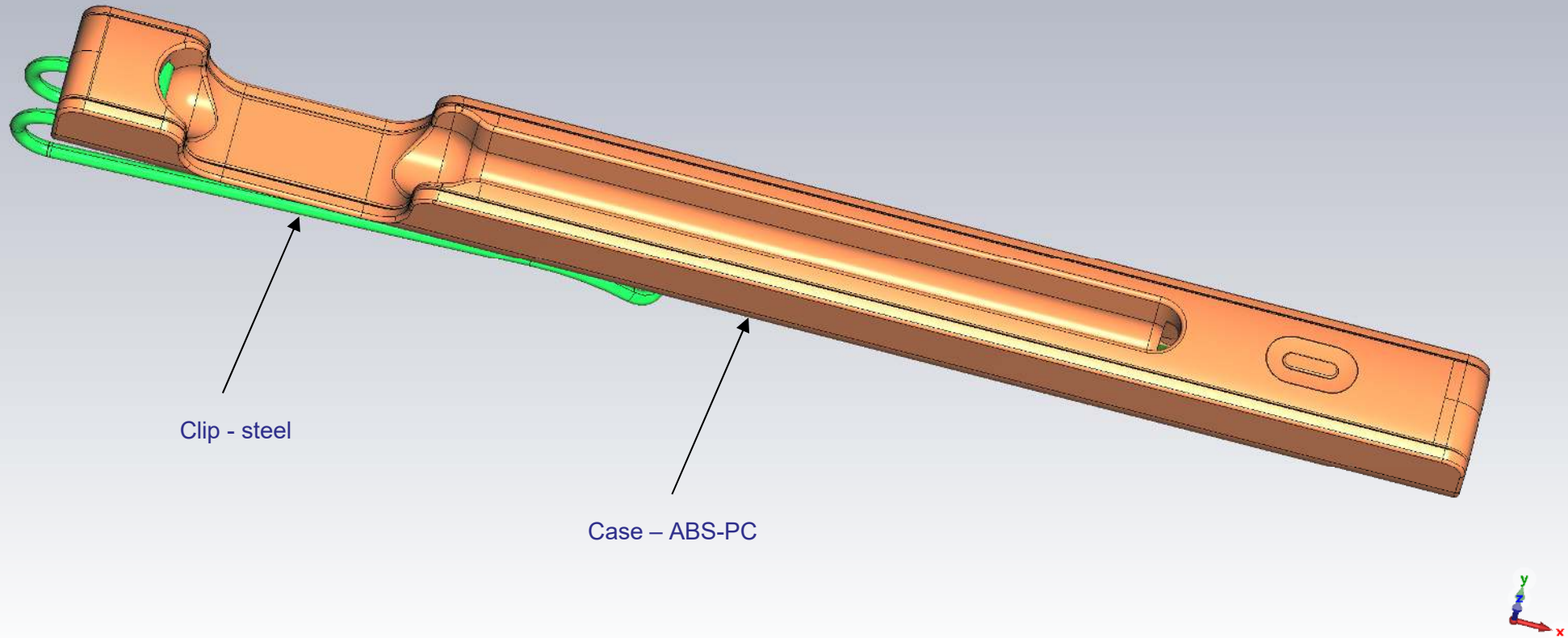


Combustion Inc. Repeater-Charger: Antenna Specification

Version	Date	Description	Report
1	8-4-2023	Description of BLE Antenna Configuration; Radiated Peak Gains	JCM-EM: Joseph C. Modro

