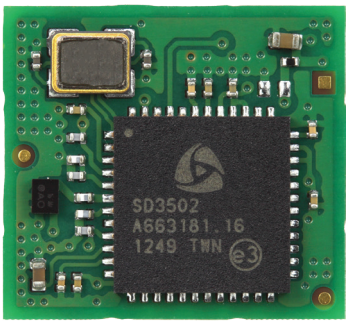
ZM5202

General Purpose Z-Wave® Module



The ZM5202 module combines a Z-Wave® SD3502 SoC (with a built-in microcontroller and Z-Wave RF transceiver), crystal, and passive RF components. This makes the ZM5202 ideal for single microcontroller products, such as lighting control and sensors. The ZM5202's small footprint, integrated crystal and passive RF components support single microcontroller Z-Wave® solutions for basic applications.

The ZM5202 module addresses the need for increasingly user-friendly and feature-rich Home Control applications by providing 128kB Flash and 16kB SRAM. The ZM5202 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 ZM5202 addresses the growing need for longer battery life, allowing existing Z-Wave products to experience up to double the battery life of current products.

KEY BENEFITS TO CUSTOMERS

- Pin-to-pin compatibility with ZM3102 and ZM4102 modules provides a fast upgrade path
- Hardware AES 128 security
- Reduced power consumption

TARGET MARKETS

- Thermostats
- Lighting control
- Sensors
- Smart meters

KEY FEATURES

- 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
- 10 GPIOs
- SPI, UART, PWM
- Hardware AES 128 security engine
- 1µA sleep mode
- 9.6/40/100 kbit/s data rates
- Regional modules for 868/908/921 MHz
- Hardware-assisted frequency agility with up to 3 channels
- Power supply: 2.3-3.6V
- 12.5mm x 13.6mm x 1.8mm module
- 1 channel 16-bit LED PWM
- Battery monitor
- Firmware upgrade through SPI

ACTUAL SIZE
12.5x13.6mm

POWERING THE NEW DIGITAL HOME:

SET-TOP BOXES | CONSUMER ELECTRONICS | AV NETWORKS | **HOME CONTROL** | COMMERCIAL SYSTEMS

SIGMA DESIGNS

ZM5202

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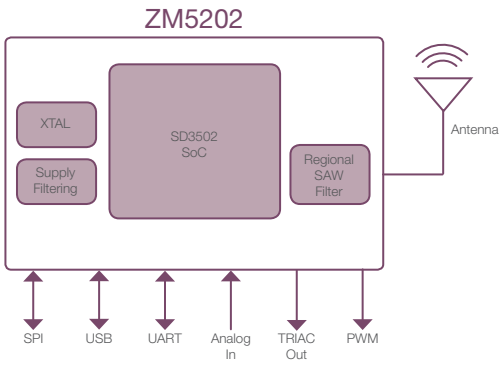

MODULE COMPARISON TABLE

	ZM3102	ZM5202	ZM5101	ZM5304
Application	General Purpose	General Purpose	Serial Interface	Modem Only
Type	PCB Module	PCB Module w/ SAW Filter	SiP w/o SAW Filter	PCB Module w/ Ant. & SAW Filter
Based on	SD3301	SD3502	Die	SD3503
Package	PCB Module 13x14mm	PCB Module 13x14mm	QFN56 8x8mm	PCB Module 13x30mm
Frequency (MHz)	868/908/921	868/908/921	868/908/921	868/908/921
Bit-rate (kkbit/s)	9.6/40	9.6/40/100	9.6/40/100	9.6/40/100
FLASH Memory (kB)	32	128	128	n/a
SRAM (kB)	2	16	16	n/a
I/O	10	10	30	n/a
Key-Scan (# Keys)	None	None	128	n/a
IR Support	None	None	Transmit/Learn	n/a
UART/SPI	1/1	1/1	2/2	1/-
USB 2.0 Device	None	None	1	1
Security 128-bit AES	Yes SW Only	Yes HW	Yes HW	Yes HW
Tx RF Power (dBm)	-22 to -2	-26 to +2	-24 to +5	-26 to +2 (to antenna)
Rx Sensitivity (dBm)	-102 @ 9.6kbit/s	-103 @ 9.6 kbit/s	-104 @ 9.6kbit/s	-103 @ 9.6kbit/s
Tx/Rx Current (mA)	36(@-2dBm) /23	41(@+2dBm) /32	32(@+3dBm) /32	41(@+2dBm) /32
Sleep Current (µA)	2.5	1	1	2
Battery to Battery (µA)	80	50	50	n/a

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.

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