

News Highlights – January 2007:

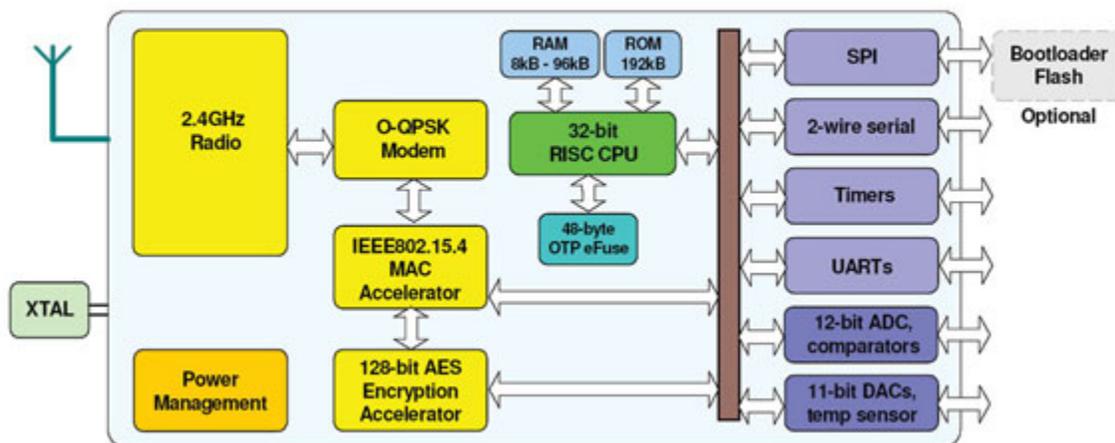
[JENNIC Launches JN513x Family Second Generation ZigBee Wireless Microcontrollers](#)
[BLUEGIGA Releases New Firmware for its Bluetooth 1.2 and 2.0+EDR Modules](#)
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Jennic Launches JN513x Family Second Generation ZigBee Wireless Microcontrollers

Second generation products achieve new industry performance and price points for IEEE802.15.4 and ZigBee wireless technology

Jennic, available from [GLYN High-Tech Distribution](#) has announced the commercial launch of its second generation wireless microcontrollers, the JN513x family, which realize a sub US\$3 price target in 100k+ units. In addition to achieving this new price threshold the devices provide performance, price and power improvements over the current JN5121 family. Coupled with the release of the wireless microcontroller family is a range of modules, evaluation kits, software and protocol stacks.

JN513x Block Diagram



The new product family is introduced as part of Jennic's ongoing wireless microcontroller strategy. Jim Lindop, CEO of Jennic commented, "With our first generation products in volume production, Jennic is now demonstrating its ability to execute against an aggressive roadmap which yields continual improvements to radio, power consumption and processor performance. In addition, we are meeting the low price requirements for mass market acceptance of wireless microcontrollers."

The JN513x family second generation wireless microcontrollers realizes a number of improvements over the existing solution:

- Extended range is achieved with a new modem architecture that provides 97dB receive sensitivity, and is more robust in noisier environments with greater tolerance to carrier offset

and EVM. Transmit power is also improved to +3dbm. The JN513x family is the only single-chip wireless microcontroller with a 100dB link budget and specified over the full industrial temperature range and wide supply voltage.

- Deep sleep current consumption is 400nA allowing products waiting for a user-event to consume virtually no power. For an active part of a wireless sensor network, with on-chip oscillator and protocol timers running, sleep current consumption is under 2 μ A. These sleep power consumption figures, in conjunction with the tight coupling of radio, protocol hardware and software on a single-chip wireless microcontroller set a new industry benchmark for wireless sensor applications requiring extremely long battery life.
- The memory available has been increased to 192k ROM and 96k RAM allowing full exploitation of the on-chip 32-bit RISC processor for complex applications and algorithms coupled with ZigBee or other mesh protocol stacks. Variants are available with 32k, 16k or 8kB RAM for simpler, low cost applications.
- The on-chip ROM includes the world's first IEEE802.15.4 version B media access protocol layer, provision for a range of external serial EEPROM devices, over-the-air download, hardware abstraction layers and a simple serial interface. Embedding these features in ROM free up memory space for applications and allow simple dongle products at low cost. IEEE802.15.4B and ZigBee variants of the JN513x family are available.
- Each device shipped has a unique MAC address identifier allowing the saving of external FLASH devices. A further 256 bits of one-time programmable memory is available for customers to programme on-chip AES security keys and other unique identifiers.
- Package and pin-out of the JN513x remains the same as the first generation JN5121, allowing upgrade of current designs to second generation with no board changes.

