Making Motion Monitoring Easy With the New MM7150 Motion Module

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MM7150 Motion Module

- **Powered by the SSC7150 Motion Coprocessor**
  - Filter, compensate and fuse raw 9-axis sensor data
- **Comes pre-populated with 3-axis accelerometer, 3-axis magnetometer, and 3-axis gyroscope from Bosch**
- **Single sided – can be soldered down**
- **Small size 17mm x17mm**
- **Factory programmed and calibrated**
- **Self-calibrating over time**
- **Suitable for battery powered applications**
- **Outputs position & motion data over standard I²C™ connection**
  - Works with most MCU/MPUs with I²C™

The MM7150 Motion Module makes it easy to add motion & position capability

Applications in Virtually Every Imaginable Area

Consumer * Industrial * Wearable * IoT * Medical

Gaming

Remotes

Robots

Wearables

Physical Therapy

Toys

Stabilization/ Positioning

Transportation

Smart Farms

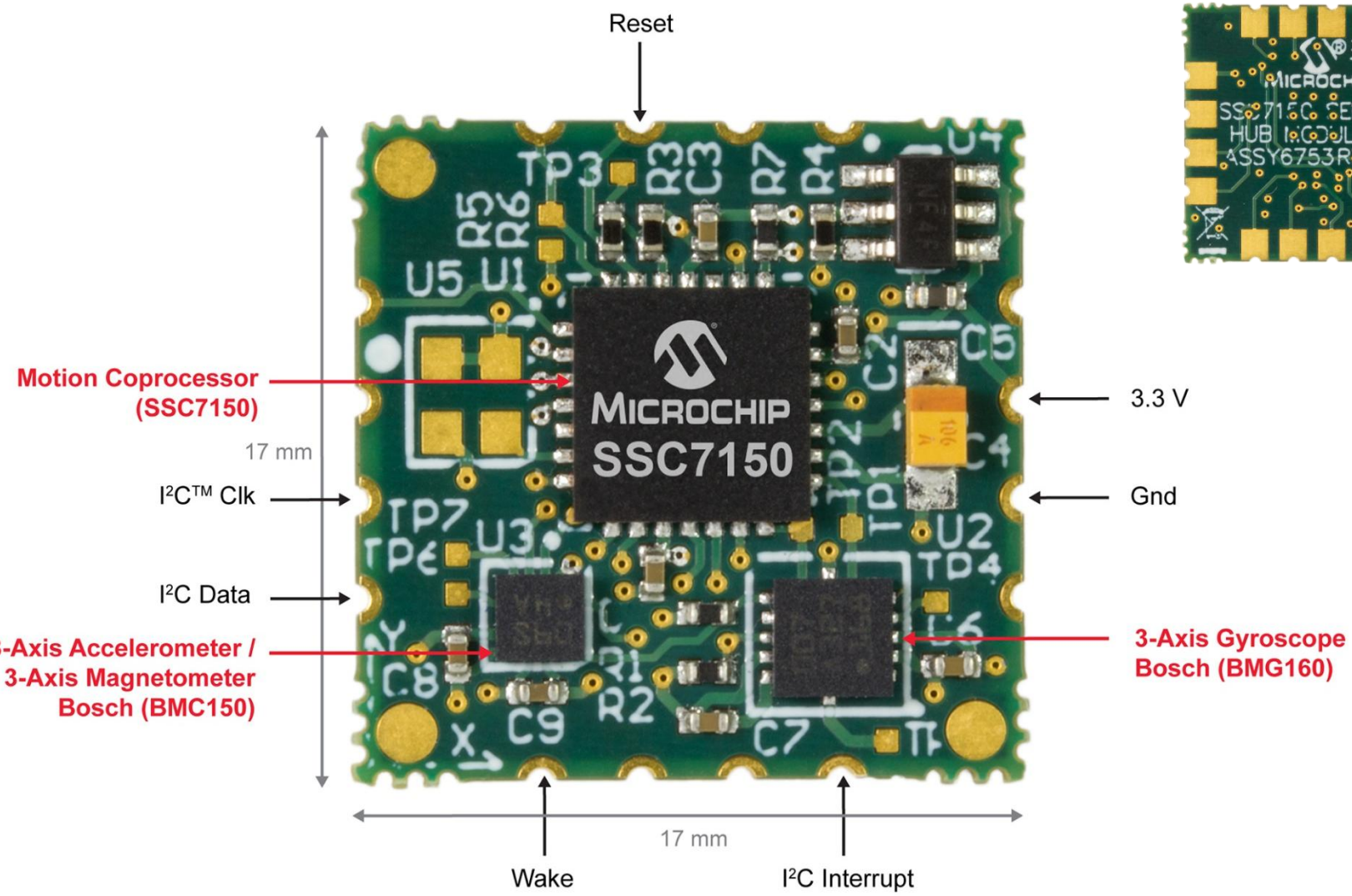
Applications are limited by the imagination

