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Welcome to our February 2009 edition of Braemac Product News

Altera Announces Stratix IV GT and Arria II GX FPGAs: Expands Industry's Broadest Integrated Transceiver Portfolio

Stratix IV GT FPGAs: Only FPGAs With Integrated 11.3-Gbps Transceivers

Arria II GX FPGAs: Optimized for Applications Requiring up to 3.75 Gbps

San Jose, Calif., February 2, 2009—Expanding its leadership position in transceiver technology, Altera Corporation (NASDAQ: ALTR) today announced two new FPGA families with integrated transceivers. The new Stratix® IV GT and Arria® II GX 40-nm FPGA families join Stratix IV GX FPGAs and HardCopy® IV GX ASICs to expand the industry's broadest portfolio of transceiver FPGA and ASIC solutions. Altera's portfolio offers transceiver speeds from 155 Mbps to 11.3 Gbps that address a wide range of applications, from cost sensitive video cameras to ultra-high-performance backhaul systems.



The Arria II GX, Stratix IV GT, and Stratix IV GX FPGAs and HardCopy IV GX ASICs utilize common transceiver technology and are supported by a common set of development tools that enable system designers to develop full system-on-chip (SoC) solutions. This portfolio delivers both FPGA solutions from 16K logic elements (LEs) to 530K LEs, and HardCopy ASIC solutions of up to 11.5 million ASIC gates.

The programmable fabric and integrated programmable transceivers provide designers with the flexibility needed to overcome unpredictable design requirements. Altera's transceiver technology provides easy-to-use signal integrity features that accelerate product development, while consuming less power than competing solutions.

"Altera's expanded portfolio of transceiver FPGAs and HardCopy ASICs address the increasing market demand for a range of transceiver solutions. Since each application requires a unique set of features at specific performance, power, and price points, Altera developed this portfolio to provide optimal solutions to address a broad range of applications," said Danny Biran, senior vice president of product and corporate marketing at Altera Corporation. "These products offer superior signal integrity, the lowest jitter specifications, and broad high-speed I/O protocol compliance, alleviating the challenges facing designers of systems requiring transceivers."

The highest performing FPGAs available, Stratix IV GT devices are also the industry's first FPGAs to include integrated transceivers operating at 11.3 Gbps. The architecture is optimized specifically for 40G and 100G applications such as communications systems, high-end test equipment, and military communications systems. Stratix IV GT FPGAs have 24 transceivers operating at 11.3 Gbps, and an additional 24 transceivers operating at 6.5 Gbps, to deliver the industry's highest bandwidth available. The Stratix IV GT devices also offer up to 530K LEs, 20.3-Mbits internal RAM and 1,288 18 x 18 multipliers. For detailed information, see www.altera.com/pr/stratixivgt.

Arria II GX devices are the lowest power 3.75 Gbps transceiver FPGAs and are cost optimized for applications using mainstream protocols such as PCI Express (PCIe) and Gigabit Ethernet (GbE). They feature up to 16 3.75-Gbps transceivers, 256K LEs, and 8.5 Mbits of internal RAM. In addition, the Arria II GX FPGAs also support targeted protocols such as CPRI for LTE and WiMAX wireless infrastructure access equipment, GPON and XAUI for wireline infrastructure access and networking equipment, and triple-speed SDI for broadcast and other video processing equipment. A collection of reference designs and design examples accelerates the development of solutions using Arria II GX FPGAs. For detailed information on these new devices, see www.altera.com/pr/arriaiigx.

The FPGAs and HardCopy ASICs in Altera's transceiver portfolio are supported by Altera's new [Quartus® II design software version 9.0](#). The design software provides a single tool suite for all FPGA and ASIC products, complemented by one IP set and a common transceiver technology. Together, this delivers the "learn it once, use it everywhere" experience that increases system designer productivity while reducing time to market and engineering expenses. Altera also provides a suite of tools to ease transceiver integration and board design, including the Pre-Emphasis and Link Estimation (PELE) tool, the power distribution network (PDN) tool, and the Early Simultaneous Switching Noise (SSN) Estimator, as well as SPICE and IBIS simulation models and a board-design guidelines document.

With the introduction of these two new FPGA families, Altera builds on the existing Stratix IV GX FPGAs and HardCopy IV GX ASICs. Stratix IV GX FPGAs are the industry's first and only available 40-nm FPGAs. HardCopy IV GX ASICs are the lowest risk ASICs with transceivers. Designers can prototype with the Stratix IV GX FPGA series and seamlessly migrate to HardCopy IV GX ASICs to achieve the lowest total cost, lowest risk and fastest time-to-market solution for their custom logic needs. For additional information, visit www.altera.com/pr/40nmdevices.

