

Analog Devices Advances RF and Microwave Designs from Bits to Antenna and Back at IMS2012

At this year's IEEE MTT-S International Microwave Symposium (IMS2012) held June 17-22 in Montreal, Canada, [Analog Devices, Inc](#) [1]. (ADI), will present the newest members of its portfolio of RF ICs designed to advance radio architectures in a broad array of applications. At [Booth #1725](#) [2], Analog Devices will demonstrate a complete line-up of high-performance RF ICs, including data converters, amplifiers, phase-locked loops (PLLs) direct digital synthesis (DDS) ICs, integrated RF ICs, microwave technology as well as a new Software Defined Radio (SDR) FPGA mezzanine card (FMC) that allow engineers to quickly combine high-speed analog and high-performance digital circuitry.

“With a product portfolio of over 1,000 high performance RF ICs, that is complemented by the world’s leading data converters, Analog Devices is the only single source supplier to cover the entire signal chain from bits to antenna and back,” said Peter Real, vice president, Linear and RF Group, Analog Devices. “From functional blocks to highly-integrated solutions, our RF devices address the cost, functionality, performance and reliability requirements of an ever-widening range of applications and enable system designers to improve the conversion, conditioning and processing of real-world phenomena.”

The product demonstrations in Analog Devices Booth #1725 include a variety of new RF solutions that debut at IMS2012:

- The [ADF4159](#) [3] is the industry’s highest performance 13 GHz PLL synthesizer. The [ADF4159 PLL synthesizer](#) [3] achieves breakthrough phase detector operating frequency of 110 MHz and simultaneously consumes less than 100 mW of power, which is 5 times less than competitive solutions. In addition, the ADF4159 contains a 25-bit fixed modulus as well as on-chip functionality to generate highly linear ramp profiles, making it an ideal solution for Frequency Modulated Continuous Wave (FMCW) radar applications, including automotive radar systems, microwave Point-to-Point (PtP) systems, communications instrumentation and test equipment.
- The [AD9914](#) [4] and [AD9915 DDS ICs](#) [5] are the industry’s fastest 12-bit, direct digital synthesizers for frequency-agile wireless applications. The AD9914 achieves a speed of 3.5 giga samples per second (GSPS), while the [AD9915](#) [5] runs to 2.5 GSPS. Both device cores support advanced digital programmable technology capable of synthesizing frequency-agile, analog output sinusoidal waveforms at up to 1.4 GHz.
- ADI’s new [AD9128](#) [6], dual 16-bit, 1.25 GSPS, high-performance digital-to-analog converter features a JESD204A-compatible high-speed serial input. This 4-lane,

3.125 Gbps, interface greatly simplifies and improves the data connection between the DAC and the FPGA. The AD9128 supports multicarrier generation up to the Nyquist frequency and delivers single-carrier W-CDMA ACLR = 83 dBc @ 122.88 MHz IF, FDAC = 983.04 MSPS.

- The new Software Defined Radio FMC board, the [FMCOMMS1-EBZ](#), [7] provides an analog front-end, which can be quickly configured to operate with a variety of compute-intensive FPGA-based applications. When used in conjunction with the Xilinx Zynq® Software-Defined Radio Kit, the FMCOMMS1-EBZ board from Analog Devices enables a variety of wireless communications functions at the physical layer from baseband to RF.

In addition to these products introduced today, Analog Devices will conduct demonstrations of the [ADL5324](#) [8] ½ watt driver amplifier with dynamically adjustable bias and extended temperature range; [I/Q RF modulators](#) [9] which achieve breakthrough levels of integration and reduction in board space; [JESD204B](#) [10]-compliant high-speed serial interface technology as integrated in a wideband dual A/D converter core; [AD9739](#) [11] RF digital-to-analog converter and more.

At IMS2012, Analog Devices also conducts a variety of presentations at the show including DDS ICs, PLL synthesizers, RF modulators; analog-to-digital converters; and general discussion on RF IC technology. For updated information on ADI's presence at IMS2012 including photos and videos from the show floor, please visit www.analog.com/ims2012 [2].

RF IC Portfolio Covers Entire RF Signal Chain

Using a unique combination of design skills, systems understanding and process technologies, Analog Devices RF ICs and world-leading data converters cover the entire RF signal chain and include industry-leading high-performance discrete RF function blocks as well as highly-integrated multi-functional single-chip RF solutions. These products are also supported by a wide range of free design tools, evaluation boards and other design resources to ease the development of RF systems. For more information, visit: <http://www.analog.com/rf> [12] or get support for RF design on [EngineerZone™](#) [13], ADI's online technical support community.

www.analog.com [1]

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