A family of modules provide ceramic antenna, SMA and UFL connector options. Standard power and high power modules are also available offering link budgets of 100dB and 119dB respectively. The standard module has demonstrated operation over 1km and the high-power module over 4km in open-space environments. Modules meet FCC, ETSI and TELEC regulations, reducing the effort needed to integrate Jennic devices into end products.

A new generation of evaluation kits are available. These provide a controller and four sensor units with a range of plug-in modules, offering power and antenna options. Users will now be able to evaluate different module types to suit their application and environment, with a range of site survey tools, including a customizable packet error rate measurement routine.

Development tools and support

Developers can lower their tool investments and learning curves using a new release of Jennic's free, Integrated Developer Environment. This includes a new C compiler offering a 10 percent code density improvement.

Jennic's full range of application notes, reference designs and protocol stacks will be fully functional with this second-generation product family and are publicly available at www.jennic.com/support.

Pricing and availability

JN513x products are now available for general sampling in a 56-pin QFN RoHS-compliant package. The JN513x product family includes the JN5139 wireless microcontroller with 192k ROM, 96k RAM at \$3.50 in 100k quantities down to the JN5131 with 192k ROM, 8k RAM at \$2.95 in 100k quantities.

About Jennic

Jennic is a fabless semiconductor company leading the wireless connectivity revolution by providing wireless microcontrollers for a broad range of applications. Its expertise in systems

and software combined with world class RF and digital chip design provides low cost, highly integrated wireless microcontrollers with a focus on the IEEE802.15.4 and ZigBee standards.

The company's products include state-of-the-art low power wireless microcontrollers, modules, development platforms, protocol and application software. Headquartered in Sheffield, UK, Jennic also has offices in China, Japan, Korea, Taiwan, East and West coast USA. For more information, visit www.jennic.com.



Bluegiga Releases New Firmware for its Bluetooth 1.2 and 2.0+EDR Modules

Bluegiga releases a new audio firmware for its Bluetooth 1.2 and 2.0+EDR modules extending their suitability to totally new application areas.



[Bluegiga Technologies](#), available from [GLYN High-Tech Distribution](#), announced that its class 1 and class 2 Bluetooth 2.0 Enhanced Data Rate (EDR - supporting speed up to 3Mbps) modules now support features for audio profiles like Audio Gateway and Headset, enabling developers to utilize Bluegiga modules in parallel or separately with data connections. The firmware, version 2.2 also has support for full modem signals, enabling developers to flexibly "unwire" existing systems that are utilizing modem signals at wire-levels.

"This new iWRAP version really differentiates Bluegiga from the competing solutions in the market with its maximum integration level. Instead of developers needing to separately find or develop the firmware solution on top of the Bluetooth chipset or module, Bluegiga integrates these into one unified Firmware package. Many of our customers value the fact that our Bluegiga modules are a turnkey solution with Bluegiga as a single point of contact, meaning the OEM does not need to waste time and money for looking for answers from multiple resources", according to Bluegiga.

New iWRAP firmware starts shipping from Bluegiga Technologies during January 2007 and is immediately available for download at www.bluegiga.com/techforum/.

Full details of the new iWRAP 2.2.0 firmware can be found from www.bluegiga.com/techforum/.

About Bluegiga WT11 and WT12 OEM modules

The WT12 and WT11 modules with Bluegiga iWRAP firmware are complete Bluetooth systems that OEM's can utilize without putting any effort for extremely time consuming and expensive RF and Bluetooth certifications. WT11 and WT12 modules integrates the latest CSR's BC04 chipset and flash memory with all the needed components and antennas supporting Bluetooth 2.0 Enhanced Data rate (EDR) up to 3 Mbps speed.

About Bluegiga Technologies Inc.

