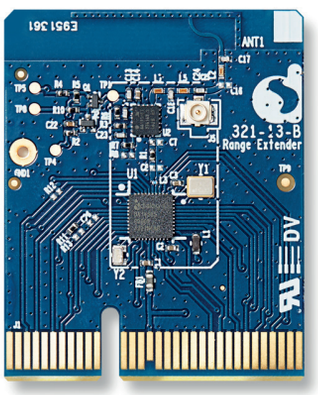
SmartBond™ DA14585 Range Extender Daughterboard

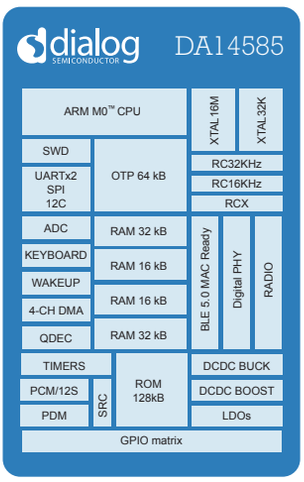
Boost the range of your Bluetooth® low energy applications

Bluetooth® low energy is a key technology for the Internet of Things. Some IoT applications require longer distance to be covered by the Bluetooth connection. For example, Smart Home networks need to be carefully designed to ensure all nodes can communicate with the gateway. Proximity tags and beacons could be even more useful if they worked over greater distances, allowing single nodes to cover entire commercial or industrial sites.



By combining Dialog's best-in-class Bluetooth low energy chips with a high-efficiency RF Power Amplifier front-end-module, Dialog's range extender offers you optimal range without compromising on power consumption and data rate. Dialog's SmartBond™ DA14585 Range Extender kit allows the range of Bluetooth low energy communications to be increased in software-selectable steps without compromising on data rate and maintain best in class overall power consumption. The resulting solution meets all Bluetooth low energy and regulatory requirements.

The Range Extender daughterboard is provided as an optional extra for the DA14585 Pro Development Kit, featuring the Skyworks SKY66111 discrete power amplifier. The optimized board design allows output power to be scaled by software in 2 dBm steps from +0 dBm to +9.3 dBm (enough for whole house coverage indoors). So system developers have freedom to balance range and overall power consumption. Crucially, the solution maintains the standard Bluetooth low energy data rate. It can also be powered from single coin cell ensuring the smallest systems.



Pre-certified to FCC and CE standards, the SmartBond™ DA14585 Range Extender takes the design effort out of developing long-range Bluetooth low energy applications. So manufacturers can get to market faster with fewer design resources.

Benefits

- Extends range at the lowest power consumption without compromising data rate
- Runs on single coin cell battery
- Accelerates time to market

Applications

All Bluetooth low energy applications that require extended range like;

- Smart Home applications
- Beacons
- Proximity Tags and much more

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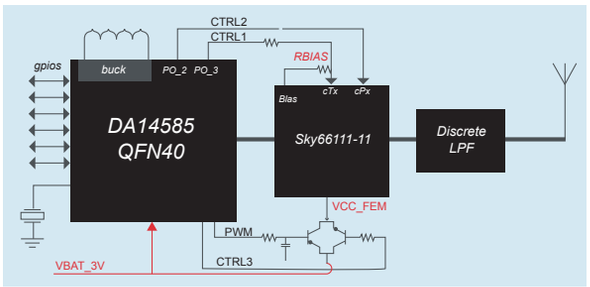
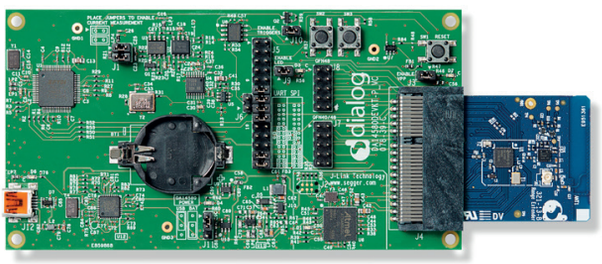
Features

- Software programmable output power up to +9.3 dBm in steps of 2 dBm
- FCC, ETSI and Bluetooth® requirements compliant
- Receiver Sensitivity < -91dBm
- Tx Power consumption < 18 mA at +9.3 dBm @ 3 V
- Rx Power consumption < 6 mA @ -91 dBm @ 3 V
- Extended sleep mode < 5uA @ 3V
- Operating voltage 1.8 – 3.6 V
- Supports coin cell battery (typ 3.0 V)
- 2 layer FR-4 PCB
- Integrated Printed Antenna (IFA) and RF connector for RF measurements
- Provision for external battery connector available
- 21 GPIOs available
- Key signals available through test points
- Operating temperature -40 to +85C
- Compatible with DA14585 Development Kit Pro
- Dialog's SmartBond™ DA14585 complies with Bluetooth 5.0
- 16 MHz 32 bit ARM Cortex-M0
- Integrated DCDC converter
- Supports up to 8 Bluetooth® low energy connections





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