# Hittite to Feature 24 New Products at IMS 2012!

Hittite Microwave Corporation will feature 24 new products at the 2012 IEEE MTT-S International Microwave Symposium (IMS 2012) and Exhibition held at the Palais des Congres, Montreal, Canada, June 19-21 2012. During the exhibition, these and other Hittite Microwave products will be on display. A live product demonstration area will showcase some of the company's latest products in our 20' x 30' corporate exhibit, booth #1701.

**Live Product Demonstration Area** Hittite's booth will incorporate a live product demonstration area where engineers can interact with some of our latest products. Products to be showcased in the live product demonstration area include:

**Signal Generator Family** Hittite's powerful signal generators are designed to support the exploding market for communication and sensor equipment operating at millimeterwave frequencies. With output frequencies up to 70 GHz, these signal generators exhibit low -77 dBc/Hz phase noise, better than -46 dBc spurious output, and up to +2 dBm of output power. On display at the show will be the HMC-T2220 and HMC-T2240 Synthesized Signal Generators.

**Wideband PLL with Integrated VCO** The HMC830LP6GE is an industry leading low noise, wideband, Fractional-N Phase-Locked-Loop (PLL) with integrated Voltage Controlled Oscillator (VCO) that is the ultimate choice for designers looking for a single, superior performance, multi-purpose, multi-application device that can cover a wide frequency range. Ideal for wideband multi-carrier, multi-standard cellular base stations as it can be used in up or down conversion, as a low jitter clock generator, or as a tunable reference source for spurious free performance. It is also ideal for high QAM microwave point-to-point links, software defined radios and communications test equipment. HMC830LP6GE is capable of generating continuous frequencies from 25 MHz to 8400 MHz and features a synthesizer Figure of Merit of -230 and -227 dBc/Hz in integer and fractional modes, respectively. Double sideband RMS jitter is less than 180 fs and the noise floor is -170 dBc/Hz in fundamental mode at 2 GHz.

**Wideband Transceiver** Hittite's high performance 3 GHz Direct Conversion

Receiver, EKIT01-HMC6383, combines new wideband components and techniques to achieve excellent system level performance: 700 to 3000 MHz RF Input, Programmable IF Bandwidth of 7 to 100 MHz and programmable accuracy of +/- 2.5%.

**High Speed Multi-GHz Quantizer** The HMC9000, a High Speed, Multi-GHz Quantizer Analog-to-Digital Converter (ADC) which provides up to 12-bit resolution to 500 MSPS. The HMC9000 provides excellent performance for microwave frequencies, including the industry's best ultra high frequency wideband performance utilizing Hittite's track & hold amplifiers and ADCs. HMC9000 also offers a robust and optimized PCB design and layout which includes a path to improve performance through integration, either MCM or monolithic. Hittite's data converters offer lowest power consumption for best Signal-to-Noise Ratio (SNR).

**RFIC Dual Channel Downconverter** The HMC990LP4E is a high linearity, dual channel downconverting mixer optimized for multi-standard diversity receiver applications that require low power consumption. The HMC990LP4E features new wideband limiting LO amplifiers to achieve an unprecedented RF bandwidth of 700 MHz to 3500 MHz. Unlike conventional narrow-band downconverter RFICs, the HMC990LP4E supports both high-side and low-side LO rejection over the entire RF frequency band. The RF and LO input ports are internally matched to 50 ?.

The HMC990LP4E integrates LO and IF amplifiers with enable functions, LO and RF baluns and high linearity passive mixer cores with the industry's most compact RoHS complaint 4 x 4 mm2 leadless QFN package. The balanced passive mixer combined with high-linearity IF amplifier architecture provides excellent LO-to-RF, LO-to-IF, and RF-to-IF isolations. The HMC990LP4E provides a very low noise figure of 9 dB, and high IIP3 of +25.6 dBm allowing the device to be used in demanding wideband applications. The mixer's input IP3 can be further improved by external matching for narrow-band applications. The HMC990LP4E consumes less than 1.5 W of power, and also features a very fast enable control interface which is ideal for power saving in TDD applications.

**Additional Newly Released Products from Hittite Include:**

**Clocks and Timing** Hittite Microwave has developed a unique line of high performance clock distribution and clock generation products that enable the system designer maximize the performance from data converters. The HMC1032LP6GE and the HMC1034LP6GE are SMT packaged clock generators, which are ideal for a wide range of high performance cellular/4G infrastructure, fiber optic and networking applications, and deliver best-in-class jitter and industry-leading phase noise floor.

**Optical Modulator Driver** The HMC5850BG is a driver amplifier designed for 40 Gbps and 100 Gbps Mach-Zehnder optical modulator driver applications. Features such as high gain across a wide frequency range, low power dissipation, very compact size, integrated peak detector function, fast rise/fall time, and integrated bias-T inductor make the HMC5850BG a best-in-class product.

The HMC5850BG provides 8 Vp-p saturated output swing and features output swing crosspoint adjustment. There are only 4 DC control signals required to tune the crossing and output RF amplitude. The integrated bias-tee eliminates the need for an external high frequency coil, simplifies the PCB design and lowers the BOM cost.

HMC5850BG operates over a wide +5V to +7V (Vdd) supply range, and the RF I/Os are internally matched to 50 Ohms. The HMC5850BG provides long haul designers with scalable power dissipation for varying output drive requirements, (1.4 W at Vout = 8 Vp-p and 0.8 W at Vout = 6 Vp-p). The integrated peak detector enables the output swing (Vp-p) stability of Lithium Niobate (LiNOb3) modulator for calibration and field monitoring as a part of the MZ modulator bias loop.
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**Posted by Janine E. Mooney, Editor**

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