

Toshiba introduces latest additions to ApP Lite family for IoT Solutions

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Toshiba Corporation has announced the launch of "TZ1031MBG" and "TZ1011MBG" application processors for wearable devices, as the latest additions to its ApP Lite family's TZ1000 series, to provide solutions for the Internet of Things (IoT).

Last November, Toshiba launched the "TZ1001MBG" application processor, a single package that integrates sensors for data collecting, a processor for data processing, flash memory for data storage, and a Bluetooth Low Energy controller for data communication. Building on this, the new application processors expand sensing functionalities by adding a gyroscope to the "TZ1031MBG" and a gyroscope and magnetometer to the "TZ1011MBG".

The high level integration of the new application processors makes it possible to realize wearable devices without any other components. It also contributes to a smaller form factor, which enables wearable devices to be reduced in size.

The new processors are expressly designed for low power performance, essential for securing a longer battery life for wearable devices.

Toshiba is expanding its line-up of systematic solutions for the TZ1000 series by developing software algorithms that can be applied to measuring weak biomedical signals, such as pulse and ECG. Meanwhile, Toshiba is providing an evaluation environment for developers to shorten the time to market for products integrating its application processors.

The new processor integrates a wireless communication function, sensors, a memory and a processor in one package. It also has embedded ARM Cortex-M4F processor, High performance ARM Cortex-M4F with DSP and floating point processing unit allows combination of data from multiple sensors, both internal and external, to improve accuracy (sensor fusion), High resolution ADCs.

The products integrate a 24-bit high resolution $\Sigma\Delta$ ADC with high speed switches connected to three input channels, so as to be capable of measuring weak biomedical signals, such as the pulse and the heart's electrical activity. It also integrates Bluetooth wireless communication function.