

# DESIGN GATEWAY

C O M P A N Y L I M I T E D

Design Gateway has participated in Altera Design Solution Network (DSN Gold member)

## IP core for Storage and Network Solution

- **Ultimate IP core**
  - High performance
  - Compact size
  - Simple user interface
  - Free! SOF-file for evaluation  
& various reference designs
  - Demonstrations on many  
evaluation boards are available on Youtube
- **Adapter Boards for IP core Evaluation**
  - Ready to use
- **MicroSD Supported FPGA  
Configuration Module**

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# Ultimate IP core



**THE BEST!** for Low-cost & High Capacity Storage, Free! SOF-file for Evaluation & Various Reference Designs

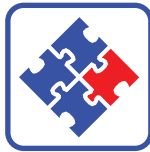


SATA-IP is a high performance IP core for the SATA standard storage interface. It can connect to SSD/HDD without PHY chip. More details: [http://www.dgway.com/SATA-IP\\_A\\_E.html](http://www.dgway.com/SATA-IP_A_E.html)

- ◆ High performance (Up to 500-540 MB/sec per 1 ch)
- ◆ No CPU required for data recorder system
- ◆ AHCI-IP for ARM & Linux OS solution supported
- ◆ Increase efficiency by RAID0 design
- ◆ Support SATA-III

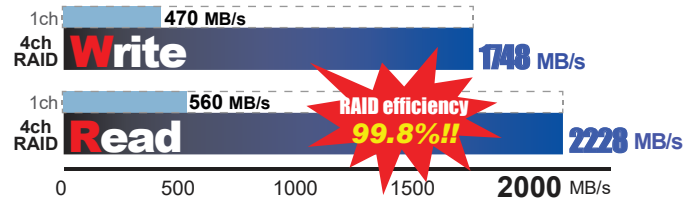


ALM usage for 1 CH



with RAID reference design

## Performance



**THE LATEST!** Efficient for Non-Volatile Memory, High Performance with Small Size Storage, without CPU

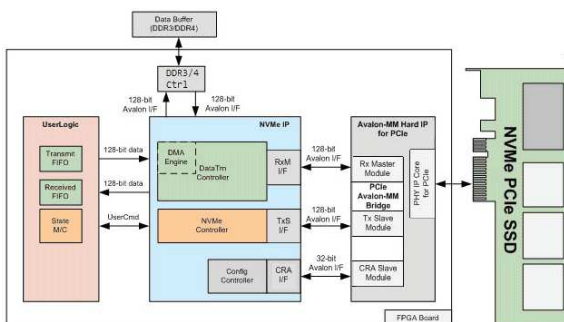


NVMe IP is a standalone (without CPU) IP core for the NVMe, which is a new standard for interfacing with PCIe SSD. Suitable for applications which require high capacity storage and small size system at very high performance.

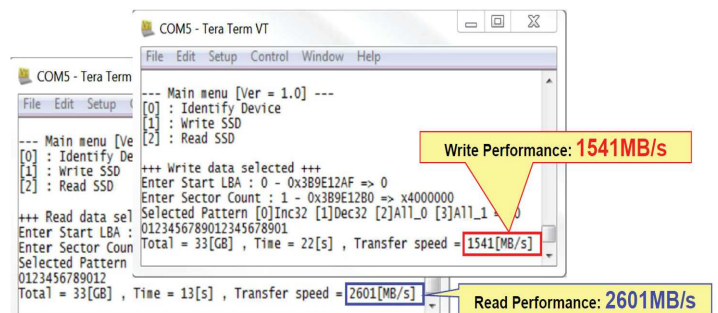
More details: [http://www.dgway.com/NVMe-IP\\_A\\_E.html](http://www.dgway.com/NVMe-IP_A_E.html)

- ◆ No CPU and no firmware necessary
- ◆ Simple and easy interface
- ◆ Support PCIe GEN3
- ◆ **Free!** SOF-file for evaluation
- ◆ Various reference designs provided

## Block Diagram



## Performance



**Write 1541 MB/s !! / Read 2601 MB/s !!**

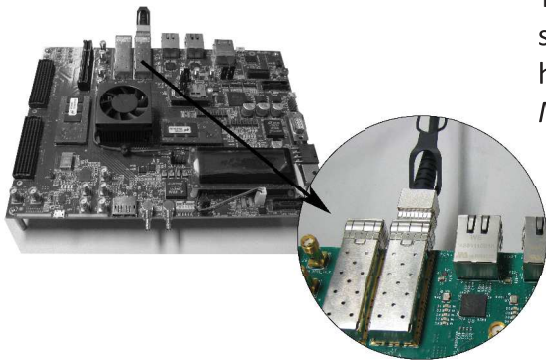




## THE FASTEST! Reliable Ethernet IP for Long Distance Connection via Optical Fiber, without CPU

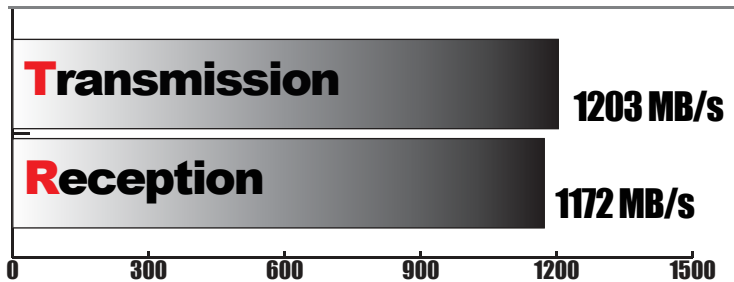
TOE10G-IP core is a pure hardware logic for the high-speed network standard. It takes over all functionalities of TCP/IP protocol which require high speed operations.

