detailed data about the radiations parameters of the Device under Test, specifically Gain, Radiation Efficiency and Polarization of the Electromagnetic Field.

2.Equipment under test (EUT)

EUT name: IDMyCow V4_4

Manufacturer: Datamars SA

Version. V4_4

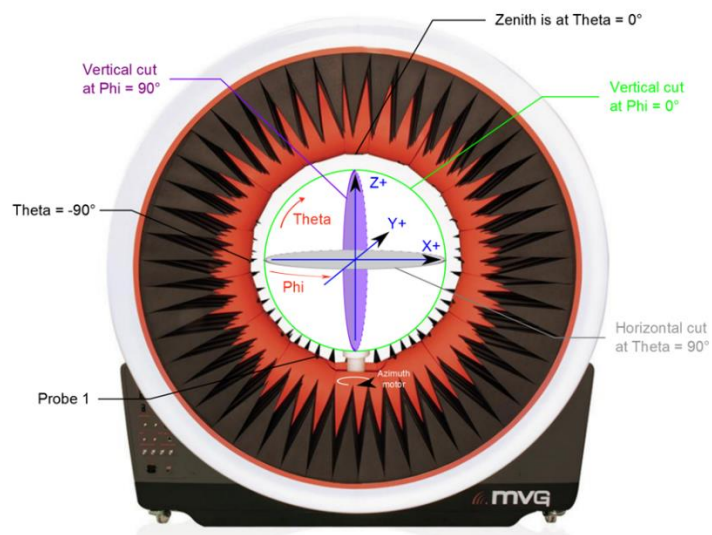
Equipment description: The equipment consists in a four elements micro-strip antenna array LHCP polarized. The antenna port is provided with a UFL type micro-coaxial connector.

3.Test Condition

Tests are performed at 21° C room temperature.

The measurement set up consists in the following equipment list

- MVG Starlab Multiprobe System 6 GHz (cal expiration 10/25)
- VNA Copper Mountain M5065 (cal expiration 10/25)



Spatial coordinate reference system



4. Equipment under test documentation

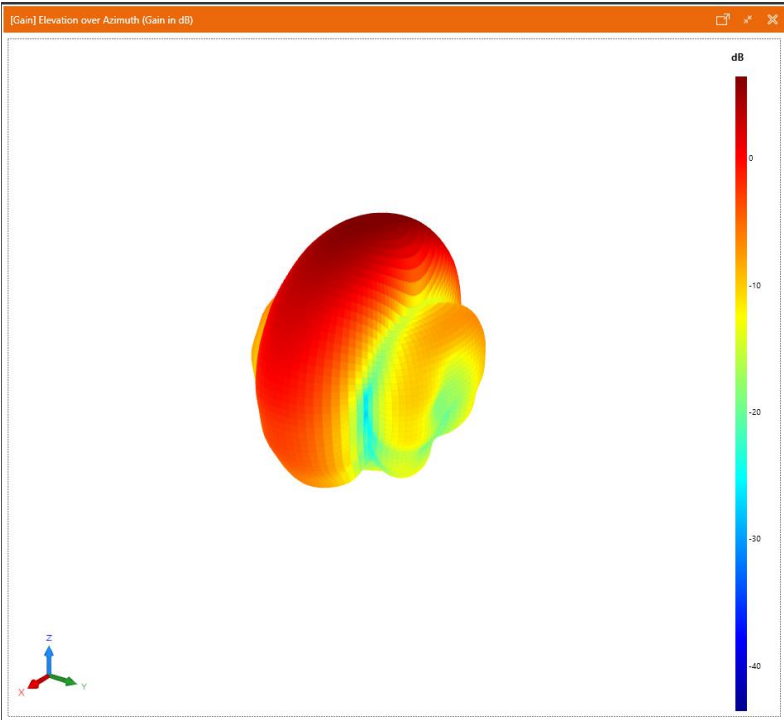
The Equipment under test is a one port micro-strip antenna structure composed by four elements printed on a fr-4 substrate

Main polarization of the radiated EM field is Left Hand.

