Avago Technologies Readies Next Generation Low Noise Amplifier Series for Cellular and LTE Base Stations

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Low Noise, High Linearity and Current Programmability

SAN JOSE, Calif. & SINGAPORE, May 24, 2010 (BUSINESS WIRE) --Avago Technologies (Nasdaq: AVGO), a leading supplier of analog interface components for communications, industrial and consumer applications, today announced the development of two next generation, low noise amplifiers (LNAs) for base station (BTS) RF front-end design. With the addition of these 1500 MHz to 2300 MHz and 2300 MHz to 4000 MHz LNAs, Avago will complete its next generation LNA series that covers all cellular bands for GSM, CDMA, UMTS, and WiMAX, as well as next generation LTE bands.

The two new LNAs target cellular infrastructure base station applications, such as transceiver radio cards, tower mounted amplifiers (TMAs), combiners, repeaters and remote/digital radio heads. They set new standards for low noise figure. Today the wireless infrastructure industry is challenged to provide optimum coverage with the best signal quality in crowded spectrum. Receiver sensitivity is one of the most critical requirements in a BTS receive path design. Proper LNA selection, in particular the first-stage LNA, greatly affects the BTS receiver sensitivity performance. Low noise figure is a key design goal. Avago will offer a best-in-class noise figure of 0.48 dB at 1900 MHz.

Another key design factor is linearity, which affects the receiver's ability to distinguish between closely spaced wanted and spurious signals. Third order intercept, OIP3, is used to specify linearity. At 1900 MHz and typical operating condition of 5 V/51 mA, Avago's proprietary GaAs Enhancement-mode pHEMT process technology gives a noise figure of 0.48 dB and an OIP3 of 35 dBm. At 2500 MHz and typical operating condition of 5 V/56 mA, the noise figure is 0.59 dB and OIP3 is 35 dBm. With a low NF and high OIP3, the new Avago LNAs offer more design margin for the BTS receiver path than previous amplifiers.

Adjustability and Common Pinout for Design Optimization and Flexibility

With built-in active bias circuitry, Avago's LNA operating current is adjustable. This allows designers to make tradeoffs between operating current and output linearity, as measured by OIP3, while maintaining an optimum noise figure. BTS designers will have the flexibility to meet various design needs and regional requirements with the same Avago LNA.

Since more communication channels must now fit into a transmit/receive card, PCB real estate has become another key design challenge for BTS designers. Avago chose a QFN package with a small 4 mm^2 footprint to meet market needs. The two new LNAs share the same package footprint, pinout and external matching network of the existing Avago 900 MHz, MGA-633P8 LNA. A common PCB design can therefore be used for all BTS RF front-end designs that operate in different frequency bands. This reduces the number of PCB designs needed to supply BTS solutions for different bands and geographic markets.

Key High Linearity, Low Noise Amplifier Features

- 1500 MHz to 2300 MHz operation
  - Best in class NF: 0.48 dB @ 1900 MHz
  - 35 dBm OIP3
  - 17.8 dB gain
  - 21 dBm P1dB @ 1900 MHz
- 2300 MHz to 4000 MHz operation
  - Low NF: 0.59 dB @ 2500 MHz
  - 35 dBm OIP3
  - 17.5 dB gain
  - 22 dBm P1dB @ 2500 MHz
- Single 5 V power supply and low power operation
  - 51 mA typical (1500 - 2300 MHz)
  - 56 mA typical (2300 - 4000 MHz)
- Common footprint and matching network across devices
  - Simplifies PCB design and engineering
- Proprietary process: 0.25-micron, GaAs Enhancement-mode pHEMT

Packaging and Temperature Range

The two new LNAs will be offered in 2.0 x 2.0 x 0.85 mm, 8-lead, surface mount QFN packages that are RoHS compliant. All devices operate over a

very wide temperature range, -40°C to +85°C.

Availability

The two new LNAs will be available in Q2 2010, completing Avago's next generation series of high linearity, active bias, low noise amplifiers that include the existing 900 MHz MGA-633P8.

About Avago Technologies

Avago Technologies is a leading supplier of analog interface components for communications, industrial and consumer 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, and consumer and computing peripherals. Avago has a global employee presence and heritage of technical innovation dating back 40 years to its Hewlett-Packard roots. Information about Avago is available on the Web at www.avagotech.com

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This announcement and supporting materials may contain forward-looking statements which address our expected future business and financial performance. These forward looking statements are based on current expectations, estimates, forecasts and projections of future Company or industry performance based on management's judgment, beliefs, current trends and market conditions, and involve risks and uncertainties that may cause actual results to differ materially from those contained in the forward-looking statements. Accordingly, we caution you not to place undue reliance on these statements. Avago Technologies Limited's Quarterly Report on Form 10-Q, filed with the U.S. Securities and Exchange Commission ("SEC") and other filings with the SEC (which you may obtain for free at the SEC's website at http://www.sec.gov) discuss some of the important risk factors that may affect our business, results of operations, and financial condition.

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