SmartMotion®

PRIMARY APPLICATIONS

Mobile Devices
APEX, raise to wake/sleep, significant motion detection, and the smallest and thinnest LGA package

Wearables & Hearables
Captures wrist gestures, fitness activities, exercise motion, sleep signatures, and accurately detects head orientation for spatial 360° audio, all with low power consumption

AR & VR
19-bits of gyroscope data & 18-bits of accelerometer data, external clock input, tilt detection, tap detection, and significant motion detection

Robotics
20-bits format support for high-data resolution, 20,000g shock tolerance, external clock input, and programmable digital filters for sensitive and rugged robotics applications
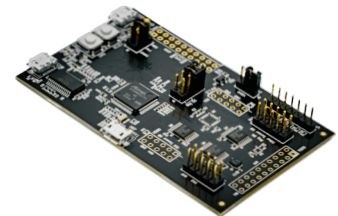
FEATURED PRODUCTS

ICM-42670-P

High-performance 6-Axis MotionTracking IMU targeted at consumer and IoT applications that require ultra-low power to drive longer battery lives. It also features user-programmable digital filters for gyro, accel, and temp sensors.

DK-42670-P

Comprehensive development platform designed around Microchip G55 MCU to be used by developers for rapid evaluation and development of ICM-42670-P based solutions.

PRODUCT CATEGORIES

ICM-42670-P
Intelligent Sensors
Wearables, Hearables, Gaming

- Lowest sleep current (3.5 uA) and Accel LP mode current (4.4 uA)
- Small package size with lowest Z-height: 0.76 mm
- Embedded Features: APEX pedometer, built-in gestures
- Smart Home, Gaming, Wearables, Hearables, IoT

ICM-42605
High-Performance Sensors
Mobile Devices, IoT

- Low noise and high temperature stability
- Perfect balance of high performance and low power
- On-chip APEX (WOM, SMD, Tap, Pedometer, Activity Classification)
- Smartphones, Tablets, Wearables, Sports, IoT

ICM-42688-P
High-Definition Sensors
AR/VR HMD, Robotics

- Industry's lowest noise
- Leading temperature stability
- Sample synch with RTC
- 16/32 kHz real-time ODR
- Hi-def ADC enables 8x higher sensor resolution
- Robotics, Gaming, AR/VR, Navigation, Drones, Robo Vacs

PRODUCT DETAILS

Product Number	Package Size (mm)	Gyro FSR (dps)	Gyro Sensitivity (LSB/°/sec)	Accel FSR (g)	Accel Sensitivity (LSB/g)	Digital Output	Output Data Rate	Operating Voltage (v)
ICM-42670-P	2.5 × 3 × 0.76	±250 – ±2000	16.4 – 131	±2 – ±16	2048 – 16384	Single Interface I3C℠, I²C, or SPI	Up to 1.6 kHz	1.71 – 3.6
ICM-42605	2.5 × 3 × 0.91	±15.625 – ±2000	16.4 – 2097.2	±2 – ±16	2048 – 16384	Single Interface I3C℠, I²C, or SPI	Up to 32 kHz	1.71 – 3.6
ICM-42688-P	2.5 × 3 × 0.91	±15.625 – ±2000	16.4 – 2097.2	±2 – ±16	2048 – 16384	Single Interface I3C℠, I²C, or SPI	Up to 8 kHz	1.71 – 3.6

Scan Here
for additional materials and information.