

FOR IMMEDIATE RELEASE



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### MegaChips Develops New Network Communications Technology to Promote the Widespread Adoption of Energy Savings

MegaChips Corporation (Code No. 6875, First Section of the Tokyo Stock Exchange; “MegaChips,” hereafter) is pleased to announce the development of a new network communications technology to receive equipment power information and sensor information in real time with high communication quality. In a world-first, MegaChips has integrated mutually complementary composite communication technologies that combine wireless communications and power line-based communications with various sensor interfaces and communication protocols on a single LSI chip (known as “BlueChip”). MegaChips plans to supply samples along with various development support tools next spring.

#### Details

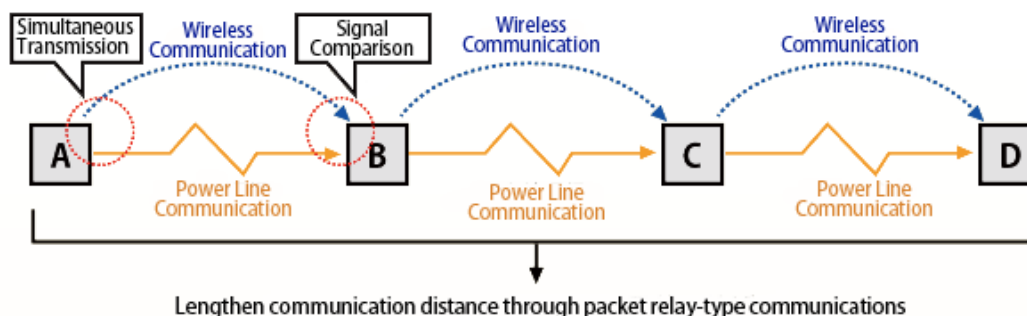
#### 1. Achieving Groundbreaking High-quality Communications through New Network Communication Technologies

There has recently been an increasing need for factories, office buildings and homes to engage in the efficient energy management (energy conservation) of electrical equipment towards the realization of a low carbon society.

In the energy management of equipment to date, information has been transmitted between devices by a single means, either wirelessly or over power lines. Due to obstructions and radio wave interference on wireless communications and power line noise and signal degradation on power line-based communications, the frequent inability to ensure communication quality has been a problem.

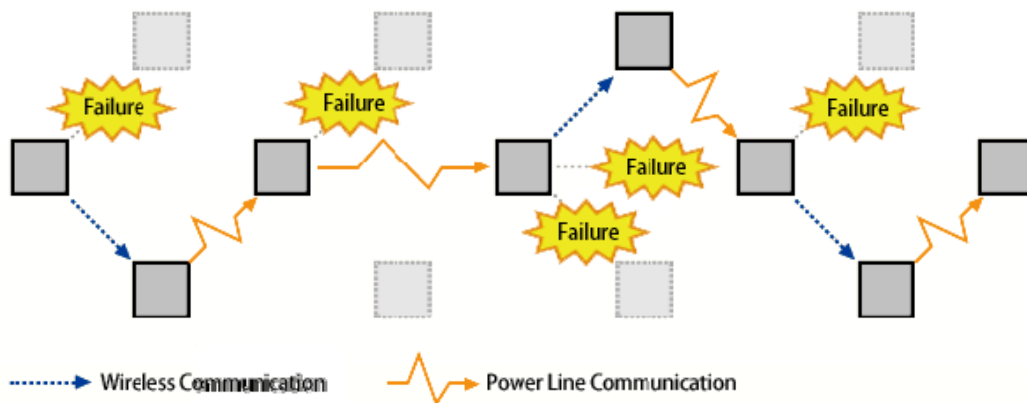
Given this, MegaChips has achieved revolutionary high-quality communications through a new network communication technology that integrates mutually complementary composite communication technologies equipped with both wireless and power line-based communication functions with smart routing technologies able to autonomously select optimum routes in dynamically changing environments. In doing so, it has succeeded in solving conventional problems.

