

DA3210 WattUp® Wireless Power Amplifier

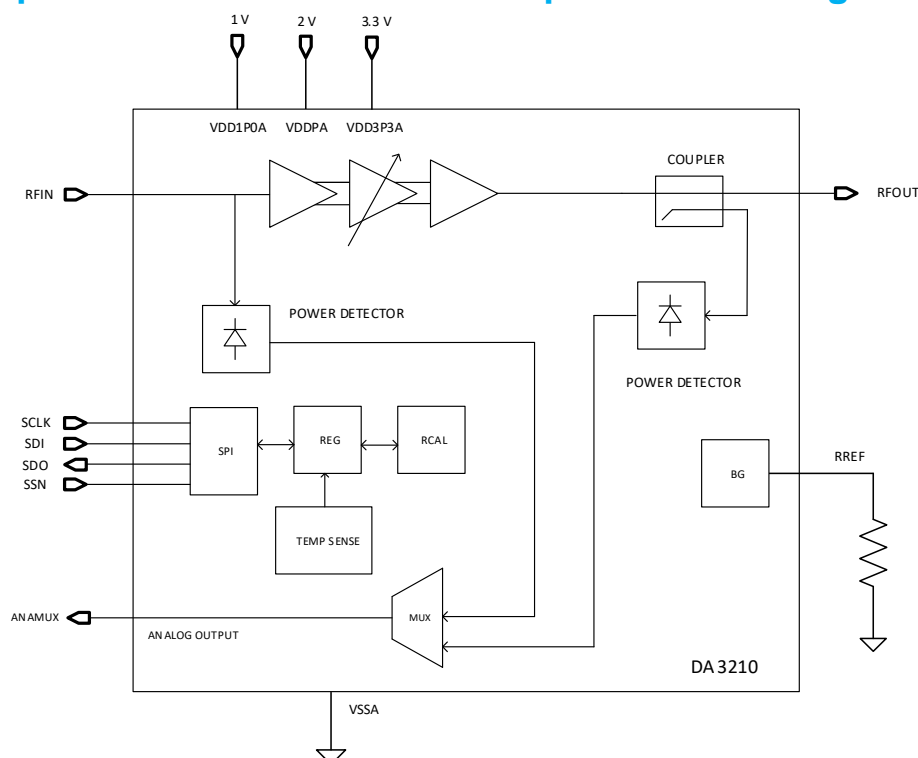
High efficiency wireless power amplifier completes the Near Field WattUp wire-free charging system

DA3210 is a high power, high efficiency RF power amplifier that, together with the WattUp wireless power transmitter DA4100, is designed to provide optimal charging of WattUp receiver devices. It completes the Near Field WattUp transmitter. It features a single channel RF power amplifier, input and output power detectors that enable closed loop power control and an integrated temperature sensor. Applications include the wireless charging of low-power, battery-powered devices, such as wearables, fitness trackers, hearables, hearing aids, Bluetooth trackers, smart pens and other devices.

WattUp® from Energous Corporation is a radio frequency (RF) based wireless charging solution that delivers intelligent, scalable power. WattUp technology is provided to Dialog under license from Energous Corporation. The Near Field WattUp transmitter design is intended to be an in-box solution for many small electronics, ultimately replacing the USB cable and power adapter typically included in the box. The WattUp receiver provides the convenience and waterproofing benefits of wireless charging without significantly affecting the overall BOM cost.

DA3210 integrates a high power, high efficiency single channel RF power amplifier, with gain adjustable through an SPI compatible serial interface, input and output power detectors, an integrated temperature sensor and an analog multiplexer whose output reports the input/output power detector voltage.

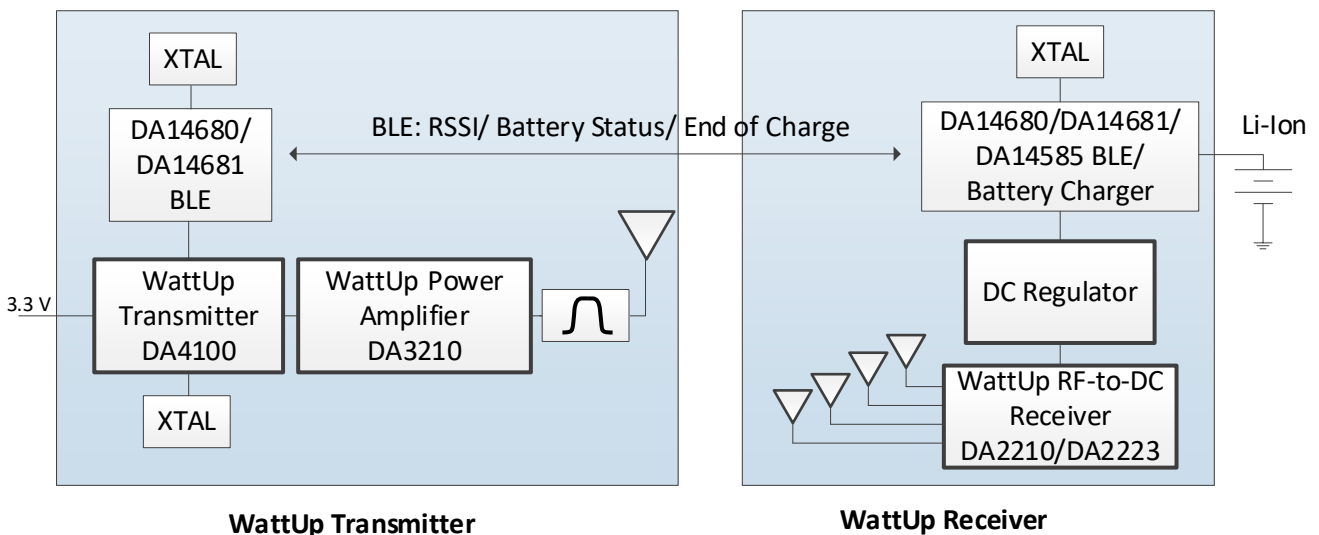
WattUp DA3210 Wireless Power Amplifier Block Diagram



Near Field WattUp System

The Near Field WattUp system is comprised of a WattUp wireless power transmitter (DA4100), a WattUp wireless power amplifier (DA3210), a WattUp wireless power receiver (DA2210 or DA2223), a DC regulator, a Li-Ion/Li-Poly battery charger and an optional Bluetooth communication link (DA14680, DA14681 or DA14585) which supports battery status communication between the WattUp receiver and transmitter. The same link can be used to provide the user with full power management capabilities using the WattUp Application running on a Smartphone or tablet. Antennas are fabricated using low-cost PCB material, flexible PCB or sheet metal.

Near Field WattUp System Block Diagram



Applications

- Fitness Bands
- Hearables
- Hearing Aids
- Bluetooth Headsets
- Bluetooth Trackers
- Smart Pens
- Remote Controls
- Smart Glasses

Key benefits

- Ultra-small RF/antenna-based solution
- Improved spatial and orientation freedom
- Secure pairing of the transmitter and device-under-charge
- Eliminates connectors and charging contacts
- Enables fully sealed waterproof design

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