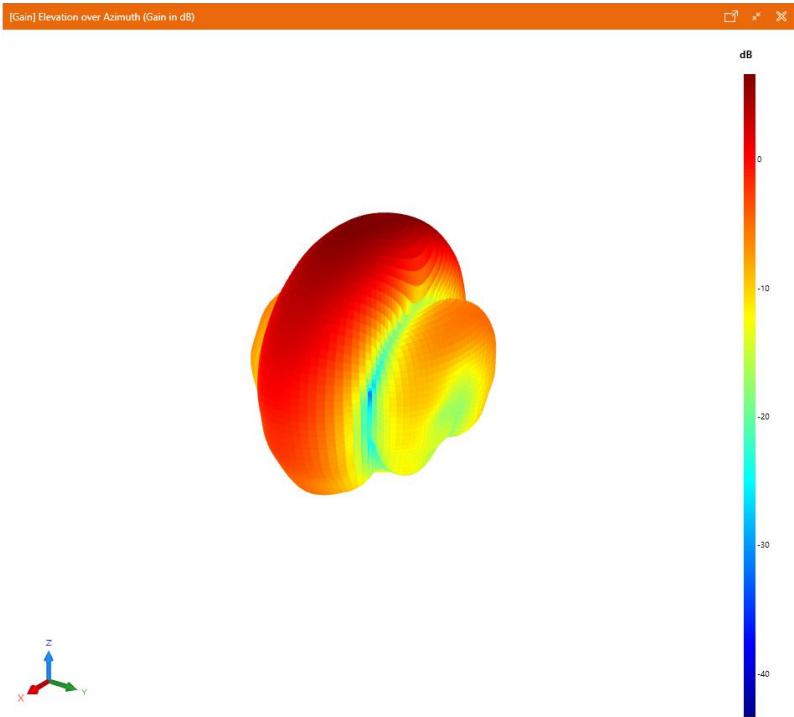


5. Test Results

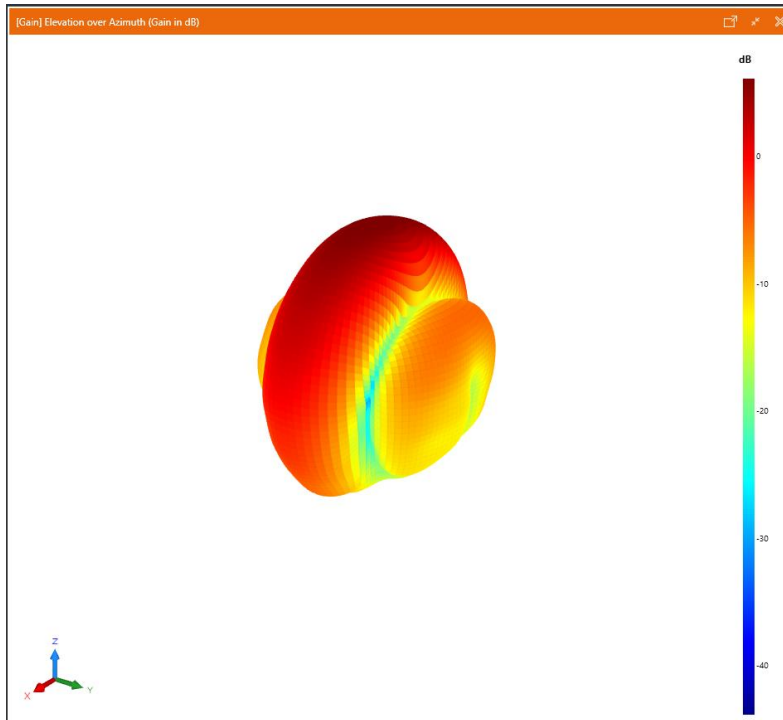
Gain 3D Plots



2400 MHz

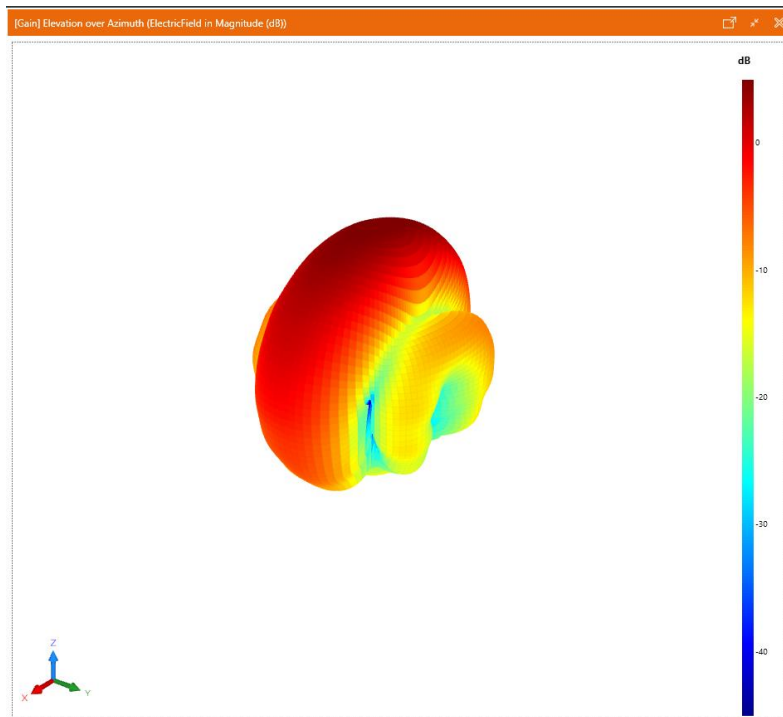


2440 MHz

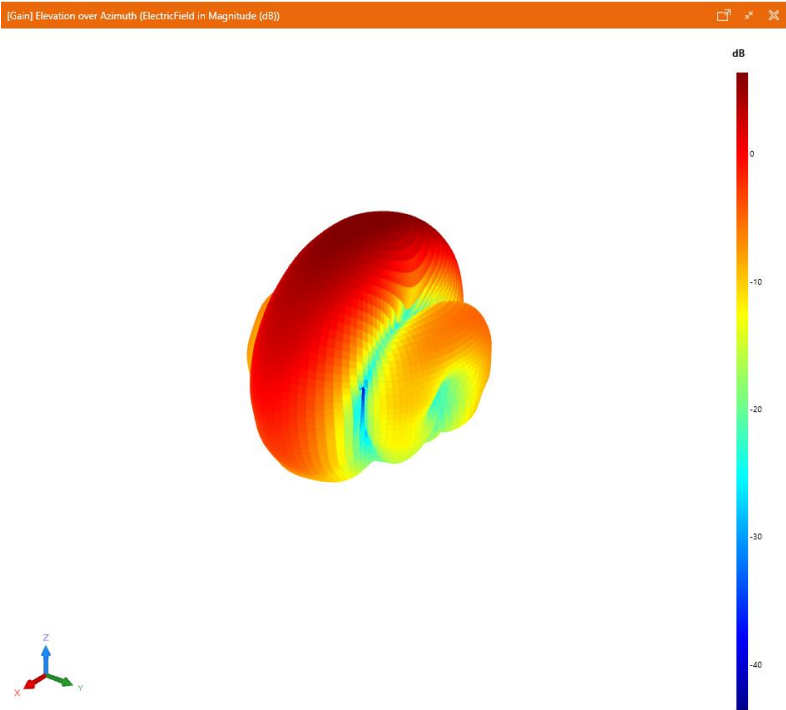


2480 MHz

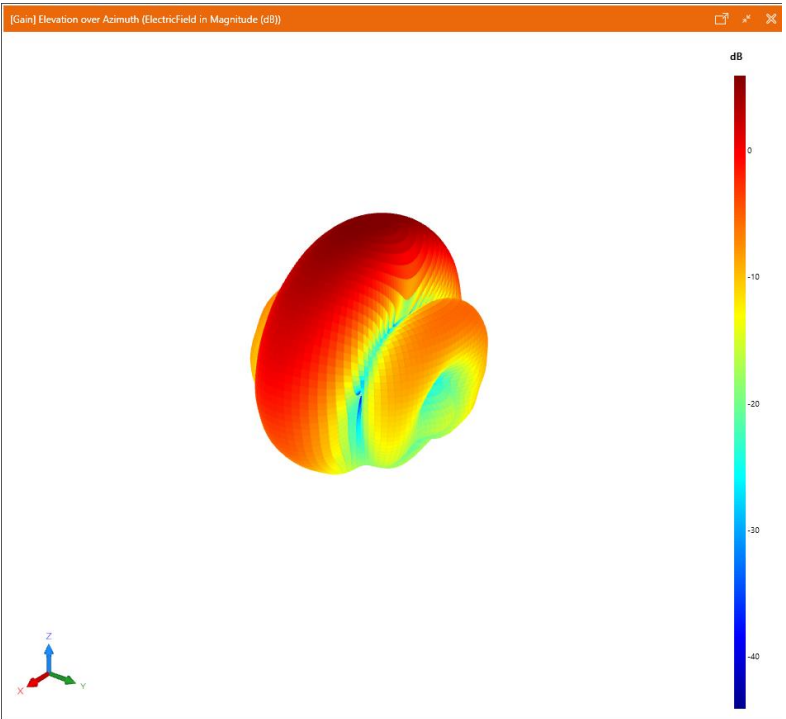
EM Field LHCP 3 D Plots