More Details: [http://www.dgway.com/TOE10G-IP\\_A\\_E.html](http://www.dgway.com/TOE10G-IP_A_E.html)



- ◆ **Ultra high speed** with 10Gbps /channel
- ◆ Reliable data transport over TCP/IP stack
- ◆ IPv4 protocol supported & full duplex
- ◆ Jumbo frame supported
- ◆ **Free!** SOF-file & reference designs on ARRIA 10 SoC supported for evaluation!

### Performance



**Effective transfer (transmission of transmission/reception rate of 1200MB/s)!!**



## Optional!! 1Gbps approximated maximum speed

More Details: [http://www.dgway.com/TOE1G-IP\\_A\\_E.html](http://www.dgway.com/TOE1G-IP_A_E.html)



## LOW COST High Performance with Small Size IP core for PCIe SSD, No need CPU even External Memory!

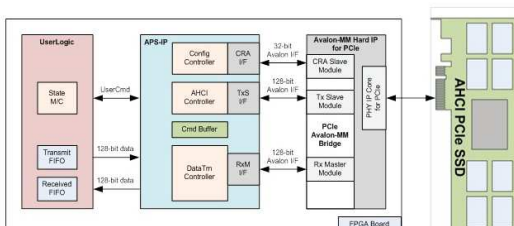
APS-IP is ideal for accessing AHCI PCIe SSD without requiring CPU or external memory (such as DDR3). It is suitable for use in the applications which require high capacity storage and small sized system at very high performance.

More Details: [http://www.dgway.com/APS-IP\\_A\\_E.html](http://www.dgway.com/APS-IP_A_E.html)

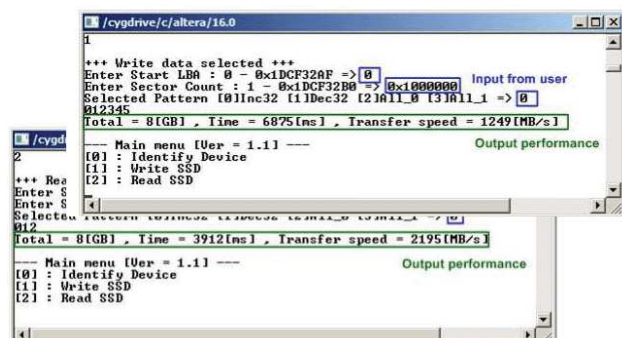


- ◆ Simple and easy connection
- ◆ Full automatic access to PCIe SSD
- ◆ No CPU and external memory required
- ◆ High Performance with compact size IP core
- ◆ **Free!** SOF-file & various reference designs for evaluation

### Block diagram



### Performance



**Write Performance 1249 MB/s !! Read Performance 2195 MB/s !!**











# Adapter Boards for IP core Evaluation

**AB Series** **EASY TO USE!** Simple and Easy Adapter Boards help Developments to be easier



AB Series is extension adapter boards for Ultimate IP core evaluation. AB Series support Altera FPGA boards.  
More products: [http://www.dgway.com/ABseries\\_E.html](http://www.dgway.com/ABseries_E.html)

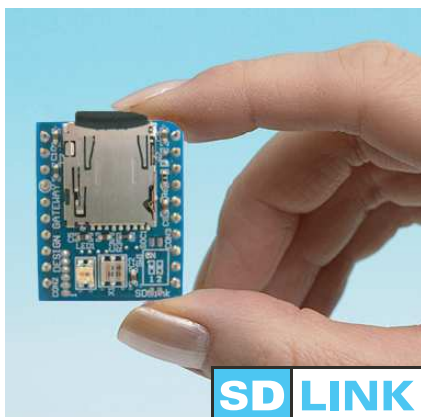
## Example Module

Module No.	Details	Product IP core	FPGA Board
 AB16-PCIeXOVR	PCIe crossover adapter board for NVMe-IP, APS-IP evaluation		Altera Arria10SoC/Arria10 GX StratixIV GX board ArriaII GX board ArriaV GX board CycloneIV GX board CycloneV GX board
 AB12-HSMCRAID	HSMC-SATA(8ch) adapter board for SATA-IP with RAID evaluation		
 AB09-FMCRAID	FMC-SATA(10ch) adapter board for SATA-IP with RAID evaluation		
 AB08-USB3HSMC	HSMC extension board for USB3.0-IP. USB3.0 TypeA to A cable (1m) is included		
 AB07-USB3FMC	FMC extension board for USB3.0-IP. USB3.0 TypeA to A cable (1m) is included		

## microSD Supported FPGA Configuration Module

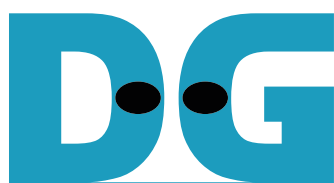


**READY TO USE!** Convenient and High Speed Configuration Module via microSD



SDLink is a high speed FPGA configuration module which stores data in microSD card instead of using download cable  
More details: [http://www.dgway.com/SDLink\\_E.html](http://www.dgway.com/SDLink_E.html)

- ◆ High compatibility with various FPGA models
- ◆ High capacity (max: 2 GByte=16 Gbit)
- ◆ High-speed programming (max: 25 MByte/s)
- ◆ Support parallel programming, up to 8 modules
- ◆ Free 1 GByte(or more) microSD, ready to use!!



### Contact Info.

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