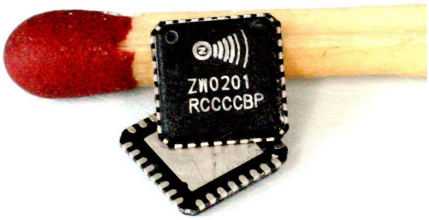
ZW0201

Z-Wave™ Single Chip

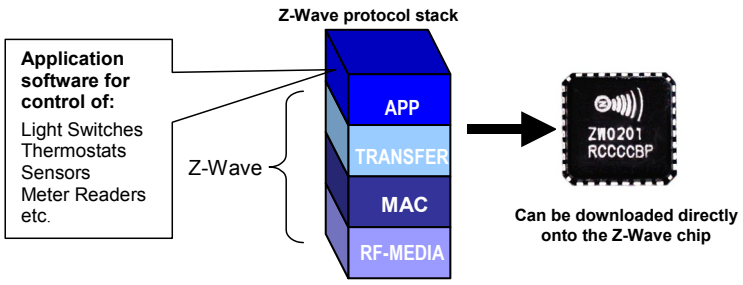


The ZW0201 Z-Wave Single Chip is a complete wireless solution for home automation consisting of an integrated RF transceiver, an 8051 micro controller, Z-Wave SW Application Programming Interface (API) and Flash memory storage for user application SW.

All of the above integrated into one single chip. Moreover the ZW0201 contains a 8/12-bit ADC, several general purpose I/O pins, a Power-On-Reset circuit / Brown-Out Detector, a Triac Controller, a Serial Peripheral Interface (SPI), an Interrupt Controller and a UART for connecting to peripheral devices. The chip is designed for very low power and low voltage applications.

The ZW0201 is highly optimized for battery-powered applications and easy integration to product with demanding size constraints.

The ZW0201 is specially suited for the Z-Wave protocol stack as depicted below:



Zensys provides a range of tools including reference RF circuitry designs and a comprehensive Developer's Kit to enable rapid OEM development. Complete ready-to-go application code examples are tailored to the OEM engineer's needs with fast time-to-market in mind.

ZW0201 Features:

- Optimized 8051 MCU & RF Transceiver
- Low cost for use in mass market products
- State of the art package form factor, only 5x5x0.9mm
- Reliable wireless communication
- Very low power consumption
- Complies with both Europe and US government regulatory requirements
- Future proof and versatile for integration into any product

About Zensys:

Zensys (www.zen-sys.com) is a leading provider of wireless networking technology for control and status reading applications. Our Z-Wave™, technology is an RF based, two-way; mesh network, communications protocol that enables everyday devices to be controlled and monitored wirelessly.
Zensys offers a family of low-cost, low-power, radio chip sets embedded with Z-Wave, as well as a suite of development tools and services making it easy for companies to develop wireless products for residential and light commercial applications including lighting and appliance control, energy management, access control, security, and building automation.

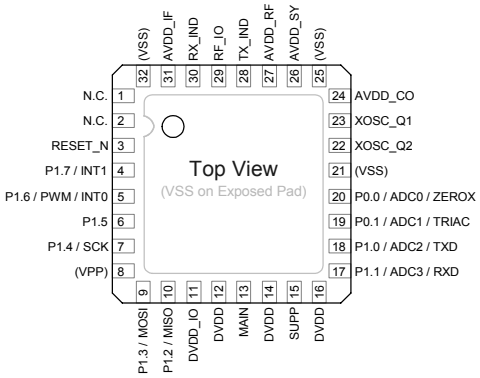
ZW0201 Z-Wave Single Chip Benefits

- **Low cost wireless connectivity**
- **Free on-chip Flash memory for application SW**
- **Eliminates the need for an additional micro controller to run the application**
- **For smooth OEM product development, Zensys offers a range of reference designs of the PCB circuitry surrounding the Z-Wave chip – including antenna circuitry and filters**

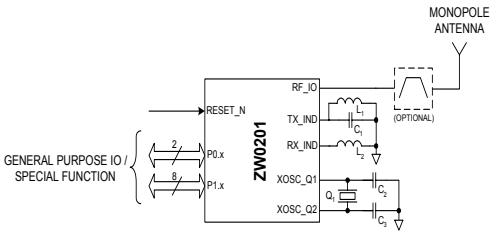
ZW0201 Product Specifications

RF frequency	868.42MHz (EU) 908.42MHz (US)
RF data rate	9.6kbps
Receiver sensitivity	Typ -104dBm
Programmable output power	-20 to 5dBm
X-tal frequency	32MHz
Internal system clock frequency	16MHz
Power consumption: - Transmit - Receive - Lowest power mode (Wake Up Timer and POR enabled)	Typ: 23mA @ -5dBm Typ: 21mA Typ: 2.5µA @ 25°C
Microprocessor type	Optimized 8051
Flash memory for Z-Wave API Library and OEM application SW	32kbyte
SRAM memory for Z-Wave API Library and OEM application SW	2kbyte
Package	32 pin QFN 5x5x0.9mm body size
Operating temperature	-35 to 120°C
Supply Voltage	2.1-3.6V
General Purpose I/Os	10
ADC	8/12 bit (4 mux'ed inputs)
External interrupt inputs	2 (1 can wake-up)
On-chip peripherals	PWM Triac Controller 9.6, 38.4,115.2kbaud UART

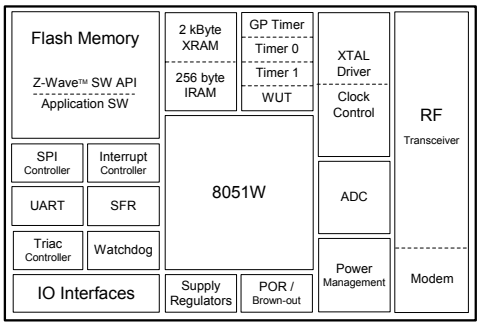
Note: data is applicable for Z-Wave Developer's kit v4.0x



ZW0201 Z-Wave Single Chip Pin-Out (Top-view)



Typical Application



ZW0201 Z-Wave Single Chip Block Diagram

ZW0102 and ZW0201 size comparison

To implement a Z-Wave solution into your company's next project, please contact Zensys at:

Europe
Zensys A/S
Emdrupvej 26
2100 Copenhagen Ø
Denmark
Tel: +45 70 20 99 40
Fax: +45 70 20 99 50

www.zen-sys.com

USA
Zensys Inc.
One Park Way
Upper Saddle River, NJ 07458
USA
Tel: +1 (201) 785-1940
Fax: +1 (201) 785-1946