Octal 14-Bit, 125Msps µModule ADCs Achieve High AC Performance with only 140mW per Channel

MILPITAS, CA – May 4, 2011 – Linear Technology Corporation announces a family of low power 14-bit, 80Msps, 105Msps and 125Msps octal µModule® ADCs that provide excellent AC performance and low power in a small form factor. The LTM9011-14 is an octal 14-bit, 125Msps ADC with 73.1dB signal to noise ratio (SNR) and 88dB spurious free dynamic range (SFDR) at baseband. Power dissipation is only 140mW per channel. The 80Msps LTM9009-14 and 105Msps LTM9010-14 consume 94mW per channel and 113mW per channel, respectively. Operating from 1.8V analog and digital supplies, the LTM9011 family includes a sleep mode that reduces power dissipation to just 2mW. Whether operating at full speed or in sleep mode, this ADC significantly lowers the power budget for high speed multichannel designs such as multiple-input multiple-output (MIMO) WiMAX/LTE, remote radio heads (RRH), military anti-jamming devices, radar, medical imaging and ultrasound applications.

Data is output from the LTM9011 in serial LVDS format to minimize the number of data lines. At 125Msps, each channel outputs two bits at a time, using two lanes per ADC. At sample rates below 62Msps, a one bit per channel option is available. The LTM9011 offers serial data communication and eight simultaneous sampling ADCs in a low profile 140-pin 11.25mm x 9mm BGA uModule package. In addition, the device integrates bypass capacitance and provides a

flow-through pinout, reducing the required board area for routing data I/O lines and simplifying layout.

The LTM9011 includes an SPI-compatible interface that enables users to choose between a variety of data settings that reduce digital feedback and simplify design. Options include a data output randomizer that reduces digital feedback, seven programmable LVDS output current levels, internal 100Ohm LVDS output termination resistors, and digital output test patterns. These settings can be programmed via SPI or hard-wired for a reduced set of operating modes.

The LTM9011 is the first in a family of pin-compatible octal ADCs, offering 14-bit and 12-bit resolution from 25Msps to 125Msps. Pricing starts at $191.45 for the 14-bit 125 Msps devices. All devices are supported with demonstration boards and free software for quick device evaluation, available online at www.linear.com and www.linear.com/designtools/software. For more information, visit www.linear.com/product/LTM9011

Photo Caption: 14-Bit 125Msps Octal µModule® ADC with Small Footprint

Summary of Features: LTM9011

- Octal Simultaneous Sampling ADCs
- 73.1dB SNR (14-Bit Resolution)
- 88dB SFDR
- Low Power: 1.12W (140mW per channel) at 125Msps
- Single 1.8V Analog & Digital Supplies
- Serial LVDS Outputs
- Selectable Input Ranges: $1V_{P-P}$ to $2V_{P-P}$
- 800MHz Full-Power Bandwidth S/H
- Optional Data Output Randomizer
- Optional Clock Duty Cycle Stabilizer
- 2mW Sleep & 170mW Nap Modes
- Serial SPI Port for Configuration
- 140-Pin 11.25mm x 9mm BGA uModule® Package

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, and µModule® subsystems.

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