

## **Power Tagging Technologies, Inc. Job Description**

**Position Title:** Senior Embedded Firmware Engineer

**Reports to:** Director Hardware Engineering

**Location:** Boulder, CO, USA

### **Position Summary:**

The Senior Embedded Firmware Engineer's focus will be on developing, testing, and integrating embedded firmware systems for advanced digital communications that enable communications over the power grid. 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 knowledge and experience in real-time embedded firmware systems and a working knowledge of the associated hardware environment.

### **Reporting Functions:**

- None at this time

### **Duties and Responsibilities:**

- Development, test, and integration of real-time embedded Firmware for software defined radio architectures, protocols, state machines, and systems.
- Hands-on implementation, design, and architecture of custom Firmware, boot loaders and communications protocols.
- Design, implementation, and documentation of high performance firmware algorithms to manage and interact with hardware, handle errors and exception conditions.
- Work closely with DSP, Hardware, and Software design engineers, architects, prospects, and customers to solve cross-functional design issues.
- Develops DSP-BIOS / Firmware and drivers for high-end DSP / ARM platforms, such as the TI OMAP.
- 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.
- Assure appropriate system partitioning, architecture, technical performance, scalability, reuse, and DFX (including design for testing and design for maintainability).
- 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 highly desirable.
- 10+ years related product development experience, with a minimum of 5 years in communications systems design and implementation.
- Texas Instruments DSP / OMAP chipset experience and DSP-BIOS is highly desirable.
- Must be expert in C structural programming, proficient in C++, comfortable with assembly programming.
- Strong understanding of RTOS concepts, including but not limited to, task / context switching, interrupt sub-routines, shared memory, non-volatile memory, multi-processor communications, redundant backplane architectures, power-on self test diagnostics, communications protocol stacks, and resource management issues.
- Experience with embedded real time operating systems such as DSP BIOS, Linux, VxWorks, QNX or other equivalent experience required.
- Demonstrated experience in protocol development, extending from layer 1 to layer 3 of the OSI model. Knowledge of layers above L3 requirements highly desirable. Specific knowledge of protocol message switching and routing highly desirable.
- Working knowledge of TCP/IPv6. Knowledge of multi-access protocols such as 802.15.4, Zigbee, 6lowpan, WiFi, and RFID 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.