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LifeSignals Launches Life Signal™ Processor Product Family, Developed with Support of 3M and STMicroelectronics

- *A new class of wireless biosensor platform purpose-built for OEMs to create wearables for life-critical medical and healthcare monitoring applications*
- *LifeSignals worked with 3M and STMicroelectronics to develop and industrialize the LSP product family, targeting high-volume markets*

Fremont (California), Geneva (Switzerland) and St. Paul (Minnesota) – May 9, 2018

– The Life Signal Product platform, the world’s first family of semiconductor chips optimized for mobile and wearable applications in medical and health monitoring for life-critical applications, was introduced today by LifeSignals Inc. here. The product family was developed and industrialized in conjunction with STMicroelectronics (NYSE: STM) and 3M (NYSE: MMM) to meet the stringent needs of the medical market.

“The medical world is in desperate need of clinical-grade disposable and reusable wearables for a variety of markets ranging from human monitoring applications such as in-hospital patient monitoring, remote health monitoring, wellness, fitness, worker safety, and senior care, to veterinary healthcare such as pet, equine and livestock monitoring,” said Surendar Magar, LifeSignals CEO and Founder. *“We are answering that need. We believe the Life Signal Processor Product family will become a cornerstone of an emerging ‘Internet of Lives’ – serving billions and billions of bodies generating billions and billions of bits of life-changing valuable information every second of every day.”*

The LSP family currently consists of two silicon devices and developer support items:

- **LC1100 Life Signal™ Processor, a single-chip solution for disposable clinical-grade biosensor patches** – The core chip of the product family, the LC1100 enables the creation of low-cost, low-power wireless biosensor patches, smart clothing and other wearable devices that can continuously capture multi-parameter life signals with clinical accuracy. The LC1100 can communicate that resulting data to monitoring devices, smartphones, tablets and the cloud, continuously operating for days with only coin cell batteries.
- **LC5500 UWB, a companion receiver chip** – A receiver chip that is optionally used in mobile and certain fixed receiver devices. The LSP chipset’s hybrid radio

(featuring Wi-Fi, Ultra-Wideband and Medical-Band standards) was invented to deliver wire-grade connectivity across multiple parallel wireless channels when multiple subjects are being monitored wearing LSP-based biosensors.

- **Developer Support Items for OEMs** – The LSP family is supported by a full suite of hardware and software development tools, including a development board and a software development kit (SDK) for customers to design desired customized devices based on LSP. In addition, production-ready reference designs are available for multiple product types – including patches, smart clothing-based designs, receiver devices, etc. Various apps are available for iOS and Android devices.

The LSP product family was developed in collaboration with two major strategic partners. Innovation giant 3M provided key inputs and vital resources to verify the applicability of LSP technology. Semiconductor leader STMicroelectronics provided resources for silicon development, manufacturing and quality assurance for high volume production of LSP devices.

“We are excited to further apply 3M science to advance connectivity while improving patient outcomes,” said Cindy Kent, President and General Manager of 3M Infection Prevention Division.

“We have been working with LifeSignals to industrialize their innovative multi-radio architecture and bring it to market in high volumes while meeting clinical-grade requirements. The LSP is the perfect example of the benefits delivered by the complex combination of ultra-low-power wireless connectivity, highly accurate sensor interfaces, advanced analog features, and an ultra-efficient processing platform,” said Benedetto Vigna, President of Analog, MEMS and Sensors Group, STMicroelectronics.

Background for editors

The healthcare and technology industries have worked for decades to create monitoring equipment and analytical innovations that can manage the immense volume of data streaming off the last generations of medical devices – and make it useful for healthcare, wellness, and personal safety applications.

However, deployment of such technologies remains limited since bodies still must remain tethered by wires to the sensors still used by the healthcare industry. Meanwhile, customized monitoring equipment remains bulky and expensive. Ultimately, this digital/medical revolution will never fully succeed until wearable sensors become wireless and comfortable to wear, in a small, low-cost form factor, capable of matching

the clinical accuracy of current wired sensors and providing wire-grade connectivity to various receiving devices.

Ultimately, a single wearable device must be able to capture several key vital signals from the body, such as multiple profiles of heart rhythms, blood oxygen levels, respiration signals, heart sounds, temperature, motion, and others. Until now, traditional wireless and sensor technologies have been too expensive in both cost and power consumption, or not reliable enough for their mission-critical applications to realize this vision. The LSP product family changes all that.

Suggested Interviews:

Surendar Magar, President and CEO, LifeSignals

Benedetto Vigna, President of Analog, MEMS and Sensors Group, STMicroelectronics

About LifeSignals, Inc.

LifeSignals (formerly HMicro Inc.) is the Silicon Valley based creator and producer of the patented Life Signal™ Processor, a semiconductor platform designed to faithfully capture and communicate vital life signals from humans and animals to the cloud. LifeSignals is a venture capital backed, fabless semiconductor company, enabled by equity investments from Flex, Uniquist, Dreamtech, Renew Group, Seraph Capital, Xseed Capital, and Reddy Capital. Further information can be found at www.lifesignals.com.

About STMicroelectronics

STMicroelectronics is a global semiconductor leader delivering intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. STMicroelectronics' 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, STMicroelectronics stands for life augmented.

In 2017, the Company's net revenues were \$8.35 billion, serving more than 100,000 customers worldwide. Further information can be found at www.st.com

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