2400 MHz

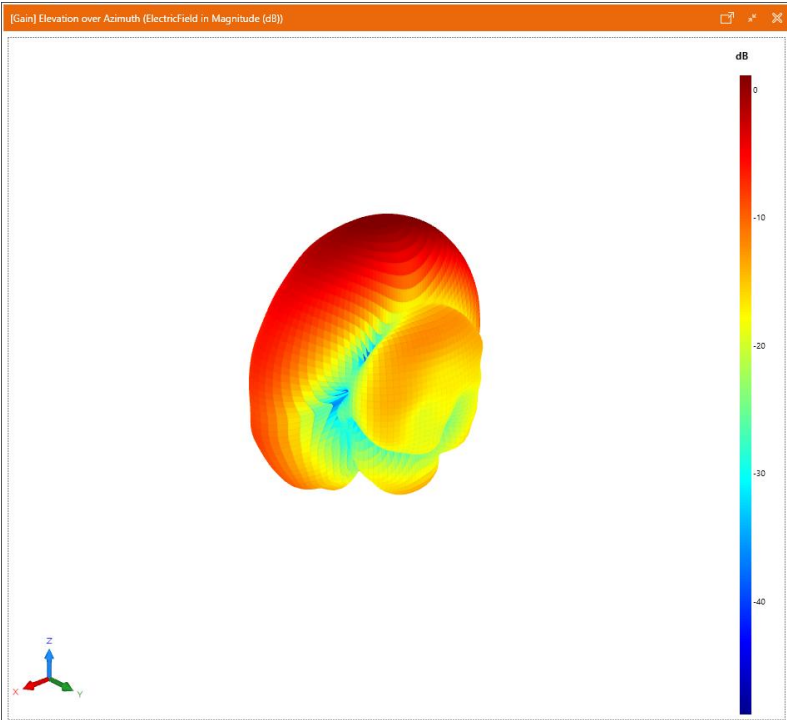


2440 MHz

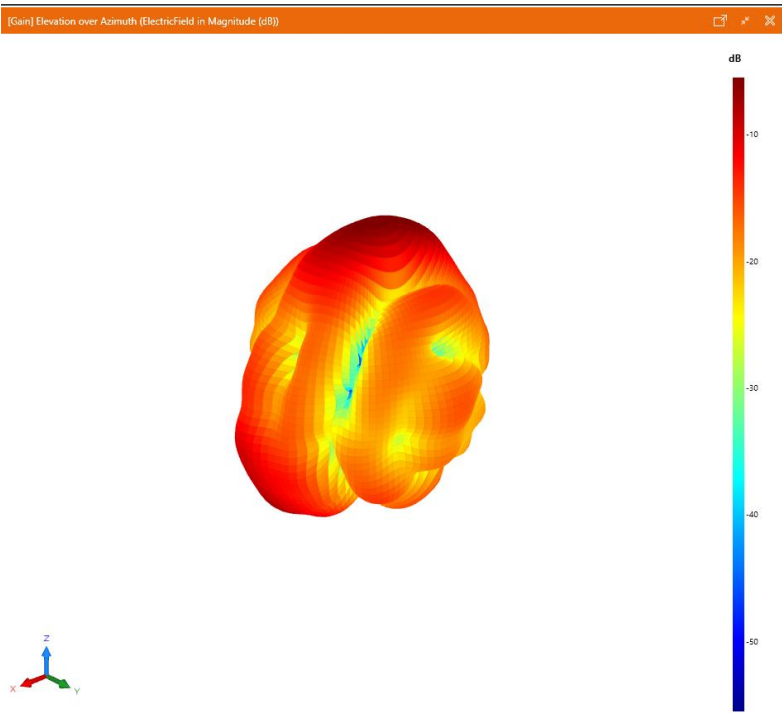


2480 MHz

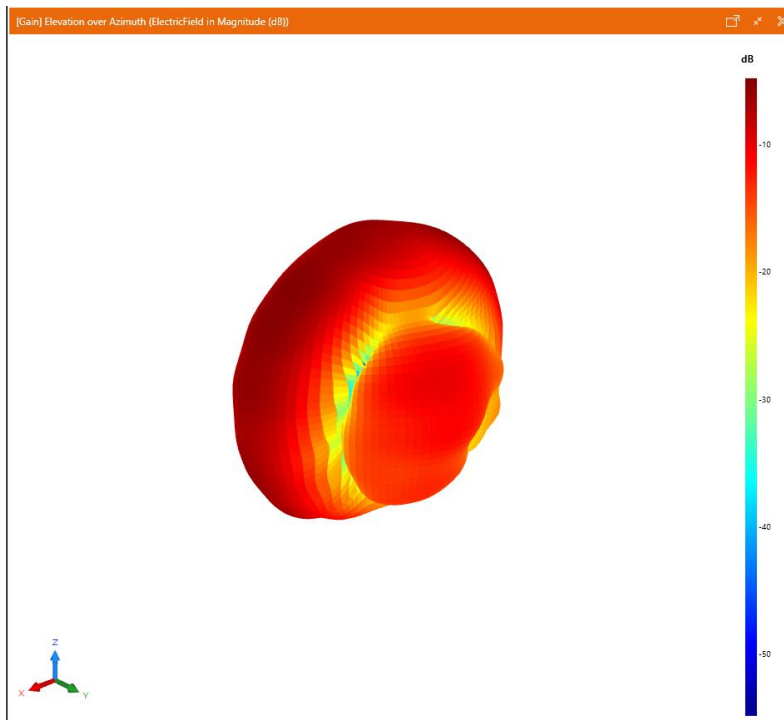
EM Field RHCP 3 D Plots



2400 MHz

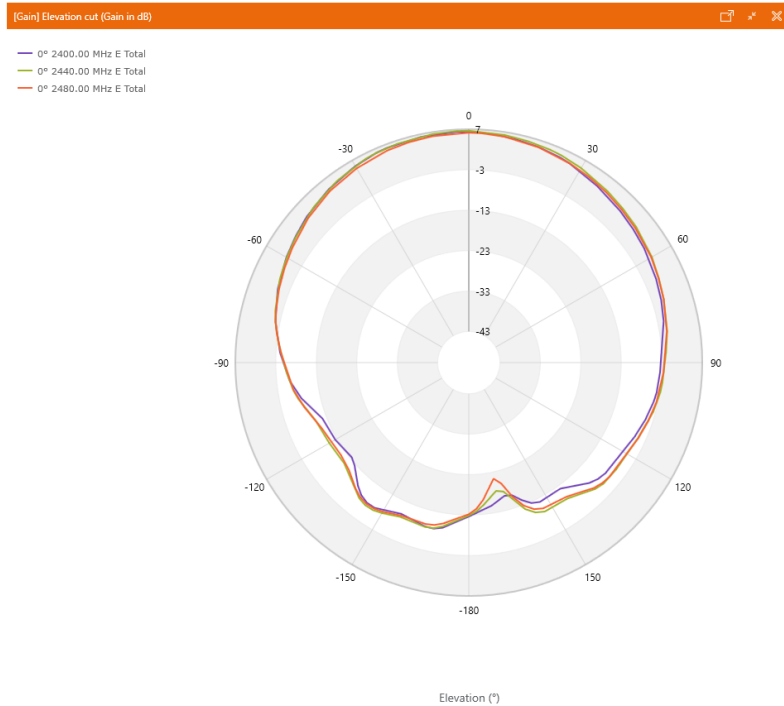


2440 MHz



2480 MHz

Gain Polar Plots



Elevation plane Azimuth $\phi_i=0^\circ$



