

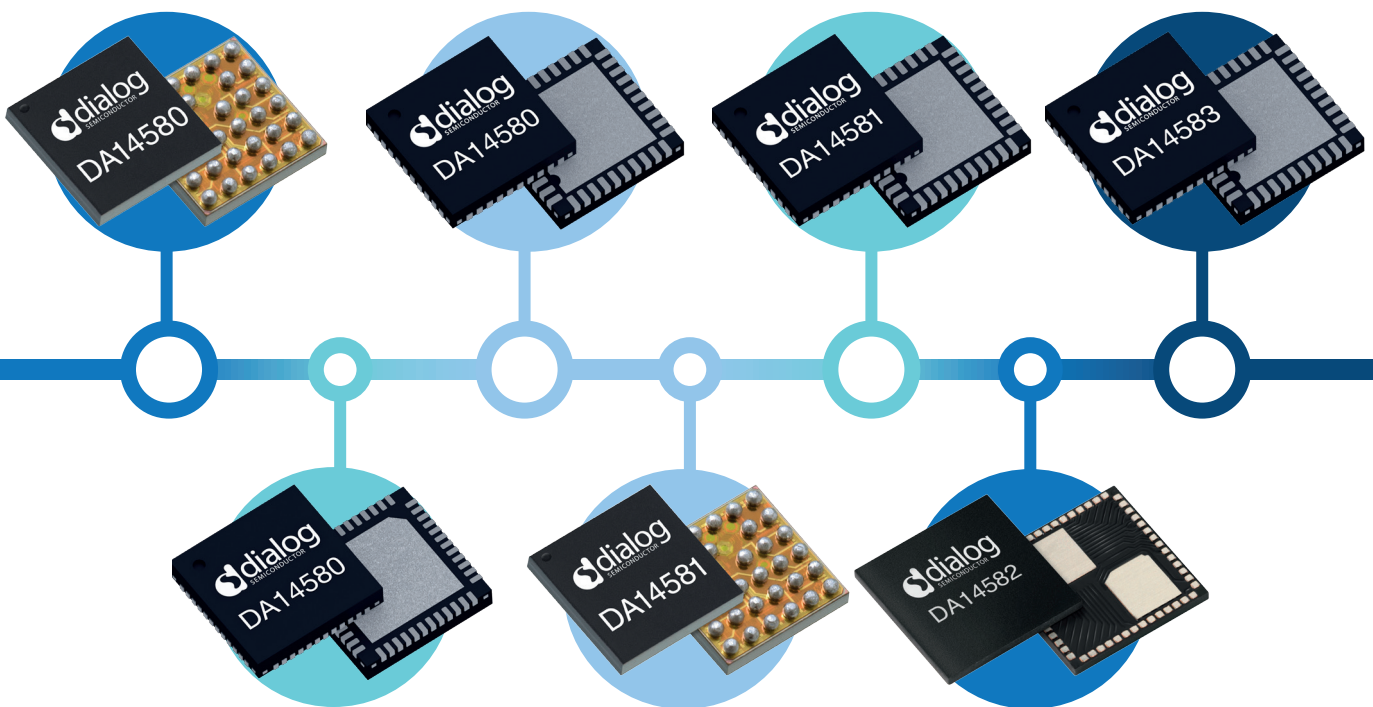
## SmartBond™ DA1458x Product Family

### Power, Size and System Cost Without Compromise

**Bluetooth® low energy 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 low energy connected products to the market.**

Highly integrated, SmartBond delivers the smallest, most power efficient Bluetooth low energy 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 low energy functionality without compromise. So designers can focus on creating new products and applications that consumers will love.



## SmartBond DA14580 flagship

### Breaking barriers with Bluetooth 4.2

Dialog's DA14580 is the world's smallest, lowest power and most integrated Bluetooth low energy solution. It gives you the freedom to develop the Bluetooth 4.2 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 updates over-the-air (OTA), 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 low energy solution, the DA14580, we offer optimized solutions targeting dedicated applications.

### DA14581

#### **An optimized version for 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 wireless charging (Air Fuel). 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 low energy solution for Air Fuel wireless charging and HCI applications.



### DA14582

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

The DA14582 is an optimized Bluetooth low energy 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 low energy solution**

The DA14583 device combines the benefits of the lowest power, smallest size and lowest system cost Bluetooth low energy 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 OTP 32 kB RAM 50 kB	12 24 24 32	WL-CSP34, size 2.5x2.5x0.5mm QFN40, size 5x5x0.9mm QFN40, size 6x6x0.9mm QFN48, size 6x6x0.9mm	<ul style="list-style-type: none"> <li>• Bluetooth 4.2</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 OTP 32 kB RAM 50 kB	12 24	WL-CSP34, size 2.5x2.5x0.5mm Thin WL-CSP34, size 2.5x2.5x0.35mm QFN40, size 5x5x0.9mm	<ul style="list-style-type: none"> <li>• Bluetooth 4.2</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 (Air Fuel)</li> <li>• HCI</li> <li>• Smart cards</li> </ul>
DA14582	ROM 84 kB OTP 32 kB RAM 50 kB	32	QFN56, size 8x8x0.9mm	<ul style="list-style-type: none"> <li>• Bluetooth 4.2</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 Bluetooth low energy
DA14583	FLASH 1 Mb ROM 84 kB OTP 32 kB RAM 50 kB	24	QFN40, size 5x5x0.9mm	<ul style="list-style-type: none"> <li>• Bluetooth 4.2</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>	Space-constrained applications requiring software updates Over-The-Air (OTA)

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