

# Marvell® AQN-100 10 Gigabit Ethernet Fiber Network Interface Card

Upgrade any existing Enterprise, gaming, or home networking platform with a reliable, cost-effective path

## Overview

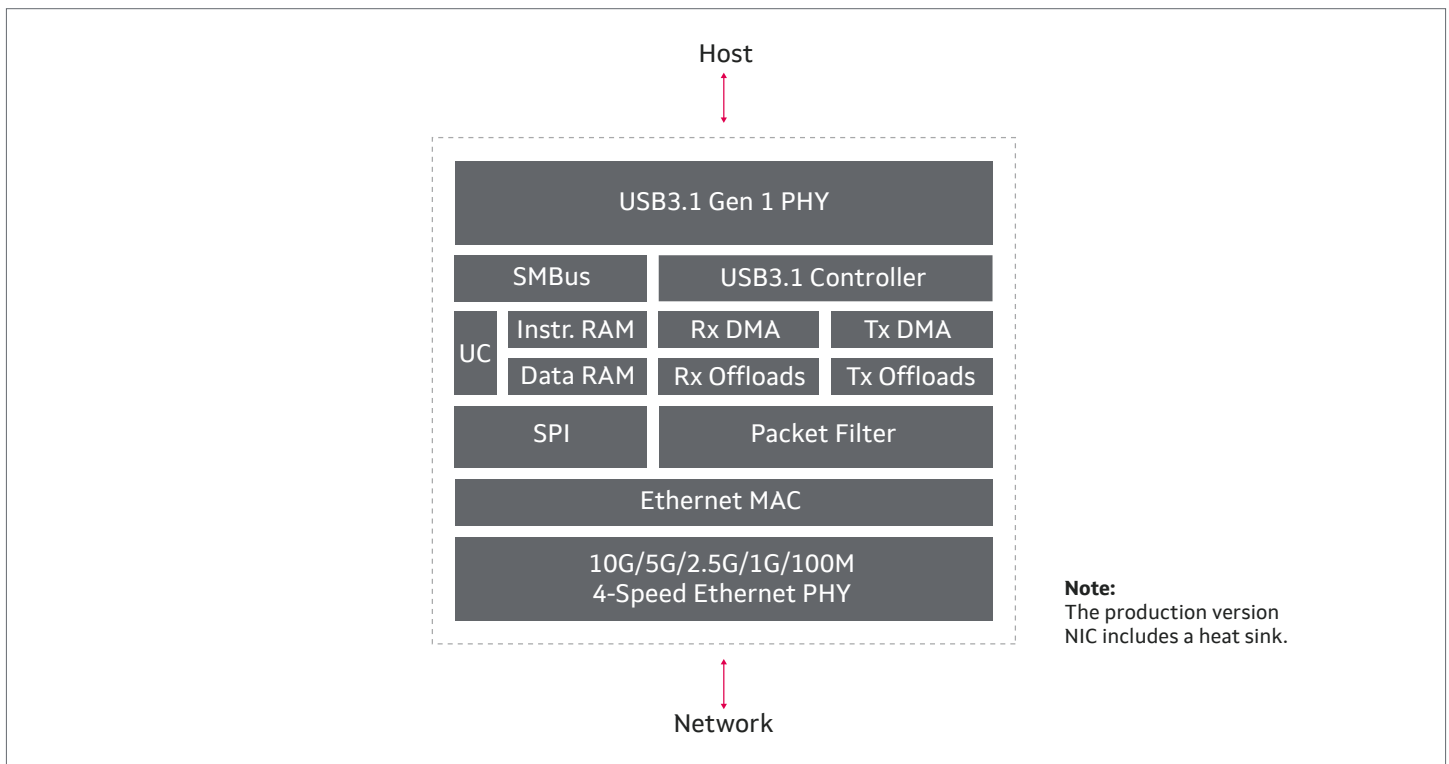
The Marvell® AQN-100 is a SFP+ Network Interface Card (NIC) that allows you to upgrade your current server or high-performance workstation with reliable, high-performance network connectivity by adding a cost-effective solution, an open 10 Gigabit Ethernet (GbE) SFP+ copper or fiber SFP+ modules. SFP+ is an enhanced small form-factor pluggable version of the SFP that supports 10 Gbps data rates. This enhanced capability provides an easy path for upgrading any existing server or workstation to a copper or fiber network using your choice of SFP+ modules and supported multi-mode or single-mode fiber cabling.

The Marvell AQN-100 NIC provides a solution for meeting the demands for greater network speed and addressing the requirement for increased bandwidth in your network

infrastructure that is caused by an increasing number of network users and data-intensive applications such as multimedia streaming and large data file transfers.

The Aqtion AQN-100 NIC lets you take advantage of the speed and stability of a 10GbE network, with data transfers up to 10 Gbps, in an existing server or workstation, by enabling you to reach higher data rates with zero additional changes required to your legacy cabling or infrastructure. It is compatible with most 10 GbE SFP+ transceivers, and this offers you the flexibility in choosing any pairing of SFP+ module and cable options – short reach (SR) or long reach (LR) – that match your specific combination of network environment, scalability plans, connector type, and distance requirements.

