



JOB DESCRIPTION

Job Title: Engineer, Embedded Systems	FLSA Status: Exempt, Full Time
Reports to: CTO	Last Revision: 3/13/2023

SUMMARY

This is for a position as part of a team tasked with the design and implementation of various products in the area of fuel cell power systems at H2 PowerTech LLC. The key responsibility of this position is the design and troubleshooting of embedded systems, including the embedded system firmware or device software.

The ideal candidate is someone

- with broad experience with PCBA design
- with broad experience with the control of electro-mechanical and electrical devices
- who has a solid understanding of fuel cell technology and electrical components
- who is creative and thinks 'outside the box' when looking for cost effective solutions
- who possesses an analytical mind and a passion for technology

PRIMARY RESPONSIBILITIES

- Design and build embedded systems, including the embedded system firmware or device software
- Specify system level architectures crossing hardware, firmware and software regimes.
- Utilizes experience in hardware, firmware and software to achieve cost effective designs that best fit the project requirements while implementing state of the art technologies.
- Designs, develops, and documents PCBA test fixtures and procedures.
- Supports sourcing by providing detailed design documents and assists in vendor qualification.
- Provide technical support to manufacturing facilities and field service engineers.
- Provide technical support for product certification.
- Provide root cause failure analysis
- Troubleshoot and repair PCBAs to the component level

MINIMUM QUALIFICATIONS

- Requires a bachelor's degree in Electrical Engineering and/or Computer Science Engineering and at least 5 years' experience in the field or in a related area.
- Minimum of 3 years' professional experience in embedded systems
- Significant programming experience in C
- Experience with FPGA/CPLD development tools for design and simulation.
- Experience in trouble-shooting embedded systems and microcontroller peripherals



- Experience in working in real-time operating systems
- Experience in interfaces, IP protocols, and hardware subsystems
- Proficiency in working with common embedded systems communication protocols
- Exceptional analytical and problem-solving skills.
- Demonstrated success in a team environment.
- Knowledge of PCB manufacturing processes and ISO standards for manufacturability.
- Experience in mixed signal design.
- Experience in failure analysis and troubleshooting.
- Skilled at soldering fine pitch components (20 mil), resistor and capacitors down to 0402 in size.

ADDITIONAL CONSIDERATION FOR THE FOLLOWING QUALIFICATIONS

- Familiar with Altium Software; symbol creation, schematic capture and layout including footprint creation.
- Understanding of Fuel Cell Technology
- Understands hazards of and can work safely when working with high power battery systems and line voltages of 240VAC.
- Design and trouble-shooting experience for high power DC systems.
- Experience with product commercialization and documentation requirements.
- Experience with obtaining product safety certification.
- Experience with HALT/HASS testing and methodology.
- Experience working with PCB Fabricators.
- Experience designing and building wire harnesses.
- Experience and/or knowledge of both classical (PID) controls and modern computational state space controls.

WORKING CONDITIONS

Primary environment: Normal interior/office work environment and/or laboratory.

Secondary environment: Manufacturing environment. May be exposed to loud noises, changing temperatures, machinery with moving parts, and exotic materials.

PHYSICAL REQUIREMENTS

Lifting up to 50 lbs, manual dexterity, visual acuity, 'hands on' person

TRAVEL REQUIRMENTS

Travel within the US and foreign countries a few times per year with overnight stays up to 14 days during an international trip.

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