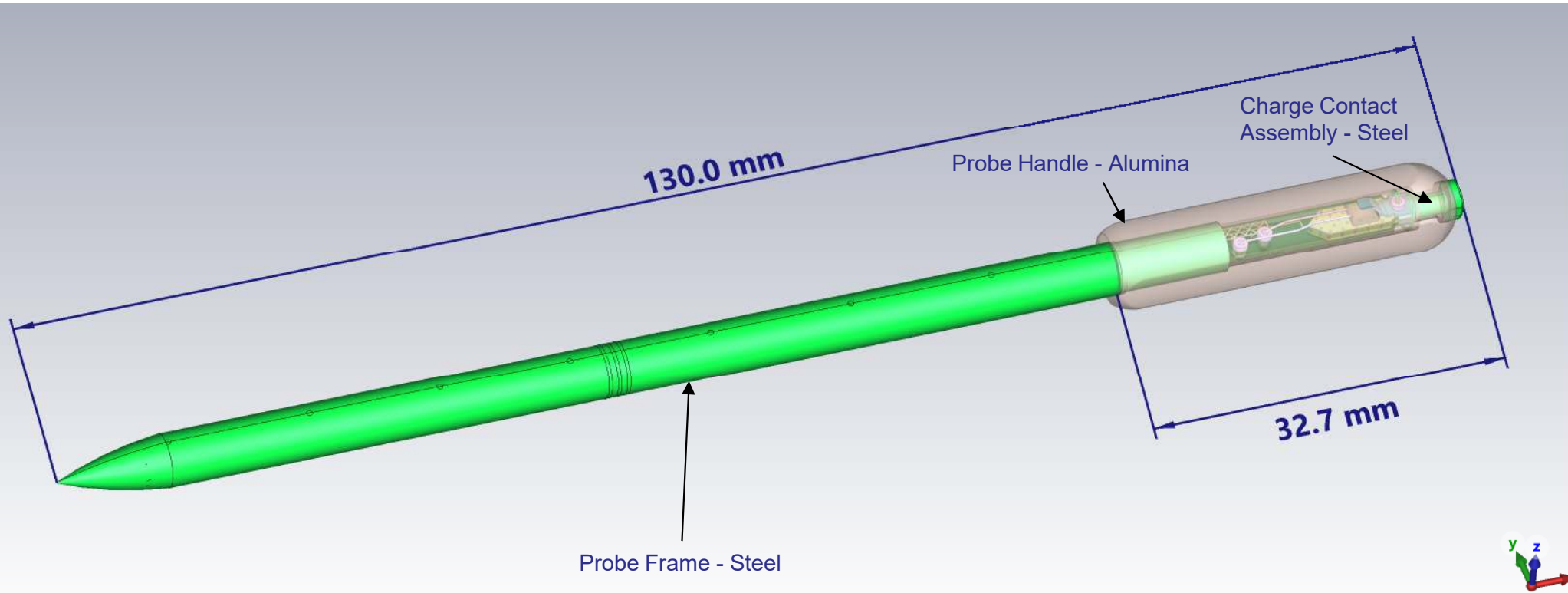


# Combustion Inc. Predictive Thermometer Gen2: Antenna Specification

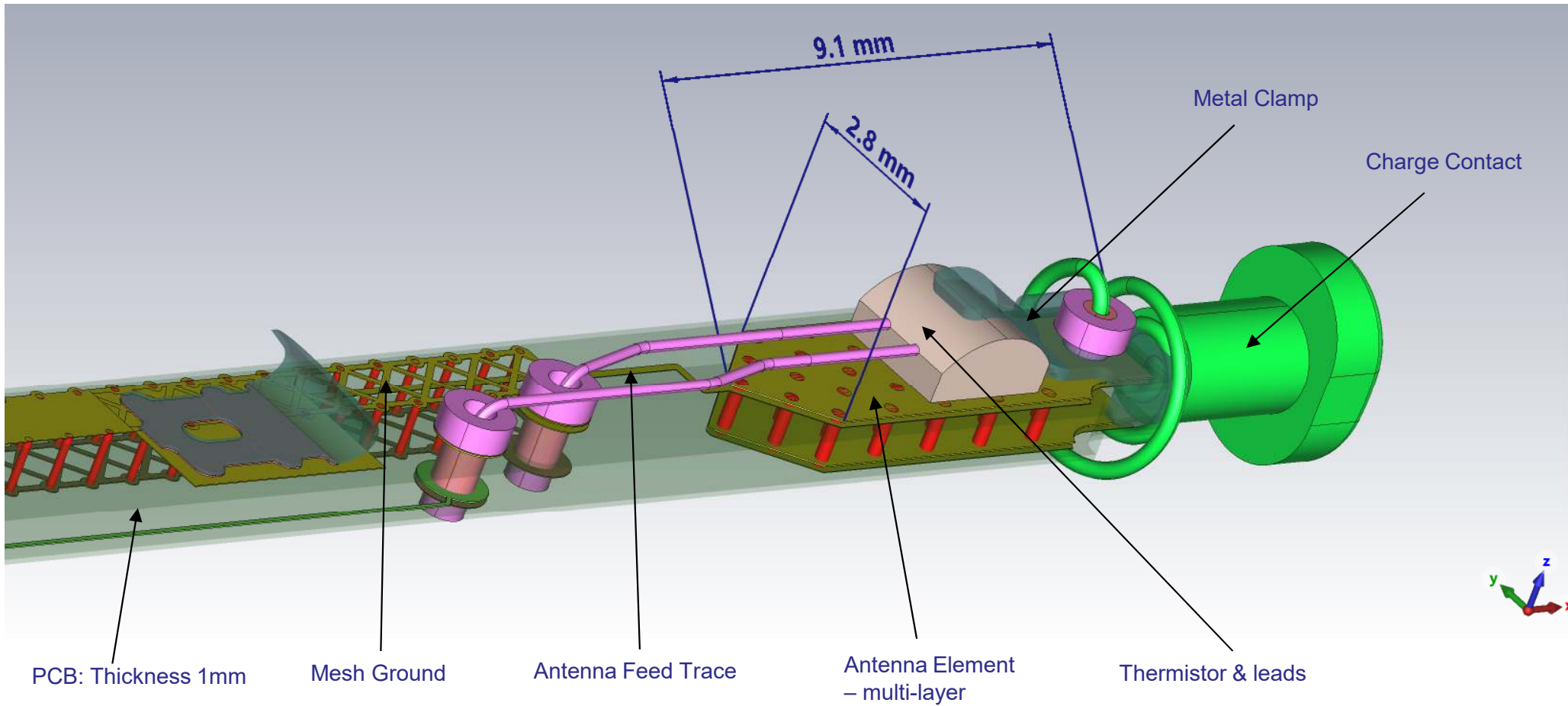
Version	Date	Description	Report
1	1-21-2025	Description of BLE Antenna Configuration; Radiated Paek Gain	JCM-EM: Joseph C. Modro

## Probe External View



- Antenna PCB + Mechanical Assembly in Handle [Handle view transparent]