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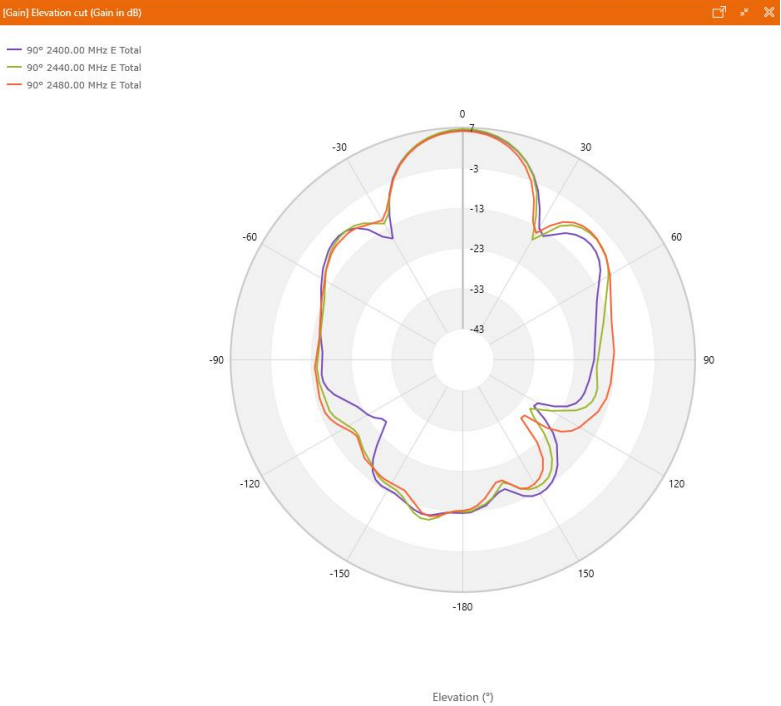
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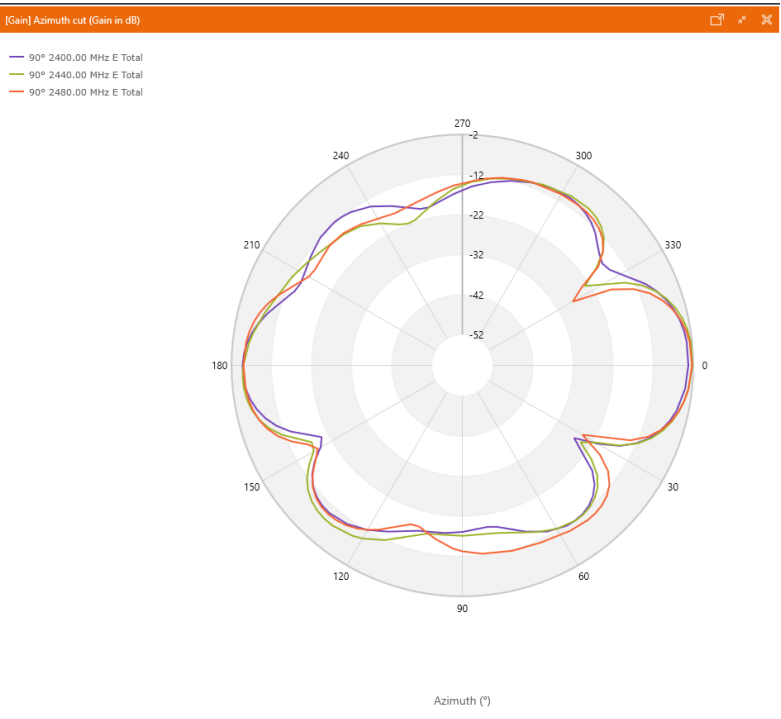
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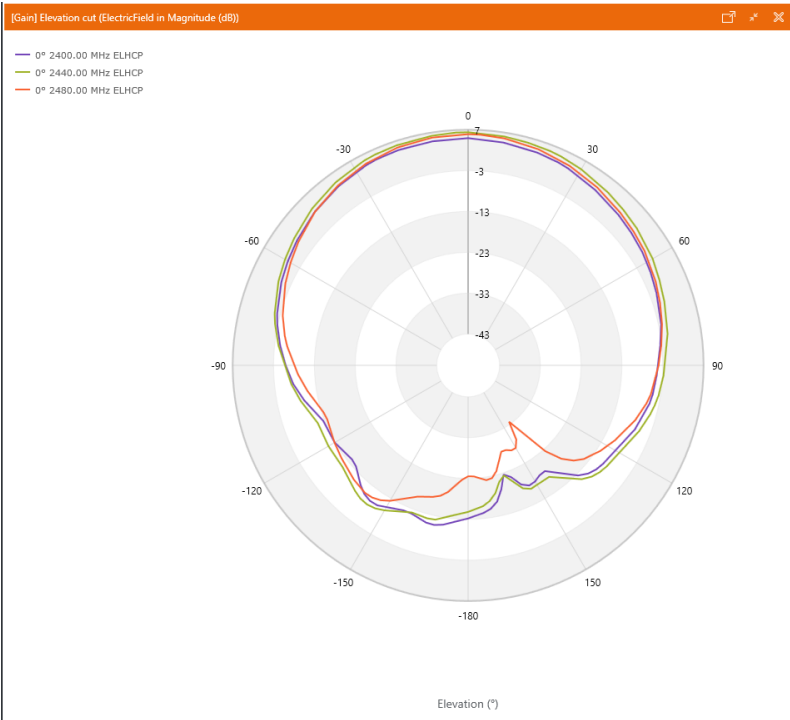


