



The SD3502 is a general-purpose Z-Wave SoC with a built-in microcontroller and Z-Wave RF transceiver, making it ideal for single microcontroller products, such as thermostats, door locks, lighting control, and sensors. The SD3502's 7mm x 7mm size, increased battery life, memory, and I/O capabilities support compact, single microcontroller Z-Wave solutions for complex applications.

The SD3502 SoC addresses the need for increasingly user-friendly and feature-rich Home Control applications by providing 128kB Flash and 16kB SRAM. The built-in keyscanner and infrared controller are ideal building blocks for implementing a Universal Remote Control that supports both learning and sending IR codes, as well as Z-Wave commands. The SD3502 provides hardware-assisted frequency agility, enabling the module to switch away from a noisy channel without communication or software overhead. The very-low sleep current of the SD3502 addresses the growing need for longer battery life, allowing existing Z-Wave products to experience up to double the battery life of current products.

The SD3502 continues to build on the Z-Wave ten-year track record of backward-compatibility, enabling all generations of Z-Wave to communicate seamlessly in a Z-Wave network.



Key Benefits:

- Improved RF performance
- Increased memory space
- Reduced power consumption

Target Applications:

- Door locks
- Lighting control
- Thermostats
- Sensors
- Remote controls
- Smart meters

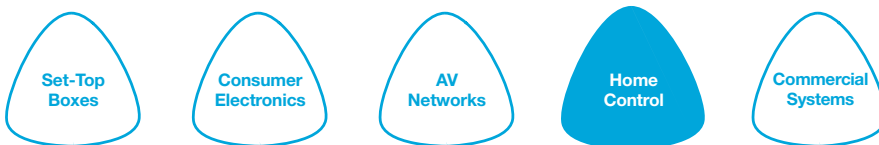
Key Features:

- SD3402 pin-compatible
- Integrated MCU and RF transceiver
- 128kB Flash, 16kB SRAM
- 1000 step dimmer (TRIAC/FET)
- 4-channel 12-bit rail-to-rail ADC
- 4-channel 16-bit LED PWM
- 23 GPIOs
- USB full-speed device, SPI, UART, PWM
- Keyscan controller up to 88 keys
- Flash programming through USB, UART and SPI
- Hardware AES 128 security engine
- 1µA sleep mode
- 9.6/40/100 kbit/s RF data rates
- Hardware-assisted frequency agility with up to 3 channels
- Battery monitor
- Power supply: 2.3-3.6V
- QFN48 7mm x 7mm

ACTUAL SIZE
7mm x 7mm



Powering the new digital home



The SD3502 chip is intended for high-volume applications. For the fastest time-to-market, please also evaluate the ZM5202 and ZM5101 modules, which offer integrated, pre-designed, quality RF performance with greatly reduced time-to-market. Before starting a Z-Wave SoC design, please contact your local Z-Wave sales office for guidelines.

Z-WAVE SoC COMPARISON TABLE

	SD3301	SD3502	SD3503
Application	General Purpose	General Purpose	Modem Only
Type	SoC	SoC	SoC
Package	QFN32 5x5mm	QFN48 7x7mm	QFN32 5x5mm
Frequency (MHz)	868/908/921	868/908/921	868/908/921
Bit-rate (Kbit/s)	9.6/40	9.6/40/100	9.6/40/100
Flash Memory (kB)	32	128	n/a
SRAM (kB)	2	16	n/a
I/O	10	23	n/a
Keyscan (# Keys)	none	88	n/a
IR Support	none	Transmit/Learn	n/a
UART/SPI	1/1	1/2	1/-
USB 2.0 Device	none	1	1
Security 128 Bit AES	Yes SW Only	Yes HW	Yes HW
Tx RF Power (dBm)	-20 to 0	-24 to +4	-24 to +4
Rx Sensitivity (dBm)	-104 @ 9.6kbit/s	-105 @ 9.6kbit/s	-105 @ 9.6kbit/s
Tx/Rx Current (mA)	36(@-2dBm)/23	35(@+3dBm) / 32	35(@+3dBm) / 32
Sleep Current (uA)	2.5	1	1

About Sigma Designs

Sigma Designs is a leading provider of system-on-chip (SoC) solutions used to deliver entertainment and control throughout the home:

Media Processing, Smart TV, Video Encoding, Home AV Networking, Video Processing, Home Control

These SoCs are supported with board-level reference designs, sophisticated system software, and technical documentation to form a complete solution for a variety of set-top boxes, smart TVs, consumer electronics, AV network devices, and home control systems.

For Regional Sales Offices and Distributor Contact Information

Visit: www.sigmadesigns.com/sales
Email: sales@sigmadesigns.com

HEADQUARTERS
1778 McCarthy Blvd.
Milpitas, CA 95035
Main: +1.408.262.9003
Fax: +1.408.957.9740
www.sigmadesigns.com