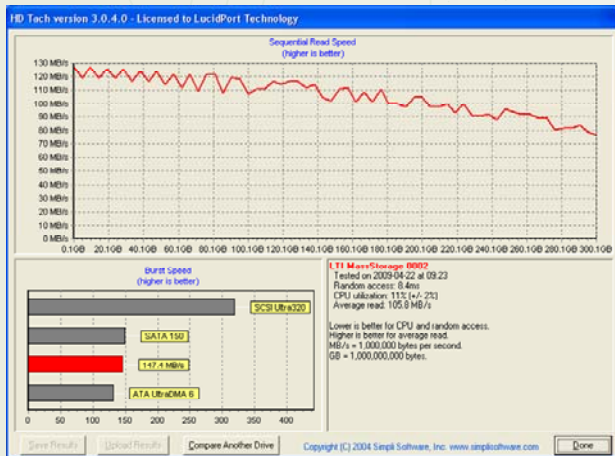
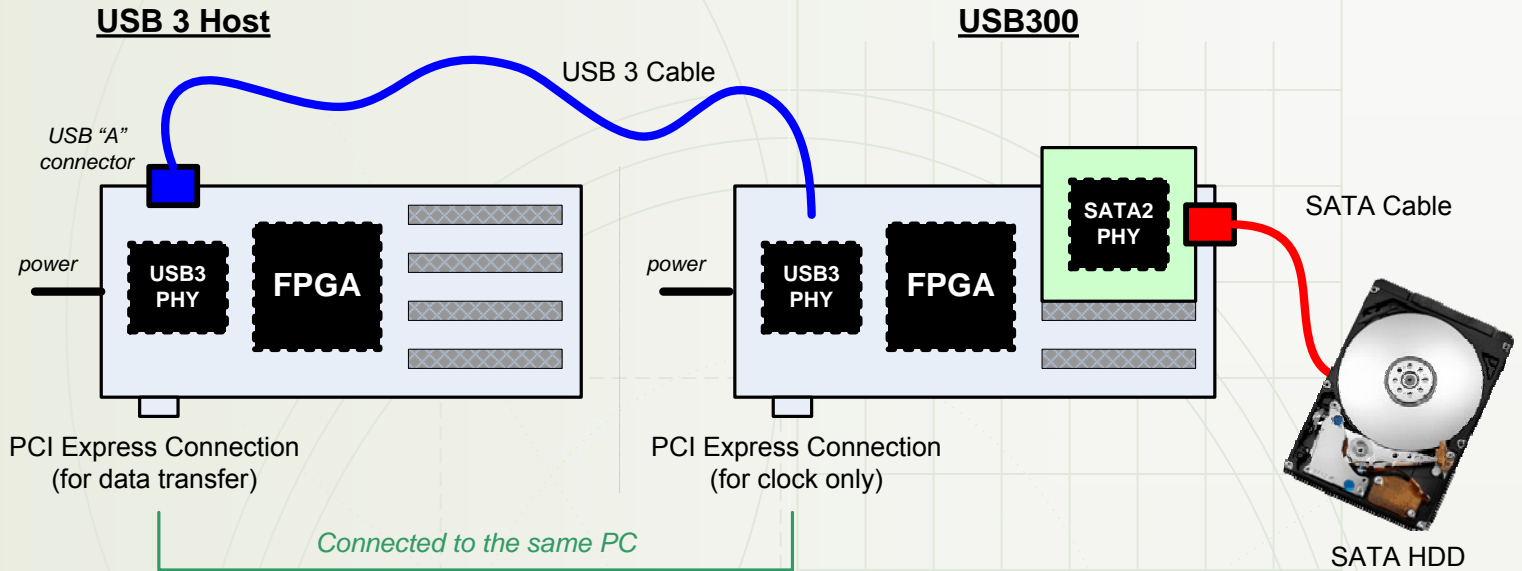
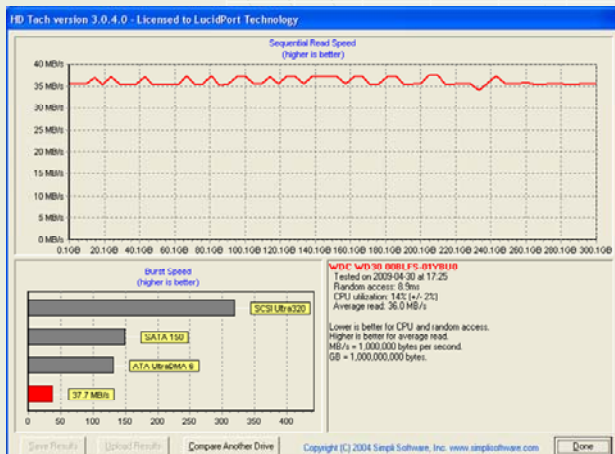


# USB 3.0 to SATA Bridge Demonstration



HDD connected through USB 3.0 and the USB 300



HDD connected through USB 2.0

- ◆ NEC USB 3.0 Host Adapter in FPGA (left)
- ◆ LucidPort USB300 Bridge in FPGA (right)
- ◆ USB300 connected to 10,000 rpm SATA-II "VelociRaptor" hard disk drive
- ◆ Data on the hard disk is read by the USB300 then sent to the USB 3 host adapter card in the PC (up to 130 Mbytes/sec)
- ◆ Existing USB 2.0 bridges provide 35 Mbytes/sec
- ◆ Increase disk performance with RAID0 striping and/or Solid State Drives (SSD)

<i>Host</i>	<i>MSC (BOT) Protocol</i>	<i>UAS Protocol (calculated)</i>	<i>Relative CPU Utilization</i>
USB 3.0 (PCIe Card)	<b>147 Mbytes/sec</b>	<b>173 Mbytes/sec</b>	<b>11%</b>
USB 3.0 (Native)	<b>244 Mbytes/sec</b>	<b>336 *</b> (SATA-II limited)	<b>14%</b>
USB 2.0 (Native)	<b>37 Mbytes/sec</b>	<b>40 Mbytes/sec</b>	<b>14%</b>
SATA-II (Native)	<b>130 Mbytes/sec (HDD) 270 Mbytes/sec (SATA)</b>		<b>7%</b>

