

METAMAG

JOB DESCRIPTION

Job Title:	Principal RF Electrical Engineer
Department:	Engineering
Reports To:	Senior Director of Engineering
Position:	Full-time exempt position, On-Site
Salary Range:	160k – 200k
Citizenship:	US Citizenship or Permanent Residency required
Clearance:	Possess or have ability to hold a Security Clearance (Secret)

ABOUT US: Metamagnetics (Metamag) is a fast-growth defense tech company focused on enabling electromagnetic spectrum dominance for the evolving battlespace. We engineer disruptive technologies that redefine the capabilities of the RF front-end to solve the persistent challenges of electronic warfare. Our customers include the Department of Defense, major defense prime contractors and leading technology companies.

Metamag is a mission-oriented company with a collaborative culture that fosters growth and success for our employees. Our team has deep expertise in materials science, high-frequency engineering and product development. We combine a dynamic startup vibe with the stability of an established company that has been a trusted partner to our customers for nearly two decades. Metamag is located in the Boston metropolitan area.

POSITION: the Principal RF Engineer plays a pivotal role on the company's Engineering team and serves as one of the primary technical architects. This position is a technology leader who can identify and drive product design and development and solve challenges for both current and future product/opportunities at the company.

Successful candidates will have a firm grasp of both the technical and market landscapes for METMAG's products and technology and help shape the company's development roadmap accordingly. Candidates should have strong technical leadership abilities, and experience working and managing small teams of engineers. This is a unique opportunity to join a rapidly growing defense tech startup that is making a real impact on the industry, as well as to work with an exceptional team of RF, electrical, mechanical and materials engineers.

RESPONSIBILITIES:

1. Utilizing advanced 3D EM simulation suites to deliver "first-pass success" hardware, reducing the cycle time from concept to customer delivery.
2. Translating complex, high-level battlefield requirements into hardware specifications, ensuring our R&D remains aligned with end-user needs.
3. Drive the transition of our Auto-tune Filter®, Self-Biased Circulators/Isolators and Gyromagnetic Non-linear Transmission Lines (GNLTL) from advanced prototypes to rugged mission-qualified hardware.

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4. Utilize RF magnetic material physics at the system-level: bridge the gap between microscopic magnetic phenomena (e.g., Suhl instabilities, magnetic spin waves, and spin-wave resonance) and macroscopic RF system performance.
5. Provide mentorship to the engineering team and act as one of the primary technical liaisons for external stakeholders and DOD customers.

QUALIFICATIONS AND REQUIREMENTS:

- **15+ years of professional experience** in RF/Microwave hardware development. Background in the Aerospace/Defense industry is preferred. Proficiency in the following areas: RF circuit/component design, systems engineering, prototyping and assembly of hardware, linear and non-linear RF/microwave modeling and testing, and researching ferromagnetic phenomena in materials.
- **Bachelor's degree in Electrical Engineering, with a focus on RF engineering and/or applied electromagnetics.** Master's degree and/or PhD is an advantage.
- Proactive, problem-solver and ability to excel individually and as part of a team
- **Technical Mastery:**
 - Expertise in nonlinear RF modeling and the characterization of ferrimagnetic materials (desirable but not required).
 - Deep understanding of RF front-end architectures, including LNA/PA design, filter synthesis, and link budget analysis (NF, IP3, P1dB, and Cascaded performance).
- **Laboratory Expertise:** Expert-level proficiency with high-frequency test equipment, including VNAs, high-speed real-time oscilloscopes, and signal analyzers. Experience with **pulsed-power test benches** and HPM characterization is highly desirable.
- **Computational Skills:** Proficiency in **Python** or **MATLAB** for the automation of data acquisition, complex signal processing, and predictive modeling.
- **US Citizenship or Permanent Residency required**
- Possess or have ability to hold a Security Clearance (Secret)

COMPENSATION AND BENEFITS: The compensation for this position is competitive and will range according to candidates' skills, qualifications, level of experience and other factors. Compensation will include a base salary and a stock options plan. It will also include access to the company's top-tier benefits plan which includes healthcare with premium coverage for employees and dependents, PTO, 401(k) with matching, tuition reimbursement and other benefits.

To Apply: please submit your application to engineeringjobs@metamag.us

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JOB DESCRIPTION

Job Title: Senior RF Electrical Engineer
Department: Engineering
Reports To: Senior Director of Engineering
Position: Full-time exempt position, On-Site
Salary Range: 140k – 170k
Citizenship: US Citizenship or Permanent Residency required
Clearance: Possess or have ability to hold a Security Clearance (Secret)

ABOUT US: Metamagnetics (METAMAG) is a fast-growth defense tech company focused on enabling electromagnetic spectrum dominance for the evolving battlespace. We engineer disruptive technologies that redefine the capabilities of the RF front-end to solve the persistent challenges of electronic warfare. Our customers include the Department of Defense, major defense prime contractors and leading technology companies.

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POSITION: the Senior RF Engineer will play a pivotal role in researching and developing technology related to RF/microwave/mmwave components and systems. Responsibilities may include research of electromagnetic phenomena in METAMAG proprietary materials, material synthesis, material characterization and analysis, RF circuit design, system engineering, prototyping and assembly of hardware, and linear and non-linear RF/microwave testing. Additional responsibilities include leading technical ideation and technical approaches for bid and proposal, whitepaper, and non-recurring engineering activities.