Bluegiga Technologies Oy, a limited liability company, is a provider of cutting-edge Bluetooth-based wireless communication platforms. Founded in 2000 and headquartered in Finland, the European hotbed of wireless technology, Bluegiga is strategically positioned to deliver its

products globally through the extensive network of qualified distributors and value added resellers to original equipment manufacturers and system integrators. Bluegiga is the innovator of Bluetooth multi-radio access server products and its OEM module offering have seamless co-existence with other wired and wireless technologies, BluRoam™, the unique roaming technology for Bluetooth devices and iWRAP™, the easy-to-use Bluetooth control interface. Bluegiga, with its expertise in the Bluetooth technology, has been a contributing member of the Bluetooth Special Interest Group since the company inception. For more information, please visit <http://www.bluegiga.com>.

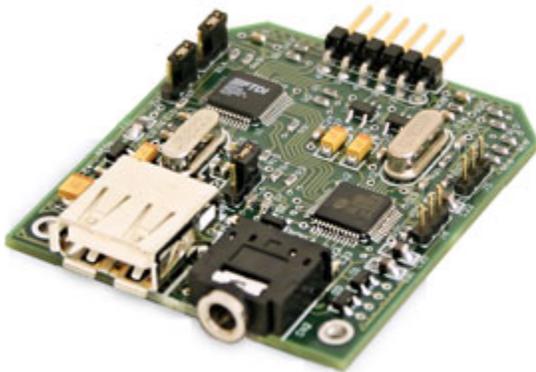
About Bluetooth Wireless Technology

Bluetooth wireless technology is the global short-range wireless standard for personal connectivity of a broad range of electronic devices. The technology is now available in its fourth version of the core specification and continues to develop, building on its inherent strengths – small-form factor radio, low power, low cost, built-in security, robustness, ease-of-use, and ad hoc networking abilities. The installed base of Bluetooth devices was over one billion products at the end of 2006, making it the only proven choice for developers, product manufacturers, and consumers worldwide.



FTDI VMUSIC1 Module Easily Adds USB Flash Drive Interface and Audio Playback to Products

[FTDI](#), available from [Glyn High-Tech Distribution](#), introduces the VMUSIC1 evaluation module for its Vinculum VNC1L family of embedded USB Host Controller devices.



The VMUSIC1 evaluation module is a product which not only lets you add USB Flash disk interfacing to your product, but also allows you to play back MP3 and other popular digital music formats directly from a USB flash disk. Extensions to the Vinculum VDIF firmware command set allow you to play a selected file, as well as control the volume, balance, etc. of the sound channel, and monitor the status of the file being played. The Vinculum VDIF firmware also allows the VNC1L-1A's I/O interface to be selected between the serial UART or SPI using on-board jumper pins.

The VMUSIC1 is ideal for adding MP3 playback from USB drive capability to home entertainment and in-car audio systems, as well as other appliances such as security or telecommunication systems requiring audio playback capability from USB Flash disks. Not only is the VMUSIC1 ideal for evaluation and development of VNC1L-1A designs, but also an attractive quantity discount structure makes this module suitable for incorporation into finished product designs.

Key VMUSIC1 features include:

- Uses FTDI's VNC1L-1A embedded USB host controller IC device combined with VLSI VS1003 IC for music playback.

- USB 'A' type socket to connect USB Flash disk.
- Stereo 3.5mm headphone jack socket for audio playback
- Audio line-out connector for audio playback
- Jumper selectable UART or SPI interfaces.
- Single 5V supply input.
- Only four signals to connect excluding power and ground.
- Power indicator and USB traffic indicator LED's.
- Uses extended Vinculum VDIF firmware and command set.
- Program or update Vinculum firmware via USB Flash disk or via UART / SPI interface.
- VNC1L-1A firmware programming control pins PROG# and RESET# brought out onto jumper interface
- VMUSIC1 is a Pb-free, RoHS complaint development module.
- Schematics, and firmware files available for download from the [Vinculum website](#)

The Vinculum VNC1L-1A is the first of FTDI's Vinculum family of Embedded SoC USB host controller integrated circuit devices. Not only is it able to handle the USB Host Interface, and data transfer functions but owing to the inbuilt MCU and embedded Flash memory, the Vinculum can encapsulate the USB device classes as well.

When interfacing to mass storage devices such as USB Flash drives, the Vinculum also transparently handles the FAT file structure communicating via UART, SPI or parallel FIFO interfaces using a simple to implement command set. The Vinculum provides a new cost effective solution for providing USB Host capability into products that previously did not have the hardware resources available.

The VNC1L-1A is available in Pb-free (RoHS compliant) compact 48-Lead LQFP package.



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