



Providing Next Generation Wireless Solutions

resumes: HRMA@g3ti.net

FPGA/DSP Engineer

Company Overview

G3 Technologies, Inc. is a technology based company that develops innovative wireless products and solutions. G3TI is looking for motivated individuals who thrive in a dynamic work culture. We offer a fast paced work environment with several office locations, competitive salary and benefits, 401K matching, and generous profit sharing plan.

G3TI maintains significant expertise in RF Communications and Telecommunications, as well as System, Hardware and Software engineering, allowing it to provide unique solutions to our customer's leading edge problems. Our products range from hand held to room size solutions with rapid development profiles that address real world problems.

Job Description

This position is a unique opportunity for a dedicated and motivated FPGA/DSP Engineer to leverage their knowledge and experience. We are looking for a talented engineer who is able to apply creative problem solving skills to a variety of hardware, software and systems projects working from the fundamental circuit level through the application level. The successful candidate will implement signal processing concepts, such as multirate filters, FFTs and demodulators in FPGAs. Familiarity with current FPGA design tools is critical to the position. This position will work closely with our production staff to ensure quality product delivery. Close work with our customers to ensure mission success is also key to this position.

The FPGA/DSP Engineer will be responsible for architecting, designing, implementing, and validating Field Programmable Gate Array (FPGA) logic designs including interface logic, control logic and digital signal processing (DSP). Core job responsibilities include performing signal processing architecture, signal processing simulation, FPGA architecture, FPGA implementation, FPGA simulation, hardware/software integration, systems integration and product test plan development and test execution.

As a team member, you will be expected to:

- Perform signal processing architecture, simulation, implementation and test.
- Perform original VHDL (preferred) or Verilog Firmware development targeted for Xilinx FPGAs. Key design elements include:
 - High speed data interfaces
 - Integration of purchased VHDL cores such as Ethernet MACs, FFTs, DDCs
 - Architecture and implementation of basic DSP functions such as FFTs, DDCs, delay memory
 - Digital IF data formatting such as VITA 49
 - Digital hardware control (state machine, SPI, I²C, Ethernet)
- Participate in all aspects of product design from concept through system design, component design (hardware & software), component testing, system testing and successful production.
- Work closely with Hardware and Software designers to meet system design requirements.
- Develop and document FPGA and DSP requirements, FPGA firmware and Test Plans.
- Assist in the integration and system level testing of all parts of a system until it meets all requirements.
- Communicate with the engineering and product design team about module and system performance to accelerate the development process and define system specifications.
- Be self-motivated, taking independent initiative.
- Communicate effectively with both technical and non-technical personnel.

Job Qualifications:

- Team-oriented character
- Excellent verbal and written communication skills
- Conscientious, detail-oriented
- Completed BS or MS degree in Electrical Engineering or Computer Engineering
- "Roll up your sleeves" and let's get it done attitude
- Five (5) or more years of related industry experience including DSP design and VHDL design experience
- Current gate count Xilinx FPGAs and Xilinx design toolsets
- DSP Theory / Signal Processing Theory of RF wideband signals and of channelized signals

Other desirable experience:

- Digital and analog systems incorporating analog-to-digital converters, digital to analog converters, FPGAs, microprocessors
- High speed digital design, real time embedded systems, high speed signal transmission line design, multi-board analog and digital unit level design
- Telecommunication protocols (GSM, UMTS, WCDMA, etc.)
- An understanding of 2G/3G cellular systems with respect to interaction between mobiles and base stations
- Wireless/RF lab test equipment

Work Location: Mount Airy, Maryland or Gaithersburg, Maryland