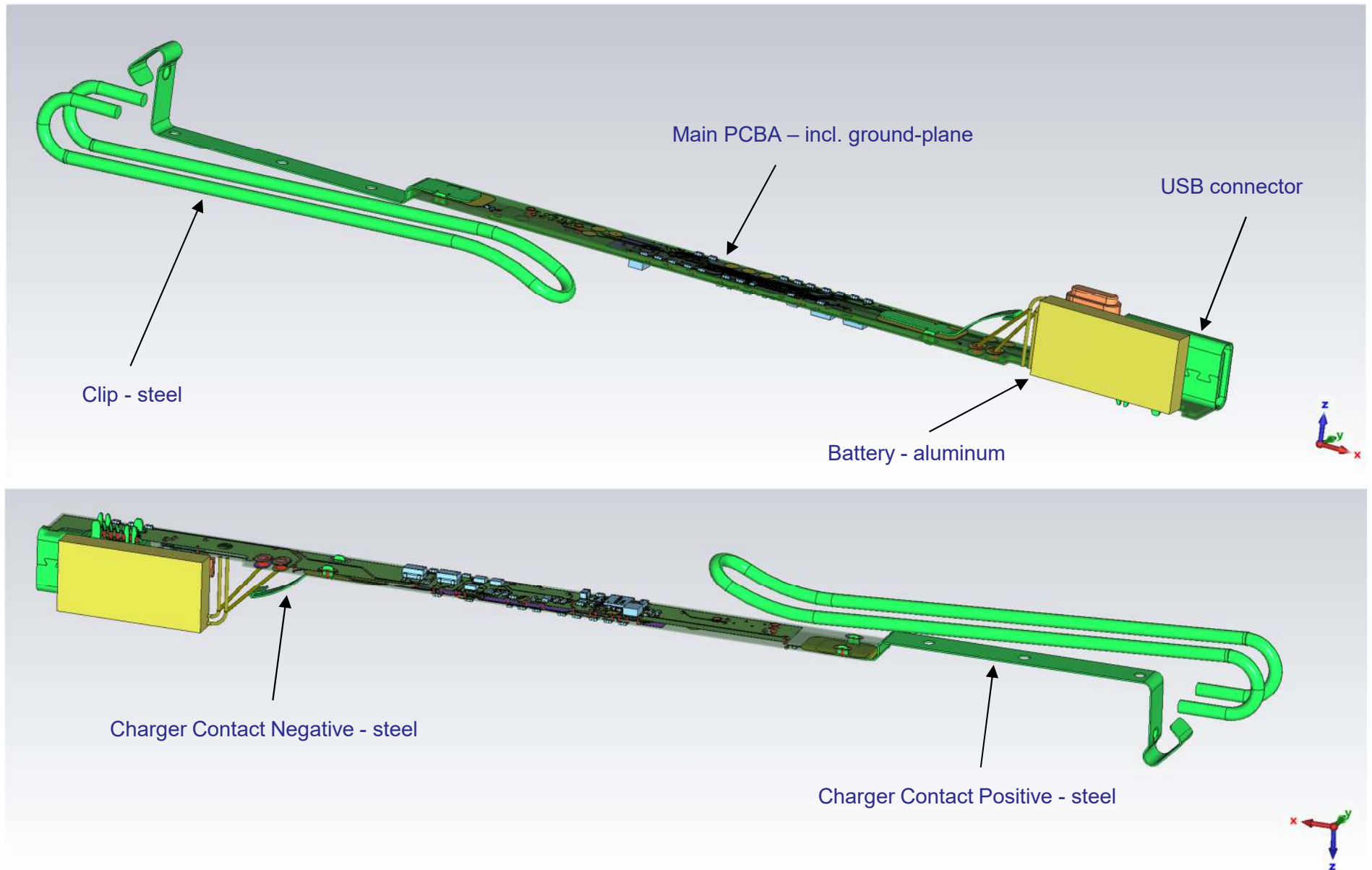
JOVEPCB Enterprise Ltd
No. 8, Xingye Road, No. 1 Community of No. 2 Industrial Zone, Shajing Street, Bao'an District, Shenzhen

