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Analog Devices Unveils Direct Conversion Receiver Development Platform for Radar Systems

AD-FMCOMMS6-EBZ supports key L- and S-band frequency radar bands.

NORWOOD, Mass.--(BUSINESS WIRE)-- Analog Devices, Inc. (NASDAQ: ADI) announced today an integrated direct conversion receiver development platform for radar systems where reduced size, weight and power (SWaP) implementation is critical. The new AD-FMCOMMS6-EBZ platform is a 400-MHz to 4.4-GHz receiver (1350 MHz to 1650 MHz with installed filters) supporting the key L- and S-band frequency radar bands. The platform's VITA57-compliant form factor ensures seamless connectivity to FMC (FPGA mezzanine card) platforms. The AD-FMCOMMS6-EBZ is suitable for defense, communications, and instrumentation radar systems requiring a high level of integration and performance delivered in a compact footprint. These include early warning detection, weather surveillance, and air traffic control systems.

- Learn more and order the AD-FMCOMMS6-EBZ: http://www.analog.com/AD-FMCOMMS6-EBZ
- View the user guide and download the design files: http://wiki.analog.com/resources/eval/user-guides/ad-fmcomms6-ebz/hardware
- Connect with the ADI experts in EngineerZone®, an online technical support community: http://ez.analog.com

The AD-FMCOMMS6-EBZ receiver platform integrates the AD9652 dual 16-bit A/D converter, ADL5566 high-dynamic-range RF/IF dual differential amplifier, and ADL5380 quadrature demodulator, all of which are COTS (commercial-off-the-shelf) components. A complete design support package is available for the AD-FMCOMMS6-EBZ, and includes schematics, layout files, noise analysis worksheet, FPGA HDL (hardware description language) code, and software drivers.

About the AD-FMCOMMS6-EBZ Receiver Development Platform
The AD-FMCOMMS6-EBZ utilizes an I/Q demodulator to implement a direct conversion or zero IF architecture in which just one frequency translation is required, compared to a super-heterodyne receiver that must perform several frequency translations. A single frequency translation is advantageous because it reduces receiver complexity and the number of conversion stages needed, which in turn increases performance and reduces power consumption. The architecture also avoids image rejection issues and unwanted mixing by adding an amplification stage to maintain the full-scale input to the A/D converter. In addition, the image rejection inherent to the I/Q modulation scheme removes the need for an expensive anti-aliasing filter. The on-board local oscillator and converter clock share the same reference signal to prevent smearing.

The AD-FMCOMMS6-EBZ receiver development platform incorporates a full direct-receive signal chain path and has a bandwidth of 220 MHz with a pass-band flatness of +/- 1.0 dB. The RF input range of the ADL5380 demodulator is 400 MHz to 6 GHz and is powered by a single 5-V supply. The ADL5566 4.5-GHz dual differential amplifier is optimized for IF and dc applications and provides a gain of 16 dB. The AD9652 dual 16-bit, 310-MSPS A/D converter achieves the industry's lowest noise at the highest speed; this level of performance enables target identification at a much longer range. The SNR and SFDR measured at an IF of 145 MHz are 64 dB and 78 dBc, respectively. Additional on-board functionality includes power management and clock distribution with fanout.

Pricing and Availability

Part Number	Availability	Unit Price	Package
AD-FMCOMMS6-EBZ	NOW	$650	FMC

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 100,000 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. www.analog.com.

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