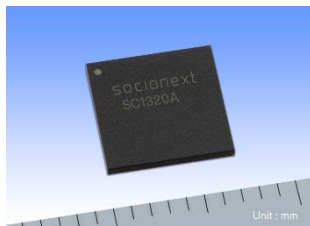socionext™

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Socionext Announces Shipment of the World's First HD-PLC LSI Compliant with IEEE 1901-2020

State-of-the-art, Compact, Low Power Device Supports Existing and New IoT Communication Applications

Yokohama, May 31, 2022--- Socionext Inc. today announced sample shipments of the SC1320A HD-PLC communication LSI starting in June 2022 and plans to start volume production in the third quarter of 2022. This LSI is the world's first semiconductor design using an IEEE 1901-2020 compliant IP core licensed by Panasonic Holdings Corporation.

Socionext will present the SC1320A LSI and evaluation kit at the HD-PLC Alliance booth at the JECA Fair 2022 held at Tokyo Big Sight from June 1 – 3, 2022.

"SC1320A" Product Information: https://www.socionext.com/en/products/assp/HD-PLC/

SC1320A LSI Sample view (Click to enlarge)

Evaluation Kit example (Click to enlarge)

HD-PLC Conforms to Standard IEEE 1901 -2020

The High-Definition Power Line Communication (HD-PLC) is a wired communication technology that supports communication networks by superimposing high-frequency signals (2 ~ 28 MHz) over existing power lines, telephone lines, twisted-pair, coaxial cables, and other wire types. In 2021, the 4th generation of HD-PLC was published in the IEEE 1901 -2020 standard specifies 1/2 and 1/4 transmission modes to enable longer distance communications. It is capable of facilitating a communication or network up to a reach of 10 km when combined with multi-hop technology. With these new features, this advanced HD-PLC solution is expected to become more widely adopted in many different fields and new application areas.

SC1320A Features and Specifications

The SC1320A is the world's first LSI that adopts the 4th generation HD-PLC (*1) with an IP core that conforms to the IEEE 1901-2020 standard licensed by Panasonic Holdings Corporation.
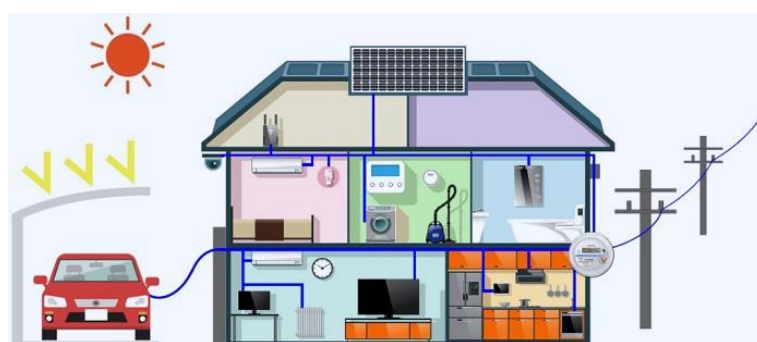
Socionext's strength in advanced signal processing analog frontend and circuit design technology enables implementation of the HD-PLC4 specification and features on the SC1320A while maintaining very low power consumption (200 mW). It uses only a single 3.3V power supply and comes in a compact 7 x 7 mm package. This solution has built-in I/Os such as SPI/UART and Ethernet MAC (RMII), allowing SC1320A to be easily embedded into home appliances, HEMS, and IoT products.

Item	Specification	Item	Specification
CPU	Arm® Cortex®-M series	Supply Voltage	3.3V unity
System Clock	125MHz	Package	QFN
Flash	Quad-SPI	Temperature	-40℃ to 85℃
I/F	SPI/ UART/ RMII	Power	200mW（Typ.）

SC1320A Specification Overview

Wide Range of Applications

SC1320A can be used for various daily life applications.

In public (Air conditioning and lighting control of buildings, BEMS, etc.)   Daily life (HEMS, home appliance control, security, etc.)

Future Development

Socionext has developed a radar sensor[2] with a built-in high-level detection of a person's position and movement, and SC1330A[3],a LPWAN 2.0 compatible, low-power and low-cost LSI for IoT tags. Socionext believes the combination of these solutions with the SC1320A LSI can deliver more value to IoT and Smart Connected Systems and Devices. For example, a high-sensitivity presence detection radar sensor can be used in a comprehensive hybrid communication network incorporating both the SC1320A and the SC1330A.

The small sized, low power SC1320A HD-PLC LSI helps companies develop high-end product at a lower cost. Socionext will continue to leverage the 4th generation HD-PLC benefits and features to create new technologies, values, and contribute to the future of Society 5.0.

Contact information for purchasing products and samples
Contact Form: https://www.socionext.com/en/contact/

*1: HD-PLC IP Core (Panasonic Holdings Corporation)
    https://www.panasonic.com/global/business/hd-plc/en.html
*2: Radio Ranging Sensor
    https://www.socionext.com/en/products/assp/radar-sensor/
*3: "SC1330A " LSI for IoT Tags
    https://www.socionext.com/en/pr/sn_pr20220526_01e.pdf

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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