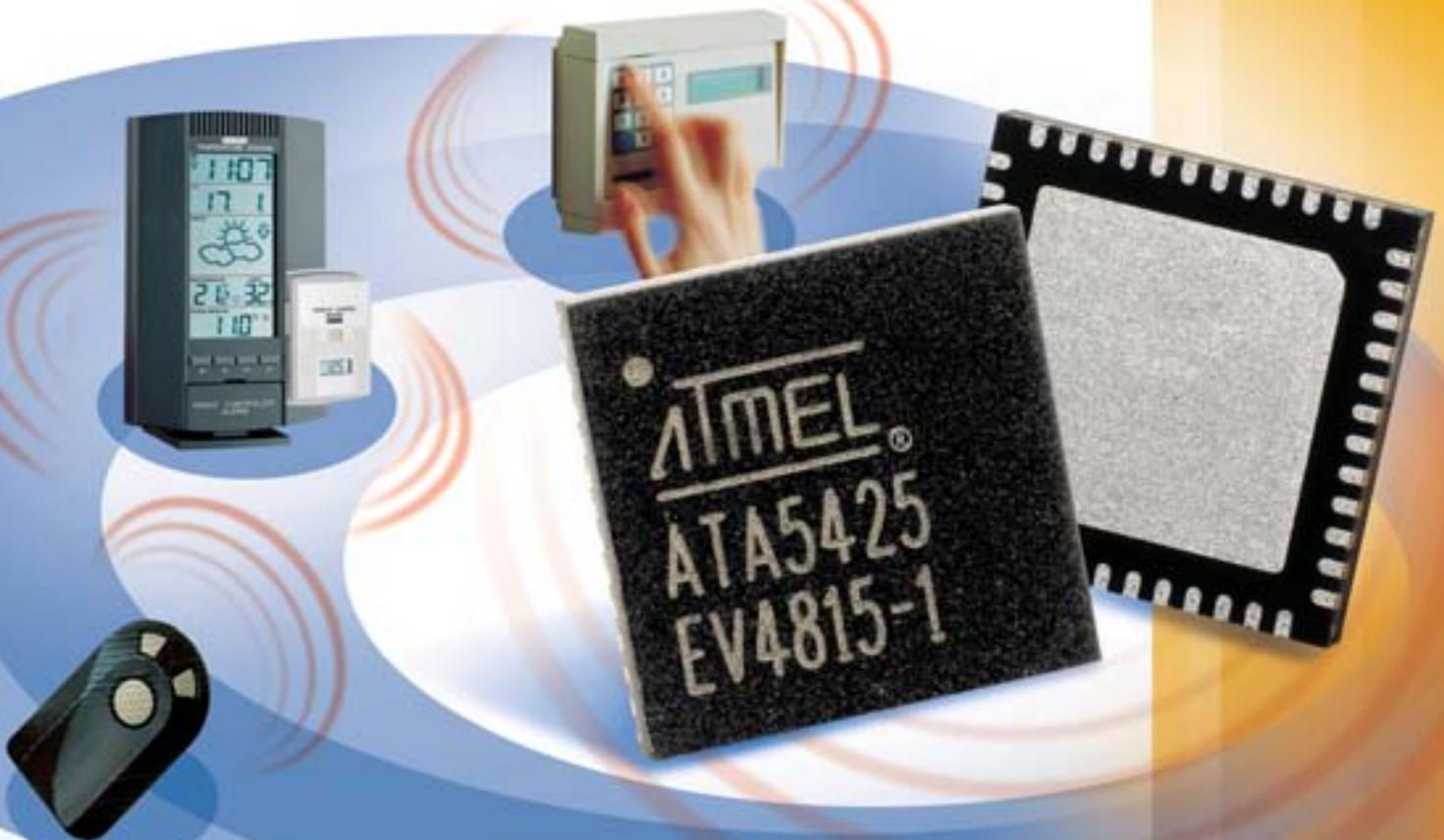


ATA5423/5/8/9

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

Atmel Corporation

2325 Orchard Parkway
San Jose, CA 95131 USA
Tel: (408) 441-0311
Fax: (408) 487-2600

Regional Headquarters**Europe**

Atmel Sarl
Route des Arsenaux 41
Case postale 80
CH-1705 Fribourg
Switzerland
Tel: (41) 26-426-5555
Fax: (41) 26-426-5500

Asia

Room 1219
Chinachem Golden Plaza
77 Mody Road Tsimshatsui
East Kowloon
Hong Kong
Tel: (852) 2721-9778
Fax: (852) 2722-1369

Japan

9F, Tonetsu Shinkawa Bldg
1-24-8 shinkawa
Chuo-ku, Tokyo 104-0033
Japan
Tel: (81) 3-3523-3551
Fax: (81) 3-3523-7581

Product Information:**Biometrics/Imaging/Hi-Rel
MPU/ High Speed
Converters/RF Datacom**

Avenue de Rochepleine
BP 123
38521 Saint Egrève Cedex
France
Tel: (33) 4-76-58-30-00
Fax: (33) 4-76-58-34-80

Literature request

www.atmel.com/literature

Web Site

www.atmel.com



Disclaimer: the information in this document is provided in connection with Atmel products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of Atmel products. Except as set forth in atmel's terms and conditions of sale located on atmel's web site, atmel assumes no liability whatsoever and disclaims any express, implied or statutory warranty relating to its products including, but not limited to, the implied warranty of merchantability, fitness for a particular purpose, or non-infringement. In no event shall atmel be liable for any direct, indirect, consequential, punitive, special or incidental damages (including, without limitation, damages for loss of profits, business interruption, or loss of information) arising out of the use or inability to use this document, even if Atmel has been advised of the possibility of such damages. Atmel makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Atmel does not make any commitment to update the information contained herein. Unless specifically provided otherwise, atmel products are not suitable for, and shall not be used in, automotive applications. Atmel's products are not intended, authorized, or warranted for use as components in applications intended to support or sustain life.

© Atmel Corporation 2006. All right reserved. Atmel® and combinations thereof are the registered trademarks of Atmel Corporation. Other terms and product names may be the trademarks of others.

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.