P3496S

STMicroelectronics Reveals Industry's Best Connected STM32 F0 Microcontrollers for Cost-Sensitive Applications

Crystal-less USB 2.0 and CAN interfaces augment rich connectivity, with larger memory footprint of latest STM32 ARM® Cortex™-M0 devices

Geneva, January 16, 2014 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, has extended its STM32 F0 microcontrollers based on the ARM® Cortex™-M0 core with new models that support crystal-less USB design, accurate sensing and smart power management for next-generation smart devices and connectivity products.

The new STM32F0x2 line provides a combination of features not found in other ARM Cortex-M0 devices, such as support for CAN and a full-speed USB 2.0 controller with a self-calibrated clock system that simplifies design and saves external circuitry. Other USB functionality includes support for Battery-Charger Detection, which allows battery-powered devices to optimize recharging times with better flexibility, and Link-Power Management, which enables energy saving through enhanced system control. Separate power domains for analog and digital I/Os support low-voltage operation while allowing a higher voltage dynamic range for accurate sensing on analog peripherals.

"This latest expansion of our highly efficient STM32 F0 series brings significant extra functionality and cost improvement ideally bridging the 8- and 16-bit world with the widely deployed STM32 F1 Cortex-M3 series," said Michel Buffa, General Manager, Microcontroller Division, STMicroelectronics. "Communication gateways, smart-energy devices, Internet-of-Things applications and consumer electronics such as smartphones and game terminals can now leverage the unique features of the new STM32 F0 devices to deliver greater energy efficiency, lower cost, improved accessibility and enhanced functionality."

The STM32F0x2 line provides 16 to 128 Kbytes of Flash memory in 20- to 100-pin packages in TSSOP, LQFP, UFQFPN, UFBGA, WLCSP or die form.

To help accelerate design starts with these new microcontrollers, ST is releasing dedicated development hardware including an evaluation board and a low-cost discovery kit. A full-speed USB device library is also available as a valuable aid to

development. The new product line is supported by CooCox CoIDE Free and Open ARM Cortex MCU development tools.

The STM32F0x2 is in production now, priced from $1.32 for the STM32F072C8U6 (64-Kbyte variant in UFQFPN48) in quantities of 10,000 units.

The recommended prices for the STM32F072B-DISCO discovery kit and STM32072B-EVAL evaluation board are $10.40 and $199, respectively.

Further technical information:

The 12Mbps USB 2.0 full-speed interface integrated in ST's latest STM32 ARM Cortex-M0 devices has its own 48 MHz oscillator, saving the need for an external crystal oscillator to generate the precision clock required by the USB protocol. By supporting USB 2.0 in addition to USART, I²C, I²S, HDMI CEC and ISO 7816 standard interfaces, the new STM32 F0 devices enable product developers to increase system integration, reduce costs, and break the traditional price/performance limitations imposed by older, proprietary 8- or 16-bit microcontrollers for USB device or USB- controller applications.

Ideal applications for the new microcontrollers include dongle interfaces such as USB to USART, USB to ISO 7816 in smart-card readers, USB to I²C in PC mice, USB to CAN in industrial applications, USB to I²S for audio streaming in smartphone accessories, or gaming applications using audio as the control interface.

The main supply voltage range is 2.0V to 3.6V. A portion of the device I/Os are powered independently and capable of operation down to 1.65V. These separate power domains allow direct connection to digital circuitry such as the low-voltage CMOS I/Os of an application processor without requiring a level translator, while also allowing the analog peripherals to be supplied independently up to 3.6V to maintain their full excursion for optimum accuracy.

Power consumption of the new devices is inherently low, thanks to ST's ultra-low-leakage process technology. In addition, four power-management modes are available, including USB SUSPEND mode; STOP mode, which reduces current to 5µA and has a 4.2µs wake-up time; and STANDBY mode, in which the microcontroller draws only 2.5µA.

About STMicroelectronics
ST is a global leader in the semiconductor market serving customers across the spectrum of sense and power and automotive products and embedded processing solutions. From energy management and savings to trust and data security, from healthcare and wellness to smart consumer devices, in the home, car and office, at

work and at play, ST is found everywhere microelectronics make a positive and innovative contribution to people's life. By getting more from technology to get more from life, ST stands for life.augmented.

In 2012, the Company's net revenues were $8.49 billion. Further information on ST can be found at www.st.com.

<u>For Press Information Contact:</u>

STMicroelectronics
Michael Markowitz
Director Technical Media Relations
+1 781 591 0354
michael.markowitz@st.com