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## Shikino High-Tech and Socionext Prototype Communication Module Compliant with HD-PLC Fourth-Generation Standard IEEE1901-2020

### Small form factor and low power expand IoT communication applications

Shikino High-Tech Co., Ltd. and Socionext Inc. today announced that the companies have developed a prototype communication module, the P-TMFSU-041, and confirmed its operation. The module incorporates Socionext's SC1320A, a communication IC compliant with IEEE1901-2020, the fourth generation of power line communication technology HD-PLC. The companies will continue to collaborate on the commercialization and volume production of the module, aiming for the full-scale spread of HD-PLC and the expansion of the market. The P-TMFSU-041 and the SC1320A will be exhibited at the HD-PLC Alliance booth at "Smart Building Expo", held at Tokyo Big Sight from December 6.

The new standard IEEE1901-2020 has "1/2" and "1/4" modes that enable communication over longer distances compared to the conventional technology and is expected to be utilized for wider range of applications.

Socionext has developed the SC1320A, the world's first IC that uses the fourth generation of HD-PLC (HD-PLC4), an IEEE 1901-2020 compliant semiconductor design IP core licensed from Panasonic Corporation. With its expertise in signal processing and the circuit design, Socionext has achieved low power consumption (200mW), a single 3.3V power supply, and a small package (7mm x 7mm) while taking advantage of the features of HD-PLC. Socionext plans to start volume production of the SC1320A in the third quarter of 2022.



P-TMFSU-041 with SC1320A

Shikino High-Tech has been developing, manufacturing, and delivering PLC module products for IoT communications used in embedded devices. Equipped with the SC1320A, the new P-TMFSU-041 communication module complies with the HD-PLC4 standard and achieves high-speed data communication using existing power lines. By using existing power lines, it enables to build a wired network without installing new communication cables.

The P-TMFSU-041 is equipped with a multi-hop function that allows multiple PLC modules to be relayed to extend the communication distance, making it possible to implement the technology into a wide range of situations requiring long-distance communication, such as factories, buildings, and construction sites. Communication using the product maintains a high level of security through a function that dynamically determines the transmission path status between modules, in addition to the data encryption. The module is compact and can accommodate multiple wire shapes, making it easy to integrate into high-speed communication devices that use existing wiring. Shikino High-Tech will continue to evaluate and develop the module, aiming to commercialize it in 2022.

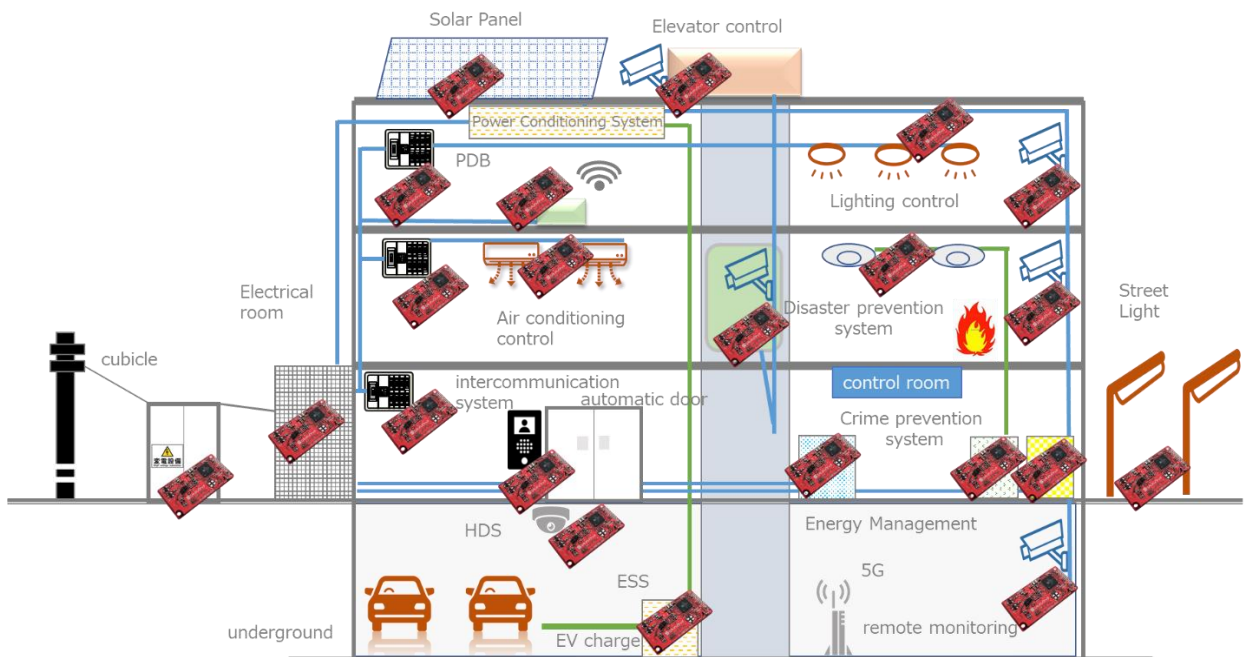
As members of the HD-PLC Alliance, Socionext and Shikino High-Tech will continue to work closely together and propose a variety of applications that utilize HD-PLC, in addition to delivering stand-alone ICs and communication modules, thereby contributing to the spread of this technology and the expansion of the market.

Shikino High-Tech communication module P-TMFSU-041 information:  
[https://www.shikino.co.jp/eng/products/P-TMFSU-041\\_specifications\\_E.pdf](https://www.shikino.co.jp/eng/products/P-TMFSU-041_specifications_E.pdf)

Socionext HD-PLC IC SC1320A information:  
<https://www.socionext.com/en/products/assp/HD-PLC/>

About HD-PLC IP core (Panasonic Corporation):  
<https://www.panasonic.com/global/business/hd-plc/en.html>

### Application Example: Smart Building





### **About Socionext Inc.**

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

### **About Shikino High-Tech Co., Ltd.**

Shikino High-Tech's main business is the development and manufacture of test equipment (Burn-In System) that applies loads such as temperature to automotive semiconductors, dedicated measuring equipment for industry, camera modules for electrical equipment, and the contract design of analog/digital LSI circuits. In a boost of the IoT, the company realizes high-grade "One Stop Solution" from development to in-house manufacturing based on various ideas and high technology. Founded in 1975, Shikino High-Tech Co., Ltd. is headquartered in Uozu Toyama, and has the factory in HQ, offices in Tokyo, Osaka and Fukuoka to develop its products and lead sales activities. For more information, visit <https://www.shikino.co.jp/eng/>

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