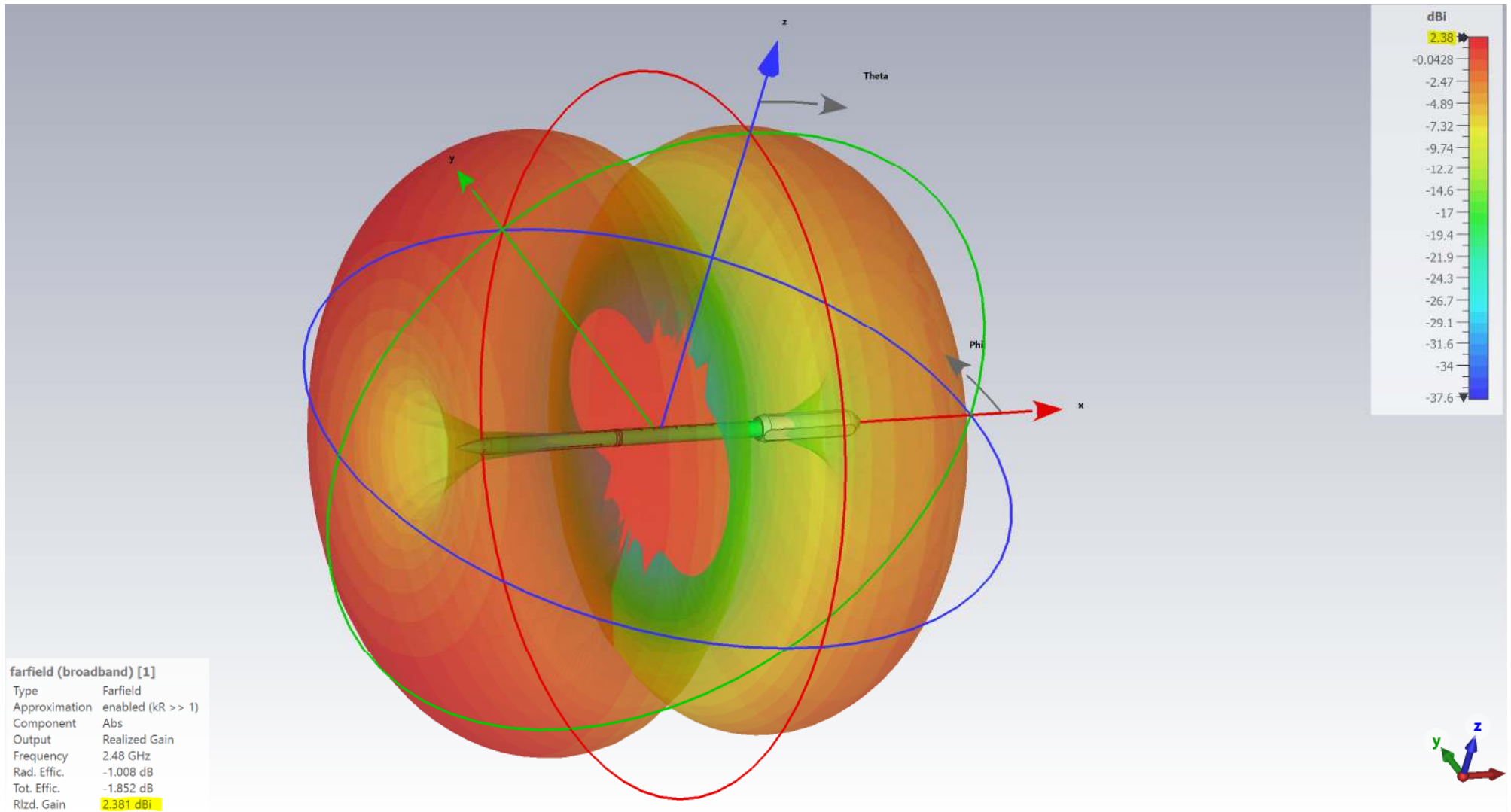
## Antenna – Probe Internal View



# Summary of Antenna Properties

- Antenna Type: Fully Integrated PCB and Metal Contact Antenna  
[No test connector]
- Peak Antenna Gain: **2.38dBi**
- Frequency Range: 2.402GHz – 2.48GHz [BLE band]

