Product Features

- High Performance 32-bit Embedded Controller
- Low power
  - 3.75mA (typ) in active mode
  - 1.0mA (typ) in idle mode
- System in deep sleep consumes 0.27mA (typ)
- 3.3-Volt I/O
- Package
  - 6mm x 6mm body, 84-TFBGA

Sensor Firmware

- Features include:
  - Self-contained 9-axis sensor fusion
  - Sensor data pass-through
  - Fast in-use background calibration of all sensors and calibration monitor
  - Magnetic immunity: Enhanced magnetic distortion, detection and suppression
  - Gyroscope drift cancellation
  - Ambient Light Sensor Support
- Windows 8/8.1 certification (HID over I²C)
- Easy to implement complete turnkey sensor fusion solution
- Sensor power management
- Sensor agnostic
- Refer to Bosch and Movea sensor fusion firmware addendums for additional sensor fusion details and supported sensors

Hardware Features

The hardware features in the SSC7102 device include the following:

- Two SMB/I²C Controllers
  - Supports I²C bus speeds to 400kHz
  - Multi-master Capable
  - Supports Clock Stretching
- Windows 8 HID over I²C Support
- LPC Interface
  - HID over LPC Support
- Low Power Modes

Target Markets

- PCs: Ultrabooks and 2-in-1 Convertibles
- Tablets
- Remote Controls, Gaming

Description

The SSC7102 sensor fusion hub is a Windows 8.1 certified, HID over I²C, low-power, flexible, turnkey solution. SSC7102 makes implementing sensor fusion easy for ultrabooks, tablets, and convertibles. Microchip partnered with multiple industry-leading sensor manufacturers and sensor-fusion specialists to create this solution, enabling faster time to market without the need for sensor-fusion expertise. Low average current while running complex sensor-fusion algorithms results in longer battery life for multiple applications.
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84-pin TFBGA Package Outline

Note: For the most current package drawings, see the Microchip Packaging Specification at http://www.microchip.com/packaging.
# APPENDIX A: REVISION HISTORY

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<tr>
<th>Revision</th>
<th>Section/Figure/Entry</th>
<th>Correction</th>
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<td><strong>Product Identification System</strong></td>
<td>Bosch order number changed from “AA0” to “AB0”.</td>
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<td>Wording of first bullet under Product Features modified for clarity.</td>
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- **General Technical Support** – Frequently Asked Questions (FAQ), technical support requests, online discussion groups, Microchip consultant program member listing
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<th>PART NO. (1)</th>
<th>XXX (2)</th>
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<tr>
<td>Device Series</td>
<td>Package</td>
<td>Sensor</td>
<td>Fusion</td>
<td>Firmware</td>
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</table>

**Device:** SSC7102 (1)

**Package:**
- GQ = 84 pin TFBGA (2)

**Supported Sensors:**
- AB0 = Bosch BMC150 (Accelerometer + Magnetometer), Bosch BMC160 (Gyroscope)
- BA0 = Invensense MPU-6500 (Accelerometer + Gyroscope), AKM AK8963C (Magnetometer), Intersil ISL29029 (Ambient Light)

**Tape and Reel Option:**
- Blank = Tray packaging
- TR = Tape and Reel (3)

**Examples:**
- a) SSC7102-GQ-AB0 = 84-TFBGA, support for Bosch sensors.
- b) SSC7102-GQ-BA0 = 84-TFBGA, support for Invensense, AKM, and Intersil sensors.

**Note 1:** These products meet the halogen maximum concentration values per IEC61249-2-21.

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