

## JOB DESCRIPTION

---

**Job Title:** Electrical Engineer  
**Department:** Engineering  
**Reports To:** Vice President  
**EEO Job Category:** Professionals  
**FLSA:** Exempt  
**Location:** On- Site (primarily)  
**Date:** September 2022

### **Job Summary/Objective:**

The Electrical Engineer, as a member of our interdisciplinary engineering team, leads all aspects of printed circuit board design, compliance testing, manufacturing support, and circuit board sustaining engineering. The Electrical Engineer's responsibilities also include establishing incoming testing and product testing, as well as production process, troubleshooting, and service support.

### **Primary Responsibilities and Essential Functions:**

- Design printed circuit boards (PCBs) through generation of schematics, PCB layouts, printed circuit board assemblies (PCBAs), and fabrication documentation using standard design tools and practices
- In collaboration with the team, develop PCB architectures to satisfy product and regulatory requirements taking into consideration usability, manufacturability, serviceability (product), and repairability (PCB)
- Contribute to system design aspects and processes of product development by:
  - Engage with the team to define robust system architectures to meet functional and performance requirements; contribute to system engineering processes
  - Analyze and assess system designs to ensure compliance with regulatory requirements and achievement of performance goals
  - Contribute to the development and implementation of efficient and repeatable validation and production test methodologies
- In collaboration with the project technical lead, plan and execute activities related to applicable compliance testing including ESD, EMI/EMC, and electrical safety; support compliance activities related to laser safety, environmental, RoHS, and REACH
- Identify, document, and approve standard product repair work instructions, as well as non-standard product deviations; lead electrical aspects of product service programs
- Support and manage electronics-related manufacturing issues: communicate with contract manufacturers and vendors to address issues related to material availability/dispositioning, PCBA yield, and fabrication
- Generate standard PCBA design packages and maintain designs, executing 89 North quality procedures related to design and change control
- Proactively identify and verify alternate parts to avoid shortage delays
- Drive continual improvement of the electrical assembly design process: maximize capabilities of available tools, identify tool improvements, implement and maintain best practices

- Participate in or lead (as assigned) corrective and preventive action processes, non-conformance mitigations, change review board activities, and continual improvement projects
- Stay abreast of relevant industry and technology advancements; attend training to stay current with latest PCB design and layout techniques
- Lead or contribute to operational/sustaining initiatives/projects as requested
- Collaborate with manufacturing and process engineer to develop production processes, KPIs, and quality tests

**Secondary Responsibilities:**

- None

**Supervisory Responsibilities:**

- None

**Competencies:**

- Planning. Is able to successfully plan and manage projects from conception to completion
- Self-Development. Has a strong commitment to and actively works on continual self-improvement
- Creativity. Is able to easily make connections resulting in innovative and unique solutions
- Intellectual Horsepower. Is intellectually sharp, capable and agile with the ability to handle concepts and complexity with comfort
- Peer Relationships. Can solve problems with peers with a minimum of noise, is seen as a team player and is cooperative, easily gains trust and support of peers, encourages collaboration
- Functional/Technical Skills. Has the functional and technical knowledge and skills to perform at a high level of accomplishment
- Problem Solving. Uses rigorous logic and methods to solve difficult problems with effective solutions, is excellent at honest analysis
- Learning on the Fly. Learns quickly when facing new problems, a relentless and versatile learner, enjoys the challenge of unfamiliar tasks

**Work Environment:**

- 89 North is a fast paced, collaborative, high tech manufacturing environment
- Work is performed in a professional office environment with an average noise level
- This role routinely uses standard office equipment such as computers, phones, photocopiers, and filing cabinets
- A portion of duties are performed on production floor which may require personal protective equipment such as eye protection
- Hybrid/remote work allowed with manager approval

**Physical Demands:**

- Enter data into computer systems and/or produce documents, typically utilizing a computer keyboard
- Close vision for computer work
- Regular, dependable attendance to meet project demands and be available to internal customers

- Ability to communicate with suppliers and vendors via email, phone, and virtual meeting
- Ability to sit and/or stand at workstation for extended periods of time

**Additional Job Responsibilities for All Employees-Owners:**

- Protect the company by adhering to standards and procedures, participating in safety and security training, being diligent about the handling of company data, and reporting all safety and security concerns.
- Learn and keep yourself informed by asking questions and attending Company meetings, Board meetings, reading corporate emails and communication
- Adopt an entrepreneurial attitude to help ensure the Company's success; including innovation, customer focus, problem solving, cost containment and commitment to quality
- Adhere to all other responsibilities as defined in the *Rights and Responsibilities for All Employee Owners at Chroma Technology* found in the Employee Handbook

**Required Education, Experience, and Eligibility Qualifications:**

- Bachelor's degree in Electrical Engineering or related field
- Minimum 5 years' experience in the development of electronic products with an emphasis on printed circuit board design
- Experience with design for ESD, emissions, and transient susceptibility
- Demonstrated proficiency with integrated product development involving embedded firmware
- Expert knowledge of microprocessors, microcontrollers, communication protocols and devices
- Experience with electrical design tools and effective utilization of bug tracking and PLM tools and processes
- Ability to communicate effectively and professionally with co-workers, customers, and suppliers
- Prospective and/or new employees will be required to comply with Chroma's COVID vaccination, testing, and face covering requirements. The requirements include proof of at least one COVID-19 vaccine dose before the start of employment and verification of the second dose within 30 days of the start of employment. Prospective or new employees may seek an exemption to applicable vaccination requirements and must have an approved exemption before the start of their employment. Applicants in need of an exemption due to a sincerely held religious belief or disability should contact [hr@chroma.com](mailto:hr@chroma.com).

**Preferred Education, Experience, and Eligibility Qualifications:**

- 7+ years' experience in development of embedded firmware electronic products
- Electro-opto-mechanical product development experience
- Product development and manufacture experience in an ISO 9001 environment
- Altium experience highly preferred
- Experience with PTC Windchill, Python, LabView preferred

**ACKNOWLEDGEMENT OF JOB DESCRIPTION**

I understand the above statements are intended to describe the general nature and level of work to be performed. They are not intended to be construed as an exhaustive list of all responsibilities, duties and skills required. I am aware that job duties are subject to change, as the organization deems necessary. I understand and accept that these are the responsibilities

and requirements of the position and acknowledge I am able to perform the essential functions of this position.

*89North is an employee-owned company, a Certified B Corporation, and an equal opportunity employer*