##### 1.1 The Features of Mutually Complementary Composite Communication Technology



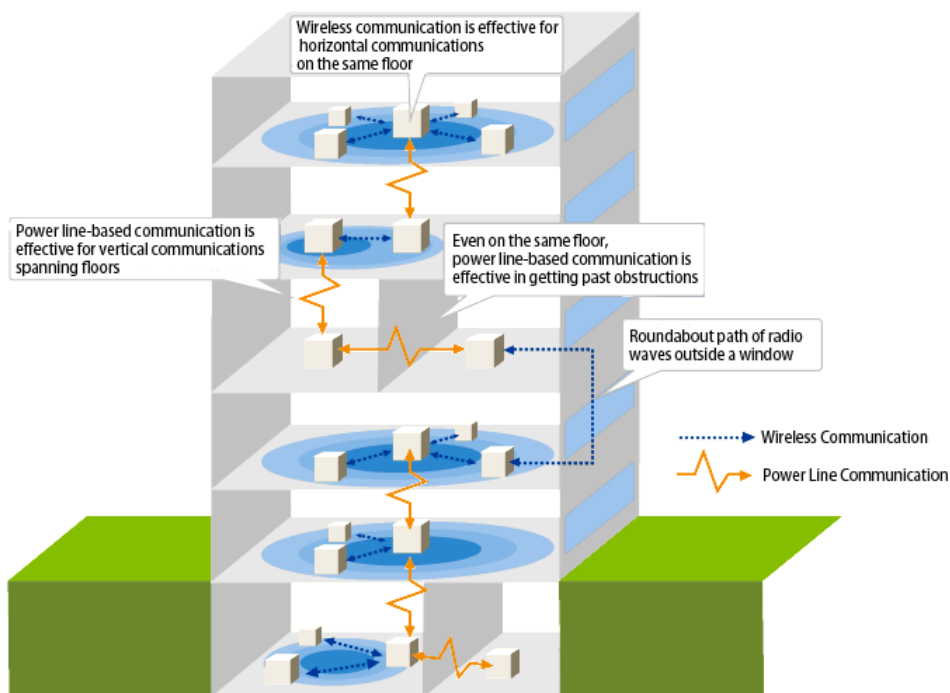
- Information is transmitted to the target equipment using wireless communication and power line communication simultaneously.
- The equipment receiving the information selects the most accurate data and simultaneously transmits the data to the next target equipment.
- Environmentally-dependent problems are reduced through mutually complementary composite communication technologies using wireless and power line-based communications.

## 1.2 The Features of Smart Routing Technology



- With our smart routing technology, since the transmission route and means of communication (wireless / power line) is optimized autonomously over a certain period, we can respond flexibly to issues such as obstructions and noise. For example, when wireless communications become difficult due to an obstruction, data is sent to equipment capable of power line-based communication, and conversely when power line-based communication becomes difficult due to power line noise, data is sent to equipment that is able to handle wireless communication. In this way, communication quality is improved compared with the use of a single means of communication.

## 1.3 Verifying Communication Quality of the New Network Communication Technology



- For example, in an experiment conducted in a small-to-medium sized office building, for communications between equipment on the same floor wireless-only multi-hop communications achieved an average communication quality of 80% while power line-only multi-hop communications produced an average of 70%. In communication between different floors, both communication methods encountered difficulties. When our new network communication technologies were used, these problems were resolved and we managed to achieve nearly 100% communication quality. Experiments conducted in conventional homes produced similar results, although there was some variation depending on building structure and environment.

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## 2. Planned Supply of Sample Single-Chip LSI (BlueChip) and Development Support Tools from Next Spring

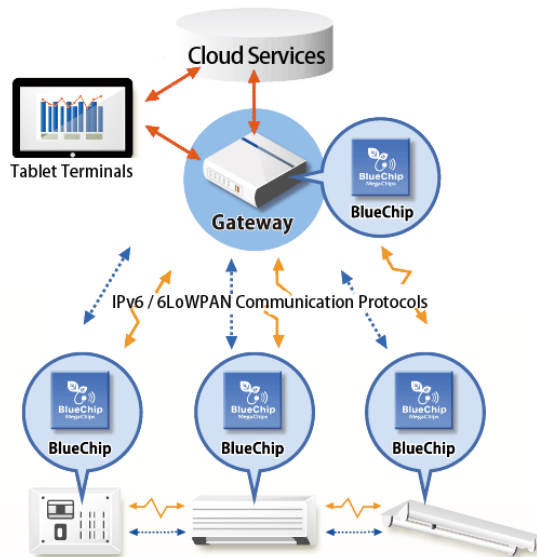
Previously, since separate LSIs for wireless communication and power line-based communication and many other peripheral components were required to achieve new network communications with high communication quality, system size and costs ballooned and the incorporation of various equipment proved problematic.

Given this, in a world-first we developed a “BlueChip” LSI that integrates these new network technologies along with various sensor interfaces and communication protocols on a single chip, and plan to supply samples of these next spring. By achieving single-chip consolidation, it is possible to curb system size and costs and incorporate the technology into the equipment.

Also note that for wireless communication we are among the first in the industry to employ ARIB-compliant IEEE802.15.4g. For power line-based communications have adopted a power transmission system which is resilient to power line noise and offers superior cost performance.

In addition, we plan to provide software development support tools to help device manufacturers embed the technology in various equipment, and service development support tools to help service providers development internet services that work together with BlueChip-loaded equipment.

## 3. Contributing to the Creation of New Services that Work with Cloud Computing



Since BlueChip-loaded equipment employs communication protocols (IPv6 / 6LoWPAN) enabling seamless connection to the Internet, interoperation with cloud services is simple, and the administration and control of equipment from IPv6 networks using smartphone and tablet terminals is also possible.

For example, by incorporating the chips into the likes of smart meters, power distribution boards, solar power systems and electric vehicles in the home, or into highly energy-efficient lighting and air conditioning equipment in an office, comprehensive energy management in the form of a “Smart Home” or “Smart Office” can be achieved in an environment with high communication quality.

Through BlueChip and the development support tools, MegaChips will help to create new value on the part of device manufacturers and service providers.