

## **Banpil Photonics, Inc.**

For Immediate Release

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### **Banpil Photonics, Inc. demonstrates first ever over 10 Gb/s electrical signal transmission through 1.5-meter long metallic interconnect laid in rigid FR4-PCB**

**Santa Clara, California – November 13, 2006** - Banpil Photonics, Inc., a leading company in expanding the boundaries of optics and electronics through innovation of fundamental technology, today announced that it has successfully demonstrated the first ever over 10 Gb/s electrical signal through 1.5-meter long rigid FR4-Printed-Circuit-Board (PCB) using its high speed metallic (electrical) interconnects technology. FR4 is an epoxy-glass composite, widely used as an insulating material for making PCB for consumer, industrial, and military equipment.

Banpil's demonstration of its next generation metallic interconnects was done in cooperation with Vitesse Semiconductor. The Vitesse VSC3008 8X8 crosspoint switch, capable of generating a signal of 11 Gb/s with a 620 mV p-p, was used. Banpil's proprietary metallic interconnects in rigid FR4-PCB can carry a 10Gb/s electrical signal, output from the crosspoint switch over a 1.5-meter distance with 2-(SMA) connectors and with a zero setting of the pre-emphasize and equalizer. Banpil also confirmed 20 Gb/s signal transmission over 1-meter long FR4-PCB with 2-connectors. Normally a 620 mV p-p signal at 10 Gb/s can transmit across 0.254-meters (10-inches) with 2-connectors. The remarkable channel efficiency of Banpil's metallic interconnect in FR4-PCB made it possible to increase the signal carrying distance by more than 6 times while significantly reducing power consumption.

"This is a significant breakthrough, because its a purely electrical solution requiring significantly less power to drive the signal over long interconnects. Implementing this interconnect would not only help to significantly reduce total power budget of the system, but it also helps to sustain the utilization of a standard matured material like FR4 and its manufacturing process in fabricating PCBs. We are extremely pleased to show significant performance enhancement that our high speed metallic interconnect is capable to provide over current solutions," said Dr. Achyut Dutta, Banpil's CEO. "This demonstration proves that over 20 Gb/s signal transmission across 1-meter and over 10 Gb/s signal across 1.5-meter long rigid FR4-PCB boards, are possible."

"The Vitesse VSC3008 combined with Banpil's next generation high-speed electrical interconnects FR4-PCB makes 11 Gb/s backplane designs of up to 1.5-meter a reality. Banpil's breakthrough interconnects technology optimizes use of high speed signal conditioners helping to reduce the chip power budget," said Gary McCormack, Product Line Director of Data Interconnect at Vitesse.

The FR4-based PCB market estimated at \$68 billion by 2008 is very mature and difficult to replace. Yet FR4-PCB boards face severe limitations as the demand for high speed systems of over 10 Gb/s continues to grow. Banpil's interconnect technology with its unique capability to increase significantly the signal carrying capacity will help prolong FR4 usage in PCB boards, and manufacturing processes over the next 20 years. While reducing signal-loss and projected to increase bandwidth to as high as 40 Gb/s in the future, Banpil anticipates its technology and fabrication techniques will help maintain PCB manufacturing costs comparable to today's FR4-PCB. The company is actively seeking licensees, strategic partnerships, and investors. Banpil's metallic interconnect products are expected to come to market in Q2 of 2008.

#### **About Banpil Photonics, Inc.**

Banpil Photonics develops and licenses fundamental technology expanding the boundaries of optics and electronics. The company has developed an extensive IP portfolio of high speed interconnects, multispectral image sensors, and high-efficiency photovoltaic technologies. Banpil innovations enable the development and manufacture of new generations of low-cost, high-speed, electrical interconnects for chip-to-chip applications; multispectral image sensors for imaging, remote-sensing, and communication applications; and photovoltaic technology for solar cell applications. For more information, visit [www.banpil.com](http://www.banpil.com).

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