

Product Brief

SmartPulse™ wireless sensor network devices

General description

Dialog's SmartPulse™ series of wireless sensors and base station devices enable the easy creation of wireless sensor networks for the home automation, security, healthcare and energy monitoring consumer markets.

The family's first wireless sensors, SC14WSMDATA (data) and SC14WSMDECT (data and audio) use the DECT ULE standard and integrate baseband, radio transceiver and power amplifier in a single package. Additionally, the family includes a DECT ULE enabled base station device, SC14CVMDECT.

By using the DECT ULE standard, the devices enable a wide range of new wireless consumer products that run for up to 10 years on a single AAA battery. Furthermore, systems running SmartPulse sensors self-configure with a home's DECT ULE / DECT enabled hub or internet gateway, allowing connected systems to be managed over the web using a smartphone, laptop or tablet PC.

Linking devices

All three SmartPulse units integrate a simple to use AT Command set for configuring wireless links between multiple sensors and the base station; eliminating the need for an in-depth understanding of the DECT protocol.

To help accelerate an OEM's product creation cycle, Dialog has created complete development kits for all SmartPulse devices.

To further enable the rapid development of its customers cloud connected product suites, Dialog has also created a SmartPulse DECT IP base station reference design, serving internet connectivity. This design is supported by Dialog's Rhea µClinux based VoIP software development environment.

Scope

The SC14WSMDATA and SC14WSMDECT are DECT data pumps for ultra low energy data services. A star network topology can be made using SC14CVMDECT as a base station and the SC14WSMDATA or SC14WSMDECT as ultra low energy sensors or low standby current actuators.

DECT is an established technology that delivers whole house coverage and SmartPulse, with DECT ULE, builds on this legacy and the simple star networks can be used for a variety of home automation applications.

Features

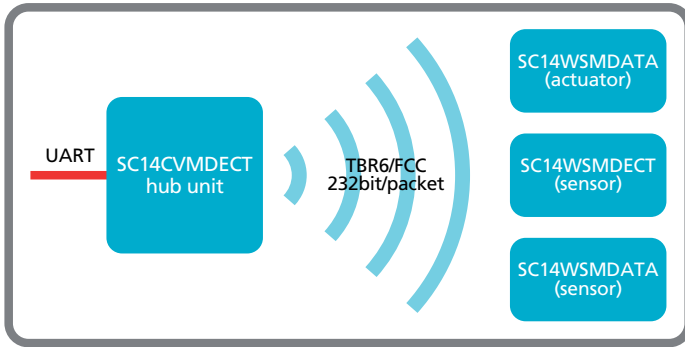
- Programmable via AT command set
- Ultra low power - sleep current < 3 µA
- EU/US/J-DECT certified
- 232 bits / 29 byte packet data
- RF range: 1870 - 1930 MHz
- Receiver sensitivity < -93 dBm
- Transmit power 23 dBm (200 mW)
- Power supply voltage 2.10 - 3.1 V
- Small form factor - 29 x 25 mm

Applications

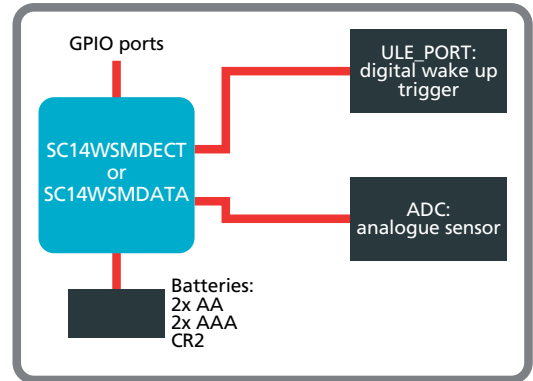
- Ultra low power wireless sensor data applications
 - Home automation
 - Home security
 - Home healthcare
 - Home energy metering
- Low standby current wireless actuator data applications



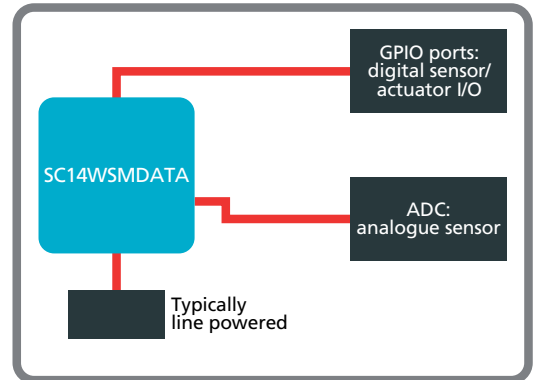
System diagram



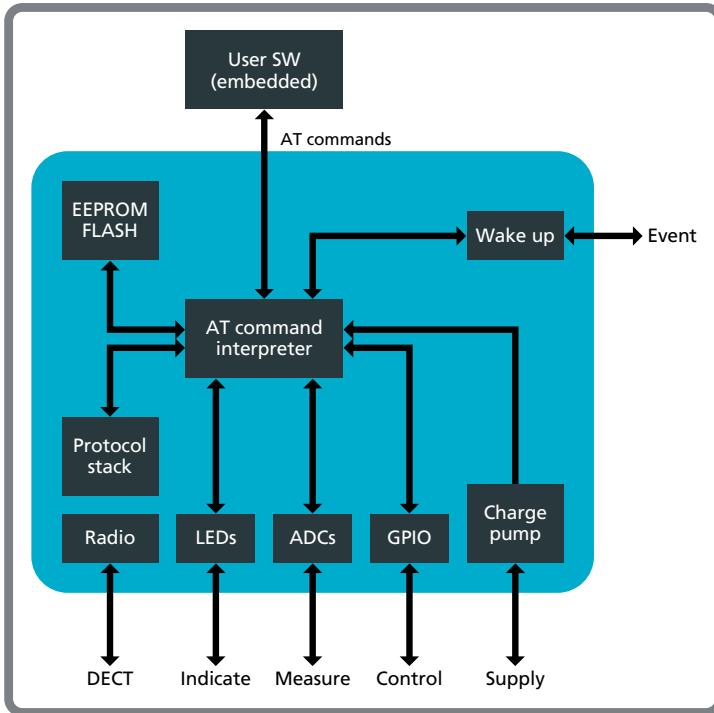
System configuration



Sensor configurations



Actuator configurations



Functional overview

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