

## **Philips introduces industry's first ULPI-compliant family of USB and USB OTG transceiver chips**

*Philips chip interface verified by ARC International, Mentor Graphics and  
Synopsys*

**San Jose, Calif., March 1, 2004** – Royal Philips Electronics (NYSE: PHG, AEX: PHI) today announced the industry's first Hi-Speed family of Universal Serial Bus (USB) transceivers that are compliant with the new UTMI+ Low Pin Interface (ULPI) specification. ULPI allows chip and system designers to connect a Hi-Speed USB transceiver to USB core logic embedded in application-specific integrated circuits (ASICs) and systems-on-chip (SoCs). This means that chip and system designers who use the ULPI-compliant USB solutions can reduce design time, simplify testing and ensure interoperability with USB transceivers – saving time and money. The Philips USB ULPI interface for the ISP1504/5/6 has been verified with major IP vendors including ARC International, Mentor Graphics and Synopsys.

USB is the most widely deployed digital wired connection interface on PCs, printers, digital still cameras (DSCs), personal digital assistants (PDAs), portable MP3 music players, cell phones, monitors, and other digital consumer electronics products. USB allows consumers to easily establish high-speed connections between products to transfer digital files such as photos, multimedia content and data. With USB OTG, consumers can easily connect these devices to synchronize information or transfer content without requiring a host PC.

“Philips continues to demonstrate leadership in USB by helping to establish the ULPI specification and delivering the industry's first ULPI product,” said Michael Kaskowitz, general manager of the Mentor Graphics Intellectual Property division. “As a key contributor to the ULPI specification, Mentor Graphics continues to work closely with Philips to enable rapid USB product development.”

The ULPI specification provides a standard 12-pin interface between host, peripheral and OTG functionality on an ASIC or SoC and an external USB transceiver. As a result, more USB functionality can be integrated while the pin-count of the transceiver has been reduced from 100 pins to as few as 24 pins depending on the package. Philips ULPI transceivers have been designed to minimize footprint, integrating many discrete functions on the silicon substrate and using packages as small as 4mm x 4mm. As part of the ULPI specification, UTMI+ references the USB 2.0 Transceiver Macrocell Interface Plus, which builds on Intel's UTMI specification revision 1.05.

Philips' ULPI transceiver family is targeted at a variety of stand-alone host, peripheral and OTG applications. ISP1504, a 32-pin full-featured transceiver, is designed for full host, peripheral and OTG functionality, while the ISP1505, a 24-pin transceiver, provides the necessary functionality for stand-alone hosts and peripheral applications. Lastly, the ISP1506 with 24-pin double data rate is aimed at mobile applications that require full-featured hosts, peripheral applications and an OTG transceiver.

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**Pricing and Availability**

Philips' ULPI transceivers are sampling in March 2004. The ISP1504 is priced at USD \$1.28. The ISP1505 is priced at USD \$1.18. The ISP1506 is priced at USD \$1.35. All prices are for quantities of 100,000. Evaluation kits are also available.

**About Royal Philips Electronics**

Royal Philips Electronics of the Netherlands is one of the world's biggest electronics companies and Europe's largest, with sales of \$32.8 billion (EUR 29 billion) in 2003. It is a global leader in color television sets, lighting, electric shavers, medical diagnostic imaging and patient monitoring, and one-chip TV products. Its 164,500 employees in more than 60 countries are active in the areas of lighting, consumer electronics, domestic appliances, semiconductors, and medical systems. Philips is quoted on the NYSE (symbol: PHG), Amsterdam and other stock exchanges. News from Philips is located at [www.semiconductors.philips.com](http://www.semiconductors.philips.com).

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