External View



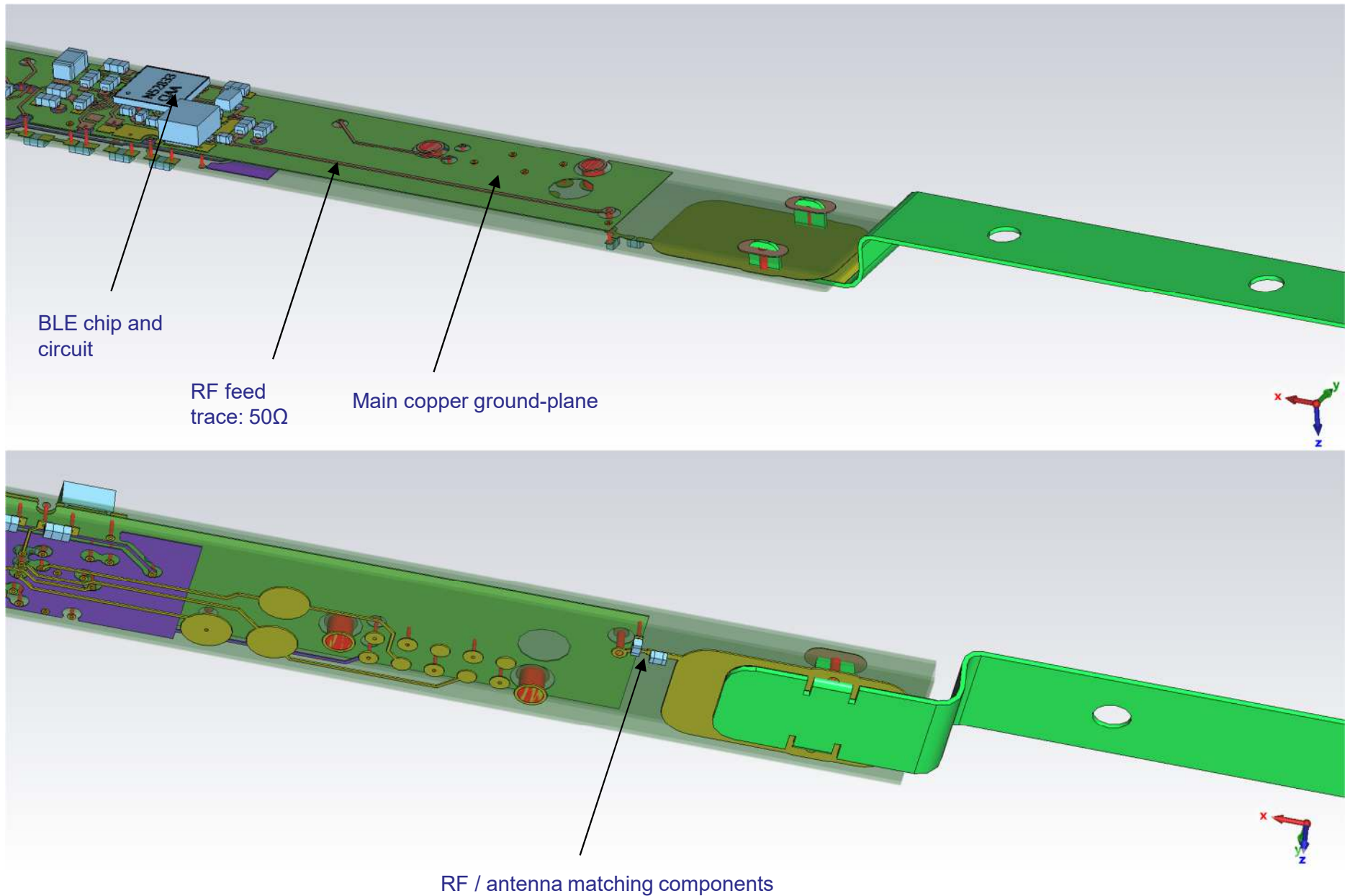
- Antenna system is fully integrated into mechanical (ME) and electrical (EE) assembly

Internal View



- Key ME, EE parts shown labelled
- Clip forms the main antenna radiating element but with major interaction with the other metallic parts

