



Position: System Engineer

Department: Engineering

Location: Santa Ana, CA

FLSA Status: Exempt, Full-Time

Job Summary:

The System Engineer is responsible for the technical oversight and integration of embedded electronic systems used in high-reliability time and frequency products. This role ensures that all system-level requirements are captured, validated, and translated into cohesive designs that align with performance, cost, and compliance expectations across the aerospace and defense sectors. It requires collaboration with engineering disciplines throughout the product development lifecycle, from specification through final testing and release.

This position may involve access to information subject to U.S. export control regulations, including the International Traffic in Arms Regulations (ITAR). Applicants must be U.S. persons as defined by these regulations (U.S. citizen, lawful permanent resident, or protected individual as defined by 8 U.S.C. 1324b(a)(3)).

Key Responsibilities:

- Define and manage system-level requirements and architectures for embedded electronic products.
- Write and maintain technical documentation including requirement specifications, design descriptions, interface definitions (e.g., FPGA interfaces), test plans, and verification procedures.
- Collaborate with cross-functional teams including hardware, software, mechanical, and quality assurance to ensure cohesive product development and seamless system integration.
- Oversee and contribute to the design and development of systems incorporating microcontrollers, FPGAs, and CPLDs.
- Ensure all system designs meet functional, performance, reliability, and cost objectives.
- Participate in formal and informal design reviews, including code reviews, unit testing, and system validation.
- Support continuous integration and product lifecycle processes, including issue tracking, risk assessments, and configuration management.
- Monitor system performance throughout development and testing to identify and address technical risks.
- Interface with internal and external stakeholders to clarify requirements and report progress on technical deliverables.



- Contribute to innovation and improvement efforts related to design methodology, system verification, and documentation practices.

Key Qualifications:

- 5 - 10+ years of experience in systems engineering, preferably in aerospace, defense, or embedded electronics environments.
- Bachelor's degree in Computer Engineering, Computer Science, Electrical Engineering, or a related technical field.
- Strong background in embedded system architecture, including the integration of microcontrollers and programmable logic devices (FPGAs/CPLDs).
- Demonstrated experience authoring and managing technical documentation, system specifications, and test protocols.
- Effective collaboration skills with the ability to work across engineering disciplines.
- Familiarity with system verification, validation, and configuration management practices.
- Strong analytical, problem-solving, and organizational skills.
- Experience with design reviews, root cause analysis, and continuous improvement activities.
- Applicants must be eligible to obtain and maintain a U.S. government security clearance. Prior clearance is not required but may be preferred for certain programs.
- Experience working in an ITAR-regulated environment or with U.S. defense contractors is a plus. Understanding of documentation and compliance requirements under export regulations is strongly preferred.

Physical Requirements:

- Ability to sit, stand, and use office and lab equipment for extended periods.
- Occasional lifting of up to 30 lbs. during equipment setup or testing.
- Visual acuity to work with schematics, technical documentation, and diagnostic displays.
- Effective verbal and written communication for technical collaboration and documentation.

Additional Information:

The Key Responsibilities are an outline of the general nature and level of work performed by individuals assigned to this position. It is not intended to be an exhaustive list of all duties, responsibilities, and qualifications. The company may amend or modify duties based on business needs in accordance with applicable California labor laws. Reasonable accommodations may be made for qualified individuals with disabilities.



Equal Opportunity Employer Statement:

Brandywine Communications is an Equal Opportunity Employer. We are committed to providing equal employment opportunities to all employees and applicants without regard to race, color, religion, sex, (including pregnancy, childbirth, and related medical conditions), sexual orientation, gender identity or expression, national origin, ancestry, age, physical or mental disability, medical condition, genetic information, marital status, military or veteran status, or any other characteristic protected by federal, state, or local laws.

Brandywine Communications strives to create a workplace that is inclusive, respectful, and reflective of the diverse communities we serve. We are committed to providing reasonable accommodations for qualified individuals with disabilities in accordance with applicable laws. If you require accommodation during any part of the application or hiring process, please contact Human Resources at hr@brandywinecomm.com.