IPEC Limited

Senior Firmware Design Engineer

Job Type: Full-time, Permanent

Location: Stockport, SK1

Education Level: Masters Degree or equivalent

Salary: Competitive

Company Information

www.ipec.co.uk

IPEC are experts in On-line Partial Discharge (PD) testing of MV and HV plant. Through intensive and on-going research and development IPEC have enabled the detection, location, and analysis of PD to be economically implemented on a large scale, improving network reliability.

Based in Manchester, IPEC offer turnkey solutions for asset monitoring and testing of high voltage insulation for defects that could lead to asset failure. Our products range from simple to use instruments for routine spot testing, to sophisticated permanently installed systems.

The Role

We currently have a position for an experienced Senior Firmware Engineer to join our development team based in Manchester. The ideal candidate will work alongside our engineers, on existing and new product-based design projects. The primary role will be to strengthen our multi-discipled Development Team, working on existing and new product development. This is a small but expanding team looking for an energetic candidate with a wide breadth of experience.

Key Areas of Responsibility

The key areas of responsibility for this role will include:

- Development of high-quality Firmware designs from concept to production and providing ongoing support.
- Work closely with Electronics, Software and Production teams throughout the design process ensuring a coherent system level design is achieved.
- Working independently with minimal supervision on firmware design aspects but ensuring the wider development team are kept informed of design decisions and issues.
- Contribute to the requirements capture phase of a project, providing input to the firmware, software and electronics requirements.
- Ensuring firmware is written in accordance with the IPEC coding and documentation standards.
- Improvement and development of the tools and methods used to automate production testing, diagnostics and repair of products.
- Undertaking comprehensive documented testing of firmware designs.
- Contribution towards improvements in firmware, electronic and software development process.
- Liaising with both internal and external customers, interpreting and understanding customers' requirements.
- Responsibility for maintaining and developing own professional competence.

The Right Person

Required Skills and Experience

- Degree level in Electrical/Electronic Engineering or a similar technology-based discipline.
- A minimum of 5 years' experience in the implementation of embedded firmware designs.
- Track record of delivering multiple firmware projects from concept to production within agreed timescales and to expected quality.
- Track record of working with existing code base to resolve bugs and add features.
- Sound working knowledge of modern microcontrollers, preferably ARM based processors.
- Experience of designing firmware in C/C++ using IDE's, e.g., KEIL, IAR, Eclipse.
- Experience in independently designing firmware architectures.
- Experience in the design and implementation of bootloaders for microcontrollers enabling field upgradable firmware.
- Experience in implementing serial communication protocols: RS232, RS485, I2C, SPI, USB, Bluetooth etc.
- Experience in implementing industrial communication protocols, e.g., MOBUS RTU/TCP.
- Experience in implementing embedded Ethernet designs using modern protocols such as REST API.
- Experience in developing products with colours touch screen LCDs.
- Experience of bare metal and embedded real time operating systems (RTOS) programming.
- Experience with Source code revision control tools, preferably GIT.
- Experience of software verification and validation using automatic testing methodologies.
- Experience in the implementation of self-test and diagnostics of embedded systems.
- Good knowledge of electronics principles and practices, with the ability to read and understand schematics and component datasheets.
- Ability to work collaboratively with electronics engineers to help specify components and microcontroller pin allocation and definition. To define and implement test and debug firmware builds, enabling the testing of electronic circuits during development and in production test.
- Ability to work collaboratively with software engineers.
- Excellent verbal and written communication skills, ability to professionally present ideas internally and externally.
- The ability to prioritise workload and achieve objectives and have a high degree of self-direction.
- Self-motivated, with the determination and dedication to complete projects to a high standard, and to tight deadlines.
- Competent and willing to use test equipment (oscilloscope, signal generator, spectrum and logic analyser etc) during development and supporting the business with product returns and production.

Desirable Skills

- Design of firmware using FPGA technology / VHDL.
- Experience of Embedded Linux.
- Experience of PC based Linux.
- Experience writing PC based application to aid firmware development and testing, e.g., C#, Java.
- Schematic design and PCB layout.
- Quality testing methodologies conforming to ISO standards.

Terms

Contract: Full time, permanent

Location: Stockport, Greater Manchester

Salary: Competitive, dependant on experience

Benefits include: Company pension plan, share options, annual bonus scheme, flexible working and 25 days annual leave, plus bank holidays.

Applications

Interested candidates should apply in writing to jobs@ipec.co.uk.

Applications should include:

- A comprehensive and up-to-date CV,
- A covering email summarising your interest in the post and demonstrating your ability to match the criteria outlined, and
- Details of your current salary and notice period.