Antenna Feed Connection Detail

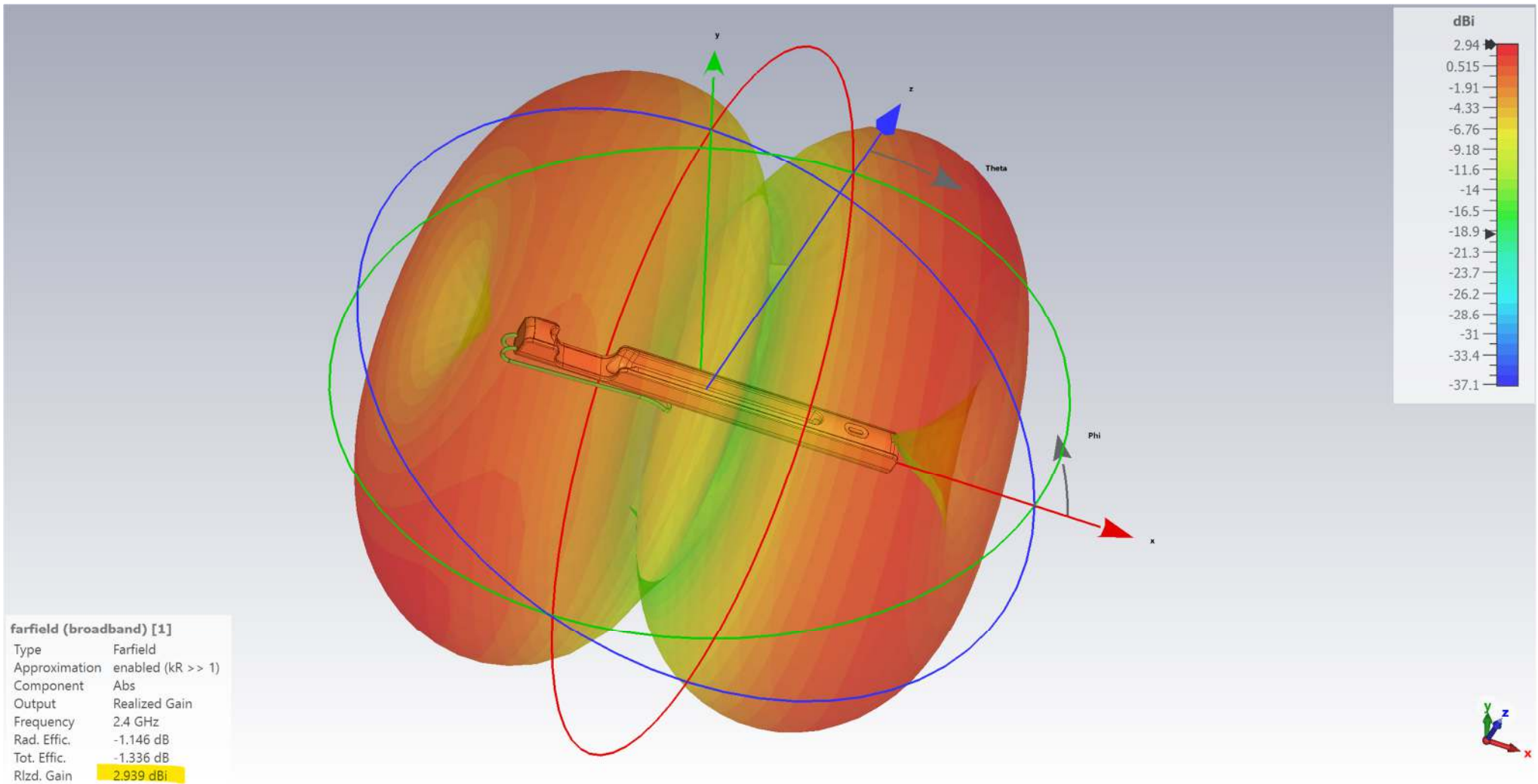


- Matching components optimize impedance match between Clip / Positive Charging Contact radiating element, and RF feed trace / BLE chip / ground-plane: for best antenna efficiency

Summary of Antenna Properties

- Antenna Type: Integrated mechanical and PCB Antenna system
- Peak Antenna Gain: 2.94dBi @ 2.402GHz
- Frequency Range: 2.402GHz – 2.48GHz [BLE]

