M.2 B+M KEY AQC107 10GbE RJ45 Server NIC



USER Manual
EN ver2.0

The M.2 AQC107 10GbE Ethernet card is a high-performance, multi- gigabit Ethernet card that supports the 10GBASE-T/5GBASE-T/2.5GBASE-T/1000BASE-T/100BASE-T, the AQtion Ethernet controller easily handles the 10GbE Line-rate performance. The AQC107 incorporates Aquantia's AQrate® PHY technology which delivers 10GbE network connectivity speed through Cat 6a, and delivers 5 GbE and 2.5 GbE network connectivity speed through 100 meters of Cat 5e or better cabling enabling higher data rates with zero change to legacy cabling.

Specification

- Interface: M.2 B+M KEY with PCI Express protocol
- Compliant with PCIE Express Revision 3.0 and downstream with PCI Express Reivison2.0
- Supports line rate of 8.0GT/s and 5.0GT/s per lane
- Supports communication and management function
- Integrated Aquantia AQrate PHY featuring NBASE-T technology
- Supports PHY specifications with 10GBASE-T/5GBASE-T/2.5GBASE-T/1000BASE-T /100BASE-T.
- On-chip high resolution cable analyzer for advanced cable diagnostics
- Energy Efficient Ethernet (EEE) Support
- Supports IEEE1588v2 Precision Time Protocol
- Support large send offload, Receive Side Scaling (RSS), Direct Cache Access (DCA) and Header checksum for increased network performance and lower host CPU utilization
- Supports IPv4, IPv6 and IPv6/UDP checksum offload
- Supports Jumbo frame (up to 16kbytes)
- Quality of Service (QoS)
- Supports up to eight traffic classes and Data Center Bridging (DCB)
- Support Operation Systems: Winddows○,RWin7/Win8/Win8.1/Win10/ Server2012 / Server2016/ Linux

Features table

Model Name:	M.2 AQC107 10GbE Ethernet card
Interface:	M.2 B+M KEY
Bus Width:	Support PCI Express Gen3x2 or Gen2x2
Media Type:	Copper: 100 meters over Cat 6a at 10Gbps 100 meters over Cat 5e (or better) at 5Gbps/2.5Gbps/1Gbps/ 100Mbps (requires no change to existing infrastructure or cabling)
Network protocol:	IEEE802.3an, IEEE802.3bz, IEEE802.3ae, IEEE1588v2, IEEE802.3ab, IEEE802.3z, IEEE802.3u.
Jumbo frames:	16Kbytes
IPv4/IPv6 Flow Control	support
Typical Power	3.8W at 10Gbps,3.0W at 5Gbps
Boot Options	UEFI and PXE
Operating Temperature:	0~108℃(32F~226.4F)
Storage Temperature:	-50~150℃(-67F~302F)
Operating Systems:	**Window〇,R**:Win7/Win8/Win8.1/Win10 **Window〇,R Server**: Win-server2008 R2/Win-server2012-R2/ Win-server2016 /Win-server2019 **Linux kernel**:2.6.32/3.x/4.x or higher Linux CentOS/RHEL6.5/7.X or higher **Ubuntu:**14.x/15.x/16.x or higher **VMware**: ESX/ESXi 4.x/5.x/6.x or higher

Package content

- 1 x M.2 AQC107 10GbE Ethernet card
- 1 x User's Manual

- 1 x CD
- 3 x profile bracket
- 1 x FPC flex cable
- ~~Accessories~~

System Requirements

- Linux Kernels3.10 and above
- Win7/ Win8/Win8.1/Win10/Server2012/ Server2016 32 or 64bits
- One available M.2 M KEY with PCI Express protocol slot

Cabling Requirements:

Transmission bandwidth	Twisted pair type	Transmission distance
10Gbps	Cat 6a or better	100 meters
5Gbps	Cat5e or better	100 meters
2.5Gbps	Cat5e or better	100 meters
1000Mbps	Cat5e or better	100 meters
100Mbps	Cat5e or better	100meters

Hardware installation

1. Turn off the computer and unplug the power cord
2. Line up and insert the M.2 adapter (B+M KEY) into the M.2 M KEY slot on the system board, make sure to match up the gap in the card edge connector, with the notch in the slot.
3. Securely fasten the card to the motherboard. Note: Different systems may have different methods for installing M.2 adapter, so please refer to documentation for your system board for more specific installation instruction for your particular application.

4. Insert the FPC cable into the FPC connector, and press the buckle to secure it.
5. Locate an open expansion card slot and remove the metal cover plate on the rear of the system case/chassis
6. Place the expansion card bracket from the m.2 adapter in the opening and fasten the card's bracket to the rear of the case
7. Replace the computer cover, then plug in the power cord
8. Power on the computer

Install Drivers

Windows○,R Operating Systems

You must have administrative rights to the operating system to install the drivers.

1. insert the CD driver bound with M.2 AQ107 10GbE Ethernet card driver into your CD-ROM drive:
2. if the Found New Hardware Wizard screen is displayed, click **Cancel**
3. Open the location of the driver file and select the driver file according to the system type.

   For **Windows 32bit**

   Type "**Driver\AQC107\Windows\WindowsInstaller\Aquantia_AQtion_x32_Win_ver2.1.17.0.msi**"

   For **Windows 64bit**

   Type "**Driver\AQC107\Windows\WindowsInstaller\Aquantia_AQtion_x64_Win_ver2.1.17.0.msi**"
4. Double click it
5. Follow the instructions in the install wizard to finish it

Installing Linux Drivers from Source Code

1. Download and expand the base driver tar file.

2. Compile the driver module
3. Install the module using the modprobe command
4. Assign an IP address using the ifconfig command

Support

More information and settings, please refer to the Adapter User Guides or you can contact us.