Fibre Channel Link Layer IP Core
Layer-1 & Layer-2 IP Core for Fibre Channel

Applications
Avionics and defense networks
Enterprise networking/storage

Benefits
Accelerates FPGA application development time-to-market
Leverage proven technology for standard interface implementation
Lower development costs

Features
Supports 1/2/4/8/16 Gigabit Fibre Channel
N Port and F Port Types
Class 2 and Class 3 Fibre Channel Support
Switched Fabric or Point-to-Point
Complete FC1-FC2 functionality
Intuitive streaming user interface
Scales for multiple port designs

Overview
The New Wave Design and Verification Fibre Channel (FC) Link Layer core provides a complete IP solution for FC Layer 1 and Layer 2. The core includes all functionality needed to meet the framing and signaling specification of Fibre Channel including: comma alignment, 8b/10b encode/decode, primitive decode, scrambling, port state machine, credit manager, CRC generation/checking, elastic FIFO, and phase FIFO.

At the physical layer, the core is built for connecting to ASIC/FPGA embedded SERDES or discrete SERDES parts. The user interface of the core provides an intuitive streaming interface for application designers. The user interface within the core also includes cross clocking logic making integration into the larger design extremely simple.

This core has been used on a diverse set of applications, from enterprise storage to aerospace electronics, and on a wide range of parts at varying operating operating rates. The core comes with test-benches and example code, making design integration a straightforward task.
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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.

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 expressXG Development Framework, are designed to offer our customers an entirely unique out-of-the-box experience.

Technical Specifications
Core is delivered in netlist format including constraint files

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

SUPPORTED RATES
1/2/4/8/16G

OPERATING FREQUENCIES
1G: 26Mhz
2G: 53Mhz
4G: 106Mhz
8G: 212Mhz
16G: 212Mhz

Ordering Information
700-FC100-00-00: Fibre Channel Layer 1 and 2 core, full duplex, 1/2/4G support
700-FC100-01-00: Fibre Channel Layer 1 and 2 core, receive only, 1/2/4G support
700-FC100-02-00: Fibre Channel Layer 1 and 2 core, transmit only, 1/2/4G support
700-FC100-03-00: Fibre Channel Layer 1 and 2 core, full duplex, 1/2/4/8G support
700-FC100-04-00: Fibre Channel Layer 1 and 2 core, receive only, 1/2/4/8G support
700-FC100-05-00: Fibre Channel Layer 1 and 2 core, transmit only, 1/2/4/8G support
700-FC100-06-00: Fibre Channel Layer 1 and 2 core, full duplex, 1/2/4/8/16G support
700-FC100-07-00: Fibre Channel Layer 1 and 2 core, receive only, 1/2/4/8/16G support
700-FC100-08-00: Fibre Channel Layer 1 and 2 core, transmit only, 1/2/4/8/16G support

Other product configurations are available. Please contact us.

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