Elevation plane Azimuth $\phi=90^\circ$

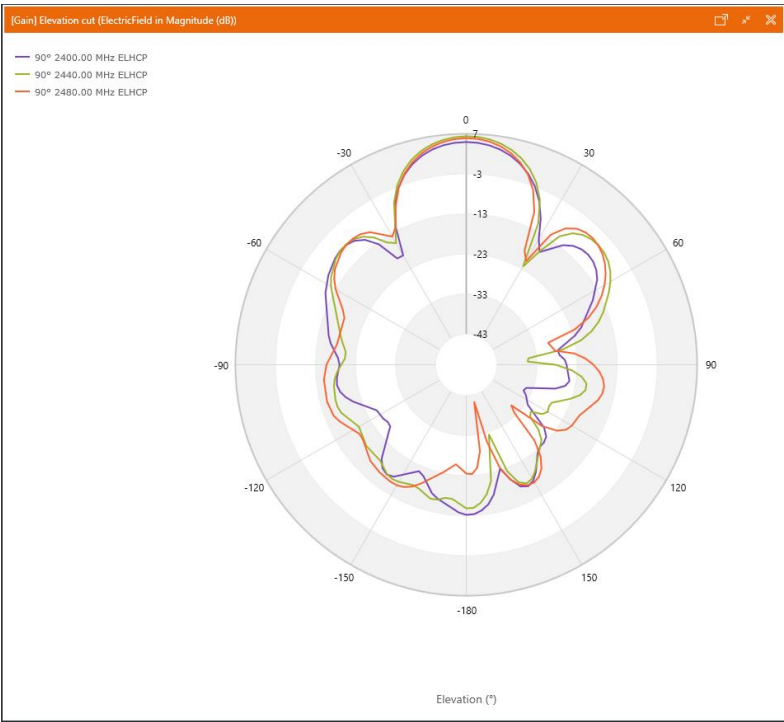


Azimuthal plane $\theta=90^\circ$

EM Field LHCP Polar Plots



Elevation plane Azimuth $\phi_i=0^\circ$



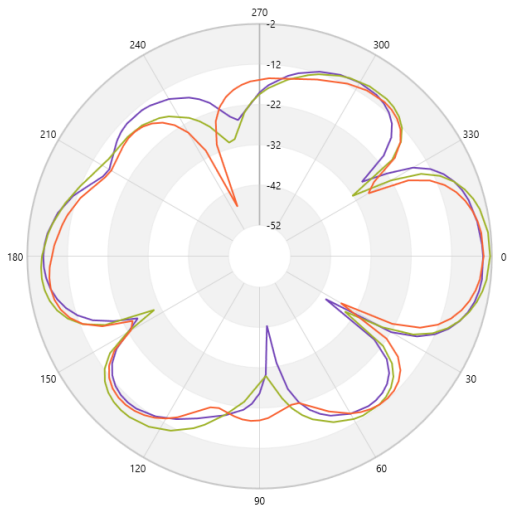
Elevation plane Azimuth $\phi_i=90^\circ$

[Gain] Azimuth cut (ElectricField in Magnitude (dB))

90° 2400.00 MHz ELHCP

90° 2440.00 MHz ELHCP

90° 2480.00 MHz ELHCP



Azimuth (°)

Azimuthal plane theta=90

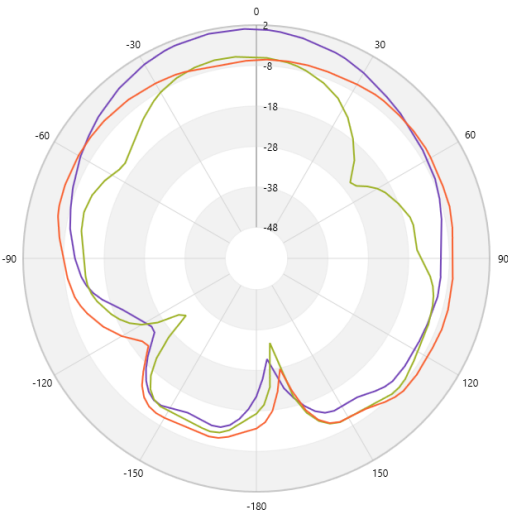
EM Field RHCP Polar Plots

[Gain] Elevation cut (ElectricField in Magnitude (dB))