Developing Motion Based Applications

- **Developing applications with motion sensors can be difficult:**
  - To understand and quantify motion physics
  - To select, design, develop, procure motion sensors
  - To develop algorithms
    - Specialized knowledge needed
  - To obtain technical support

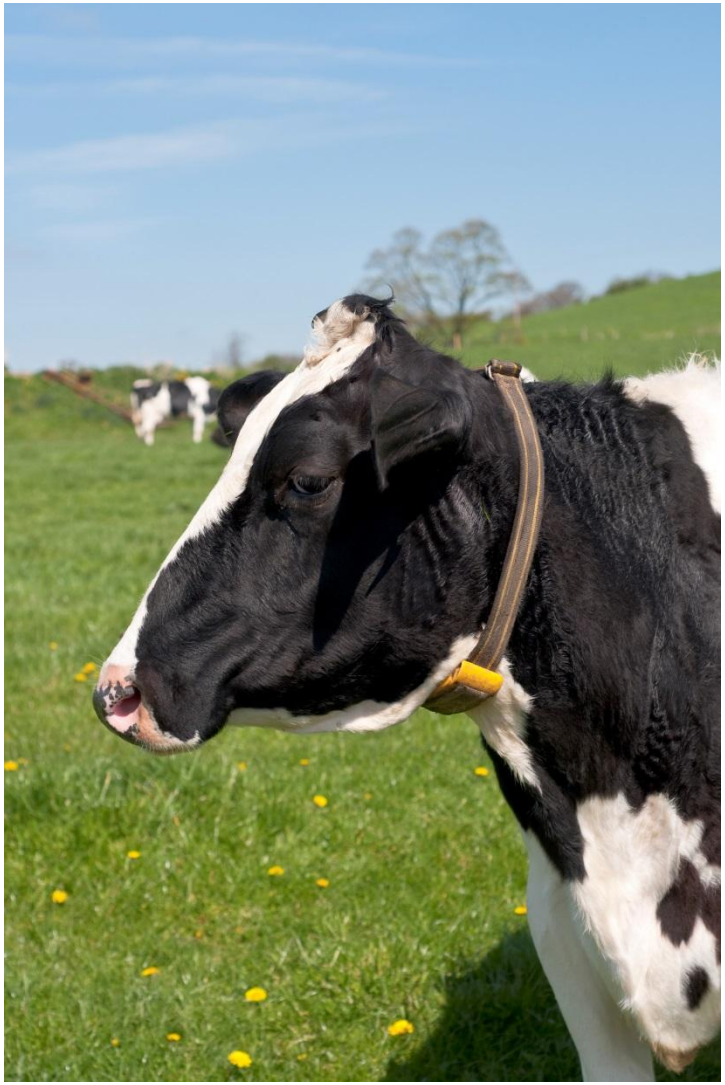
- **Microchip makes it easy:**
  - Easy to get
  - Easy to use
    - Reduces need for technical support
  - Easy to integrate
  - Easy to manufacture

