

Continental Electronics

SENIOR DIGITAL SYSTEMS ENGINEER

The Senior Systems Engineer will design, test, and integrate complex digital signal processing systems. This individual will work closely with hardware & software engineers during the test and integration phases. Additionally, he/she will provide design, documentation, implementation and testing verification.

Responsibilities

- Design, simulation and implementation of FPGA-based digital signal processing systems e.g. baseband signal processing
- Design FPGA-based circuit card assemblies using schematic capture
- Develop hardware prototypes, debug and test using oscilloscopes, spectrum analyzers, signal generators, logic analyzers, etc
- Define and coordinate software tasks related to hardware-software interfaces within FPGA-based circuit card assemblies
- Independent time management of responsibilities, including software and FPGA-based development planning and task assignments per project requirements

Minimum qualifications

- Bachelor's degree in Systems or Engineering
- Proficiency with Xilinx FPGA design flows using both ISE and Vivado. VHDL design entry is essential
- Experience with full development cycle of FPGA design, including simulation, synthesis, implementation, and timing closure and recent Xilinx experience with 7 series devices, preferably Kintex 7
- Expertise in the following areas of FPGA-based real-time DSP implementation: decimation / interpolation filters, fractional delay filters, asynchronous sample rate conversion, NCO, Hilbert transforms, FFT and waveform generation
- Experience with FPGA hardware interfaces related to RF sampling and waveform generation using A/D and D/A converters
- FPGA-based high-speed memory and bus interfaces are a strong plus i.e. PCIe, DDR3
- Strong understanding of software and hardware interaction i.e. Linux host / PCIe endpoint
- Understanding of digital signal processing hardware architectures, and preferably FMC module interfacing to FPGA-based carrier card assemblies
- Familiarity with high-speed PCB board layout

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Additional qualifications

- Excellent verbal and written skills to interact with project teams, management and customers
- Must be US citizen and able to be approved for clearance within one year (per client requirements)
- Some travel will be required

Desired qualifications

- Experience with RF system design, specifically high power and/or high-speed, time-based communication transmissions.
- Matlab / Simulink modeling of signal processing systems, at a minimum able to understand a high-level model and convert to an FPGA implementation
- High level programming (C), and ability to write simple software applications for FPGA test purposes in Linux environment.
- Practical understanding of time synchronization standards (e.g. IEEE-1588)

Equal Opportunity Employer: minority / female / disability / veteran