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Welcome to our May edition of Braemac Product News.

Braemac is pleased to announce the official distribution of Hittite product throughout Australia and New Zealand.

Hittite is known for its High Performance Analog & Mixed Signal ICs, Modules & Subsystems.



Founded in 1985, Hittite Microwave Corporation designs and develops high performance [integrated circuits \(ICs\), modules and subsystems](#) for technically demanding radio frequency (RF), microwave and millimeterwave applications covering the [frequency range of DC to 110 GHz](#).

Hittite have developed a deep knowledge of analog, digital and mixed-signal semiconductor technology, from the device level to the design and assembly of complete subsystems.

Hittite's Radio Frequency Integrated Circuit (RFIC) and Monolithic Microwave Integrated Circuit (MMIC) products are developed using Gallium Arsenide (GaAs) and Silicon based semiconductor processes. These state-of-the-art GaAs, GaN, InGaP/GaAs, InP, SOI, SiGe, CMOS and BiCMOS semiconductor processes utilize MESFET, pHEMT, mHEMT and HBT devices. Hittite are a fabless company and develop their own IP that is used throughout their IC products which are fabricated at outside wafer foundries.

We believe that the combination of our proprietary circuit design, semiconductor device modeling expertise and our broad in-house engineering, assembly and test capabilities provides Hittite with a competitive advantage and enables them to deliver high performance, high value products to customers. Hittite's business is characterized by the breadth and diversity of product offerings, customer base, eight end markets and numerous applications. The product portfolio currently includes more than 480 standard products and many more custom products, including:

Power Amplifiers	Attenuators	Mixers	VCOs
Gain Blocks	Phase Shifters	Converters	Freq. Dividers
Driver Amplifiers	Switches	IRMs	Freq. Detectors
LNAs	Transceivers	Modulators	Freq. Multipliers
Wideband Amps	Power Detectors	Sensors	PLOs / PLLs
Track-and-Hold Amplifiers	Synthesizers		

The industry leading performance of Hittite's IC, Module and Subsystem products has opened up new opportunities for customers. Each year Hittite breaks through new technology barriers, and then applies the technology to produce millions of integrated circuits.

Hittite's custom and standard products support a wide range of wireless and wired communications applications including:

	Automotive Telematics & Sensors		Microwave & mmWave Communications Pt to Pt / Multi-Pt Radios & VSAT
	Broadband CATV, DBS, WiMAX, WLAN, Fixed Wireless & UWB		Military C3I, ECM & EW
	Cellular / PCS / 3G Infrastructure & Mobile		Space Payload Electronics
	Fiber Optic OC-48 to OC-192		Test & Measurement Commercial / Industrial Sensors & Test Equipment

For further information, product data sheets and pricing, please contact your local Braemac sales representative.

To find out more visit: <http://www.hitite.com>

Atmel Introduces the World's Lowest Power 32-bit Flash MCU with Ethernet and USB On-the-Go

AVR32 UC3A Delivers 80 Dhrystone MIPS and Draws Only 40 mA at 66 MHz

Atmel® Corporation (Nasdaq: ATML) announced today the industry's lowest power 32-bit Flash microcontrollers. Based on Atmel's AVR@32 UC core, the UC3A Series has 512K bytes Flash and feature an embedded 10/100 Ethernet MAC, a full-speed (12 Mbps) USB 2.0 with on-the-go (OTG) capability and an SRAM/SDRAM external bus interface. The AT32UC3A0512 and AT32UC3A1512, the first devices available, deliver 80 Dhrystone MIPS (DMIPS) at 66 MHz and consume only 40 mA at 3.3V. The power consumption, as low as 1.65 mW/DMIPS, outperforms other architectures with similar features by a ratio of up to 4X. The new MCUs target networking and PC-centric embedded applications and are especially suited for portable devices.



The AVR32 UC core uses a three-stage pipeline Harvard architecture specially designed to optimize instruction fetches from on-chip Flash memory. It is the first core in the industry to integrate single-cycle read/write SRAM with a direct interface to the CPU that bypasses the

read/write SRAM with a direct interface to the CPU that bypasses the system bus to achieve faster execution, cycle determinism and lower power consumption. The AVR32 UC core shares the same instruction set architecture (ISA) as its AVR32 AP parent, with over 220 modeless instructions available as 16-bit compact and 32-bit extended instructions. The ISA features atomic bit manipulation to control on-chip peripherals and general purpose I/Os and fixed point DSP arithmetic such as single cycle fractional saturated multiply-and-accumulate. An event handling system supports events such as prioritized interrupts, non-maskable interrupt and internal exceptions with a maximum interrupt latency of 16 clock cycles.

The AVR32 UC3A Series incorporates many of the same peripherals as Atmel's ARM®-based MCUs including the peripheral DMA controller, multi-layer high speed bus architecture, 10-bit ADC, two SPIs, SSC, two-wire interface (I2C compatible), four UARTs, three general purpose timers, seven pulse width modulators and a full set of supervisory functions.

