

Power Tagging Technologies, Inc. Job Description

Position Title: Senior Digital Signal Processing (DSP) Firmware Engineer

Reports to: Director Hardware Engineering

Location: Boulder, CO, USA

Position Summary:

The Senior Digital Signal Processing Engineer's focus will be on developing, testing, integrating, and heuristically improving advanced digital communications modulators, demodulators, and MAC / PHY protocols enabling and advancing communications over the power grid. This includes, but is not limited to channel characterization; algorithm development, enhancement, and implementation; identifying appropriate system(s) partitioning and generating subsystem specifications; development and maintenance of interface control documents; assuring design adherence to specifications; and overseeing development of test plans and systems. Other responsibilities as a senior engineer will include spearheading projects, mentoring and providing general work direction to junior engineers, interface with various vendors and suppliers, and serve as a subject matter expert to resolve issues during development.

The position requires extensive knowledge and experience in advanced digital signal processing and digital communications theory and implementation.

Reporting Functions:

- None at this time

Duties and Responsibilities:

- Design, development, test, and integration of DSP-based software designed radio architectures, protocols, and systems.
- Modeling and simulation of designs to analyze system performance and design implementation to address environmental and implementation issues.
- Assuring appropriate system partitioning, architecture, technical performance, scalability, reuse, and DFX (including design for testing and design for maintainability).
- Provide full product lifecycle support from product definition, architecture, design, implementation, verification test design and implementation, delivery, support, and retirement / replacement, including full lifecycle requirements.
- Work collaboratively with other DSP / Firmware Engineers and the rest of the Engineering and Operations organization to maximize the use of best practices and the identification, sharing, and reuse of architectures, specifications, methodologies, procedures, test cases, test systems, etc., to maximize success of the overall business.
- Protect the intellectual property produced by the company.
- Perform other reasonably related duties as necessary.

Travel:

Less than 25%

Qualifications and Skills:

- BSEE or BSCS from an accredited institution, with advanced digital communications focus required, advanced technical degree from an accredited institution highly desirable.
- 10+ years related product development experience, with a minimum of 5 years in DSP systems design, including floating-point algorithm design and implementation.
- Demonstrated success in developing DSP-based high bandwidth PSK, QAM, and/or OFDM modulators and demodulators, including, but not limited to, digital phase lock loops, equalizers, filters, and forward error correction algorithms. Experience in FPGA development using VHDL or Verilog highly desirable.
- Proficient in MATLAB, C, and RTOS required, C++ and assembly language highly desirable.
- High degree of proficiency in numerical reasoning, advanced mathematical formula implementation, and analysis required.
- Experienced in algorithm simulation and the use of simulation to verify implementation.
- Printed circuit board layout knowledge and implementation using PADS for analog and high-speed digital mixed signal implementations is highly desirable.
- Texas Instruments DSP chipset experience is highly desirable.
- Solid track record of demonstrated technical leadership. Wireless communications experience (i.e., cellular, terrestrial microwave, or satellite) is required. Experience in development of point to multipoint communications protocols is highly desirable.
- Demonstrated ability to quickly learn and master new technologies and techniques.
- High urgency, high energy level process oriented disciplined professional with excellent attention to details.
- Must be able to work effectively as part of a diverse highly skilled team and possess good verbal, written, and presentation communications skills.
- Start-up, small company, or small team experience with a track record of meeting deliverables.
- Experience developing products for a six-sigma company desirable. Green / Black belt highly desirable.
- Must be authorized to work in the United States on a full-time basis for any employer.

The above qualifications are not to be interpreted as a complete and detailed description of all requirements of the job.