

WIRELESS & SENSING PRODUCTS

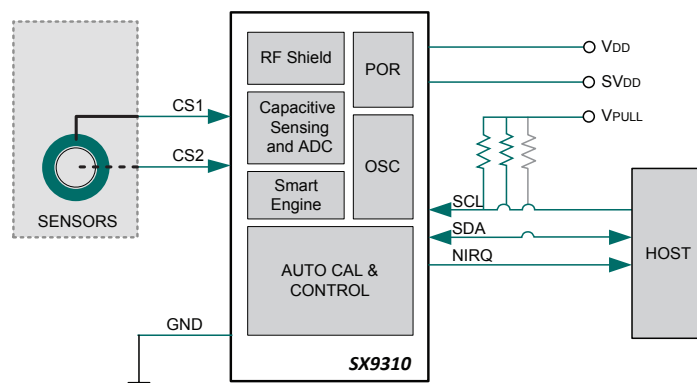
Features

- 2.7V – 5.5V core supply (VDD)
 - ♦ 1.65V – 2V host interface supply (SVDD)
 - ♦ 1.65V – 5.5V compliant host interface (VPULL)
- Up to three SAR capacitive sensor inputs
 - ♦ Patented on-chip smart engine for SAR (Body versus inanimate object detection)
 - ♦ Capacitance resolution down to 0.08fF
 - ♦ Capacitance offset compensation up to 100pF
 - ♦ Integrated RF shield
 - ♦ Advanced temperature compensation
- Automatic calibration
- Built-in startup proximity detection
- Ultra-low power consumption
 - ♦ Active mode: 70µA
 - ♦ Doze mode: 8µA
 - ♦ Sleep mode: 2.5µA
- 400kHz I2C serial interface
- Programmable interrupt or real-time status pin
- User NVM for custom default registers values (Standalone mode)
- Two reset sources: POR and soft reset
- -40°C to +85°C operation
- Compact Size: 1.362 x 1.332mm WLCSP package
- Pb & halogen free, RoHS/WEEE compliant

Applications

- Mobile phones
- Wearable devices
- Tablets
- Notebooks
- Mobile hotspots

Typical Application Circuit



Description

The SX9310 is a capacitive Specific Absorption Rate (SAR) controller. The SX9310 can use two of the three sensor inputs coupled to its smart engine for SAR to accurately discriminate between an inanimate object and human body. The third sensor input can be used independently for standard capacitive sensing.

The resulting detection is used in portable electronic devices to reduce and control radio-frequency (RF) emission power in the presence of a human body, enabling significant performance advantages for manufacturers of electronic devices with electromagnetic radiation sources to meet stringent emission regulations' criteria and SAR standards.

The SX9310 operates directly from an input supply voltage of 2.7V to 5.5V, while the I2C serial communication bus port is compatible with 1.8V host control to report body detection/proximity and to facilitate parameter settings adjustment. Upon proximity detection, the NIRQ output asserts, enabling the user to either determine the relative proximity distance, or simply obtain an indication of detection.

The SX9310 includes an on-chip auto-calibration controller that regularly performs sensitivity adjustments to maintain peak performance over a wide variation of temperature, humidity and noise environments, providing simplified product development and enhanced performance.

Ordering Information

Part Number	Package	Marking	Units/Reel
SX9310ICSTRT	WLCSP-9	MO8B	3000
SX9310EVKA	Eval. Kit	-	-



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