For further information [Click Here](#).

3G solutions from Wavecom have arrived at Braemac !!!

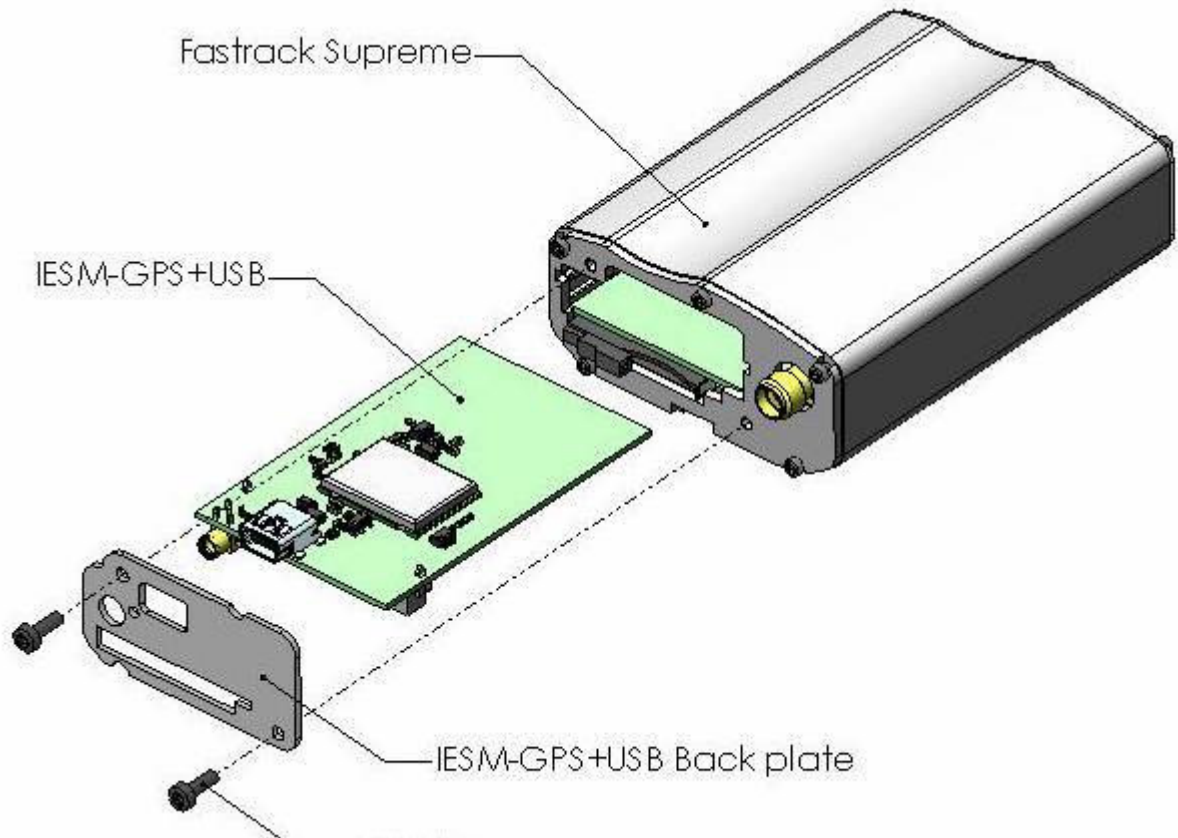
Braemac now have 3G product today.



The PCI Extreme 3G (PCIE-100).
Ready for you to plug into your application and connect to 3G:

We also have the FEX10,
which is a Fastrack
Extreme version with 3G:

And finally we have
Q26 Extreme 3G module:



We also have IESM boards that plug into Fastracks to give you rapid functionality in I/O, USB, GPS and Ethernet.

The devices we have now are:

- FSUE02_000000 (IESM IO+USB)
- FSUE03_000000 (IESM IO+USB+GPS)
- FSUE04_000000 (IESM Ethernet)
- PCIE-100
- FEX10
- Q26EXTREME

As an example application, you could have a Fastrack Supreme/Extreme and by adding the IESM GPS board inside, you get a simple yet powerful GPS tracking unit.

