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dW,W□□ 1394b-AS5643 compliant IP-based replacement to existing discrete 1394b PHY integrated circuits. The IP core implementation provides significant operational benefits including size, weight, and power savings over legacy discrete component implementations.

Use of an IP-core based implementation for 1394b also significantly mitigates future obsolescence issues. Discrete component 1394b options are now offered by only one vendor. Since the PHY core from New Wave DV can operate in all FPGA technologies including but not limited to Xilinx, Intel (Altera), and Microsemi; future implementation options are assured.

In the PHY core, New Wave DV provides diagnostic and operating capabilities that are not available in the 1394b discrete components. These additional capabilities include diagnostic information, shortened toning times, fixed topology configurations, reset storm prevention, and hardware-based AS5643 STOF offload.

The PHY core can be instantiated multiple times in a single part. The PHY core also has a configurable number of ports per PHY instantiation. Customers have taken advantage of this capability to build PHYs with port counts of 1, 2, 3, 4, or higher. This customization allows for the most efficient use of FPGA/ASIC resources.

By taking advantage of modern FPGA technology, and using this IP core along with 1394b Link Layer cores from New Wave DV, it is feasible to implement in one FPGA what used to be implemented in 8-10 discrete components. Each of those discrete integrated circuits being the size of the one FPGA/ASIC using the New Wave DV IP cores. This is a board-space savings for high-density 1394b applications of roughly 10:1.

Evaluation versions of the PHY IP core are available and New Wave DV has a set of standard form-factor boards featuring FPGAs, 1394b connectors and transformers, and off-the-shelf reference designs for quick evaluation of the PHY IP core.

New Wave DV 1394b PHY Cards

In addition to the 1394b PHY core, New Wave DV provides standard form-factor 1394b PHY interface cards that incorporate the 1394b PHY interface core along with high performance DMA engines and software drivers. Available in PMC/XMC form-factors, New Wave DV 1394b PHY cards provide up to 4 ports in a single card. Reach us at info@newwavedv.com to ask about our 1394b PHY solutions.

Technical Specifications

Core is delivered in netlist format including const raint files

SUPPORTED DEVICES
Xilinx: Virtex, Kintex, Artix, Zynq FPGAs
Intel (Altera): Stratix, Arria, Cyclone FPGAs
Microsemi: SmartFusion2, Igloo2 FPGAs

SUPPORTED RATES
S100/S200/S400/S800/S1600/S3200

OPERATING FREQUENCIES
S100: 12.288Mhz
S200: 24.576MHz
S400: 49.152MHz
S800: 98.304Mhz
S1600: 196.608Mhz
S3200: 196.608Mhz (double data width)

Our Commitment

New Wave DV is committed to providing the latest innovations in technology, architectures, and techniques to keep our customers one step ahead of the rest. Our products, complete with the Development Framework, are intended to offer our customers an entirely unique out-of-the-box experience.

Complete Product Support Program

Our customers can attest to our exceptional support. New Wave DV provides an industry-standard warranty on its products, but it is the human factor that makes our support so valuable to our customers. Our team takes the time and effort to ensure a positive customer experience.

Ordering Information

700-FW100-00-00: 1394b PHY layer core, beta mode only, S100/S200/S400 rate support

700-FW100-01-00: 1394b PHY layer core, beta mode only, S800/S1600/S3200 rate support

Other product configurations are available. Please contact us.

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