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Panasonic Next-Generation PLC Technology Approved as Baseline Specification by IEEE P1901.3 Working Group

The New Global Standard for Power Line Communications for IoT (Internet of Things) Applications

Osaka, Japan - Panasonic Corporation announced today that it has presented its fourth-generation scalable HD-PLC¹ technology to IEEE Standardization Working Group². This technology enables communications over longer distances and improves communication speeds by controlling the range of frequencies in use. Following the Working Group's deliberations, specifications using this technology as the technical baseline have been approved as an IEEE P1901.3 Working Document.

The baseline technology included in the approved IEEE P1901.3 Working Document is based on the technology (standard mode) already adopted for the IEEE 1901 standard, using Panasonic's unique Wavelet OFDM format, but includes a new function (2x/4x modes) which broaden the communication band by a factor of two or four. The 2x mode achieves a communication speed of 500 Mbps, while the 4x mode – which requires coaxial wires or other specialist wires – achieves a maximum communication speed of 1 Gbps.³ The new function also enables to narrow the communication band by another factor of two or four (1/2x, 1/4x) from the standard mode. Narrowing the communication band reduces communication speed, but by concentrating energy into a narrow band frequency, communication distance can be lengthened by up to about two times compared to the standard mode.⁴ By enabling to switch between different modes, this technology can flexibly meet the specific needs of each individual customer, and bring HD-PLC technology to a broader range of uses.

The IEEE P1901.3 technology is labelled Internet of Things (IoT) PLC. It can be used both in homes, and within large-scale networks covering everything from larger buildings and factories to entire social infrastructures. It is anticipated that the technology will be used in a wide range of fields in future.

Panasonic will continue to provide user convenience by ensuring connectivity with existing HD-PLC products, and developing a PLC technology that can operate in harmony with other formats. The company will also work through organizations such as the HD-PLC Alliance⁵ to ensure mutual connectivity with IEEE P1901 Series products, and continue to supply PLC products that users can use with confidence.

Notes)

1. HD-PLC is the name of a high-speed Power Line Communication (PLC) system created by Panasonic Corporation, and is a trademark or registered trademark in Japan and other countries.
2. The standardization Working Group relating to Power Line communications standards under IEEE (Institute of Electrical and Electronics Engineers).
3. 500 Mbps and 1 Gbps are theoretical maximum physical speeds.
4. Maximum communication distance varies depending on communication environment conditions.
5. Established on September 25, 2007 with the aim of ensuring communications compatibility and widespread adoption of HD-PLC high-speed Power Line Communication technology.
Website: <http://www.hd-plc.org/>

About Panasonic

Panasonic Corporation is a worldwide leader in the development of diverse electronics technologies and solutions for customers in the consumer electronics, housing, automotive, and B2B businesses. Celebrating its 100th anniversary in 2018, the company has expanded globally and now operates 591 subsidiaries and 88 associated companies worldwide, recording consolidated net sales of 7.982 trillion yen for the year ended March 31, 2018. Committed to pursuing new value through innovation across divisional lines, the company uses its technologies to create a better life and a better world for its customers. To learn more about Panasonic:

<https://www.panasonic.com/global>

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