0° 2400.00 MHz ERHCP

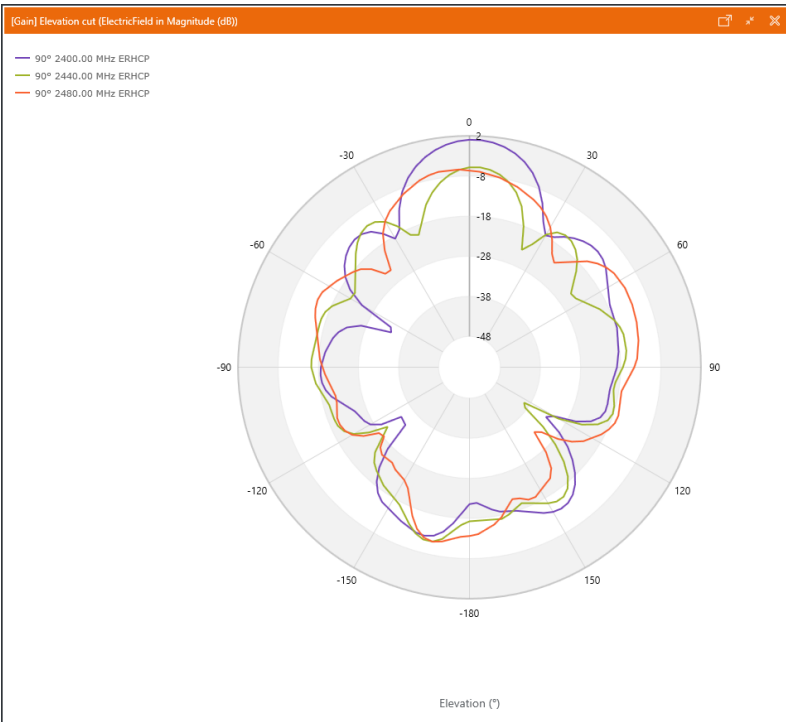
0° 2440.00 MHz ERHCP

0° 2480.00 MHz ERHCP

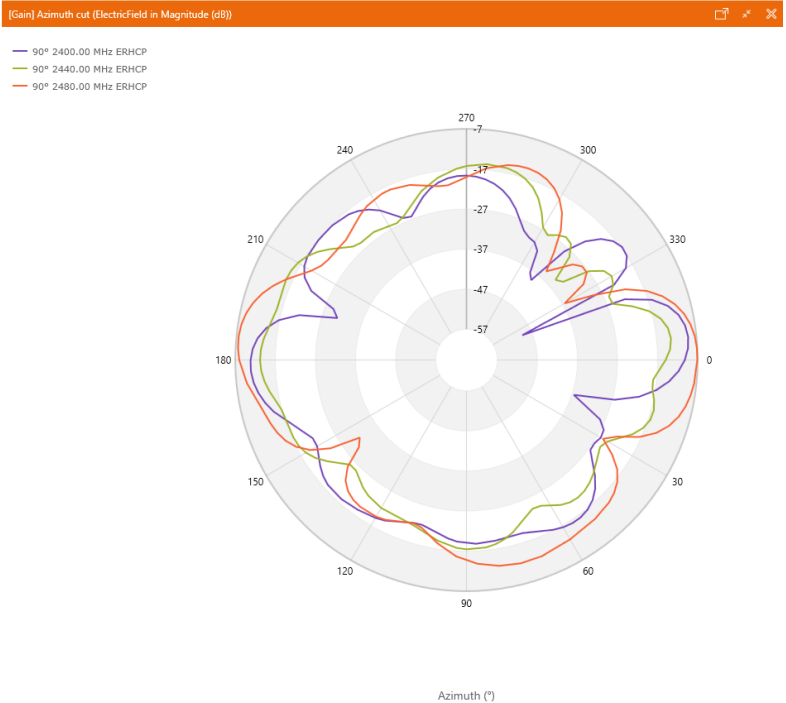


Elevation (°)

