Senior Electrical Engineer, MRI RF
Toronto, ON, Canada Req #527
Wednesday, December 22, 2021

About Us
Synaptive Medical is a Canadian medical device company, based in downtown Toronto, focused on supporting healthcare professionals and systems in patient diagnosis and treatment. Synaptive’s suite of products include MRI, surgical planning, navigation, and robotic visualization – all of which can be seamlessly combined or used independently in the operating room. The company has a number of opportunities for innovative people to join the team and share in the development of technologies to solve surgical and imaging challenges in patient care.

The Opportunity
The Senior Electrical Engineer, MRI RF is required to address the radio frequency hardware requirements of the MRI team. Synaptive’s innovative low field MRI technology operates with RF excitation at 21MHz. This is a great opportunity to exercise your breadth of RF engineering knowledge to help bring the latest MRI technology to market. You will be responsible for the design, prototype, debugging RF subsystems that enable our MRI technology. You are experienced in a wide array of RF topics ranging from low noise amplifier design to simulating 3D antenna geometries. You enjoy hands on work and are quick to whip up a matching network or instruct others in the process of tuning RF circuits. You pride yourself with the quality and consistency of your work because this facilitates the communication of controlled documents across our cross functional team. Finally, you see the outputs of your work installed in hospitals and impact the lives of patients around the world.

What You’ll Do
- Work with the MRI Team throughout the hardware design process including requirements generation, preliminary design, peer reviews, detailed design, test plan generation, and integration
- Design and test of MRI receive and transmit coils
- Design and integration of RF components (e.g. couplers, switches, amplifiers)
- System level design and making architectural decisions (e.g. power & SNR budgeting, cabling)
• Design printed circuit boards including schematics, stackup, floor planning, layout, and bill of materials
• Advise electrical and mechanical engineering teams on RF considerations and integration
• Validate and verify functionality of engineering prototypes with benchtop testing
• Assess and debug design issues, identify and implement solutions
• Build physical prototypes and perform rework by applying techniques such as soldering (including SMT), crimping, and other assembly methods
• Devise tests used for design verification and validation and for production use
• Practice and enforce a high level of engineering standards in their drawings and deliverables
• Collaborate with Quality Engineers to define and perform testing for design verification including EMC testing and other external laboratory testing related to electrical safety requirements
• Work closely with other team members and the QA team to ensure quality and punctual development
• Develop and execute test protocols and manage third-party standards testing
• Work closely with manufacturing team to evaluate design for manufacturability and facilitate design transfer
• Initiate RFQs with vendors, clarify intent, and negotiating deliverables

What You’ll Need
• At least 5 years of experience in an RF engineering role
• Bachelor’s degree in Electrical Engineering or equivalent
• Experience with electrical design and related tools
• Ability to work in a diverse team and good interpersonal skills

It’d Be Amazing If You Had
• Experience with MRI coils
• Medical device development experience including IEC 60601-1
• Experience with design for manufacturing for electronics
• Familiarity with design and construction of RF enclosures
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About You

- Extremely detail oriented
- Drives for consistency
- Takes personal pride in high standard of outputs
- Motivated to work with other departments (Software, Manufacturing, Regulatory, etc.)
- Clear and concise written and verbal communication skills
- Self-motivated and self-managing
- Ability to work in a highly technical, fast paced environment
- Enjoys solving technical problems

COVID-19 Considerations

Synaptive has a special duty to take a leadership role in protecting the health and wellbeing of its employees and the public. The COVID-19 vaccines are an important public health measure for mitigating the spread of COVID-19 in the workplace and society. As a condition of employment, the successful candidate will be asked to provide proof of vaccination or a reason protected by legislation why they cannot be vaccinated against COVID-19.

Diversity & Inclusivity

Synaptive is based out of one of the most diverse countries in the world. This includes differences related to race, ethnicity, national origin, gender, gender expression and presentation, sexual orientation, religion, age, ability and socioeconomic status. To us, diversity is one our strongest assets to our organization. We commit ourselves to promoting the recognition and appreciation of our diverse and rich culture. We believe that it is critical to our success to promote freedom of thought and opinion in a respectful environment. The decisions we make are rooted by respectfully considering each other’s thoughts and opinions and by working towards a greater common goal, saving lives.

Accommodation

Synaptive Medical is an equal opportunity employer and welcomes applications from all qualified individuals, including visible minorities, Indigenous People, and persons with disabilities. We welcome and encourage applications from people with disabilities. If as a qualified job applicant, you request accommodation, Synaptive will consult with you to provide reasonable accommodations according to your specific needs. If you wish to make a request, you will be provided an opportunity if your application is selected to proceed in our hiring process.
How to Apply

Unless otherwise stated, applications will only be considered from candidates eligible to work in Canada, or the country in which they’re applying to, without sponsorship.

If you are interested in this position and can demonstrate that you meet or exceed the requirements defined in the job description, please include #GOBRAIN in the top right corner of your resume and then complete your online application by clicking “Apply Now” and following the prompts.

The successful candidate to this role will be asked to complete background checks, which may include criminal, credit, employment and/or educational checks. All offers of employment are conditional on the receipt of satisfactory results of any applicable background check.

We would like to thank everyone who submits an application. Due to the volume that we receive, only those candidates selected for interviews will be contacted.