Renesas creates a near-field wireless communication with no battery use

June 16 2011, by Katie Gatto

(PhysOrg.com) -- Renesas Electronics Corp has announced the development of a near-field wireless communication technology that can transmit data to Bluetooth- and wireless LAN-compatible devices without the use of a battery. The system instead makes use of the electricity generated by environmental radio waves.

The details of the project were announced at the 2011 Symposium on VLSI Circuits event, which took place at June 15th. Since the system does not require a battery, it has the capability of being used to create an ultra-small sensor node that could be used in a variety of applications and send data to a smart phone that is within a distance of one meter. The system could also be used with any Bluetooth- compatible device in range. This is possible because the system reduces the use of power from several tens of milliwatts to several microwatts, which represents a significant decrease in power.

In order to achieve that Renesas created a module that is equipped with an LC resonant circuit. The circuit allows the system to absorb radio waves through LC resonance. The harvesting occurs at a rate of about 10μW from environmental radio waves. The radio waves can then be used to transmit the signal to mobile devices, allowing them to interpret the device as the sensor node sending "0" signals when it is on and "1" signals when the device is not transmitting.

While there is little to no information on when the device will be available to the consumer market. Though the company expects that it

will be within the next two to three years.

More information:
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