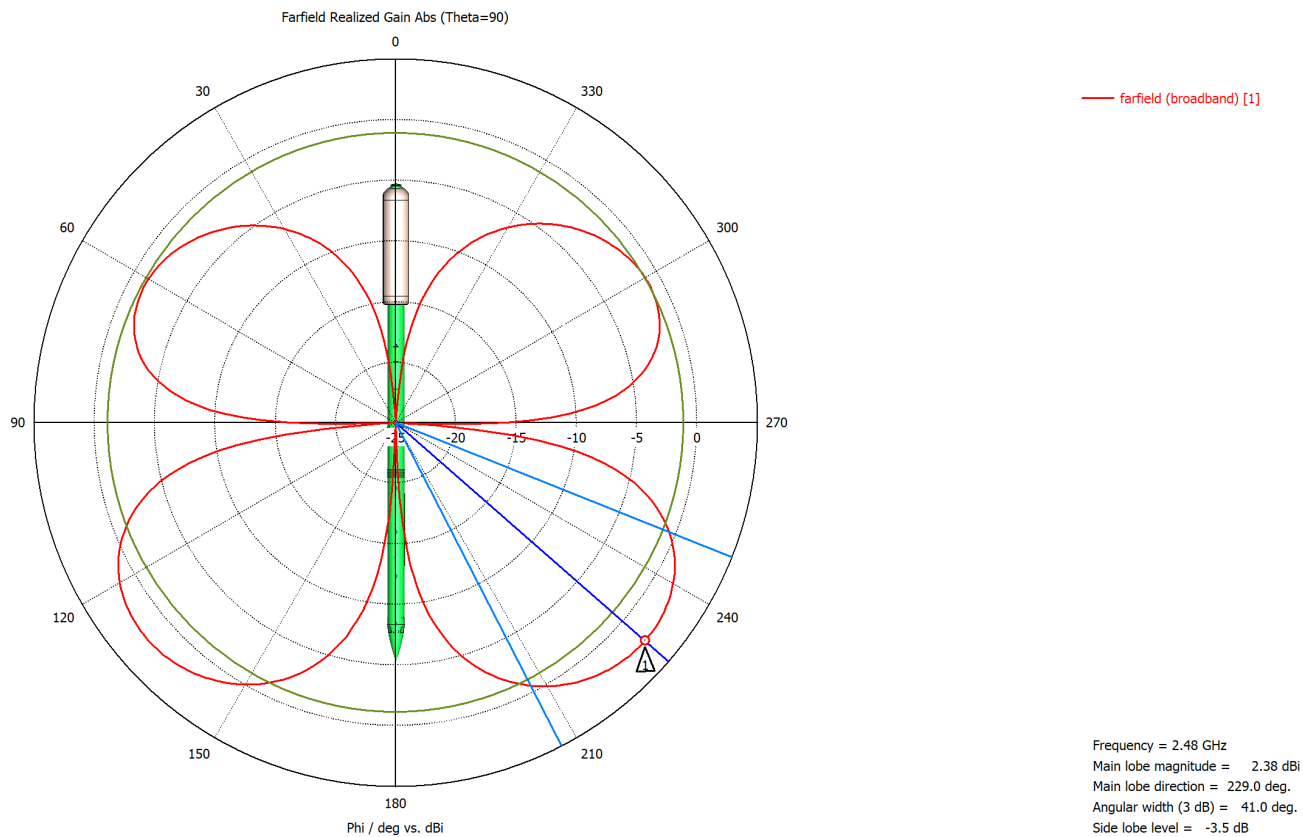
## BLE Antenna Free-Space Radiation Pattern 3D: Peak Gain is at 2.48GHz



Peak gains [realized gain]:

