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HMicro and STMicroelectronics Announce Wearable Wireless Biosensor Platform that Frees Patients from Cables

- *Industry's first single-chip solution for disposable, clinical-grade wearable patches and biosensors replaces wires for vital-sign monitors and electrocardiograms*
- *Technology platform developed by HMicro and ST also targets other high-volume clinical and industrial-IoT applications*

Fremont, CA, and Geneva, Switzerland, October 4, 2016 – HMicro, Inc., a wireless solutions developer of innovative products engineered to address the unique requirements of wireless peripherals and complex biosensor applications, and STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronic applications, have launched their cooperation to create the industry's first single-chip solution for clinical-grade, single-use disposable smart patches and biosensors. The product, HC1100, targets the 5 billion wired wearable sensors, such as those for vital-sign monitors and electrocardiogram leads, utilized annually.

The HC1100 chip is based on the WiPoint™ technology and a purpose-built silicon platform jointly created by HMicro and ST. HC1100, the first product based on WiPoint, embeds three ultra-low-power radios for Wi-Fi, Ultra-wideband, and Medical Band (MBAN), multiple sensor interfaces, an ARM® Cortex® M0 application processor, 352kB of RAM, and power-management circuits on a single chip. The dual-core ARM Cortex M0 architecture leverages ST ultra-low-power design technology and wireless-connectivity IP to ensure long worry-free operation. The multi-sensor interfaces support monitoring of heart rate, blood oxygen levels, and respiration, as well as the capability to interface to MEMS¹ microphones and motion MEMS sensors that could be used to monitor and detect patient behavior via activity recognition. The HC1100's patent-

¹ MEMS are Micro-Electro-Mechanical Systems manufactured directly into the semiconductor chip.

protected specifications meet key requirements for mission-critical products and functions that demand ultra-high reliability through a robust wireless connection suitable for high sensor-data accuracy. While meeting these uncompromising demands, the HC1100 is both cost-effective and highly optimized.

The WiPoint technology and the HC1100 employing it are the first results of the close cooperation between HMicro and ST. The Companies' next step is the deployment of this technology platform for other high-volume clinical and industrial IoT applications.

"Disrupting the current wired protocols of multi-monitor use is where we believe the IoT can be most effective in the medical and industrial settings," said Surendar Magar, CEO and co-founder of HMicro, Inc. "Creating and developing a fully optimized, unique silicon platform makes possible the conversion of high-volume sensors to the equivalent wireless, disposable sensors. We aim to seamlessly cut the body wires in current clinical settings while maintaining the same clinical procedures and monitoring equipment."

"One decade ago we started the MEMS revolution by offering ultra-low-power cost-effective micro sensors to the consumer market. Now, together with HMicro we are merging ultra-low-power wireless connectivity with a high-resolution analog front-end and the best processing portfolio based on ARM platform," said Benedetto Vigna, EVP and GM of STMicroelectronics' Analog and MEMS Group. "The HC1100 is the first product of the new wireless sensor family that can find application whenever ultra-low-power RF and highly accurate sensor interfaces are needed."

The HC1100 is already in high-volume production and is available from HMicro.

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About HMicro, Inc.

HMicro Inc. is the first mover in a new generation silicon-based wireless sensing platform and associated subsystem products for medical companies requiring highly-integrated, cost-effective modules for use in demanding medical sensing and data communication applications. HMicro delivers its solution as the WiPoint silicon, biosensor patches, and access points, which provide our customers fast time-to-market and are supported by a wide range of technical and manufacturing capabilities. Our WiPoint wireless technology provides wired-class reliability in small form factors with exceptional energy efficiency—a truly unique combination that enables our customers to develop distinctive and disruptive products. For more information, please visit www.hmicro.com.

About STMicroelectronics (NYSE: STM)

ST is a global semiconductor leader delivering intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. ST's products are found everywhere today, and together with our customers, we are enabling smarter driving and smarter factories, cities and homes, along with the next generation of mobile and Internet of Things devices.

By getting more from technology to get more from life, ST stands for life.augmented. In 2015, the Company's net revenues were \$6.90 billion, serving more than 100,000 customers worldwide. Further information can be found at www.st.com.

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