MM7150 Motion Module



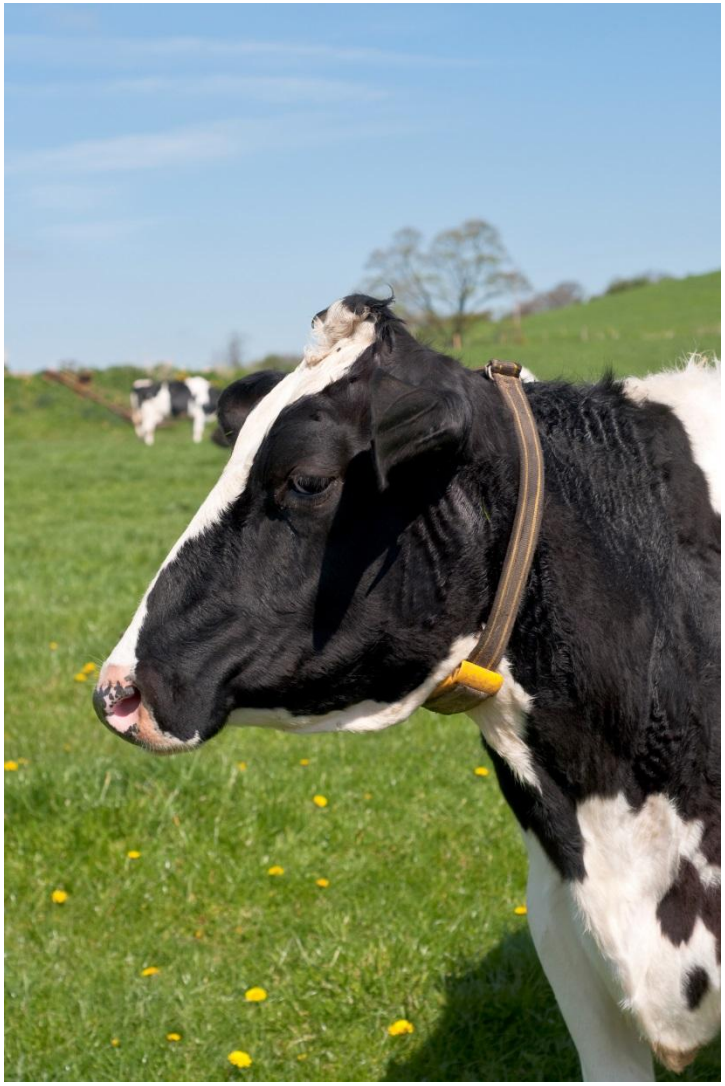
Example Application: Connected Cow

- **Dairy farming challenges:**
  - Improving quality of milk
  - Maximizing milk production
  - Detecting illness to prevent infecting herd
  - Discerning lameness/injury
  - Increasing # of lactations per cow



Example Application: Connected Cow

- **Dairy farming solution:**
  - Monitor cow movement to determine animal health
- **MM7150 Motion Module can be integrated into collar to:**
  - Track cow activity (illness), gait (lameness)
  - Detect fertility cycles (production)
  - Data uploaded nightly when cow returns to barn
  - Informed farmer takes corrective actions if needed
- **Concept can be applied to public safety personnel, elderly monitoring and patient tracking**



Easy to Develop

MM7150 PICtail™ Plus Daughter Board
(Part Number: AC243007)

- Easily develop motion monitoring applications
- Plugs directly into Explorer16 board
- Outputs raw sensor data, compensated sensor data, and positioning data
- Standardized API for most MCUs with I²C™ to communicate with MM7150 Motion Module
- $50 USD, quantity 1, available now

Explorer 16 Board
(Part Number: DM240001)

- Large installed base
- Interface with various PIC® MCUs by swapping Plug-In-Modules (PIMs)
  - PIC MCU demo code provided
- C Reference Code provided
- Works with MPLAB® IDE, Programmer, Debugger, Compiler
- $ 129.99 USD, quantity 1, available now

MM7150 Motion Module

The MM7150 Motion Module makes it easy to add motion & position capability

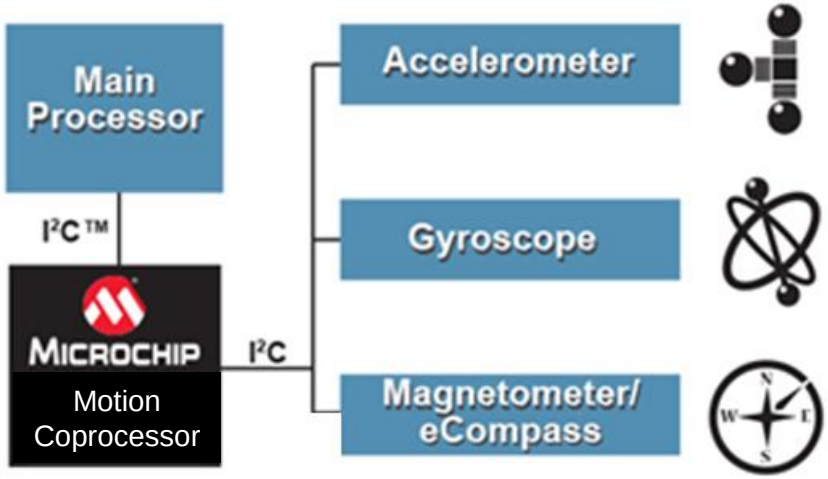
- Designed for today's burgeoning embedded and IOT segments
  - Applications are limited only by the designer's imagination
- Powered by the SSC7150 Motion Coprocessor
  - Eliminates need for specialized knowledge, reduces risk
- Pre-populated with 3-axis accelerometer, 3-axis magnetometer, and 3-axis gyroscope
- Outputs position/motion data via standard I²C™ connection
- Suitable for battery powered applications
- Price = $34.89, qty 1, Available today

www.microchip.com/motion

Back-up slides

SSC7150 Motion Coprocessor

- SSC7150 motion coprocessor processes data from multiple sensors to correct for deficiencies of the individual sensors
- Integrated 9-axis sensor fusion algorithms
- Self calibrating
- No licenses required
- Price = $2.40/qty 10K, Available today



Example Application: Cleaning Robots

- Module used for tracking, orientation and positioning
- Can be applied to window cleaners, pool cleaners, painters/stripers