



NEWS RELEASE

Industry-Leading Ultra-Low Power 6-Axis IMU

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Live demo of IMU with TDK SmartMotion® Technology Achieves Unrivaled Energy Efficiency on Ambiq's Unique Energy Harvesting Reference Design at **Embedded World 2024** on April 9-11, 2024

Ambiq, a leader in exceptionally energy-efficient semiconductors for enabling AI on edge devices, partners with InvenSense, a TDK Group company that develops MEMS sensor solutions, to showcase an ultra-low power 6-Axis IMU on an energy harvesting reference design.

The Ambiq HarvestKit™ with the Apollo3 Blue SoC is an energy-harvesting reference design that functions as a high-performance edge compute node. It seamlessly executes AI and other complex algorithms while operating solely on energy harvested from its environment, eliminating the need for batteries. The reference design can be used for compelling use cases across various wireless-connected applications.

InvenSense's ICM-45605 is a 6-Axis IMU with an always-on gyroscope that uses 40% less power on Ambiq's HarvestKit, setting new industry standards. It also includes an ultra-low power (ULP) accelerometer mode for low-power wake-up applications in wearable and IoT devices. It features superior vibration rejection and temperature stability with TDK BalancedGyro™ technology; a low noise gyroscope and accelerometer that achieves 3.8mdps/√Hz; 70μg/√Hz; user-programmable interrupts and digital filters; and more. The IMU is targeted for a range of motion-based functions including wake on motion, pedometer, tilt detection, low-g/high-g detection, freefall detection, significant motion detection, and single/double tap.

The HarvestKit reference design with the InvenSense ICM-45605 will be displayed at Ambiq's booth during Embedded World 2024 in Hall 3, Booth #301. Please **book a meeting** to learn more.

About Ambiq

Ambiq's mission is to develop the lowest-power semiconductor solutions to enable intelligent devices everywhere and drive a more energy-efficient, sustainable, and data-driven world. Ambiq has helped leading manufacturers worldwide develop products that last weeks on a single charge (rather than days) while delivering a maximum feature set in compact industrial designs. Ambiq's goal is to take Artificial Intelligence (AI) where it has never gone before in mobile and portable devices, using Ambiq's advanced ultra-low power system on chip (SoC) solutions. Ambiq has shipped more than 230 million units. For more information, visit www.ambiq.com.

About InvenSense

InvenSense, a TDK Group company, is a world-leading provider of Sensing Solutions. InvenSense's vision of Sensing Everything® targets the consumer electronics and industrial areas with integrated Motion, Sound, Pressure, and Ultrasonic solutions. InvenSense's solutions combine MEMS (micro electrical mechanical systems) sensors, such as accelerometers, gyroscopes, compasses, microphones, barometric pressure sensors, and ultrasonic time-of-flight sensors with proprietary algorithms and firmware that intelligently process, synthesize, and calibrate the output of sensors, maximizing performance and accuracy. InvenSense's motion tracking, ultrasonic, audio, fingerprint, location platforms and services can be found in Mobile, Wearables, Smart Home, Industrial, Automotive, IoT, Robotics, and many more types of products. InvenSense became part of the MEMS Sensors Business Group within the Sensor Systems Business Company of TDK Corporation in 2017. In April of 2022, Chirp Microsystems formally merged with InvenSense. InvenSense is headquartered in San Jose, California and has offices worldwide.

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