Hardware Design Engineer

The Senior Hardware Design Engineer designs electrical hardware for a wide range of new and existing laboratory and process instrumentation.
This position actively participates on a multi-disciplinary product development team including Project Leaders, Mechanical, Manufacturing and Firmware Design Engineers. A Senior Engineer has significant relevant work experience and works well independently: making design decisions and applying a systematic work process and structured problem-solving methodology. Hardware engineers also work closely with firmware developers and others and have a working knowledge of firmware development and systems integration.

Responsibilities:

Design schematics and circuits for measurement and control. Coordinates and performs circuit design efforts on new programs and sustaining activities aiding other departments with technical problems as required.

Sole responsibility for development or a lead role with other electrical engineers to complete electronic hardware development projects, depending on project scope.

Selection of critical components and the product architectural details.

Perform engineering analysis, and feasibility assessments to ensure that the hardware design meets performance and reliability requirements as defined in product specifications.

Provide technical expertise in the areas of board design & required simulation activities. Oversee fabrication, troubleshooting, and validation testing of prototypes throughout development cycle including product testing to verify compliance to various agency requirements [ISO, CE, and related] and mechanical integration.

Create layout guidelines for the PCB design, and work with PCB manufacturer.

Provide technical support, conducting design reviews and presentations, and project updates.

Apply and enforce best design practices to ensure performance, reliability, manufacturability and testability.

**Position Requirements:**
Must have M.S.E.E. or 10+ years of relevant experience in the design of instrumentation or related products

Product design experience in the analysis, design and testing of analog and digital circuits is required, including debug and board bring-up.

Experience must include product design experience using 8/16/32 bit microprocessors: Freescale i.MX28/i.MX6 and STMicro a plus, precise analog and digital transducers, hardware drivers, communication protocols, and motion control. High-speed PCB design (< 1 GHz), and experience integrating MCU/MPU(s) to external DDR memory are preferred.

Proven track record of taking a design effort from blank paper to volume production meeting all time, budget, and performance requirements.

Preferred to have working knowledge of low-level firmware and experience with the integration of software and firmware in systems that coordinate control and measurement of physical parameters, including structured testing, calibration, and design-of experiments.

Experience developing automated test equipment, hardware and software is very desirable.

Proficiency with common engineering design tools like simulation software (Spice), schematic capture and essential skills with board layout software (Altium, OrCAD, or equivalent)

Strong written and oral communication skills and proficiency in MS tools. Able to execute design documentation, development and test reports, effective at sharing information efficiently to support design work.

Experience in VA/VE and continuous improvement projects desirable.