



October 8, 2012

Analog Devices Simplifies High-Speed Data Converter-to-FPGA Interconnect Design Environment

New AD9250 dual-channel, 14-bit, 250-MSPS, A/D converter with JESD204B-compatible output connects seamlessly to high-speed FPGAs and enables precise multi-channel converter synchronization.

NORWOOD, Mass.--(BUSINESS WIRE)-- Communications infrastructure, imaging equipment, industrial instrumentation, defense electronics and other multi-channel, data-hungry systems are demanding wider resolutions and higher sampling rates from the data conversion stage. Physical layout constraints of the parallel interface and bit-rate limitations of the serial LVDS (low-voltage differential signaling) approach are beginning to present technical barriers for designers.

To address this need, [Analog Devices, Inc.](http://www.analog.com) (ADI:NASDAQ), a global leader in high-performance semiconductors for signal-processing applications and the leading provider of data-conversion technology*, today introduced the AD9250 dual-channel, 14-bit, 250 MSPS, A/D converter featuring the JEDEC JESD204B serial output data interface standard. The AD9250 A/D converter is the first-to-market with full JESD204B Subclass 1 deterministic latency at 250 MSPS. This functionality accommodates the precise synchronization of multiple data-conversion channels through a serial interface.

- Download data sheet, order samples and evaluation boards: <http://www.analog.com/AD9250>
- Learn more about ADI's JESD204 serial interface technology: www.analog.com/JESD204
- Watch the webcast "Demystifying the JESD204B High-speed Data Converter-to-FPGA Interface:" http://www.analog.com/en/content/WC_JESD204B/webcast.html

The AD9250 A/D converter's serial interface implementation provides up to 5 Gbps over a 1 or 2 lane-capable link. Two serial lanes are used to support the full 250-MSPS, dual-A/D converter data rate, or a single lane can be used to support reduced sampling rates.

High-performance FPGA suppliers, such as Xilinx Inc., have incorporated on-chip JESD204B SerDes (serializer/deserializer) ports into their latest generation products. This end-to-end seamless connectivity for the analog signal chain results in simplified PCB layout, rapid prototyping capability, and faster time-to-market.

"Xilinx is fully-committed to supporting the JEDEC JESD204B standard and is striving to accelerate adoption of the serialized interconnect technology for data converters. We are doing this by providing a high quality flexible, scalable and programmable IP to interface with high speed data converters like the AD9250," said Sunil Kar, Senior Director Wireless Business Group at Xilinx. "Xilinx currently provides JEDEC JESD204B IP for subclass 0, 1 and 2 functionality with line rates up to 10.3 Gb/s and lane widths ranging from x1 to x8 on our devices. This combination of technology advancements improves system modularization, lowers cost and complexity and will enhance the capabilities and capacities of next generation wireless and wired networks."

"This flagship product from Analog Devices signals a new, tightly integrated approach to designing the analog signal chain in FPGA-based systems," said Kevin Kattmann, Product Line Director of High-speed A/D Converters at Analog Devices. "The AD9250 dual 14-bit A/D converter delivers unmatched wideband signal processing performance while its simplified interface breaks design barriers for next-generation FPGA-based applications in software-defined radio and medical ultrasound. For many system designers, the I/O challenge in implementing the high-performance analog signal chain now has an elegant solution."

More About the AD9250 Dual-channel 14-bit, 250 MSPS, A/D Converter

The AD9250 converter's JESDB204 serial interface reduces the number of high-speed differential output data paths required from up to 28 to 2 per IC. Its Subclass 1 deterministic latency function is repeatable from power-up cycle to power-up cycle and across link re-synchronization events. Areas where this function is important are in diversity radio systems and instrumentation, multi-mode digital receiver applications such as TD-SCDMA, WCDMA, LTE (especially the 2R2T > 8R8T evolution), radar/defense electronics, medical imaging systems, cable infrastructure, and general-purpose software radios.

AD9250 Dual-channel 14-bit/ 250 MSPS A/D Converter Key Features and Performance

- JESD204B coded serial digital output with Subclass 1 deterministic latency
- SNR = 70.6 dBFS at 185 MHz A_{IN} and 250 MSPS
- SFDR = 88 dBc at 185 MHz A_{IN} and 250 MSPS
- IF sampling frequencies of up to 400 MHz
- 95 dB channel isolation/crosstalk
- Low power and small package size

Evaluation Kits

The AD9250-250EBZ (250 MSPS), AD9250-170EBZ (170 MSPS), and AD6673-250EBZ DUT boards, and companion HSC-ADC-EVALDZ high-speed data capture card, comprise a signal performance-optimized complete evaluation system for the AD9250. The captured data can be analyzed using a laptop computer and ADI's free VisualAnalog™ software. For compatibility with FPGA development platforms, the CVT-ADC-FMC-INTPZB FMC interposer connector for the DUT boards is available.

Availability, Pricing and Complementary Components

The AD9250 dual-channel 14-bit 250-MSPS A/D converter works well with other Analog Devices components, including the AD8138, ADA4937, and ADA4938-2 drivers for baseband differential analog input configurations, and the AD9516-3 clock distribution IC with ADCLK905 low-jitter clock buffer.

A 170 MSPS pin-compatible version (AD9250-170) is available, as well as the AD6673, an 11-bit, 250 MSPS, pin-compatible version.

Product	Sample Availability	Production delivery	Price	Packaging
AD9250-250	Now	Stock	\$131.57 (1 k qty)	48-lead LFCSP
AD9250-170	Now	Stock	\$72.49 (1 k qty)	48-lead LFCSP
AD6673-250	Now	Stock	\$74.80 (1 k qty.)	48-lead LFCSP
AD9250-250EBZ	-	Stock	\$350.00	-
AD9250-170EBZ	-	Stock	\$300.00	-
AD6673-250EBZ	-	Stock	\$300.00	-
HSC-ADC-EVALDZ	-	Stock	\$750.00	-
CVT-ADC-FMC-INTPZB	-	Stock	\$99.00	-

About Analog Devices

Innovation, performance, and excellence are the cultural pillars on which Analog Devices has built one of the longest standing, highest growth companies within the technology sector. Acknowledged industry-wide as the world leader in data conversion and signal conditioning technology, Analog Devices serves over 60,000 customers, representing virtually all types of electronic equipment. Analog Devices is headquartered in Norwood, Massachusetts, with design and manufacturing facilities throughout the world. Analog Devices is included in the S&P 500 Index.

* [Analog Devices, Inc.](#) leads the worldwide data converter market with a 48 percent share, according to industry analyst firm [Databeans, Inc.](#) in its market research report titled "2011 Data Converters." Analog Devices' 48 percent share is larger than the combined market share of the nearest eight competitors.

Visit ADI's Solutions for Xilinx FPGA's page: <http://www.analog.com/Xilinx>

Get support at ADI's EngineerZone™ online technical support community:
http://ez.analog.com/community/data_converters/high-speed_adcs

Follow ADI on Twitter at http://www.twitter.com/ADI_News

To subscribe to *Analog Dialogue*, ADI's monthly technical journal, visit: <http://www.analog.com/library/analogDialogue/>

Photos/Multimedia Gallery Available: <http://www.businesswire.com/cgi-bin/mmg.cgi?eid=50431438&lang=en>

Analog Devices, Inc.
Jim Surber, 336-605-4365
jim.surber@analog.com

or

Porter Novelli
Andrew MacLellan, 617-897-8270
andrew.maclellan@porternovelli.com

Source: Analog Devices, Inc.

News Provided by Acquire Media