

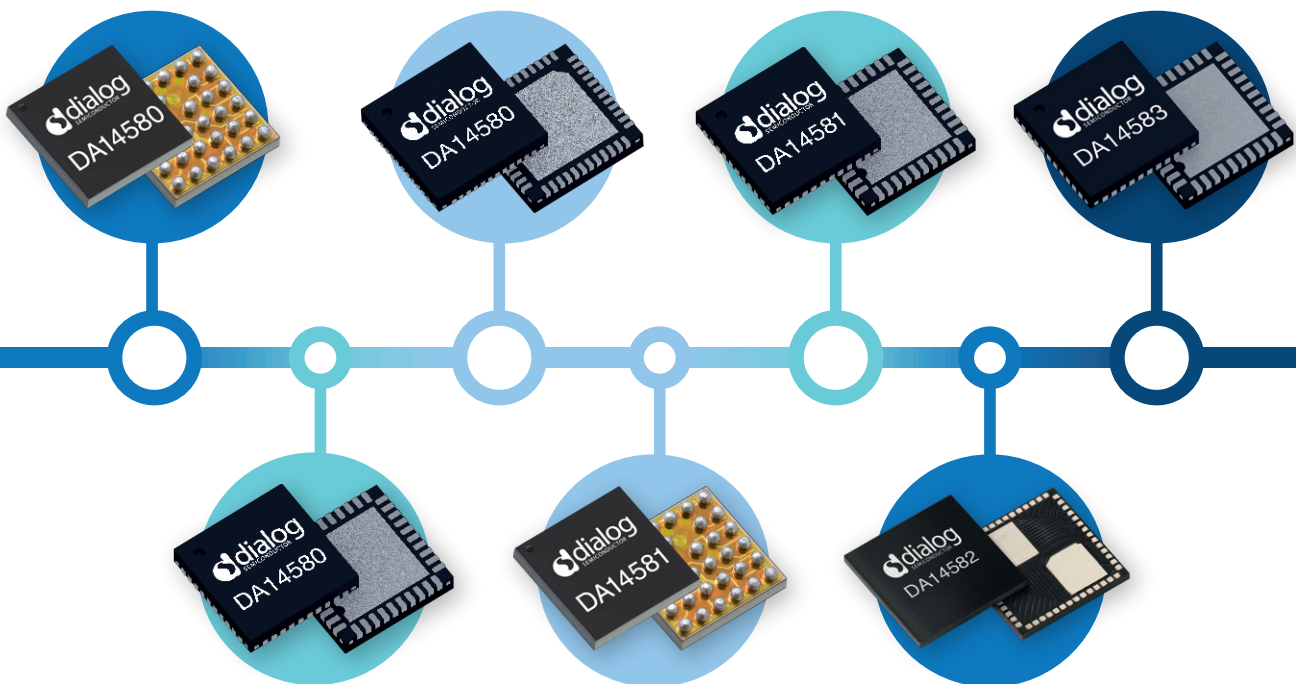
## SmartBond™ DA1458x Product Family

### Bluetooth® Smart: Power, Size and System Cost Without Compromise

Bluetooth® Smart is the gateway to personal connectivity and easy access to the cloud. Dialog's SmartBond™ family is the simplest route to delivering the most power-friendly and flexible Bluetooth Smart connected products to the market.

Highly integrated, SmartBond delivers the smallest, most power efficient Bluetooth Smart solutions available – and enables the lowest system costs. The family includes generic and application-optimized solutions in various pin-compatible memory options, combining design flexibility with easy cost reduction. This is all supported by our powerful SmartSnippets™ software tooling and extensive applications support, making it easy for designers to get the most out of their system. Our DA1458x product family ensures designers will have the Bluetooth solutions they need when they need them as markets evolve.

In short, SmartBond delivers industry-leading Bluetooth Smart functionality without compromise. So designers can focus on creating new products and applications that consumers will love.



## SmartBond DA14580 flagship

### Breaking barriers with Bluetooth 4.1

Dialog's DA14580 is the world's smallest, lowest power and most integrated Bluetooth Smart solution. It gives you the freedom to develop the Bluetooth 4.1 applications you want to, with no need to compromise.



### Longest battery lifetimes

The DA14580 offers world leading power consumption figures drawing just 4.9 mA at transmission and reception, giving your devices a much longer battery lifetime. Moreover, it can run from voltages as low as 0.9 V: ideal for running from single-cell or Zinc-air batteries.

### Smallest form factors

Available in a wafer-level chip scale package measuring just 2.5 x 2.5 x 0.5 mm, the DA14580 minimizes board size. It requires just 5 external components and can operate from a single alkaline, NiMH or coin cell – so you can create the smallest, most attractive products.

### Lowest system cost

The DA14580's high integration levels – including an embedded 32-bit MCU, memories and rich set of peripherals – ensure the lowest external component count. Together with an integrated power management unit and the ability to use smaller batteries, this minimizes your BoM, allowing you to develop low-cost yet highly featured systems.

### Simplified design-in

As part of the SmartBond family, the DA14580 is easy to design-in, enables fully hosted applications without an external MCU and is supported by a complete development environment and Dialog's SmartSnippets software. It is also available in compact, fully-certified modules for faster time-to-market with no need for extensive RF experience.

### Flexible memory for complete design freedom

For maximum design freedom, the DA14580 supports Flash or one-time programmable (OTP) memory. Flash offers the potential for software over-the-air (OTA) updates, while OTP provides a simple cost-down path.