## Block Diagram



## Key Features

Features	Benefits
Single-board solution	<ul style="list-style-type: none"><li>• Integrated PCI Express port and SFP+ slot in one package</li></ul>
PCI Express Gen3 x 4 Bus	<ul style="list-style-type: none"><li>• Supports line rates of up to 8.0 GT/s</li></ul>
10G NIC compliant with SR/LR transceivers	<ul style="list-style-type: none"><li>• 10 Gbps network performance that supports both short-reach (SR) and long-reach (LR)</li></ul>
Preboot Execution Environment (PXE) network boot	<ul style="list-style-type: none"><li>• Supports easier set-up and installations</li></ul>
IEEE standards compliant	<ul style="list-style-type: none"><li>• 802.3ae</li><li>• 802.3aq</li><li>• PCI Express Rev. 3.0 (supports PCIe x4)</li></ul>
Supports multi-mode/single-mode fiber cables	<ul style="list-style-type: none"><li>• 10GbE multi-mode OM3 Duplex 50/125 micro fiber</li><li>• 10GbE multi-mode LC Duplex 62.5/125 micro fiber</li><li>• 10GbE single-mode</li></ul>
Chipset manufacturer	<ul style="list-style-type: none"><li>• AQC100: high-performance, multi-gigabit Ethernet MAC controller (Marvell, P/N: AQC100-B1-C)</li></ul>
NIC Card Type (full-height with spare half-height bracket)	<ul style="list-style-type: none"><li>• Suitable for either network server or workstation installations</li></ul>
Network performance	<ul style="list-style-type: none"><li>• Compatible with selected 10 Gbps fiber network</li><li>• Supports full-duplex mode</li><li>• Supports 10 Gbps as maximum data transfer rate</li><li>• Supports Promiscuous mode (CPU passes all traffic)</li></ul>
Supported IEEE Protocols	<ul style="list-style-type: none"><li>• 802.3ad (Link Aggregation)</li><li>• 802.3x (Flow Control support)</li><li>• 802.1Q (VLAN tagging)</li></ul>
Supported connectors	<ul style="list-style-type: none"><li>• 1 – PCI Express x4 (male)</li><li>• 1 – SFP+ cage (female)</li></ul>
Supported operating systems	<ul style="list-style-type: none"><li>• Windows 7, 8, 8.1, and 10</li><li>• Windows Server 2008 Rev. 2, 2012, 2012 Rev. 2, and 2016</li><li>• Linux 3.2, 3.10, 3.16, 4.1, 4.4, 4.9, and 4.11</li></ul>
Environmental conditions	<ul style="list-style-type: none"><li>• Humidity (20-40% relative humidity)</li><li>• Operating Temperature (5°C to 50°C)</li><li>• Storage Temperature (-20°C to 60°C)</li></ul>
Safety Standard compliance	<ul style="list-style-type: none"><li>• UL, VDE, CB</li></ul>
Electromagnetic Compatibility (EMC) standard-compliance	<ul style="list-style-type: none"><li>• FCC</li></ul>
RoHS standard-compliance	<ul style="list-style-type: none"><li>• EN 2002/95/EU</li></ul>
Product weight and dimensions	<ul style="list-style-type: none"><li>• 3.6 ounces (102 grams)</li><li>• 3.228-inches x 2.430-inches (without bracket)</li></ul>

## AQC-100 NIC MAC-Specific Features

Features	Benefits
<ul style="list-style-type: none"><li>Large Send Offload (LSO)</li><li>Receive Side Scaling (RSS)</li><li>Direct Cache Access (DCA)</li><li>Header Checksum</li></ul>	<ul style="list-style-type: none"><li>Supports increased network performance and lower host CPU utilization</li></ul>
Wake-on-LAN (WoL) power management	<ul style="list-style-type: none"><li>Supports lower power modes</li></ul>
On chip CPU DASH	<ul style="list-style-type: none"><li>Supports desktop management</li></ul>
Quality of Service (QoS)	<ul style="list-style-type: none"><li>Supports up to eight traffic classes and Data Center Bridging (DCB)</li></ul>
IPv4/IPv6, IPv6/TCP, and IPv6/UDP checksum offload	<ul style="list-style-type: none"><li>Supports offloading of calculations and improves CPU usage</li></ul>

## Ordering Codes

Device Name	Description & Speed	Ordering Part Number
AQN-100	x4 PCIe 10G SFP+ adapter (full height bracket)	AQN-100-104-SFA

## Target Applications

The AQN-100 SFP+ NIC is well suited to be a game changer because it easily provides a simple way to upgrade any existing Enterprise, gaming, or home networking platform with a reliable, cost-effective path for moving beyond the 1 Gbps data rate to access 10 Gbps network speeds.

## Supported SFP+ Modules

- Marvell AQS SFP+ copper modules
- Finisar FTLX8574D3BCV
- Avago AFBR-709DMZ
- Avago AFBR-709SMZ
- Cisco SFP-10G-SR
- Cisco GLC-SM-MM
- GLC-T Cisco
- Cisco SF-H10GB-CU1M DAC
- Cisco SF-H10GB-CU5M DAC



Marvell first revolutionized the digital storage industry by moving information at speeds never thought possible. Today, that same breakthrough innovation remains at the heart of the company's storage, networking and connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial, and consumer markets. For more information, visit [www.marvell.com](http://www.marvell.com).

© 2020 Marvell. All rights reserved. The MARVELL mark and M logo are registered and/or common law trademarks of Marvell and/or its Affiliates in the US and/or other countries. This document may also contain other registered or common law trademarks of Marvell and/or its Affiliates.