

## Electrical and Electronics Engineer

Innovative Circuit Technology Ltd (ICT) is looking for an Electrical and Electronics Engineer. The successful candidate will be passionate about power electronics design of high reliability production ready power conversion and distribution products in the 100W to 12kW power range. Work in this position is focused on new product design, prototyping and validation. If you are passionate about power electronics design and have hands on commercial design experience then send us your resume and a cover letter outlining how your experience and achievements line up with the qualifications, and responsibilities described below

### Responsibilities

- ▶ Provide technical expertise to develop 100W to 12kW high frequency switch mode PFC AC-DC, DC-AC and DC-DC power converters from concept to final products
- ▶ Develop products using state-of-the-art digital power conversion topologies to achieve high efficiency, high power density and high performance (Bridgeless PFC, LLC, N+1 redundant system, current sharing, etc.)
- ▶ Develop products with very strict EMI requirements
- ▶ Design products to support Li-ion battery technology including low voltage disconnect, battery charge current limit, battery over voltage protection, etc.
- ▶ Ensure applicable regulatory requirements (e.g. FCC, CE, etc.) are met
- ▶ Design and build DSP or MCU controlled power conversion systems from concept to commercial product
- ▶ Design and select components of power converters, including transformers, inductors, embedded microcontrollers, MOSFETS, drivers, gate drive transformers, optical isolators
- ▶ Design, model and simulate control and power circuits using simulation tools such as PSIM, PSpice, LTSpice, Simulink, Matlab
- ▶ Perform unit validation testing as well as PCB, system level verification, and validation testing to meet electrical specifications and regulatory compliance
- ▶ Working as part of a team, and supporting other technical members with related product development tasks to help achieve project goals and timelines



## Qualifications:

- ▶ Bachelor's Degree in Electrical Engineering (Master's Degree is preferred)
- ▶ Minimum 5 years of working experience in designing high performance and cost-effective power conversion products
- ▶ Must have working experience with LLC converter design to develop up to 4kW high frequency switch mode power converter
- ▶ Deep understanding about control systems, feedback loop stability, and different feedback compensation techniques/algorithms particularly Class 2/3 Error Amplifiers (Analog) and PID/2P2Z/3P3Z (Digital)
- ▶ Experience with both analog and digital embedded control design
- ▶ Progressive experience in all aspects of switch mode power converter design of topologies
- ▶ Experience with EMC testing (FCC/CE) and/or safety testing (CSA/UL) is required
- ▶ Experience with a variety of test equipment, including oscilloscopes, spectrum analyzers, environmental chambers, etc.
- ▶ Excellent communication, organizational, and documentation skills, along with the ability to work with others to achieve project goals and time lines
- ▶ Able to establish effective working relationships throughout operational groups
- ▶ A demonstrated curiosity about ICT's technology, products, and applications

Job Types: Full-time, Permanent

Job location: Langley, BC, Canada

Salary: \$70,000.00 - \$90,000.00 per year

## About ICT

ICT is a leading manufacturer of power system products for land mobile radio, fixed wireless broadband and industrial power markets. Our power solutions help improve uptime, reliability and quality of service by providing reliable remotely monitored and controlled power to critical communications equipment.

For more information, please see [www.ict-power.com](http://www.ict-power.com)

Interested candidates should send resume and cover letter to:

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