Avago Technologies Announces Wireless Solutions for 3G/4G Small Cell Base Stations and Portable GPS Systems

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High-Gain and High-Linearity Power Amplifiers, Ultra-Low-Noise Amplifiers, and a Combo GPS Filter-LNA Improve System Performance and Simplify System Design

Live Demonstrations of Power Amplifier and Filter/LNA Products Will Take Place at the Avago Booth #1909 at the IMS2012 Conference in Montreal, Canada

SAN JOSE, Calif., and SINGAPORE, June 19, 2012 (GLOBE NEWSWIRE) -- Avago Technologies (Nasdaq:AVGO), a leading supplier of wireless components for cellular base stations, macrocells, other communications subsystems, and GPS/GLOSNASS positioning systems, today announced the availability of multiple new wireless products targeted at macrocell and small cell base stations and portable GPS systems.

"Driven by the unrelenting demand for connectivity everywhere and the huge growth in cellular traffic, picocells and femtocells are helping to offload the macrocells in a heterogeneous network of macrocells and small cells," explains Allen Chien, Product Manager for Wireless Products. "Leveraging our industry-leading products and technology for mobile phones and base stations, Avago is delivering new products that deliver high performance and simplify system design by integrating functions previously implemented external to the chips. And that, in turn, saves board space and power."

Power amplifiers in the MGA-43x28 series provide final stage gain for Picocell and Enterprise Femtocell systems, offering 34 to 40 dB of gain and power-added efficiency ranging from a high of 15% to 13.8%. The power amplifiers are implemented as a three-stage design and display performance of excellent linearity of 50 dBc adjacent-channel leakage ratio (ACLR) at 27.3 dBm output power when biased with a 5-V supply.

The first three amplifiers in the family, MGA43428, 43528, and 43628, are each targeted at a different frequency band— 3GPP bands 5, 2/25, and 1, respectively. All are fabricated using an Avago 0.25-µm GaAs Enhancement mode pHEMT process and also include a detector block integrated on the chip. The amplifiers are packaged in a 5mm x 5mm package that has a footprint 50% smaller than comparable devices.

The MGA-16x16 series of balanced ultra-low-noise amplifiers include integrated active biasing and a shutdown functionality. They are ideal solutions for cellular infrastructure applications such as base station transceiver cards, remote radio heads, tower-mounted amplifiers and base station combiners. The balanced LNAs deliver superior return-loss characteristics (S11, 18 dB minimum), thus improving signal quality. Offering a noise figure as low as 0.25 dB at 900 MHz, the first three members in the family, the MGA-16116, 16216, and 16316 are targeted for the 450 to 1450 MHz, the 1440 to 2350 MHz, and the 1950 to 2700 MHz frequency bands, respectively.

Building on an Avago history of noise figure and linearity leadership in LNAs for mobile base stations, the amplifiers have excellent gain of 18.5 dB and deliver 2X the linearity of competing devices at 19.1 dB at 900 MHz. A DC voltage applied to a control pin will shut down the amplifier and bypass it when the system already has sufficient signal strength, thus preventing over-amplification and signal distortion.

Also released this week is a filter-LNA module designed to simplify portable navigation systems and embedded GPS/GNSS systems in tablets and cell phones. The AGPS-F001 pairs a patented Avago FBAR filter with a low-noise GaAs E-pHEMT amplifier in a single package, and continues Avago leadership of integrated LNA/filter solutions for GPS applications. The combination gives exceptional rejection across the Cell/DCS/PCS/WLAN bands, ranging from 43 dBc to 53 dBc depending on the frequency band of the signal, and linearity is 10 dBm higher in OOB IIP3 versus competing solutions.

The AGPS-F001 has a typical noise figure of 1.7 dB, and the noise-figure distribution is tightly controlled to ensure consistent performance from unit to unit. A CMOS compatible shutdown pin allows the AGPS-F001 to shut down and reduce its current draw to less than 1 µA; during normal operation the filter/amplifier draws 5.5 mA from a 2.7-V supply and provides a gain of 16.5 dB at a frequency of 1.575 GHz.

All the amplifiers and filter/amplifier are housed in small leadless packages – the MGA16x16 series in 4-by-4-by-0.85-mm 16-contact QFN packages, the MGA43x28 series in 5-by-5-by-1-mm 28-contact QFN packages, and the AGPS-F001 in a 2.3-by-1.7-by-0.9 mm 6-contact QFN package. Samples of all devices will be available in June, with production quantities available in the fourth quarter of 2012.

Live demonstrations of the power amplifier and filter/LNA products will take place at the Avago booth #1909 at the IMS2012 conference in Montreal, Canada. Many other previously released wireless products – gain blocks, LNAs, EpHEMT amplifiers, FBAR filters, WaferCap wafer scale packages, and integrated modules -- will also be displayed at the booth. For additional information on these and other Avago wireless products, go to www.avagotech.com/rf.

About Avago Technologies

Avago Technologies is a leading supplier of analog interface components for wireless, wireline, and industrial applications. By leveraging its core competencies in III-V compound and silicon semiconductor design and processing, the company provides an extensive range of analog, mixed signal and optoelectronics components and subsystems to approximately 40,000 end customers. Backed by strong customer service support, the company's products serve four diverse end markets: wireless communications, wired infrastructure, industrial and automotive electronics. Avago has a global employee presence and heritage of technical innovation dating back 50 years to its Hewlett-Packard roots. Information about Avago is available on the Web at www.avagotech.com.

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