

ICs Reduce Board Space in Wireless Communications Equipment



Analog Devices, Inc. today introduced 12-bit and 10-bit mixed-signal front-ends (MxFE) that reduce power and board space for developers of wireless infrastructure and portable radio equipment. The 12-bit AD9963 and 10-bit AD9961 MxFE use 40 percent less power and 25 percent less printed-circuit board area than competing devices without sacrificing performance. These MxFE are especially effective for cost-sensitive wireless equipment, such as femtocell and picocell base stations that require highly integrated dual transmit-and-receive functions. For more information: visit <http://www.analog.com/pr/AD9963> and <http://www.analog.com/pr/AD9961> [1].

“For RF design engineers designing small-scale wireless communication equipment, Analog Devices’ new MxFE reduce power and component count,” said Chris Jacobs, product line director, Analog Devices. “The low-power, highly integrated transmit-and- receive paths of our new front-end ICs help customers simplify their designs to meet aggressive cost targets while still providing industry-leading data converter dynamic range.”

AD9963/1 Mixed-Signal Front End Key Features and Benefits

The 12-bit AD9963 and 10-bit AD9961 are pin-compatible, low-power MxFE that each integrate two ADC (analog-to-digital converter) channels with sample rates to 100 MSPS (mega samples per second) and two DAC (digital-to-analog converter) channels with sample rates to 170 MSPS. The new MxFE enable up to 10 dB better ACLR (adjacent-channel leakage ratio) performance than competing devices, easing design and filtering requirements while consuming less power.

ICs Reduce Board Space in Wireless Communications Equipment

Published on Electronic Component News (<http://www.ecnmag.com>)

Also integrated onto the devices are digital interfaces with flexible clocking options. These MxFEs have five auxiliary analog channels consisting of two 12-bit DACs, two 10-bit DACs and a 12-bit ADC. The ADC may be used to measure and monitor multiple points, both internal and external. The transmit path is configurable for 1x, 2x, 4x and 8x interpolation, and the receive path includes a by-passable 2x decimating low-pass filter. The AD9963 also integrates auxiliary LDO (low dropout) voltage regulators that allow the device to be powered from a single-supply and further reduce external component count.

Key features and benefits of the AD9963 and AD9961 MxFEs:

- SNR (signal-to-noise ratio) = 66.5 dB
- ACLR (adjacent-channel leakage ratio) = 72 dBc
- Power = 425 mW at maximum sample rates
- Transmit path power consumption = less than 100 mW at 170 MSPS @ 1.8 V
- Receive path power consumption = less than 350 mW at 100 MSPS @ 1.8 V
- Sleep and power-down modes
- Supports full- and half-duplex data interfaces

The highly integrated MxFEs can be coupled with ADI's ADF4602 3G multi-band transceiver, ADL5501 RMS power detector as well as RF amplifiers, such as the ADL5320, ADL5542 and ADL5601 products to create a complete femtocell radio.

More Information and Samples

For more information: <http://www.analog.com/pr/AD9963> [2]

Source URL (retrieved on 10/20/2014 - 8:35pm):

<http://www.ecnmag.com/product-releases/2010/08/ics-reduce-board-space-wireless-communications-equipment>

Links:

[1] <http://www.analog.com/pr/AD9961>

[2] <http://www.analog.com/pr/AD9963>