For further information please call your local Braemac sales representative

Atmel Targets Touch Applications with Introduction of Advanced Touch-Library

Atmel expands its QTouch product offering with a Touch-Library for AVR microcontrollers

Atmel an industry leader in capacitive touch sensing products, announced today the availability of its advanced Touch-library that resides on the microcontroller instead of a separate chip resulting in a highly cost effective solution, which will be provided at no additional cost. The library consists of precompiled and verified binary files that can be configured individually as discrete keys or can be combined at will, as groups, to form wheels and



sliders.

Atmel offers a complete development environment that now makes it easy for a user to develop a touch system based on their AVR® microcontroller. The AVR core combined with Atmel's QTouch™ technology provides the industry's most robust touch solution, particularly in demanding applications. This has multiple advantages for the designer, for example a high signal to noise ratio that improves the systems design margin, increases EMC performance and provides high ESD tolerance. In addition, designers can address applications where reliability is required, such as stove tops, wall ovens, automotive applications and where high moisture levels are present.

"Atmel has supplied fixed function and custom capacitive multitouch screen solutions to mobile handsets and other high profile, high volume applications. Through the extension of this technology to a user-driven Touch-library we are making superior touch technology available for all customers and applications," said Ingar Fredriksen, Atmel's AVR Product Marketing Director. "Requests for AVR microcontrollers with integrated touch are an increasingly important part of the UI related microcontroller business. The Touch-library targets this market, and further strengthens Atmel's position as the technology leader in touch sensor solutions," he continued.

Atmel has a broad range of AVR based microcontrollers which allows the designer to develop a combined Touch sensor/user application at the most appropriate price point very rapidly, ensuring that the best price/performance is achievable today. Atmel's 15 years of experience of design and developing touch sensor technology combined with the industry leading AVR technology allow users access to the best possible design options at the lowest overall cost of ownership.

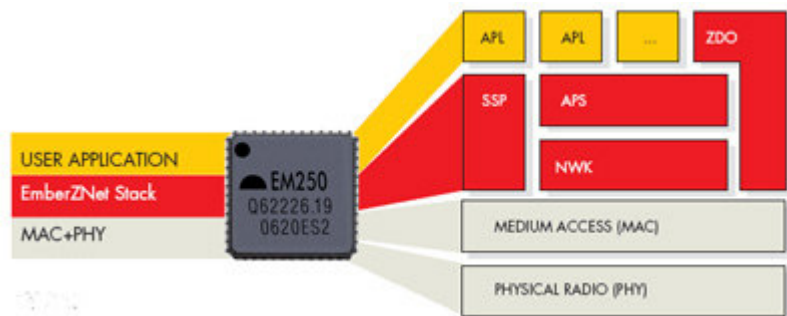
The Touch-library is available now for download at the product web page together with AVR QTouch Studio, royalty free front end software supporting the two available demonstration boards TS2080A and TS2080B, supporting ATmega88, ATtiny88, ATmega88PA, ATmega168P and ATmega328P, respectively.

For further information [Click Here.](#)

ZigBee Semiconductor Products



Braemac is proud to announce ,Ember - Zigbee products, for Australia and New Zealand. Ember's Semiconductor products enable developers to choose between the EM250, a highly-integrated and cost-optimized System-on-Chip, and the EM260, a ZigBee network co-processor that can be paired with almost any microcontroller. The EM2xx family minimizes external components and provides multiple RF connection options for easy use with or without external PAs.



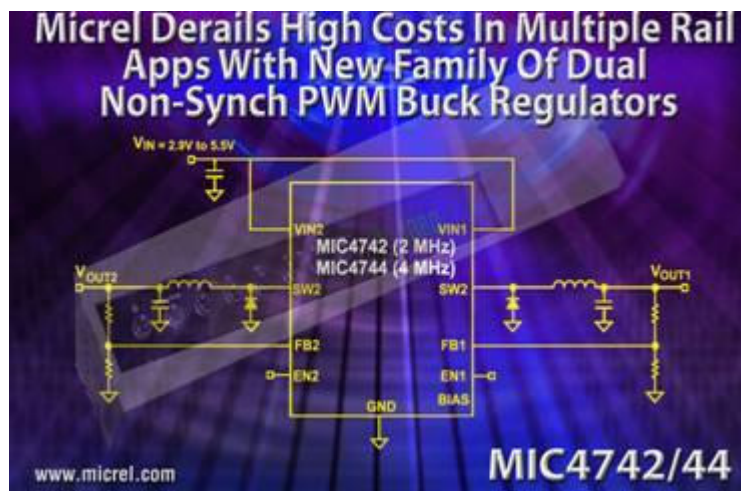
The EM250 from Ember provides a ZigBee System-on-Chip that combines a 2.4GHz IEEE 802.15.4 compliant radio transceiver with a 16-bit microprocessor. The radio provides best-in-class RF performance with excellent sensitivity and transmit power for long range, and 802.11 immunity. A flexible RF interface minimizes external components in configurations with or without external LNA/PAs. Designed specifically for use with EmberZNet, Ember's ZigBee compliant embedded mesh networking software, the EM250 is optimized for designs requiring long battery life, low external component count, and a reliable, proven,