Elevation plane Azimuth $\phi=0^\circ$

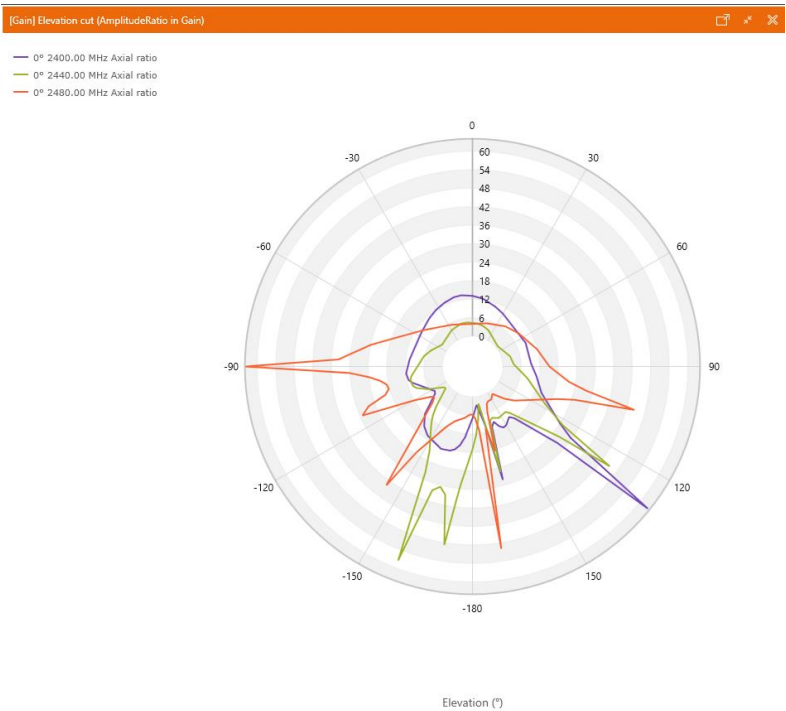


Elevation plane Azimuth $\phi=90^\circ$

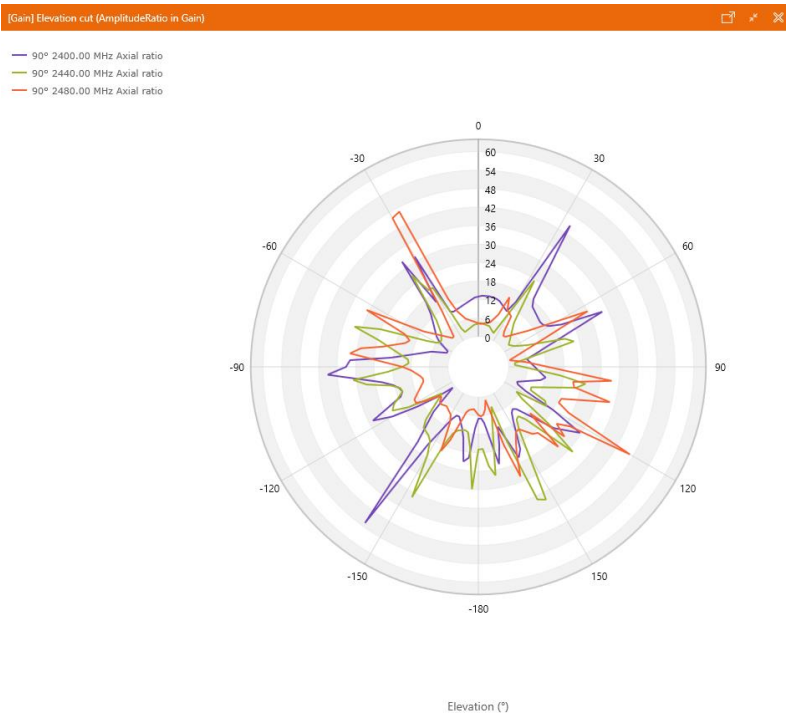


Azimuthal plane theta=90°

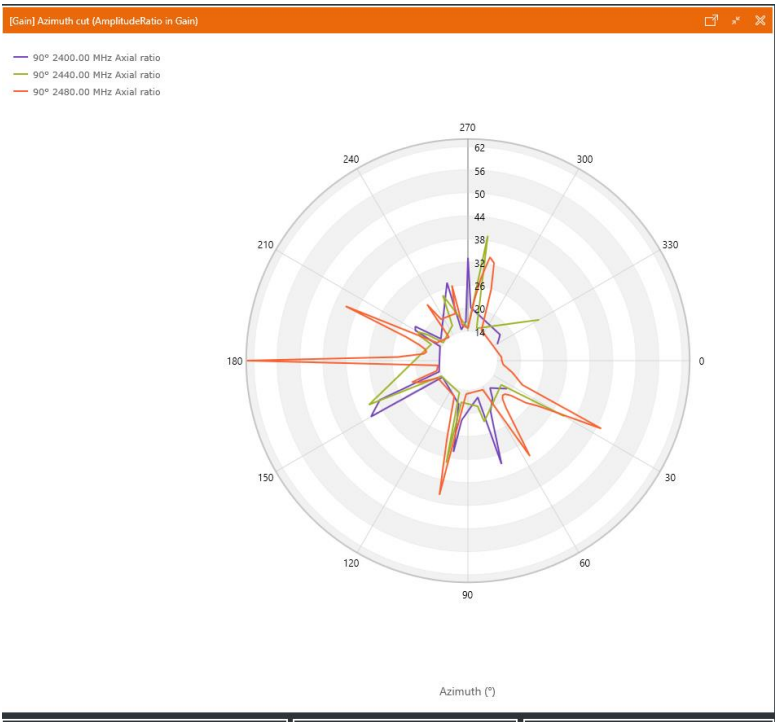
EM Field Axial Ratio Polar Plots



