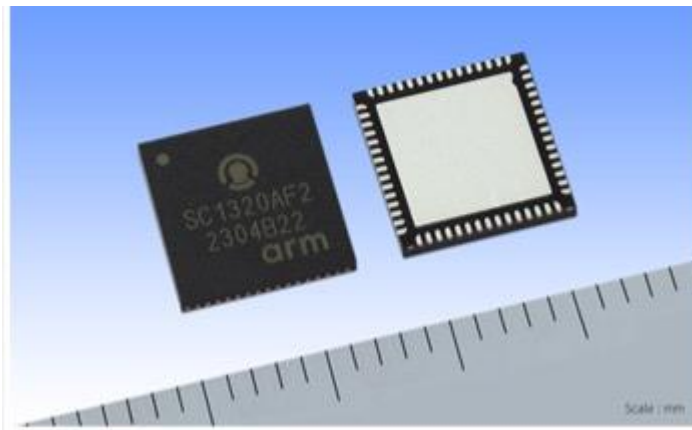


## Socionext Announces Volume Shipment of SC1320A HD-PLC™ LSI

High-Speed Power Line Communications System Installed in Urban Aquarium  
Featuring The Fourth-Generation HD-PLC LSI Compliant with IEEE 1901-2020

**Langen/Germany and Yokohama/Japan, 25. July, 2023** --- Socionext, a global leader in the design and development of innovative System-on-Chip designs, today announced mass production and shipment of SC1320A HD-PLC™ LSI started in June 2023.

The SC1320A is the world's first mass-produced<sup>1</sup> semiconductor design using an IEEE 1901-2020 compliant IP core licensed by Panasonic Holdings Corporation.



**Photo:** HD-PLC™ Communications LSI "SC1320A"  
([View larger image](#))

### HD-PLC for Urban Aquariums and Other Applications

A high-speed power line communications system featuring the SC1320A has been installed at the AAO SAPPORO<sup>2</sup> urban aquarium to be opened in the City of Sapporo, Japan this month.

The installed system was jointly developed by MIRAIT One Corporation and MMD Inc. This life support system (LSS) is equipped with MMD Inc's HD-PLC™ adapters featuring Socionext's SC1320A. It uses high-speed power line communications to remotely monitor the environment to ensure optimal living conditions for the aquarium's exhibits. The system provides an efficient facility operation along with 24-hour life support and maintenance for the exhibitions and living animals.

In addition to its use in aquariums, the SC1320A is suitable for a wide range of applications. Various industries, including those in energy management, lighting, smart meters, smart buildings, and

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heating, ventilation, and air conditioning (HVAC) systems are conducting evaluation and prototyping of the product.

With its small size (7mm × 7mm) and low power consumption (200mW), Socionext expects the SC1320A to play a key role in creating new values and contributing to a wide range of applications, through the deployment of HD-PLC™.

Related URL: [https://www.socionext.com/jp/pr/sn\\_pr20230714\\_01j.pdf](https://www.socionext.com/jp/pr/sn_pr20230714_01j.pdf) Japanese Only

### HD-PLC™ conforms to the IEEE 1901-2020 Standard

High-Definition Power Line Communication (HD-PLC) is a wired communications technology that can be used to set up networks by superimposing high-frequency signals (2 to 28 MHz) over power lines, telephone lines, twisted pair, coaxial cables, and other types of wires. The fourth-generation of HD-PLC was published in the IEEE 1901-2020 standard in 2021. The standard specifies new 1/2 and 1/4 transmission modes to enable longer-distance communications, having a range of up to 10 km when combined with multi-hop technology. This would encourage the deployment in a wide range of applications.

### Features and Specifications of SC1320A HD-PLC™ Communications LSI

- It is the world's first LSI that adopts the fourth-generation HD-PLC™<sup>3</sup>, an IEEE 1901-2020 compliant IP core licensed by Panasonic Holdings Corporation.
- By leveraging the features of HD-PLC™ as well as Socionext's expertise in signal processing, analog frontend and circuit design technology, the LSI features a small (7mm × 7mm) package for space efficiency combined with low power consumption (200mW) and a 3.3V single power supply.
- It comes with built-in general-purpose communication I/Os such as SPI/UART and Ethernet MAC (RMII) for easily embedded in home appliances, HEMS, and IoT products.

### Specifications

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

Notes:

1: The first in mass production and shipment of the 4<sup>th</sup> generation HD-PLC™ standard for power line communications; based on research by Socionext Inc. in July 2023.

2 : Urban Aquarium「AOAO SAPPORO」 (Sapporo City)

<https://aoao-sapporo.blue/> Japanese Only

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3 : HD-PLC™ IP Core (Panasonic Holdings Corporation)

<https://holdings.panasonic/global/corporate/technology/hd-plc.html>

### **Product Inquiry**

<https://www.eu.socionext.com/solutions/iot-and-radar-sensing/hd-plc%E2%84%A2-lsi.html>

※Adapters and modules that feature this LSI are available for inspection.  
For more information, please contact us using the form provided.

### **About Socionext Europe GmbH**

Socionext Europe (SNEU) plays a major role in the worldwide activities of Socionext Inc., one of the world's leading fabless SoC suppliers. Its Headquarters is in Frankfurt, Germany with offices in Munich, Germany and Maidenhead, UK. The Munich Design and Support Center, a leader in embedded graphic solutions, specializes in hardware and software product development for the automotive sector. Maidenhead supports Socionext's IP Development & Engineering Center with a focus on ultra-high speed data conversion IP. Socionext Europe offers customers a range of innovative Custom SoC solutions for today's state-of-the-art applications with total support from start to finish. For more information please visit [our website](#), email: [info@eu.socionext.com](mailto:info@eu.socionext.com) or connect with us on [Facebook](#), [LinkedIn](#), [Twitter](#) and [YouTube](#).

### **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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HD-PLC™ or HD-PLC™ mark is a registered trademark or trademark of Panasonic Holdings Corporation

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