

Spectrum Control Introduces Revolutionary Digitally-Enabled Plug-and-Play RF Blocks that Meet Demands of Emerging Military/Aerospace Systems

— *SCi Blocks Family Consists of RF SiPs, RF Sticks, and Open Modules to Meet Price, Size, and Performance Requirements of Next-Generation Systems* —

San Diego, CA – June 13, 2023 – Spectrum Control (IMS booth #643) introduces SCi Blocks™ (“sky blocks”), a family of next-generation, digitally-enabled, plug-and-play RF solutions that address the size, cost, and open architecture requirements of emerging military/aerospace system designs. The open, modular, digitally-enabled products will be available in three distinct tiers – RF Systems-in-Packages (RFSiPs), RF “sticks,” and Sensor Open Systems Architecture (SOSA™)-aligned OpenVPX modules.

At IMS, Spectrum Control will unveil the first products in this new family. The ultra-miniature, high-performance, digitally tunable, wideband downconverters and upconverters are designed to deliver a new level of SWaP-C for electronic warfare (EW), signal intelligence (SIGINT), and Intelligence Surveillance and Reconnaissance (ISR) applications. The other introduction is an OpenVPX RF transceiver offering the full fidelity of RF signal handling with integral digital control and minimal interconnects to create a wide range of design and usage options.

An Industry Breakthrough in Size and Performance

These new products deliver total spectrum awareness from 20 MHz to 18 GHz, for up to 16 GHz of contiguous spectral coverage with 2 GHz of instantaneous bandwidth (IBW). The integrated digital gateway offers a level of intelligence and connectivity unseen in traditional RF components, significantly reducing system engineering time. The digital gateway has a simple four-wire interface for command and control with health and temperature monitoring.

The high-performance downconverter stick offers a gain of 25 dB and noise figure of 14-17 dB across the entire frequency range. Other specifications include third order intercept (IP3) of 25 dBm and single tone spurious of ≥ 60 dBc, as well as IF calibration features for optimum spectral performance.

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Also delivering best-in-class performance is the upconverter stick. Gain is 20 dB, noise figure is 25 dB across the entire frequency span, IP3 is 30 dBm, and single tone spurious is ≥ -55 dBc at -10 dBm input and maximum gain. It also has independent user controllable input and output gain control of 31.5 dB, in 0.5 dB increments

The downconverter and upconverter are housed in compact 13x2 (cm) packages that draw only 8 and 10 watts, respectively. Both the downconverter and upconverter can be supplied as a board-only solution or in a high-isolation, hermetically sealed, metal enclosure.

New 3U VPX Transceiver Modules: Industry-leading Flexibility in Standard Package

The wideband downconverter and upconverter sticks can be integrated into SCi Block's 3U 8-channel OpenVPX Transceiver module in any combination to support up to 8 downconverter or 8 upconverter channels. Current industry solutions are limited to only four channels and a significantly limited frequency range.

These modules are fully SOSA-aligned, both hardware and software, with a Modular Open Radio Frequency Architecture (MORA) device layer for configuration and control. The RF interface is compliant to VITA 67.3.

About Spectrum Control

From the battlefield to the oil field, the city center to the data center, ensuring highly reliable radio signal transmission can be the difference between life and death in mission-critical use cases. We offer the world's most comprehensive portfolio of high reliability products for controlling the electromagnetic spectrum, including components, IMAs, subsystems, and custom solutions. Leading companies and governments trust Spectrum Control to help them design, engineer, and build the devices and solutions that connect and protect our world.

To learn more visit, www.spectrumcontrol.com.

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