

Spectrum Control Announces New Direct RF Extension to SCi Blocks Family

New DirectRF+™ Transceiver Extension Adds High-speed Digitization of up to Eight RF Inputs and Eight RF Outputs in 3U VPX Module to Support Next-generation Defense Systems —

Frederick, MD, April 17, 2024 -- Spectrum Control Inc. announces a revolutionary new Direct RF extension to its SCi Blocks family of miniature, modular, and intelligent RF+Digital™ system building blocks. This new DirectRF+™ module enables customers to rapidly deploy configurable mission-ready RF front-ends and high speed digital signal conversion with minimal performance risk. Spectrum Control's unique approach to miniaturizing wideband RF using small-footprint RF-on-mezzanine and System-in-Packaging (SiP) devices delivers world class signal conditioning and conversion without compromise.

The new SCi Blocks RF+Digital module is intended for a wide range of aerospace and defense applications. The integrated solution can be deployed in existing and emerging defense platforms and expands the technology to small platforms such as UAVs and expendables. The new module offers user-enabled switching from a RADAR mission to a SIGINT gathering mission to Electronic Warfare (EW) in an all-in-one SOSA-aligned 3U VPX module. The combination of high-fidelity RF signal handling and integrated digital conversion offers system developers multi-mission flexibility and unmatched size/density.

This extension to the company's SOSA-aligned wideband module platform leverages Altera® Agilex™ 9 FPGAs to add direct digitization of eight RF inputs and eight RF outputs at sample rates up to 64 Gsps with ultra-low converter interface latency. The Altera FPGA provides a step function improvement in digital modularity and interoperability in RF systems with the revolutionary inclusion of analog-to-digital conversion and processing.

“The promise of integrating Altera's Agilex™ 9 SoC FPGA Direct RF-Series to radically alter the size, weight, power, and cost (SWaP-C) of future ISR missions in the electromagnetic spectrum is upon us,” said Ian Dunn, chief technology officer at Spectrum Control. “Our SCi Blocks family enables the rapid deployment of new wideband RF+Digital systems.

The modularity and channel control of the architecture is designed to manage the integration of digital and analog technologies into a high-performance, single-slot solution. As you shrink critical functions, it opens up the opportunity to use these SWAP-C improvements to enable new capabilities or support new mission parameters.” Dunn continued, “Plus, fixed analog and digital functions need to make room for more software functionality and the growing application of AI.”

“Altera’s Agilex™ 9 SoC FPGAs Direct RF-Series enable partners like Spectrum Control to leverage next-generation technologies to deliver State of the Art (SOTA) technology to the Defense Industrial Base at an accelerated pace,” said John Sotir, Senior Director Military, Aerospace, and Government Business Unit, Altera.



The new DirectRF+™ module from Spectrum Control enables customers to rapidly deploy configurable wideband RF front-ends with high speed digital signal conversion

###

About Altera® Agilex™ 9 SoC FPGA Direct RF-Series

The Altera Direct RF Series FPGAs wideband system solutions offer integrated data converters with high sample rates up to 64 Gbps, wide radio frequency (RF) input bandwidth of up to 36 GHz, and FPGA programmability. All this in a single package, providing significant size, weight, power, and cost (SWaPC) as well as low RF-to-baseband latency advantages. This integration allows instantaneous bandwidths of up to 32 GHz and frequency agility in small packages.

Intel, the Intel logo, and other Intel marks are trademarks of Intel Corporation or its subsidiaries.

About the SCi Blocks Family

Spectrum Control's SCi Blocks (pronounced "sky blocks") RF+Digital architecture revolutionizes how RF is integrated into digital defense systems. Platform elements include SiPs, RF-on-mezzanine and SOSA-aligned 3U OpenVPX modules. Each offers a dramatic reduction in size, weight, and power (SWaP) and an open-standard digital interface for tuning, monitoring, & control, and vastly simplified system integration. Visit spectrumcontrol.com/sci-blocks for more information

About Spectrum Control

Ensuring highly reliable and high-fidelity radio signal transmission can be the difference between life and death in mission-critical applications. Spectrum Control offers the world's most comprehensive portfolio of high reliability products for controlling that electromagnetic spectrum: components, IMAs, subsystems, RF+Digital blocks, and custom solutions. The company is leveraging its design and manufacturing prowess to create disruptive new products that deliver revolutionary size and performance advantages. Leading companies and governments trust Spectrum Control to help them design, engineer, and build the devices and solutions that connect and protect our world.

RF+, RF+Digital, DirectRF+, and SCi Blocks are trademarks of Spectrum Control Inc.