

Sapienza Consulting has been retained by a NewSpace communications venture headquartered in the US, who are currently seeking an experienced Software Defined Radio (SDR) Software Engineer. The incumbent will help support the company's efforts to develop and test the specialized flight and ground SDRs need to support our client's mission.

Job Summary:

The SDR Software Engineer will support the development of SDRs for both its primary (payload) and secondary (TT&C) radio functions using a proprietary protocol. The SDRs will initially be tested in a lab environment and then on the payload prototype in a lab environment that simulates orbit operations. The SDR Software Engineer will also be responsible for implementing methods for SDR data acquisition to ensure successful testing, verification, and validation.

The perfect candidate for this role will have significant previous experience designing, developing, and testing many SDRs particularly on rapid timelines. We are looking for engineers that enjoy a challenge and have a track record of creative thinking to solve unconventional problems.

Core Responsibilities:

The SDR Software Engineer will be responsible for design, development, and testing of all SDR software including its FPGA and host interface. This includes:

- Evaluating SDRs for incorporation into our payload and spacecraft systems
- Updating or creating Linux device drivers and host interface software to interact with the SDRs
- Developing test software and drivers to support unit, integration, and system testing of all SDR software functions
- Writing this software in C, C++, or other languages in a Linux or Windows environment
- Working with other software team members to benchmark payload software applications to identify candidate blocks for migration into FPGAs
- Designing in-house IP blocks for our core payload in a hardware description language (Verilog, VHDL)
- Testing and validating hardware blocks both in simulation and on target
- Developing and maintaining documentation and ICDs for in-house IP blocks and other SDR related software

Qualifications:

- A Bachelor's degree (or better) in Electrical/Computer Engineering or related field
- At least five years of recent experience working with SDRs
- Experience with device drivers for communication between Linux user space applications and FPGAs
- Experience of FPGA design flows (Xilinx, Altera)
- Experience with SoC platforms such as the Zynq
- Working knowledge of interface protocols (AXI, OCP)

- Ability to create detailed testbenches for benchmarking and testing
- Proficiency in at least one hardware description language (Verilog, VHDL)
- Experience using lab equipment for testing and validation
- Specific experience with implementing DSP algorithms in FPGAs is a plus
- Experience working with multiple programming languages (C, C++), scripting languages (Python, Bash), operating systems, and development environments is a plus
- US citizen