## DA1458x product family to optimize your applications

Based on the world's smallest, lowest power and most integrated Bluetooth Smart solution, the DA14580, we offer optimized solutions targeting dedicated applications.

### DA14581

**An optimized version for A4WP wireless charging and HCI applications**

A fast boot time for the Power Receiving Unit (PRU) and 8 connections for the Power Transmitting Unit (PTU) make the DA14581 a perfect solution for A4WP. The optimized code for HCI, which fits into the DA14581's OTP memory, enables you to create a pre-programmed HCI device. Dialog's DA14581 is the world's smallest, lowest power and most integrated Bluetooth Smart solution for A4WP wireless charging and HCI applications.



### DA14582

**Highest integration for Bluetooth Smart RCUs with voice commands and motion/gesture recognition**

The DA14582 is an optimized Bluetooth Smart device for remote control units (RCU) requiring support for voice commands and motion/gesture recognition. Its integrated analog wideband audio codec provides native support for analog mics, speakers and buzzers. The latter reduces the total number of components of the system while its optimized package enables designs using single-layer FR1 PCBs further contributing to lowering the cost of your system.



### DA14583

**Our flash offering for the DA14580. The most flexible and lowest power Bluetooth Smart solution**

The DA14583 device combines the benefits of the lowest power, smallest size and lowest system cost Bluetooth Smart System-on-Chip with an integrated flash. This new product offers you the flexibility of software upgrades over the air (OTA) enabling you to keep your devices up-to-date in the field. Furthermore, the DA14583 is pin to pin compatible with the DA14580 thereby offering a unique cost down path from flash to OTP.





| Product | Memory size                                       | General Purpose I/Os | Package                                                                                                 | Key features                                                                                                                                                                                                                                                                                                                   | Applications                                                                                                                                     |
|---------|---------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| DA14580 | ROM 84 kB<br>OTP 32 kB<br>RAM 50 kB               | 12<br>24<br>24<br>32 | WL-CSP34, size 2.5x2.5x0.5mm<br>QFN40, size 5x5x0.9mm<br>QFN40, size 6x6x0.9mm<br>QFN48, size 6x6x0.9mm | <ul style="list-style-type: none"> <li>• Bluetooth 4.1</li> <li>• Cortex M0 application processor</li> <li>• Power supply 0.9 - 3.6 V</li> <li>• Single pin RF I/O</li> <li>• Rich set of analog and digital peripherals</li> </ul>                                                                                            | <ul style="list-style-type: none"> <li>• Proximity &amp; Beacons</li> <li>• Health &amp; Fitness</li> <li>• HID</li> <li>• Smart Home</li> </ul> |
| DA14581 | ROM 84 kB<br>OTP 32 kB<br>RAM 50 kB               | 12<br>24             | WL-CSP34, size 2.5x2.5x0.5mm<br>QFN40, size 5x5x0.9mm                                                   | <ul style="list-style-type: none"> <li>• Bluetooth 4.1</li> <li>• Cortex M0 application processor</li> <li>• Power supply 0.9 - 3.6 V</li> <li>• Single pin RF I/O</li> <li>• Rich set of analog and digital peripherals</li> <li>• 8 simultaneous connections</li> <li>• Optimized boot time</li> </ul>                       | <ul style="list-style-type: none"> <li>• Wireless charging (A4WP)</li> <li>• HCI</li> </ul>                                                      |
| DA14582 | ROM 84 kB<br>OTP 32 kB<br>RAM 50 kB               | 32                   | QFN56, size 8x8x0.9mm                                                                                   | <ul style="list-style-type: none"> <li>• Bluetooth 4.1</li> <li>• Cortex M0 application processor</li> <li>• Power supply 2.35 - 3.3 V</li> <li>• Single pin RF I/O</li> <li>• Rich set of analog and digital peripherals</li> <li>• Wideband analog codec input and output</li> <li>• Compatible with FR1-type PCB</li> </ul> | Remote controls with voice commands over BLE                                                                                                     |
| DA14583 | FLASH 1 Mb<br>ROM 84 kB<br>OTP 32 kB<br>RAM 50 kB | 24                   | QFN40, size 5x5x0.9mm                                                                                   | <ul style="list-style-type: none"> <li>• Bluetooth 4.1</li> <li>• Cortex M0 application processor</li> <li>• 1 Mb Flash</li> <li>• Power supply 2.35 - 3.3 V</li> <li>• Single pin RF I/O</li> <li>• Rich set of analog and digital peripherals</li> </ul>                                                                     | Applications requiring SW upgrade OTA                                                                                                            |

---

Dialog Semiconductor worldwide sales offices - [www.dialog-semiconductor.com](http://www.dialog-semiconductor.com)

United Kingdom  
Phone: +44 1793 757700

The Netherlands  
Phone: +31 73 640 88 22

Japan  
Phone: +81 3 5425 4567

Hong Kong  
Phone: +852 2607 4271

Korea  
Phone: +82 2 569 2301

Germany  
Phone: +49 7021 805-0

North America  
Phone: +1 408 845 8500

Taiwan  
Phone: +886 281 786 222

Singapore  
Phone: +65 648 499 2

This publication provides outline information only, which unless agreed by Dialog Semiconductor may not be used, applied or reproduced for any purpose, or be regarded as a representation relating to products. Please refer to Dialog standard supply terms on the company website ([www.dialog-semiconductor.com](http://www.dialog-semiconductor.com))

© Dialog Semiconductor 2015, All rights reserved. 0315HPVC

