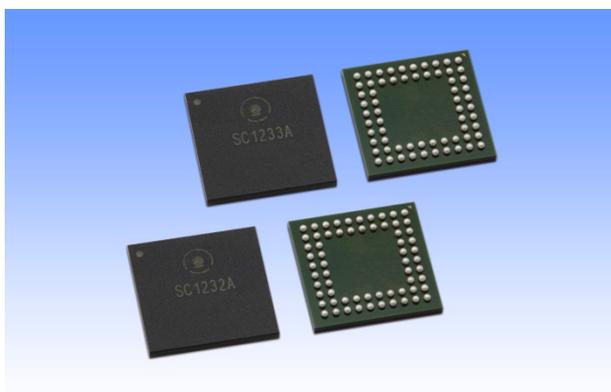


## Socionext Unveils New, Next-Generation Radar Sensors for IoT, Smart Home, and Other Applications

SC1230 Devices Detect Location and Movement, along with Presence, Direction and Distance

**Langen/Germany, 4. October, 2019** --- Socionext Europe GmbH, a leading provider of advanced SoC solutions for a wide range of applications, today introduced a new set of radio-wave ranging sensors providing highly sensitive, low-power sensor technology for a broad range of smart home and IoT devices.

The new compact, low-cost SC1230 Series includes two products that can detect the location and movement of individuals with ultra-high degrees of sensitivity. The SC1232AR3 measures the presence and the distance of an object, while the SC1233AR3 adds the ability to detect direction. The two sensor options provide total flexibility for customers worldwide. Both are available now in samples, with volume production scheduled for the first quarter of 2020.



SC1230 Series  
([view larger image](#))

Socionext's expertise in signal processing and circuit design technologies allows the new SC1230 Series to achieve ultra-low power consumption, ultra-compact size, and high performance, simultaneously. Incorporating basic signal processing functions into the sensor device reduces the number of external components, and makes it easier to use without specialized knowledge in signal

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processing. With a built-in antenna in a compact package of 9mm x 9mm operating at 0.5 mW, the SC1232 and SC1233 can be installed anywhere using battery power.

### Benefits of Radar Sensors

Radar sensors such as the SC1230 series can detect location and movement of persons without recording images or sounds. They are useful for developing new services and functions based on information about “human behavior,” while also addressing privacy concerns. Radar sensor works without camera for presence detection, thus offering anonymity. Additionally, it can operate behind non-metallic surfaces, walls or plastic housing and generate behavioral data such as movement, direction and distance. In comparison with conventional radar sensors, the SC1230 require no advanced knowledge to implement. They are also smaller, far less power-hungry and easier to install in home appliances.

The SC1230 lineup fits into the new generation of technological devices in which digital transformation (DX) is taking center stage and delivering seamless integration between the physical and the digital world. The major elements for digital transformation involve highly sensitive, compact, low-cost, and low power sensing technology, which can be implemented to various IoT devices. These sensor devices represent the kinds of smart, efficient devices that are required to advance toward “Society 5.0” that shifts economic and social focus, blurring the frontier between cyberspace and the physical space.

Socionext will continue to explore the potential of new sensing technologies by developing radar sensor products and proposing new applications and solutions. The company aims at expanding the usage of the products, not only for home appliances but also for mobile devices and industrial equipment.

### SC1230 Series Overview

All-in-one package radar sensor with built-in antenna, radio circuit, A/D converter and ranging calculation circuit. Comes with built-in motion detection function that detects the distance to an object and flags when movement is detected. Detection result can be quickly read after setting up the system from the host MCU via I<sup>2</sup>C/SPI. It operates at an average power consumption of approximately 0.5 mW for detection of persons operating at 0.1% duty cycle in motion detection mode.

<b>SC1232AR3 / SC1233AR3</b>	
<b>Operating Frequency</b>	24.06 - 24.24GHz
<b>Package</b>	9mm x 9mm x 1.18mm BGA, 0.8mm pitch,
<b>Supply Voltage</b>	1.5V – 1.8V (Core) / 1.8 – 3.3V (I/O)

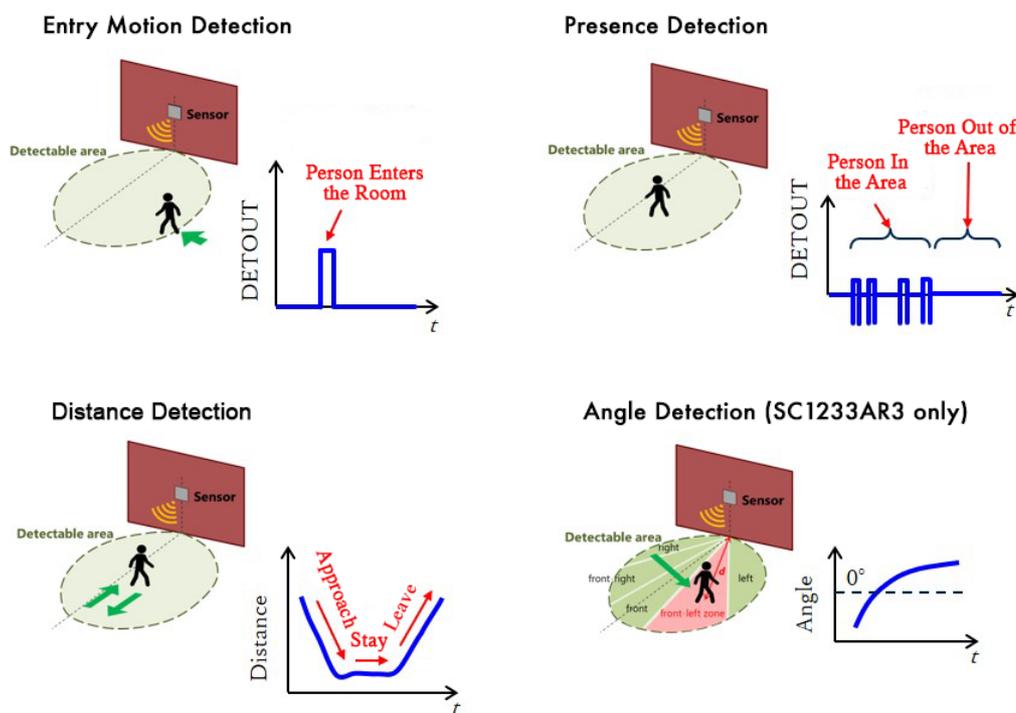
## SC1232AR3

The Digital Beam Shaper feature enables Field of View (FOV) selection of either 120 or 95 degrees. Detection range is 8m in the frontal direction. Click [here](#) for additional product info.

## SC1233AR3

The dual receiving antenna system allows 2D angle detection by using an external MCU. FOV is 120 degrees, and the detection range is 8m in the front direction. For angle detection, it outputs pre-processed data by the built-in circuit, so angle information can be obtained with a simple calculation. Click [here](#) for additional product info.

FOV is half-value angle. FOV and detection range with the actual usage vary depending on the surrounding environment.



Usage Examples of SC1230 Radar Sensors

[\(view larger image\)](#)

## About Socionext

Socionext is a global, innovative enterprise that designs, develops and delivers System-on-Chip solutions to customers worldwide. The company is focused on technologies that drive today's leading-edge applications in consumer, automotive and industrial markets. Socionext combines world-class expertise, experience, and an extensive IP portfolio to provide exceptional solutions and ensure a better quality of experience for customers. Founded in 2015, Socionext Inc. is headquartered in Yokohama, and has offices in Japan, Asia, United States and Europe to lead its product development and sales activities. For more information, visit [www.socionext.com/](http://www.socionext.com/).

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