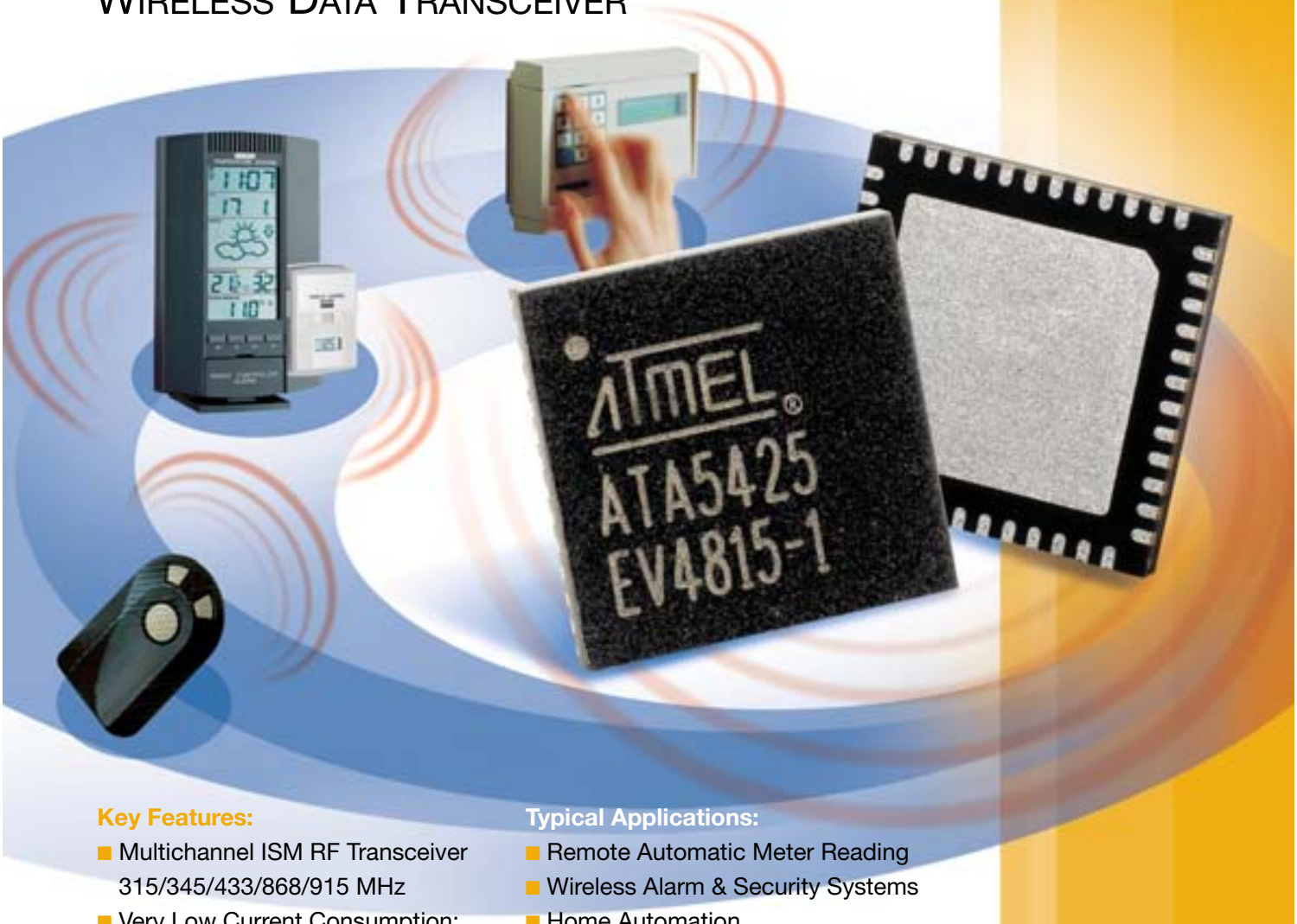
WIRELESS DATA TRANSCEIVER | SMARTRF

ATA5423/5/8/9

SMART RF INTEGRATED WIRELESS DATA TRANSCEIVER



Key Features:

- Multichannel ISM RF Transceiver 315/345/433/868/915 MHz
- Very Low Current Consumption: 10 mA in Rx / 20 mA in Tx
- Very Low System Cost
- Very High Integration: no external filters
- High Output Power: +10 dBm
- High Sensitivity up to 40 kbps / FSK
- High Selectivity
- High Blocking Performances
- Small Implementations are Possible thanks to the High Integration

Typical Applications:

- Remote Automatic Meter Reading
- Wireless Alarm & Security Systems
- Home Automation
- Building Systems
- Wireless Remote Sensor Network

ATA5423/5/8/9 SmartRF Integrated Wireless Data Transceiver

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Literature request
www.atmel.com/literature

Web Site
www.atmel.com

5453A-WIRE-01/06 3M

The ATA542x serie is a family of RF Transceivers dedicated to the popular ISM bands 315/345/433/868/915 MHz. Such a Transceiver enables long battery life and very dense implementation applications. It represents a major step in the integration of RF Transceivers as it features all of the state-of-the-art functions for RF applications:

- an Image Rejection Mixer: no SAW filter required
- a Low-IF architecture: no external IF filter
- a High Sensitivity: ASK and FSK mode are supported
- a High Output Power: 10 mW as standard, compliance with regulations
- a very Fast Start-up time from PDN: 1.5 ms including XTAL and PLL for full performances.

In addition to this, specific attention has been paid on the design to maintain the current consumption to the lowest values: 10 mA in Rx and 20 mA in Tx, 10 nA in PDN mode, less than most of the available products in the market for such Bi-Directional Multichannel transceivers. Then, supporting highly reliable modern protocol like Frequency Agility, Listen-Before-Talk or FHSS is not a problem anymore, while keeping very low current consumption figures.

This makes the ATA542x the most suitable choice for Long Battery Life applications targeting at least 10 years like Automatic Meter Reading, Alarms and Security systems, Home Automation systems and other Wireless Remote Controllers/Telemetry systems.

As the other Atmel's RF Tranceivers, many digital features are available to ease the RF developers' life:

- SPI port for easy programming
- data rate up to | 40 kbps / FSK or 20 kbps / ASK in NRZ mode
  | 20 kbps / FSK or 10 kbps / ASK with 16-byte integrated buffer
- RSSI
- 4 MHz clock output to feed the companion Microcontroller.

Evaluation tools

Demo boards are available:

- An interface board to be connected to the parallel port
- A RF Daughter Board featuring the ATA542x
- A cable to connect to the PC
- A CD-ROM

Forthcoming Stand-alone AVR based demo.