NEWS RELEASE

Atmel and u-blox Jointly Announce Compact Low-Current GPS Positioning Engine ANTARIS with Industry's Best Performance

Heilbronn, Germany, and Thalwil, Switzerland, November 13, 2002. . . Atmel® Corporation (Nasdaq: ATML), a leading supplier of advanced logic, mixed-signal, nonvolatile memory and RF semiconductors, and u-blox®, a global supplier of miniaturized electronic subsystems, announced today a jointly developed GPS solution called ANTARIS, which targets the high-volume mobile, navigation and multimedia mass markets. This includes GPS chip set, GPS receiver macro-components and software.

The GPS chip set and the macro-component TIM-LP are based on the ANTARIS positioning engine and consist of the fully integrated RF receiver IC ATR0600, the 16-channel baseband IC ATR0620 and the SiGe-manufactured Low-Noise Amplifier (LNA) ATR0610. ANTARIS is optimized for implementing GPS in cellular handsets, PDAs, wrist watches and personal locators as well as in traditional navigation systems.

"ANTARIS' low number of required external parts, the extremely low power consumption and the excellent GPS performance allow our customers to manufacture highly sophisticated next-generation end products with smaller form factors and extended battery life at competitive price levels", said Uwe Barthelmes, Atmel's Marketing Director for Communications Products.

"The new ANTARIS technology allows for a much wider penetration of the key markets in automotive devices and mobile communications", said Dr. Claus Habiger, Director of Strategic Partnerships at u-blox. "This joint development is an excellent opportunity for system makers to produce GPS-enabled products for the rapidly growing mobile, navigation and multimedia markets."

— More —

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About the ANTARIS Chip Set

Compared with solutions currently available on the market, this chip set is industry's best performing GPS product. With its 16-channel architecture and 8192 time/frequency search taps, it enables ultra-fast time-to-first-fix figures, higher sensitivity and faster position tracking. The power consumption is 100 mW at 1 position fix per second, allowing extended operating time. The internal Autonomous Power Manager (APM) controls the functional blocks of the receiver and powers down the parts of the receiver, which are not in use. Hence, the power consumption can be even further reduced without compromising on GPS performance. Further benefits are its excellent RF jamming immunity and the high integration that allows minimum board area (less than 400 square mm).

About the ANTARIS Receiver Macro-Component

The TIM-LP series component follows the successful concept of earlier u-blox TIM macro-component GPS receivers, delivering a fully engineered and ready to apply GPS receiver. This macro-component module can be surface mounted to printed circuits boards with automatic assembly equipment, keeping manufacturing cost to the very minimum. It contains a flash memory that allows application specific code to be run in parallel with the embedded GPS firmware.

The TIM-LP module is mechanically and electrically compatible with earlier TIM series GPS receivers, so system makers can easily and safely upgrade their GPS solutions.

About the ANTARIS Software

The ANTARIS GPS software offers various navigational platforms, to enable system makers to optimize the navigation performance and receiver sensitivity for specific applications. A real-time operating system guarantees stable operation and supports easy access to hardware functions through an Application Link Layer (ALL). The ALL architecture offers an API (Application Programming Interface), which makes custom code integration fast and easy.

There is an available software customization kit, that supports incorporation of user-defined custom functionality or interfacing with the GPS receiver. This kit includes a development board, code examples and templates which enable software developers to rapidly create application-specific code. The on-board ARM®7 processor is programmed using C and the well-known ARM Developer's Suite (ADS). An evaluation copy of the ADS is also included in the package. The development environment allows run-time debugging (using JTAG interfaces and multi ICE) for efficient development work.

Availability

Samples of the GPS chip set (receiver IC ATR0600 in 28 MLF package measuring only 5 x 5 mm; baseband IC ATR0620 in a 9 x 9 mm 100-pin BGA package; and LNA IC ATR0610 in a very small 1.6

mm x 2.0 mm PLLP6 package) and the GPS macro-component module in a 25 x 25 mm package are available now. High-volume production will start in Q1/2003. Various support packages comprising extensive documentation, software tools (e.g. a ready-to-go evaluation kit for the ANTARIS TIM-LP) and a highly sophisticated low-power reference design are also available.

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About Atmel

Founded in 1984, Atmel Corporation is headquartered in San Jose, California with manufacturing facilities in North America and Europe. Atmel designs, manufactures and markets worldwide, advanced logic, mixed-signal, nonvolatile memory and RF semiconductors. Atmel is also a leading provider of system-level integration semiconductor solutions using CMOS, BiCMOS, SiGe, and high-voltage BCDMOS process technologies.

About u-blox

u-blox AG is one of the world's leading suppliers of miniaturized GPS receivers, macro-components and software, founded in 1997. The company, which has its headquarters in Thalwil/Switzerland and subsidiaries in Germany, Great Britain, the USA and Hong Kong, develops and markets state-of-the-art positioning technology for automotive and telecommunications markets.

Information

Atmel's GPS ICs ATR0600, ATR0620 and ATR0610 information may be retrieved at:http://www.atmel.com/atmel/products/prod569.htm, u-blox' GPS TIM-LP receiver macro-component information may be retrieved at:http://www.u-blox.com/products/index.html

Requests may be sent via e-mail to literature@atmel.com/ info@u-blox.com or by visiting Atmel's/ u-blox' website at www.atmel.com./ www.u-blox.com

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