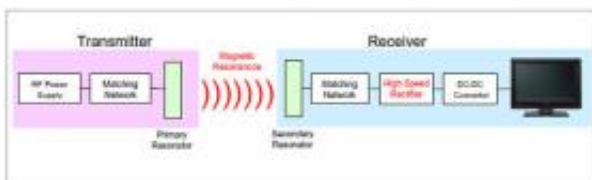


Sony develops highly efficient wireless power transfer system based on magnetic resonance

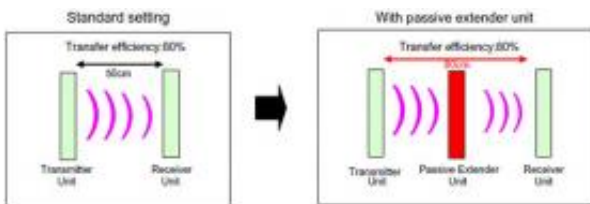
October 2 2009



Sony Corp. today announced the development of a highly efficient wireless power transfer system that eliminates the use of power cables from electronic products such as television sets. Using this system, up to 60 Watts of electrical energy can be transferred over a distance of 50cm (at an efficiency of approximately 80%, approximately 60% including rectifier).

This new wireless power transfer system incorporates a form of contactless electrical energy transmission technology based on [magnetic resonance](#). With magnetic resonance, electromagnetic energy is only transferred to recipient devices that share the identical resonant frequencies as the energy source, so [energy transfer](#) efficiency is maintained, even when misalignment occurs. Furthermore, even if there are metal objects located between the transmitter and receiver, no heat induction occurs.

Sony has also drawn on its years of experience developing high [radio frequency](#) (RF) technologies for use in wireless communications and broadcast products to create a new rectifier that realizes both high speed and high efficiency. The new wireless power transfer system combines these technologies to realize a transfer efficiency of 60%, even when a rectifier is included. Sony has also developed passive extender units that are set to the same frequencies as the transmission and recipient devices, enabling the transfer distance to be extended from 50cm to 80cm (based on fundamental experiments conducted using components only) without any degradation in transfer efficiency.



With the growth in networked products, the number of cables used to connect these products has also increased. While data cables are rapidly being replaced with wireless communication systems such as Wi-Fi, the demand for wireless power transfer systems is also continuing to grow. Sony will proceed with its efforts to develop further technologies that meet customer needs for the wireless transfer of power across a wide range of products, distances and energy levels.

Main Features

1. High speed rectifier realizing high transfer efficiency

[Sony](#) has drawn on its years of experience and expertise in RF

technologies, and also incorporated optimal new components to develop a new rectifier that combines both high speeds and high efficiency. This minimizes energy loss when transferring energy from the transmitter to the receiver, and enables products such as television sets and mobile PCs to be efficiently powered, wirelessly.

2. Transfer distance is able to be extended using passive extender units
Passive extender units placed between the transmitter and receiver units enable the transfer distance to be extended without any degradation in efficiency. Based on fundamental experiments conducted using the component devices only, transfer distance can be extended from 50cm to 80cm. Although relatively large transmitter and receiver units are generally required for transferring [energy](#) over long distances, passive extender units can be used to relay power between small-sized transmitter and receiver units.

Source: Sony

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