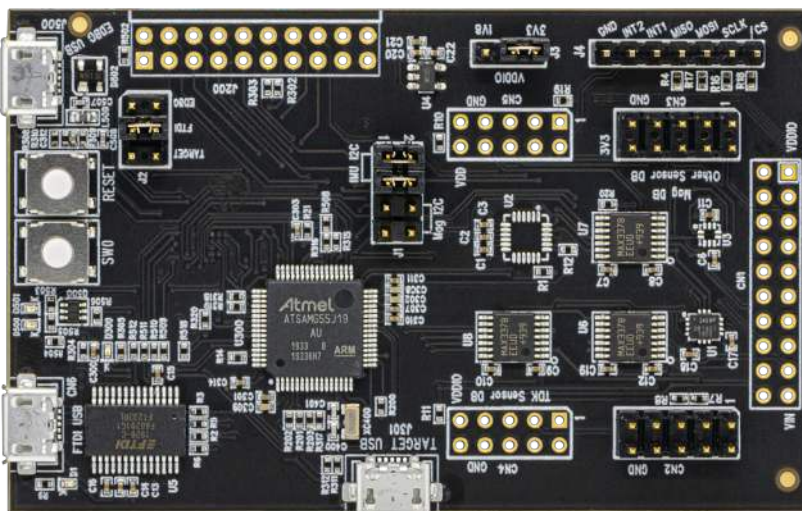# SmartMotion® Platform
by InvenSense®

DK-42688-P

Development Kit for ICM-42688-P 6-Axis Motion Sensor

Overview

The DK-42688-P is a comprehensive development platform for ICM-42688-P, a high performance 6-axis motion sensor that combines a 3-axis gyroscope, and a 3-axis accelerometer.

The platform, designed around Microchip G55 MCU can be used by developers for rapid evaluation and development of ICM-42688-P based solutions. The DK-42688-P includes an on-board Embedded Debugger so external tools are not required to program or debug the G55 MCU.

The development kit comes with necessary software including InvenSense Motion Link, a GUI based development tool and embedded Motion Drivers for ICM-42688-P.

Embedded Motion Drivers (eMD) consists of a set of APIs to configure various aspects of the platform including ICM-42688 sensor parameters such as full-scale range (FSR), output data rate (ODR), low-power or low-noise mode, and sensor interface to host (I3C^{SM}, I²C, SPI).

MotionLink is a GUI based development tool included with the platform. It can be used to capture and visualize the sensor data from the motion sensor.

Key Features

- *ICM-42688-P 6-axis motion sensor*
- *Microchip G55 MCU with 512KB Flash*
- *On-board embedded debugger for programming and debugging*
- *USB connectors for host interface to support software debug and sensor data logging*
- *Board power supply through USB*
- *Sensor Fusion*
- *Accelerometer & Gyroscope calibration*
- *Android Functions: Game Rotation Vector, Gravity, Linear Acceleration*
- *Pedometer Functions: Step Detection and Step Count*
- *Gestures: Tap, Tilt, Raise to Wake/Sleep*

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