Elevation plane Azimuth $\phi_i=0^\circ$



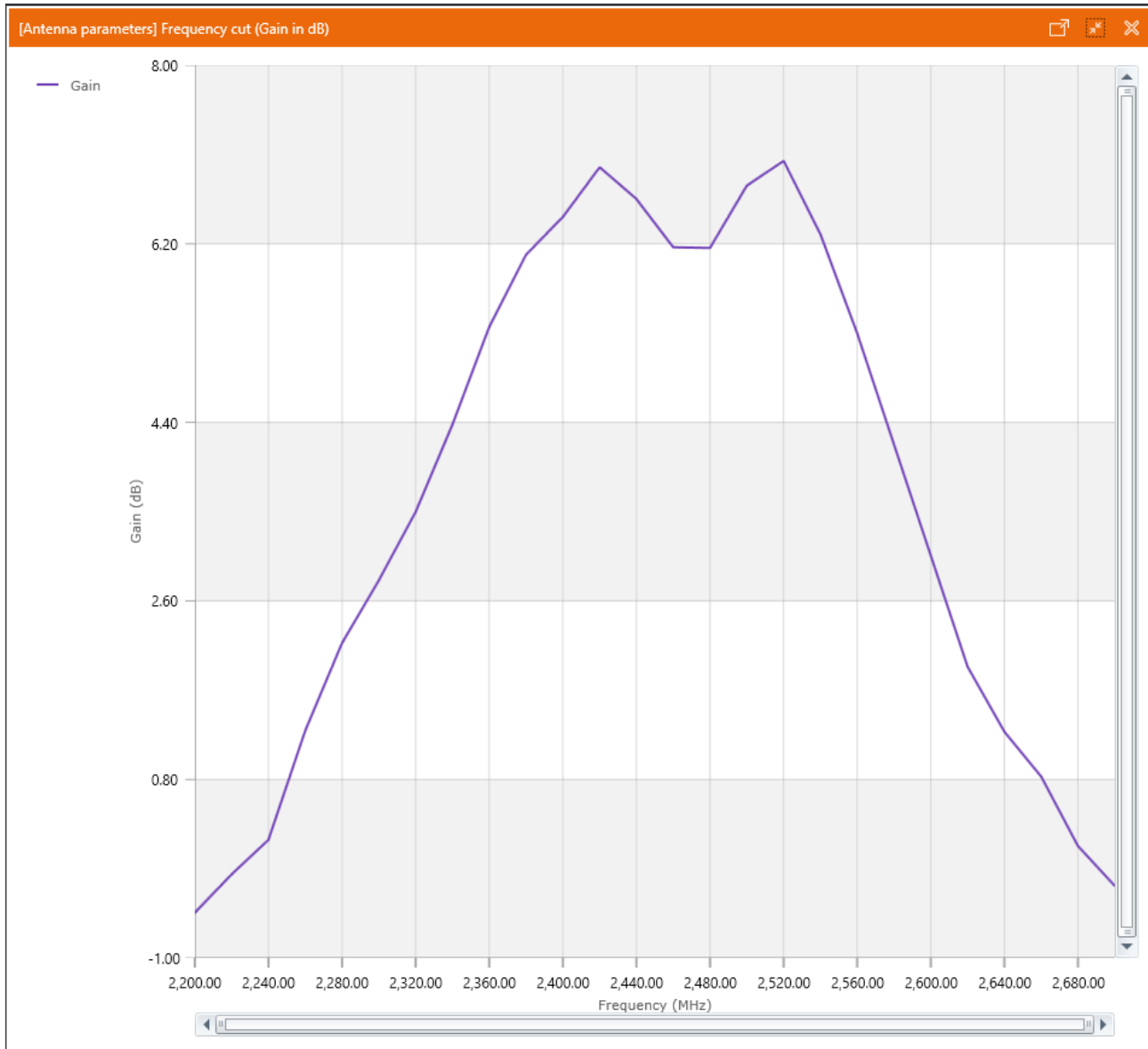
Elevation plane Azimuth $\phi_i=90^\circ$



Azimuthal plane theta=90°

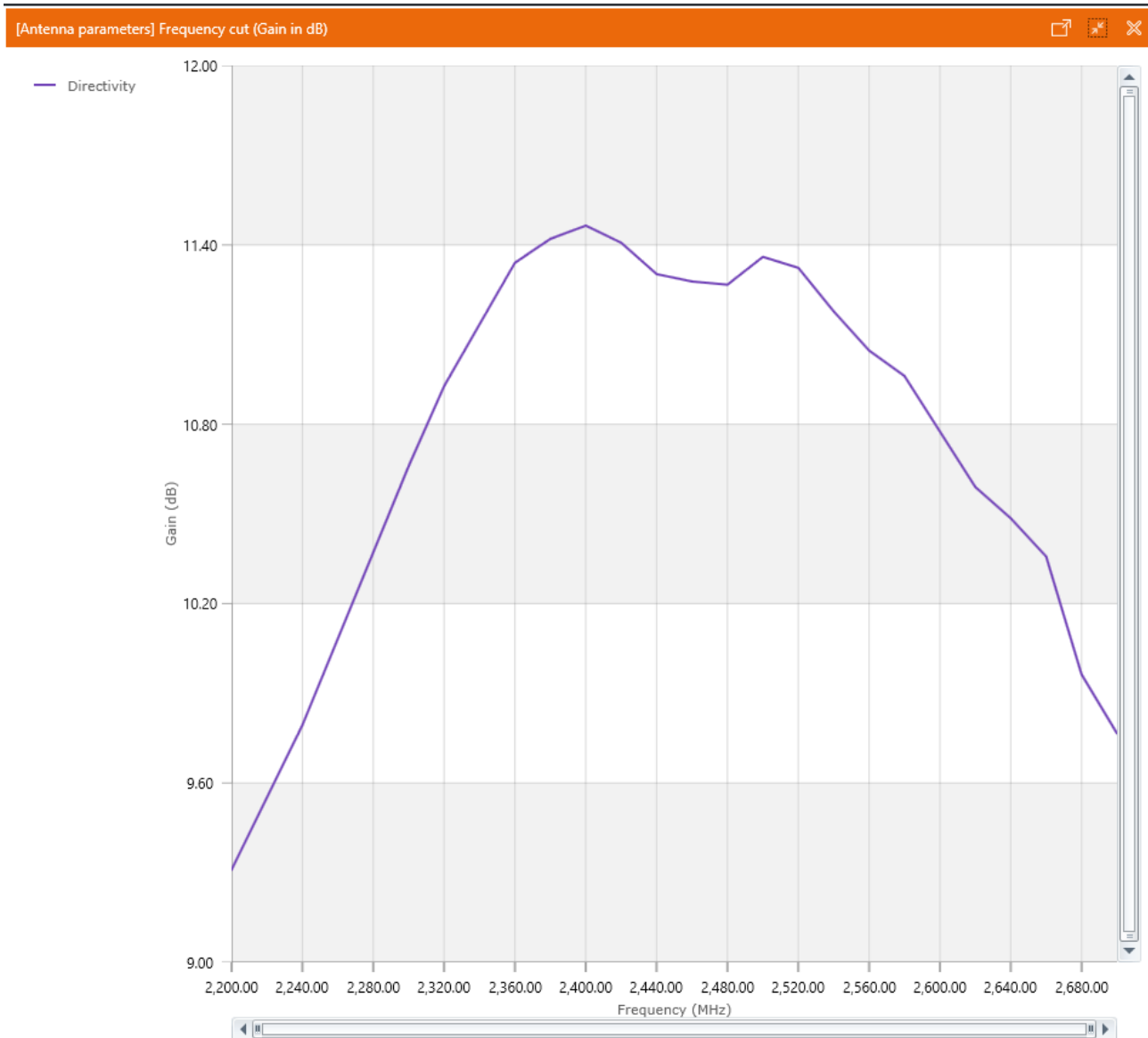


Gain Vs Frequency function





Directivity Vs Frequency function





Efficiency Vs Frequency function