Radiation Pattern 3D: Peak gain is at 2.4GHz

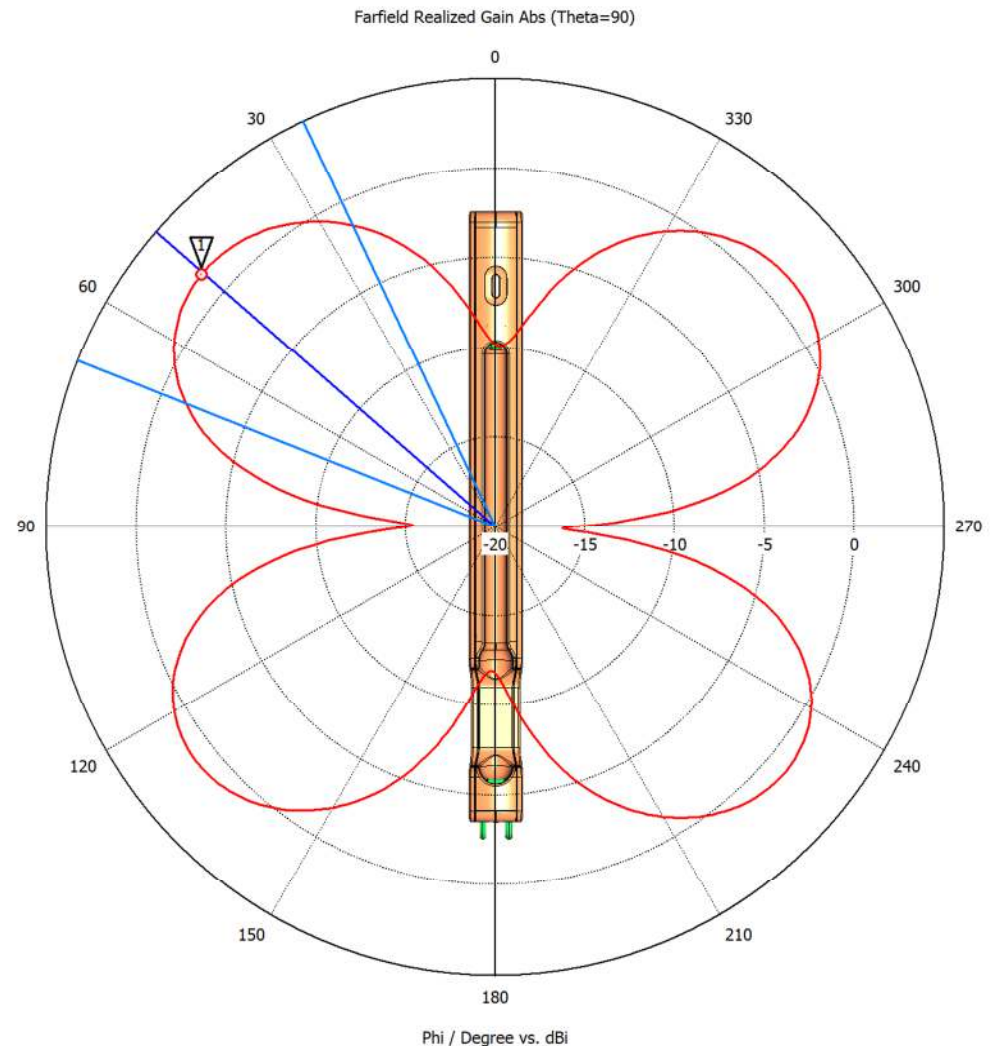


- Peak gains:

- 2.4GHz: 2.94dBi
- 2.44GHz: 2.64dBi
- 2.48GHz: 2.31dBi

Radiation Pattern 2D: Horizontal (Azimuth) Plane

[Gain vs. Phi @ Theta=90° @ 2.4GHz]



— farfield (broadband) [1]

Frequency = 2.4 GHz
Main lobe magnitude = 1.54 dBi
Main lobe direction = 49.0 deg.
Angular width (3 dB) = 43.0 deg.

Q (49.3597, 1.53426)

Radiation Pattern 2D : Vertical (Elevation) Plane

[Gain vs Theta @ Phi=90° @ 2.4GHz]

