

# SmartBond™ DA14681 Wearable Development Kit

A fully-featured development platform on your wrist

Wearable manufacturers face a highly competitive market. Success depends on delivering the right features and functionality with long battery life at the right time. The **SmartBond™ DA14681** wearable development kit helps manufacturers maximize their chance of success by minimizing time-to-market and development effort for next-generation wearables.

The kit comprises a complete hardware and software design for a sports watch offering heart rate monitoring, activity tracking and environmental sensing. It is based on the **SmartBond™ DA14681** Wearable-on-Chip™. As a **SmartBond™** device, it offers the highest performance, lowest power consumption and smallest footprint. This highly integrated complete Bluetooth® low energy SoC combines flexible processing power for advanced applications, integrated battery charging and banking level security. The kit also features a complete range of sensors plus NFC payment, so manufacturers can start prototyping with no extra hardware.

Offering a user-friendly experience, the kit comes with a complete software package that is specifically designed for wearables. This includes several royalty-free advanced algorithms for health and fitness applications such as sensor fusion, sleep monitoring, heart rate monitor etc. With full documentation and tooling, the kit is easy to set up; allowing developers to get to work straight out of the box.



## Benefits

The **SmartBond™ DA14681** wearable development kit is the fast track from prototype to product.

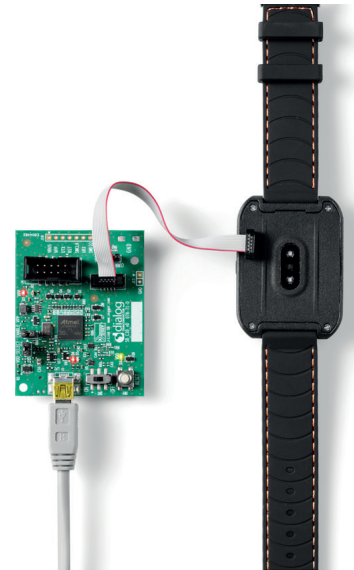
- Accelerates time to market
- Enables you to develop next-gen ultra-low power wearable products
- Complete software and tools set to reduce the complexity of product development.

## Applications

- Activity trackers
- Sport watches

## Features

- On board DA14681 SoC
  - 84DMIPS ARM processor
  - Fully integrated charger, stage of charge and DCDC
  - Integrated security engine
  - Bluetooth 4.2
- 6-axis accelerometer and gyro sensor
- 3-axis digital geomagnetic sensor
- Integrated environmental sensor for pressure, humidity and temperature
- Cost effective and high performance optical heart rate monitor from Dyna Image
- 128x128 pixels ultra-low power Memory LCD
- Low power capacitive touch button
- NFC payment support with onboard secure element and NFC
- Li-ion battery with micro USB interface for recharging
- On-board debugging interface with a debugging daughter board
- Embedded software package that includes
  - o graphical UI library
  - o advanced health and fitness algorithms, including calorie counting, sleep and heart rate monitoring
  - o 9-axis sensor fusion algorithm
    - 0.5 MIPS on Cortex M0 for 9 DOF sensor
    - 4.5 kB code size
    - 0.5 kB RAM size
  - o Bluetooth low energy connectivity
- Android and iOS applications with source code



For more information and purchasing please visit

<https://support.dialog-semiconductor.com/connectivity/reference-design/da14681-wearable-development-kit>

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