

# IP Suites for LatticeECP3<sup>TM</sup>

## *Express Yourself with Bundles of Logic*

Lattice IP Suites are economical packages of IP cores that allow designers to conveniently obtain critical functions for their applications. The suites offer ready-made building-blocks for solving a variety of problems, such as high-speed data transfer, Ethernet networking, high-speed memory interfaces, signal processing, video pixel processing, etc. These comprehensive IP Suites empower design engineers to quickly build leading-edge wireline, wireless, embedded, industrial, compute, video and display, and consumer systems.

| IP Suite                         | Description                                                                      | Included LatticeCORE <sup>TM</sup> IP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Part #        |
|----------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------|
| <b>Value</b>                     | DDR3 memory interfaces, Tri-speed Gigabit Ethernet MAC and common DSP Functions. | <ul style="list-style-type: none"> <li>• DDR3/DDR2/DDR Memory Controller</li> <li>• FFT Compiler</li> <li>• FIR Filter Generator</li> <li>• Triple Speed 10/100/1G Ethernet MAC</li> </ul>                                                                                                                                                                                                                                                                                                                                             |  | DS-VAL-ST-U1  |
| <b>PCI Express</b>               | High-speed data transfer in industrial and computing systems using PCI Express.  | <ul style="list-style-type: none"> <li>• PCI Express Endpoint x1 / x4</li> <li>• PCI Express Root Complex Lite x1 / x4</li> <li>• PCI Master/Target 32-bit / 64-bit</li> <li>• PCI Target 32-bit / 64-bit</li> <li>• Scatter Gather DMA</li> <li>• 10Gb+ Ethernet MAC</li> </ul>                                                                                                                                                                                                                                                       |  | DS-PCIE-ST-U1 |
| <b>Ethernet</b>                  | Comprehensive Ethernet networking solutions.                                     | <ul style="list-style-type: none"> <li>• Scatter Gather DMA</li> <li>• SGMII &amp; Gigabit Ethernet MAC</li> <li>• Triple Speed 10/100/1G Ethernet MAC</li> <li>• XAUI</li> </ul>                                                                                                                                                                                                                                                                                                                                                      |  | DS-ETH-ST-U1  |
| <b>Digital Signal Processing</b> | Wide range of filtering, error-correction, and domain conversion functions.      | <ul style="list-style-type: none"> <li>• Advanced FIR Filter</li> <li>• Block Convolutional Encoder</li> <li>• Block Viterbi Decoder</li> <li>• Cascaded Integrated Comb Filter - CIC</li> <li>• CORDIC</li> <li>• Correlator</li> <li>• Distributed Arithmetic FIR (DA-FIR) Filter</li> <li>• Dynamic Block Reed Solomon Decoder / Encoder</li> <li>• FFT Compiler</li> <li>• FIR Filter Generator</li> <li>• Interleaver / De-interleaver</li> <li>• Numerically Controlled Oscillator</li> <li>• Turbo Decoder / Encoder</li> </ul> |  | DS-DSP-ST-U1  |
| <b>Video &amp; Display</b>       | Popular solutions for video and display applications.                            | <ul style="list-style-type: none"> <li>• 2D FIR Filter</li> <li>• Color Space Converter</li> <li>• Edge Detector</li> <li>• Gamma Corrector</li> <li>• Median Filter</li> <li>• Tri-rate SDI PHY</li> <li>• Scaler</li> </ul>                                                                                                                                                                                                                                                                                                          |  | DS-VDS-ST-U1  |

\* Limited quantity and limited time offer. Offer valid until availability of limited promotional licenses are depleted or July 31, 2011.

## LatticeCORE IP

LatticeCORE IP cores are configurable design blocks that implement popular industry-standard functions. The IP blocks can be easily combined with your proprietary logic to build differentiated products. Many of the Lattice IP Cores use an industry standard WISHBONE bus for plug-and-play interoperability in designs. These proven IP Cores are optimized for Lattice device architectures, resulting in fast and logic efficient solutions.

| LatticeCORE IP Key Features | Benefits                                                                                    |
|-----------------------------|---------------------------------------------------------------------------------------------|
| Logic Efficient             | Optimal use of device resources.                                                            |
| High Performance            | Designed to extract the highest performance from Lattice architectures.                     |
| Proven Quality              | Pre-tested IP solutions for challenging design problems.                                    |
| Plug and Play               | LatticeCORE IP cores use industry-standard WISHBONE bus for plug and play interoperability. |
| Click-thru-License          | One convenient click-through license for all IP in an application domain.                   |
| Economical Packages         | IP requirements are satisfied with one convenient, economical package.                      |

## Try Before You Buy

Design engineers can evaluate all cores within an IP Suite using the IPexpress™ tool within Lattice Diamond™ design software. IPexpress allows you to seamlessly access the latest IP cores from the Lattice website, and customize, integrate, and test the IP in your design before purchasing. You can test your design for a limited time on hardware (usually 30 minutes) after which you have to re-program the silicon device. For permanent configuration of hardware, purchase an annual node-locked IP Suite license as described in the next section. The node-locked license can be used on multiple designs or projects over a one year period.

## Pricing and Availability

Lattice is offering a limited quantity of specially priced IP Suites to encourage new, qualified design engineers to build their next generation systems with LatticeECP3 FPGAs. The LatticeECP3 FPGA is the best-in-class FPGA in the industry, with high-caliber SERDES, full-featured DSP blocks, and state-of-the-art DDR3 memory support. The limited number of IP Suite licenses are available for a promotional first year subscription of only \$99 each. Lattice IP Suites are available for immediate ordering through select authorized Lattice distributors listed at [www.latticesemi.com/sales](http://www.latticesemi.com/sales).

## Learn More

For more information about how Lattice IP Cores can bring value to your design projects, please visit [www.latticesemi.com/IPSuites](http://www.latticesemi.com/IPSuites) or contact your local Lattice sales representative.

## Quick Links

### LATTICECORE IP

[www.latticesemi.com/IPSuites](http://www.latticesemi.com/IPSuites)

### ECP3 PRODUCT INFORMATION

[www.latticesemi.com/ecp3](http://www.latticesemi.com/ecp3)

### DIAMOND DESIGN SOFTWARE

[www.latticesemi.com/latticediamond](http://www.latticesemi.com/latticediamond)

### SALES

[www.latticesemi.com/sales](http://www.latticesemi.com/sales)

### ONLINE STORE

[www.latticesemi.com/store](http://www.latticesemi.com/store)

### APPLICATIONS SUPPORT

[www.latticesemi.com/techsupport](http://www.latticesemi.com/techsupport)

### SOFTWARE LICENSING

[www.latticesemi.com/licensing](http://www.latticesemi.com/licensing)

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- Комплексную поставку.
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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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