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Bosch launches new generation of smart sensor hubs BHI260 and BHA260 for wearables, hearables, AR/VR and other mobile devices

Combination of state-of-the-art MEMS sensors with an ultra-low power, high performance sensor coprocessor

- ▶ Enables sophisticated always-on sensor applications, while significantly reducing the system power consumption in mobile, battery-operated devices
- ▶ Updated MEMS sensors and a new, powerful MCU integrated in a single, small package, with a wide variety of interfaces to connect external devices
- ▶ Software Development Kit for full customization available, creating an open and flexible development environment for sensor applications
- ▶ Bosch to exhibit at Sensors Expo, June 27-28, McEnery Convention Center, MEMS Pavilion, Booth 542

San Jose, USA/Reutlingen, Germany – Today, at Sensors Expo in San Jose, California, Bosch Sensortec announced the BHI260 and BHA260, the first two members of a new generation of smart sensor hubs. These new devices are optimized for 24/7, always-on sensor processing and feature ultra-low power consumption.

With the help of its integrated powerful sensor coprocessor and MEMS sensors, the BHI260 and BHA260 can handle sophisticated sensor processing tasks and data buffering without waking up the main application processor, and can even run entirely standalone. Their low power consumption translates into significantly extended battery lifetimes in wearables, hearables, AR/VR devices and smartphones.

"Compared to existing hub solutions, our second-generation sensor hubs offer a significant increase in processing power, whilst further reducing power consumption," says Dr. Stefan Finkbeiner, CEO of Bosch Sensortec. "These new

sensor hubs are the ideal solution for always-on applications such as fitness tracking, step counting, indoor navigation and gesture recognition. Further members of the family will follow to further expand the already impressive feature set. This will enable manufacturers to noticeably differentiate their products to gain a decisive competitive advantage."

To cut time-to-market and reduce design effort for OEMs, Bosch Sensortec has created an open development platform for these devices. This includes a comprehensive integrated software framework in ROM, evaluation kits and a Software Development Kit (SDK).

Powerful CPU combined with precise inertial sensors

To facilitate more complex processing tasks such as automated activity recognition and context awareness, the BHI260 and BHA260 feature "Fuser2" – a 32-bit floating point CPU with 256 kB on-chip SRAM. The CPU draws merely 950 µA at 20 MHz in the super-efficient 'long run' mode, and 2.8 mA at 50 MHz in the high performance 'turbo' mode. The processor delivers up to 3.6 CoreMark/MHz.

The new Bosch sensor hub family includes state-of-the-art 16-bit MEMS sensors, a 6-axis Inertial Measurement Unit (IMU) in the BHI260 or a 3-axis accelerometer in the BHA260. They provide extensive connectivity, up to 25 GPIOs for BHI260 and up to 12 GPIOs for BHA260, and support for integration of other sensor devices, including GNSS and various localization systems.

The smart sensor hubs are compact enough to easily fit into small products such as hearables and wearables. The BHI260 comes in a 44 pad LGA package and measures just 3.6 x 4.1 x 0.83 mm³. The BHA260 is packaged in a 22 pad LGA package and measures 2.7 x 2.6 x 0.8 mm³.

Availability

The BHI260 and BHA260 will be available for high-volume applications in Q3/2018.

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Bosch Sensortec GmbH, a fully owned subsidiary of Robert Bosch GmbH, develops and markets a wide portfolio of microelectromechanical systems (MEMS) sensors and solutions tailored for smartphones, tablets, wearable devices and IoT (Internet of Things) applications. The product portfolio includes 3-axis acceleration, gyroscope and geomagnetic sensors, integrated 6- and 9-axis sensors, environmental sensors, optical microsystems and a comprehensive software portfolio. Since its foundation in 2005, Bosch Sensortec has emerged as the MEMS technology leader in the markets it addresses. Bosch has been both a pioneer and a global market leader in the MEMS sensor segment since 1995 and has, to date, sold more than 9.5 billion MEMS sensors. More than every second smartphone worldwide uses a Bosch Sensortec sensor.

For more information, please visit www.bosch-sensortec.com, twitter.com/boschMEMS

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