The 10/100-Mbps IEEE® 802.3-compliant Ethernet (MAC) allows designing networked embedded systems that communicate over internet protocol stacks. The USB 2.0 full speed (12Mbps) interface provides a means to communicate with today's PC architecture through various USB classes such as HID for serial data communication or Mass-Storage for larger bulked data transfers. The On-The-Go (OTG) capability of the UC3A USB peripheral gives further integration opportunity in a PC-centric environment with the support of standard USB devices such as USB Flash disk, pointing devices or printers.

The external bus interface (EBI) extends the addressable physical memory to 16M bytes. Its non-multiplexed 16-bit data bus can interface to high density external SRAM, SDRAM, ROM, Flash devices and memory-mapped devices such as LCDs or FPGAs.

UC3A Series MCUs have a six-layer high speed bus matrix that enables bus masters peripherals to concurrently access any bus slave at a maximum speed of 264M bytes per second at 66 MHz. The bus masters are the AVR32 UC core data and instruction interfaces, 15-channel peripheral DMA controller, and several high speed peripherals such as the Ethernet MAC and USB. The bus slaves are the on-chip SRAM and Flash memories, USB, the two peripheral bus bridges, and the external bus interface (EBI).

Development Tools. Atmel provides the GNU gcc C compiler, GNU gdb debugger, FreeRTOS.org real-time kernel and lwIP TCP/IP protocol stack for the UC3A Series family, free of charge. Commercial licenses from IAR® (Embedded Workbench), ExpressLogic (ThreadX®) and Micrium (uCOS/II) are also available. Atmel's AVR32 Studio and AVR JTAGICE mkII, provide the AVR32 UC with a multiplatform integrated development environment (IDE) already configured for the GNU tool chain, including support for more advanced debugging such as real-time trace. The EVK1100 evaluation kit provides Ethernet and USB interfaces, along with many other serial communications ports such as SPI, TWI and USARTS. A 20x4 character LCD and the expansion connector allow advanced product evaluation and prototyping activities.

Availability and Pricing. The AT32UC3A0512, with EBI, is available in a 144-pin QFP package and the AT32UC3A1512, without EBI, is available in a 100-pin QFP package. Braemac has hot prices on these parts.

For further information, product data sheets and pricing, please contact your local Braemac sales representative.

To find out more visit: <http://www.atmel.com/products/AVR32/>

Any rate Precision Clocks

Silicon Laboratories' any-rate precision clocks provide clock multiplication, jitter attenuation, and clock distribution in high performance timing applications requiring sub 1 ps jitter performance.



The devices accept multiple clock inputs ranging from 2 kHz to 710 MHz and generate multiple independent, synchronous clock outputs ranging from 2 kHz to 945 MHz and select frequencies to 1.4 GHz.

Microprocessor-controlled devices provide virtually any frequency translation combination across this operating range. For ease of use, pin controlled devices are preconfigured to support popular SONET/SDH, Ethernet, Fibre Channel, and HDTV frequencies. The any-rate precision clocks are based on Silicon Labs' 3rd-generation [DSPLL® technology](#), which provides any-rate frequency synthesis and 0.3 ps rms jitter performance in a highly integrated PLL solution that eliminates the need for external VCXO and loop filter components.

The DSPLL loop bandwidth is digitally programmable from 60 Hz to 8.4 kHz, providing jitter performance optimization at the application level. Devices are offered in two package options: a 6x6 mm 36-lead QFN for devices with 1 or 2 clock outputs and a 14x14 mm 100-lead TQFP for products with 5 clock outputs. Given their frequency flexibility and outstanding jitter performance, Silicon Labs any-rate precision clocks are ideal for providing clock multiplication, jitter attenuation and clock distribution in high-performance timing applications.

For further information, product data sheets and pricing, please contact your local Braemac sales representative.

To find out more visit:

http://www.silabs.com/tqwWebApp/public/web_content/products/Timing/Any_Rate_Clock/en/Si5326_documentation.htm

New super bright LED light source from OSRAM Opto Semiconductors

OSTAR® Lighting breaks the 1000 lumen barrier

With its new version of OSTAR® Lighting, OSRAM Opto Semiconductors presents its first coldwhite LED to achieve more than 1000 lumen. This means it is brighter than a 50 W halogen lamp, making it ideal for a wide range of applications in the general lighting sector. Samples of the new OSTAR® Lighting LED will be produced in the next three months. Market launch is planned for summer 2007.



NanoLux program.

For further information, product data sheets and pricing, please contact your local Braemac sales representative.

To find out more visit:

<http://catalog.osram-os.com/catalogue/catalogue.do?catGroupOid=00000000000053000010023&favOid=00000000000053000010023&act=showProductGroups>

Contact Us

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About Braemac

Braemac is Australia's largest electronic component distributor with offices throughout Australia, New Zealand, USA, Singapore, Hong Kong and the UK. Our product offer includes some of the world's most prestigious suppliers including Atmel, Altera, Hitachi (Renesas), STMicroelectronics, Cirrus Logic, Marvell and Wavecom which allows our customers to choose from a wide selection of quality, well recognised components.



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