Successful candidates will have a firm grasp of both the technical and market landscapes for METAMAG's products and technology and help shape the company's development roadmap accordingly. Candidates should have strong technical abilities, and experience working with a team of engineers. This is a unique opportunity to join a rapidly growing defense tech startup that is making a real impact on the industry, as well as to work with an exceptional team of RF, electrical, mechanical and materials engineers.

RESPONSIBILITIES:

1. Utilizing advanced 3D EM simulation suites to deliver "first-pass success" hardware, reducing the cycle time from concept to customer delivery.
2. Translating complex, high-level battlefield requirements into hardware specifications, ensuring our R&D remains aligned with end-user needs.

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3. Drive the transition of our Auto-tune Filter®, Self-Biased Circulators/Isolators and Gyromagnetic Non-linear Transmission Lines (GNLTL) from advanced prototypes to rugged mission-qualified hardware.
4. Utilize RF magnetic material physics at the system-level: bridge the gap between microscopic magnetic phenomena (e.g., Suhl instabilities, magnetic spin waves, and spin-wave resonance) and macroscopic RF system performance.

QUALIFICATIONS AND REQUIREMENTS:

- **7+ years of professional experience** in RF/Microwave hardware development. Background in the Aerospace/Defense industry is preferred. Proficiency in the following areas: RF circuit/component design, systems engineering, prototyping and assembly of hardware, linear and non-linear RF/microwave modeling and testing, and researching ferromagnetic phenomena in materials.
- **Bachelor's degree in Electrical Engineering, with a focus on RF engineering and/or applied electromagnetics.** Master's degree and/or PhD is an advantage.
- Proactive, problem-solver and ability to excel individually and as part of a team
- **Technical Mastery:**
 - Expertise in nonlinear RF modeling and the characterization of ferrimagnetic materials (desirable but not required).
 - Deep understanding of RF front-end architectures, including LNA/PA design, filter synthesis, and link budget analysis (NF, IP3, P1dB, and Cascaded performance).
- **Laboratory Expertise:** Expert-level proficiency with high-frequency test equipment, including VNAs, high-speed real-time oscilloscopes, and signal analyzers. Experience with **pulsed-power test benches** and HPM characterization is highly desirable.
- **Computational Skills:** Proficiency in **Python** or **MATLAB** for the automation of data acquisition, complex signal processing, and predictive modeling.
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JOB DESCRIPTION

Job Title:	Senior Packaging Engineer
Department:	Engineering
Reports To:	Senior Director of Engineering
Position:	Full-time exempt position, On-Site
Salary Range:	140k – 170k
Citizenship:	US Citizenship or Permanent Residency required
Clearance:	Possess or have ability to hold a Security Clearance (Secret)

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POSITION: A Senior Packaging Engineer will lead the Product package development supporting NPI from concept through production release. This individual will work with and provide direction to engineering team for optimum, cost-effective solutions as well as providing thermal design and analysis for package and system-level physical designs. Package types may include plastic molded lead frame packages, ceramic packages, and metal enclosures for RF and integrated microwave assemblies. Responsibility also includes validating package compliance with MIL-SPEC standards. Proven record of managing multiple product development programs in parallel and deliver on schedule in a high-volume manufacturing process is highly desirable. Additional responsibilities include leading technical ideation and technical approaches for bid and proposal, whitepaper, and non-recurring engineering activities.

Successful candidates will have a firm grasp of both the technical and market landscapes for METAMAG's products and technology. This is a unique opportunity to join a rapidly growing defense tech startup that is making a real impact on the industry, as well as to work with an exceptional team of RF, electrical, mechanical and materials engineers.

RESPONSIBILITIES:

1. Technical lead for RF/microwave plastic, ceramic and metal packages
2. Work with internal product design, QA, Reliability, Failure Analysis, supply chain, and the external suppliers to develop and apply and qualify the appropriate packaging technologies and assembly processes, with focus on cost, high volume manufacturability, yield and quality

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3. Work with vendors and internal engineering resources to establish and update design rules for packaging
4. Establish and implement robust assembly processes internally and CM partners
5. Troubleshoot packaging defects, then define and implement solutions
6. Working with Quality organization, characterize failure modes, and analyze as a function of packaging materials and processes
7. Provide thermal modeling and application notes for new packages

QUALIFICATIONS AND REQUIREMENTS:

- **7+ years of professional experience** in RF/Microwave hardware development. Background in the Aerospace/Defense industry is preferred. Proficiency in the following areas: RF circuit/component design, systems engineering, prototyping and assembly of hardware, linear and non-linear RF/microwave modeling and testing, and researching ferromagnetic phenomena in materials.
- **Bachelor's degree in Mechanical Engineering, Materials Engineering or related with a focus on Surface Mount Packaging development.** Master's degree and/or PhD is an advantage.
- Proactive, problem-solver and ability to excel individually and as part of a team
- **Technical Mastery:**
 - Expertise in advanced IC package process development, design and thermal analysis with emphasis on RF and Microwave ICs.
 - Knowledge of product characterization and reliability testing standards [JEDEC, IPC, EIA, RoHS, WEEE]
 - Experience in failure analysis methodology
 - Experience in solving steady state and dynamic thermal and mechanical problems, using finite element analysis (FEA) and computational fluid dynamics (CFD) software is a plus
 - Deep knowledge of diverse materials utilized for RF components and module packaging and assembly
- **US Citizenship or Permanent Residency required**
- Possess or have ability to hold a Security Clearance (Secret)

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