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Socionext Introduces Ultra-compact 60GHz Radio-wave Ranging Sensor with Built-in Signal Processing Circuit

[Yokohama, Japan. June 03, 2022]--- Socionext Inc. today introduced the "SC1240 Series" radio-wave ranging sensors that use the 60GHz band with a built-in signal processing circuit for detecting the position and movement of a person with maximum accuracy. Sample shipments are scheduled for Q2 2022, and mass production in Q1 2023.

The SC1240 series is a radio-wave ranging sensor that complies with the global broadband 60GHz radio equipment standard. In addition to detecting the position and movements of a person, the sensor's high-precision sensing and built-in signal processing circuits utilize a 6.8GHz (57.1 to 63.9GHz) wide band. This enables the detection of minor movements as positional information, making the device ideal for advanced applications such as tracking human movements and operation by gestures.
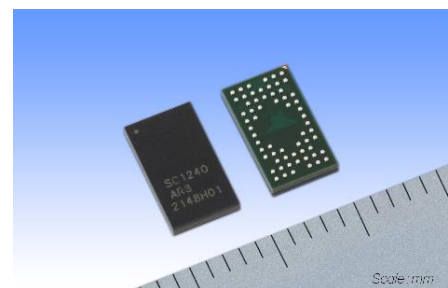

Photo: SC1240AR3

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The broadband 60GHz radio-wave range-finding sensor with built-in range-finding and angle-calculating signal processing circuit is the industry's first. It is based on the company's extensive experience and knowledge accumulated through years developing millimeter-wave radio communication LSIs and 24GHz radio-wave range-finding sensors. The highly integrated SC1240 series uses 3D position information without the need for high frequency or advanced signal processing technology. It includes multiple antennas, wireless circuitry, A/D converters, FIFO memory, SPI interface, a high-performance sequencer that flexibly changes the duty cycle and controls power consumption, and a signal processing circuit for high-performance distance measurement and angle calculation. It also provides an autonomous activation function. These features allow users to easily obtain the height and positional data on the X, Y and Z planes for detection of multiple people, gesture without contact, and other high-precision sensing. Following the company's debut of its SC1240AR3, Socionext will continue to develop products that meet customer needs and applications.

The new SC1240 series joins Socionext's lineup of advanced radio-wave ranging sensors powering the next generation advanced sensing applications. The full array of RF sensors enables Socionext's goal to be the market leader in smart sensor technology and to contribute to better user experience.

SC1240 Series Specifications

Key Features	3D position detection (X, Y, Z coordinate output), 3D presence/absence detection, autonomous activation, automatic intermittent measurement, high performance power supply noise filter, 11-bit oversampling ADC, advanced sequencer
Average Power Consumption	0.72 mW at 0.1% duty cycle operation
transmission frequency	57.1 to 63.9GHz
Package/Size	FC-BGA / 4mm x 7mm x 1.2mm

Related Links

SC1240 Series Product Catalog

https://www.socionext.com/en/download/catalog/AD04-00144-1E.pdf

Radio-wave Ranging Sensor Product Page

https://www.socionext.com/en/products/assp/radar-sensor/

Product Inquiries

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

About Socionext Inc.

Socionext Inc. is a global SoC (System-on-Chip) supplier and a pioneer of a unique "Solution SoC" business model through decades of industry experience and expertise. Socionext contributes to global innovation in advanced technologies including automotive, data center, networking, and smart devices. As a trusted silicon partner, Socionext delivers superior features, performance, and quality that differentiate its customers' products and services from their competition.

Socionext Inc. is headquartered in Yokohama, and has offices in Japan, Asia, United States and Europe to lead its development and sales activities. For more information, visit https://www.socionext.com/en/.

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