# Avago Technologies Extends Power Amplifier Gain Block Family with Frequency Range Optimized for Cellular Infrastructure

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**Two New Gain Blocks Deliver High Linearity and Low Power Dissipation in Industry Standard Package, Enabling a Single Design to Support Multiple Frequencies and Markets**

SAN JOSE, Calif. & SINGAPORE, Dec 14, 2010 (BUSINESS WIRE) --

Avago Technologies (Nasdaq:AVGO), a leading supplier of analog interface components for communications, industrial and consumer applications, today announced two new gain block solutions that expand its high-performance power amplifier family targeting cellular infrastructure applications. The new MGA-31589 and MGA-31689 0.5-watt gain blocks feature high linearity, high gain, superior gain flatness and low power dissipation. The MGA-31589 gain block addresses cellular and WiMAX wireless base station and other wireless systems operating between 450 to 1500 MHz, while the MGA-31689 device addresses these applications operating between 1500 to 3000 MHz.

The MGA-31x89 power amplifier family is optimized for frequency in order to deliver improved performance across all the major cellular bands -- GSM, CDMA, and UMTS -- plus next-generation LTE bands. The new gain blocks join with the 0.25-watt MGA-31189 and MGA-31289 devices and the 0.10-watt MGA-31389 and MGA-31489 devices to serve applications from 50 to 3000 MHz.

MGA-31x89 devices are all available in the compact, industry-standard SOT-89 package. Sharing a common footprint and PCB layout allows a single design to support multiple frequencies and geographic markets with a choice of output power. The gain blocks can also replace existing market solutions as a pin-to-pin, drop-in replacement offering better linearity and power performance.

The devices' high gain can reduce the total number of RF stages needed. The performance gains of the MGA-31x89 family are made possible by Avago's proprietary, 0.25 um GaAs Enhancement-mode pHEMT semiconductor process.

MGA-31589 and MGA-31689 Performance

At the typical operating condition of 5V and 146 mA, the MGA-31589 device delivers performance of 20.4 dB Gain, 45.3 dBm Output Third Order Intercept Point (OIP3), 27.2 dBm Output Power at 1 dB Gain Compression (P1dB) and 1.9 dB noise figure at 900 MHz. In addition, the MGA-31589 device delivers superior gain flatness of less than 0.2 dB across 100 MHz bandwidth.

At the typical operating condition of 5V and 168 mA, the MGA-31689 device delivers performance of 18.1 dB Gain, 44.9 dBm Output Third Order Intercept Point (OIP3), 27.6 dBm Output Power at 1 dB Gain Compression (P1dB) and 1.9 dB noise figure at 1900 MHz. The MGA-31689 device also delivers superior gain flatness of less than 0.2 dB across 100 MHz bandwidth.

Additional MGA-31589 and MGA-31689 Product Features

- Input and output pre-matched, thus only requiring a minimum amount of external RF matching components
- Excellent uniformity in product specifications to minimize yield impact
- RoHS-Compliant and MSL-1 rated SOT-89 package: lead and halogen free

U.S. Pricing and Availability

The MGA-31589 and MGA-31689 high-gain power amplifiers are priced at $2.63 each in 10,000 piece quantities. Samples, a demonstration board and production quantities are available now through the Avago direct sales channel and via worldwide distribution partners.

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 nearly 50 years to its Hewlett-Packard roots. Information about Avago is available on the Web at www.avagotech.com.

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