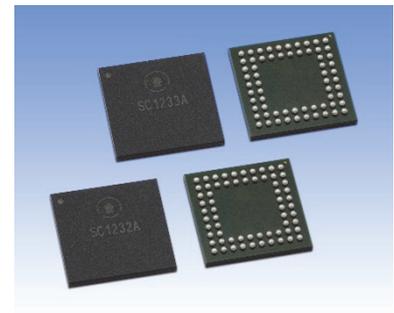


## Socionext Unveils Next-Generation Radar Sensors for IoT, Smart Home and Other Applications

**Yokohama, October 3, 2019** --- Socionext Inc., a leading provider of advanced SoC solutions for wide range of applications, today introduced new set of radio-wave ranging sensors for smart home and other IoT devices. The SC1230 Series, which can detect location and movement of persons with high sensitivity, low power consumption and low cost, is available now in samples, with volume production scheduled for the first quarter of 2020.

The digital transformation (DX), which seamlessly integrates the physical and digital worlds, is becoming essential to realize a super-smart society, dubbed "Society 5.0" --- the newly-formed Japanese technological initiative that shifts economic and social focus, blurring the frontier between cyberspace and the physical space. 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.



SC1230 Series  
[view larger image](#)

The new SC1230 series is a new lineup of radar sensor products and detects location and movement of persons with high sensitivity without recording images or sounds. They are highly useful in developing new services and functions based on information about "human behavior", while also addressing privacy concerns.

Conventional radar sensors required advanced knowledge for handling, and it was also difficult to install them in home-use appliances because of the power consumption and the physical dimensions. The company's expertise in signal processing and circuit design technologies allows the SC1230 Series to achieve ultra-low power consumption, ultra-compact size, and high cost performance simultaneously. Incorporating basic signal processing functions into the sensor device reduces the number of external components, and makes it easier to use without requiring specialized knowledge in signal processing. With built-in antenna in a compact package of 9mm x 9mm and power consumption at 0.5 mW, they can be installed anywhere using battery power. The lineup includes two products, the SC1232AR3 which measures the presence and the distance of an object, and the SC1233AR3 which can also detect the direction. Users can choose the right product depending on their applications.

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.

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For Press Inquiry

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**SC1230 Series Sample Price** (When purchasing 100 units)

SC1232AR3: 15.00 US dollar ea.

SC1233AR3: 16.50 US dollar ea.

**SC 1230 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. After setting up the system from host MCU via I<sup>2</sup>C/SPI, it can be used simply by reading the detection result. 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.

SC1232AR3/SC1233AR3	
Operating Frequency	24.06 - 24.24GHz
Package	9mm x 9mm x 1.18mm BGA, 0.8mm pitch, 64 pin
Supply Voltage	1.5V - 1.8V (Core) / 1.8 - 3.3V (I/O)

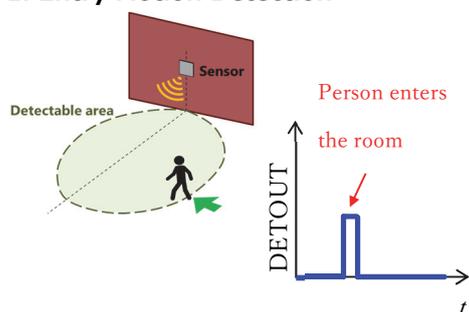
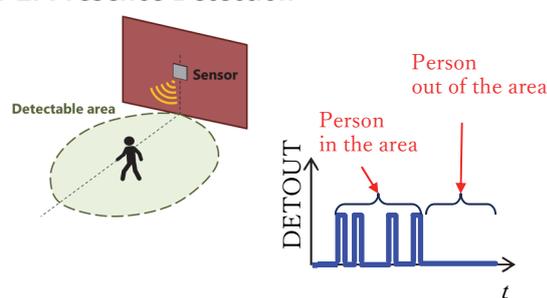
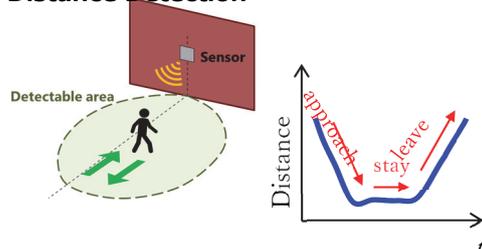
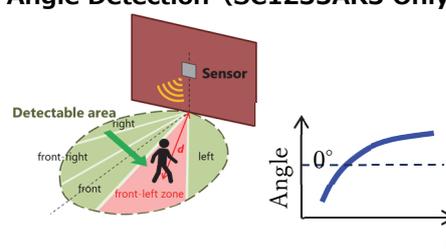
**SC1232AR3**

The Digital Beam Shaper feature enables to select a Field of View of either 120 or 95 degrees. The detection range is 8 m in the front direction.

**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.

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

**1-1. Entry Motion Detection****1-2. Presence Detection****2. Distance Detection****3. Angle Detection (SC1233AR3 Only)**

SC1230 Series Usage Examples

[view larger image](#)

**Customer Inquiry**

Socionext Inc.

<https://www.socionext.com/en/contact/>

**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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