

HyperLink High Speed DSP Interface Core

Open up your FPGA design to the power of the Texas Instruments DSP with the **Integretek HyperLink High Speed DSP Interface Core**. The core provides a high speed, low pin count bi-directional interface connecting your FPGA design to a Texas Instruments C66X multi-core DSP.

25 Gbps Link Rate (4 lane)

Low Pin Count Interface

AXI or DMA Interface

x1 or x4 Configurations

Based on TI Proprietary Technology

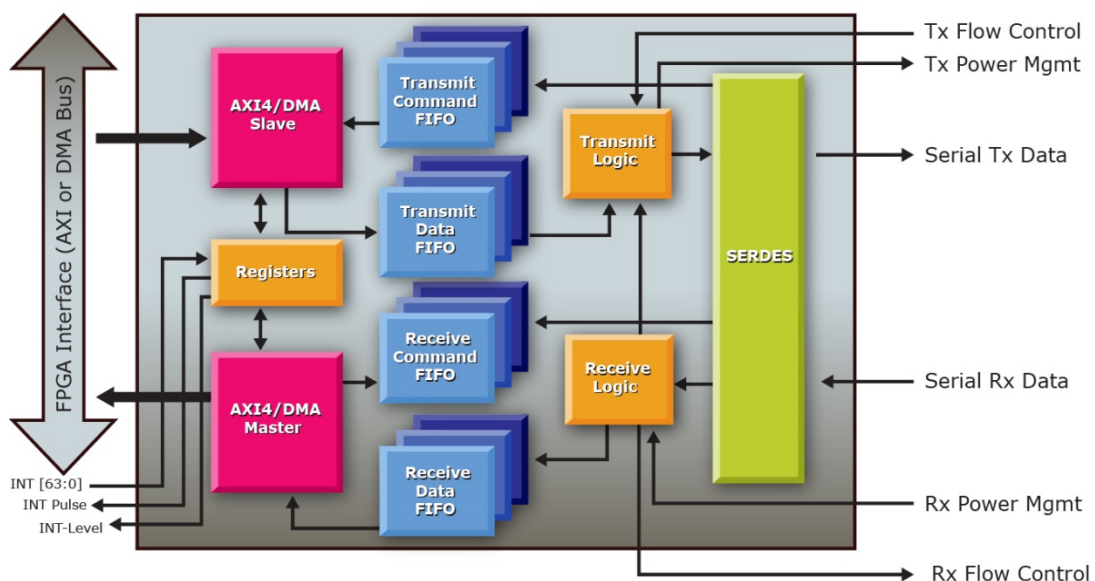
FEATURES

- Up to 25Gbps transfer rate (4 lane) *
- SERDES data signals
- Dedicated LVCMOS pins for flow control and power management
- Point-to-point connection
- Link self-initializes
- Supports multiple outstanding read, write and interrupt transactions
- Simple packet-based transfer protocol for memory mapped access
- Available with AXI or DMA Interface
- Internal SERDES diagnostic loopback mode
- 64 user defined interrupt inputs, level and pulse sensitive

Interface options include an AXI4 master/slave bus interface or vectored DMA interface.

- AXI4 Slave (transmit to DSP and Control Register access)
 - 8,16,32,64,128 and 256 bit single cycle AXI accesses
 - 32,64,128 and 256 bit multi-beat AXI burst accesses
 - Up to 16 outstanding write/read requests
- AXI4 Master (receive from DSP)
 - Up to 16 outstanding read requests with unique read id's
 - AXI Private and Secure Access Types
- DMA burst size 16Kbyte per chain, total of 16 chains (Write and Read have 16 dedicated chains each)
 - Maximum chained DMA burst size of 256Kbyte
 - Independent write, read DMA control and configuration interfaces

BLOCK DIAGRAM



DELIVERABLES

The core package includes the following:

- Encrypted RTL
- Testbench and verification environment
- User Guide Documentation
- Compilation, simulation, and programming ready example project
- Technical Support

VERIFICATION

A Verilog environment is provided that includes:

- Testbench
- Sample Tests
 - Tests represent typical use cases
- Adaptable to your application
- Scripts

WARRANTY and SUPPORT

The core as delivered is warranted against defect for one hundred days from purchase delivery date. Phone and Email product support is included for a period of thirty days. Optional product maintenance and support agreements are available.

SUPPORTED DEVICES

The HyperLink Interface core is available for the following devices:

ALTERA

Stratix V GX
Arria V GX
Arria V GT
Arria V GZ
Cyclone V GX
Arria 10 GX

XILINX

Kintex-7 GTX
Virtex-7 GTX
Virtex-7 GTH
Artix-7 GTP
Kintex UltraScale GTH

Additional device families are being added, please check the Integre website for the latest device list.

COMPANION PRODUCTS

Integre offers the following products to assist with your HyperLink development:

FMC-950/951

HSMC-950/951

950-PLUG-LB

IP-HyperLink-Analyzer

IP-HyperLink-Maint

HyperLink Connectivity Card With LVDS for FMC Platforms

HyperLink Connectivity Card With LVDS for HSMC Platforms

HyperLink Loopback Plug

HyperLink Analyzer Kit for Monitoring Data in Real Time

Twelve month IP Maintenance extension.

NOTES

*Supported rates vary depending on FPGA family and device. Future products slated for 50Gbps performance.

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