2390 Ward Ave. tel +1.805.578-4261 sales@innovative-dsp.com
Simi Valley, CA 91362 fax +1.805 578-4225 www.innovative-dsp.com

FOR IMMEDIATE RELEASE: Contact: Nora Henderson *nhenderson@innovative-dsp.com*

Innovative Integration's
New X6-RX PCIe XMC Module with Xilinx Virtex-6

Four 130 MSPS 16-bit A/D Channels & DDCs with 8 to 24 channels

The X6 modules power is less than 10W for typical operation. VITA 20 conduction cooling is used in conjuction with a heat-spreader & sink to provide effective thermal management. Multiple ruggedization levels for wide-temperature operation & conformal coating are supported.

Simi Valley, CA - April 29, 2010 — Innovative Integration Inc, (Simi Valley, California) announces the X6-RX. The X6-RX is a flexible receiver that integrates IF digitizing with signal processing on an XMC IO module. The module provides up to 24 configurable receiver channels with a powerful Xilinx Virtex-6 FPGA signal processing core, and high performance PCI Express/PCI host interface. With the X6-RX, IF recorders can log both digitized raw data and baseband channels in real-time, sustaining rates over 2 GB/s.

The X6-RX features four, 16-bit 130 MSPS A/Ds plus a dual digital downconverter (DDC) ASIC. IF frequencies of up to 300 MHz are supported. The sample clock is sourced from either a low-jitter PLL or external input. Multiple cards can be synchronized for sampling and downconversion.

A Xilinx Virtex-6 SX315T (LX240T at initial release) with 4 banks of 128MB DDR2 RAM provide a very high performance DSP core with over 2000 MACs (SX315T). The close integration of the analog IO, memory and host interface with the FPGA enables real-time signal processing at extremely high rates.

The DDC ASICs, connected directly to the FPGA provides up to 24 narrowband or 8 wideband channels, with input from any A/D channel. Each DDC channel performs complex or real downconversion, with flexible controls for mixing, filtering, decimation, output formats and data rates. Channels can be synchronized to support beam forming or frequency-hopped systems.

The X6 modules use less than 10W for typical operation. VITA 20 conduction cooling is used in conjunction with a heat-spreader/sink to provide effective thermal management. Multiple ruggedization levels for wide-temperature operation and conformal coating are supported.

The FPGA logic can be fully customized using VHDL and MATLAB using the Frame Work Logic toolset. The MATLAB BSP supports real-time hardware-in-the-loop development using the graphical, block diagram Simulink environment with Xilinx SystemGenerator. IP cores for DDC, demodulation, and FFT are available.

Software tools for host development include C++ libraries and drivers for Windows and Linux. Application examples demonstrating the module features and use are provided. The X6-RX is a great choice for many applications: Wireless Receivers, WLAN, WLAN, WCDMA, WiMAX, front end, RADAR, Medical Imaging, High Speed Data Recording and Playback, and IP development.

This extremely versatile module is easily adapted for use in virtually any type of system. Our XMC carrier adapters offer conduction and convection cooling and are available for a range of interfaces including Desktop PCI, Desktop PCI Express, Cabled PCI Express, CompactPCI, and PXI/PXI Express. This module is also readily installed into Innovative Integration's eInstrument Embedded PC, SBC-ComEx Single-Board Computer, and Andale Data Loggers.

Innovative Integration is a leader in signal processing and data acquisition hardware and software. Our products combine DSPs and FPGAs with high performance analog, ready for integration into demanding real-time applications such as wireless, medical, and military. Innovative's FrameWork Logic Tools provide comprehensive support for embedding high performance signal processing into FPGAs using MATLAB and RTL. The Malibu software tools provide C++ support for Windows and Linux, providing a full-featured toolset for developers to integrate real-time, high performance signal processing and data acquisition into any application. To learn more, visit **www.innovative-dsp.com.** All product or service names mentioned herein are the trademarks of their respective owners.

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