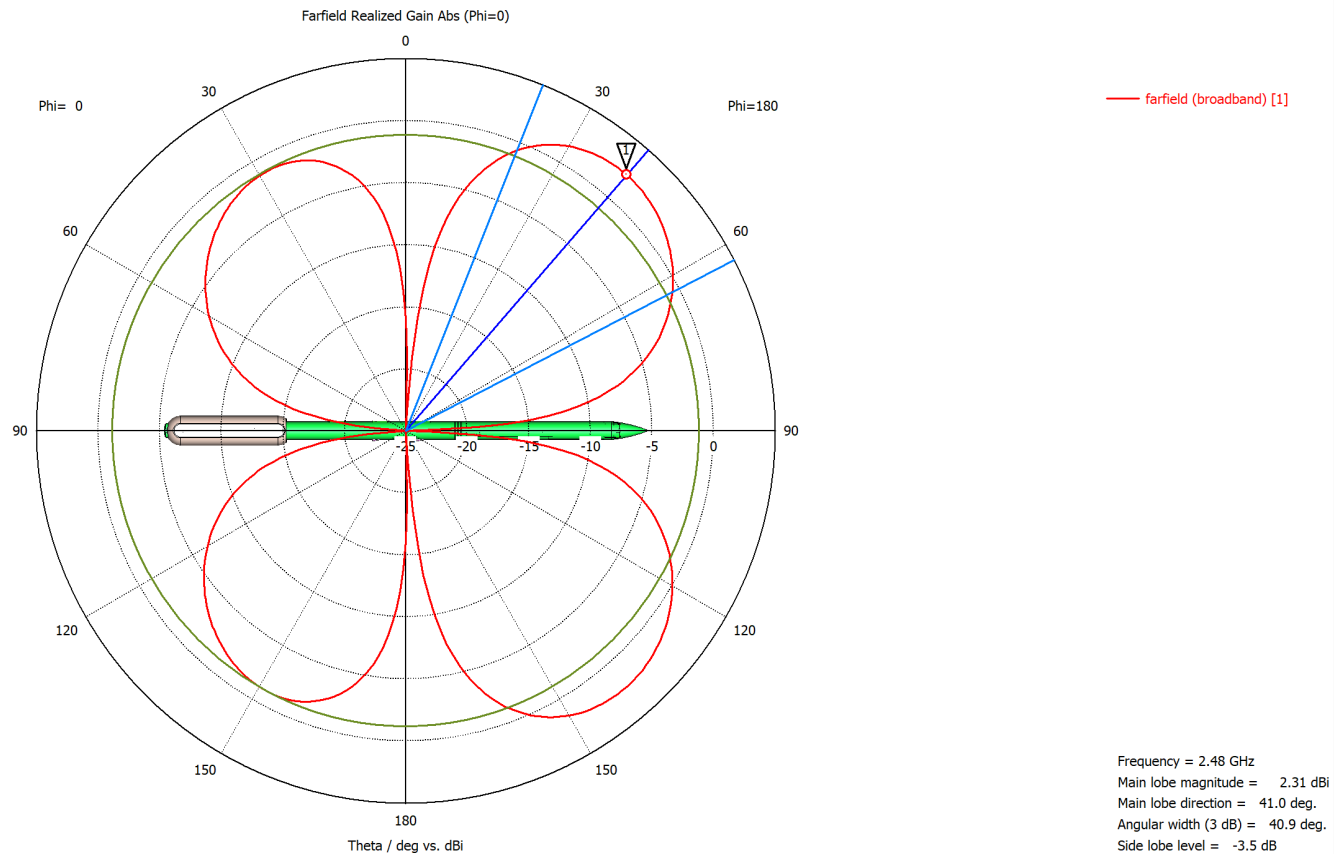
- 2.402GHz: 2.10dBi
- 2.44GHz: 2.21dBi
- 2.48GHz: 2.38dBi

# BLE Antenna Free-Space Radiation Pattern 1D-Polar: Horizontal [Azimuth] Cut: [Gain vs. Phi @ Theta=90 deg.; @ 2.48GHz]



Q ( 229.008, 2.38355 )

# BLE Antenna Free-Space Radiation Pattern 1D-Polar: Vertical [Elevation] Cut: [Gain vs Theta @ Phi=0 deg.; @ 2.48GHz]



Q ( 40.9562, 2.31024 )

# Total Antenna Efficiency vs. Frequency