industry-standard networking solution. Innovative on-chip debugging (Insight Port) provides developers with the most advanced views into their application and network available in the industry.

For further information [Click Here](#).

Micrel Derails High Costs In Multiple Rail Applications With New Family Of Dual Non-Synchronous PWM Buck Regulators

Micrel an industry leader in analog, high bandwidth communications and Ethernet IC solutions, today rolled out a new family of dual Non-Synchronous PWM buck regulators. Operating at 2 MHz and 4 MHz, with a maximum load current of 2Amps per channel, the [MIC4742](#) (2MHz) and [MIC4744](#) (4MHz) are the latest additions to the popular low-voltage family of small footprint, non-synchronous buck regulators. The ICs address the designer's need for a dual regulator solution for the popular 5 and 3.3V buses, as well as the need for smaller footprint and substantial cost savings. The chips target applications such as wired and wireless broadband communication equipments, printers, HD set top boxes, computing peripherals and low power FPGAs — all applications where total solution cost is a critical design consideration. The [MIC4742](#) and [MIC4744](#) are available in volume quantities.



"Overall system cost continues to be forefront in the minds of designers, particularly in multiple-rail applications," noted Andy Cowell, vice president analog marketing, Micrel. "The independently-controlled dual channel [MIC4742](#) and [MIC4744](#) allows customers to address multiple-rail step-down requirements in the most cost-effective manner. High frequency operation, combined with small footprint and low BOM cost, make the devices ideal for today's growing broadband applications."

The [MIC4742](#) and [MIC4744](#) feature ultra-fast operation and a proprietary internal compensation which allows for ultra-fast transient response. Further, the high PWM frequency of operation allows the use of the smallest and most cost-effective LC components. Each channel provides up to 2A of output current, while designers can realize more than 92 percent efficiency. The output voltage can be adjusted down to 0.6V and these devices can operate with a maximum duty cycle of 100 percent for use in low dropout conditions. Both [MIC4742](#) and [MIC4744](#) are available in the highly reliable exposed pad 16-pin 3mm x 3mm MLF® and thermally-enhanced TSSOP-16 packages.

For further information [Click Here](#).

New IHLP-6767GZ-01 Low-Profile, High-Current Inductor

Vishay Intertechnology, Inc. announces a new IHLP® low-profile, high-current inductor in the 6767 case size. As the company's largest IHLP device to date, the IHLP-6767GZ-01 offers a 17.15-mm by 17.65-mm footprint and 7.0-mm profile, with a high maximum frequency and standard inductance values from 0.22 μ H through 22 μ H.



- Packaged in an RoHS-compliant, 100 % lead (Pb)-free shielded, composite construction that reduces buzz noise to ultra-low levels

- High resistance to thermal shock, moisture, mechanical shock, and vibration

Key Device Specifications:

- 6767 case size
- 17.15-mm by 17.65-mm footprint with 7.0-mm profile
- Maximum frequency to 2 MHz
- Inductance range from 0.22 μ H to 22 μ H
- Saturation current range from 23 A up to 129 A
- Typical DCR from 0.63 m Ω to 25.1 m Ω
- Maximum DCR from 0.66 m Ω to 26.5 m Ω
- Heat rating current range from 9.0 A to 44 A
- Operating temperature range of - 55 $^{\circ}$ C to + 125 $^{\circ}$ C

The Key Applications:

- Voltage regulator module (VRM), dc-to-dc converter, and noise filtering applications in end products including next-generation mobile devices; desktop computers, servers, graphic cards, and automotive systems; low-profile, high-current power supplies and point of load (POL) converters; distributed power systems; and field-programmable gate arrays (FPGAs)

For more information [Click Here](#).

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. Visit Braemac Website



Contact Us

For further information, product data sheets and pricing, please contact your local Braemac sales representative. or email info@braemac.com.au

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