

## Aquantia SFP+ Modules

AQS-107 10G / AQS-108 5G / AQS-109 2.5G

### Product Overview

Aquantia SFP+ modules are based on Aquantia AQRate PHYs, which are low-power, high performance, Multi-Gig transceivers that support the following network rates: 10GBASE-T/5GBASE-T/2.5GBASE-T/1000BASE-T/100BASE-TX.

AQS-107 SFP+ modules deliver up to 10GbE network speed with Cat 6 cabling up to 30 meters.

AQS-108 SFP+ modules deliver up to 5GbE network speed with 100 meters of Cat 5e or better.

AQS-109 SFP+ modules deliver up to 2.5GbE network speed with 100 meters of Cat 5e or better.

Aquantia SFP+ modules enable new use-cases while using the existing cabling infrastructure.

The AQS-107/AQS-108/AQS-109 modules are compatible with both the IEEE 802.3an/bz standard and the NBASE-T Alliance PHY specification. The integrated Aquantia PHY technology performs all the physical layer functions required to implement the supported Multi-Gig protocols.

Aquantia SFP+ modules deliver an active rate-adaptation technology that allows end-users to connect seamlessly using existing SFP+ slots that are 10GbE fiber-optic only—offering a significant cost savings over standard fiber modules.



### Applications

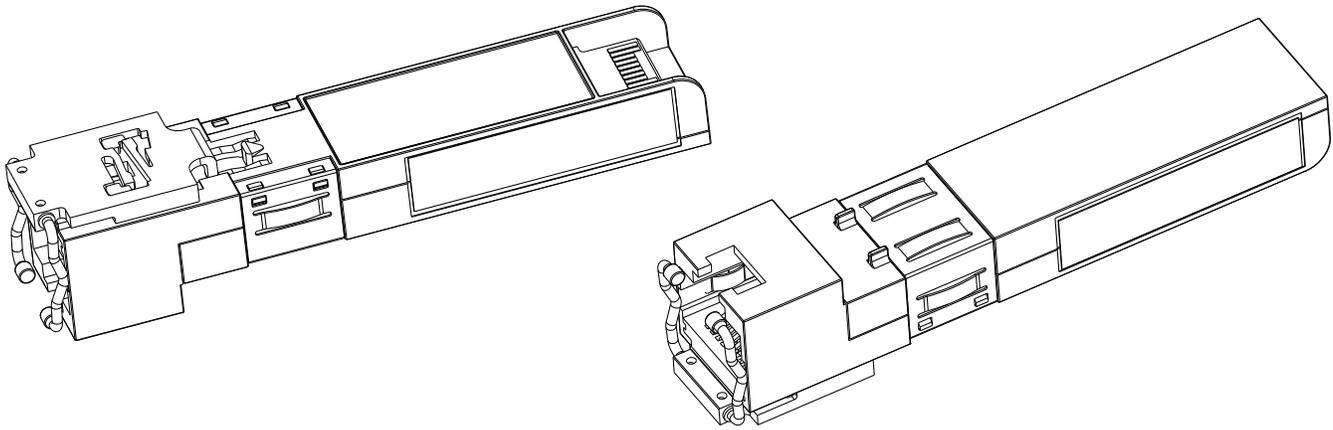
The Aquantia AQS-107/AQS-108/AQS-109 SFP+ module is well suited for use as a switch-to-switch interconnect. In Enterprise configurations, switches typically ship with 1G ports and 10G fiberoptic up-link slots to connect multiple switches together.

Features	Benefits
AQRate Adaptive Rate Operation	<ul style="list-style-type: none"> <li>• 10GBASE-T up to 30 meters of 13dB IL of Cat 6 or better cable</li> <li>• 5GBASE-T, 2.5GBASE-T over 100 meters of Cat 5e or better cable</li> </ul>
Built-in thermal management capabilities	<ul style="list-style-type: none"> <li>• Enables deployment in thermally constrained environments</li> </ul>
Supported regulatory standards	<ul style="list-style-type: none"> <li>• Electromagnetic Interference (EMI): FCC Part 15, Class B</li> <li>• Electrostatic Discharge (ESD): IEC/EN 61000-4-2, MIL-STD-883E, and EIA- JESD22-A115-A</li> <li>• Safety Compliance: IEC/EN 60950-1 and UL 60950</li> </ul>
Product weight	<ul style="list-style-type: none"> <li>• 0.52 oz/14.8 grams (±1 gram)</li> </ul>
SFF-8431 and SFF-8432 MSA-compliant	<ul style="list-style-type: none"> <li>• Easily implemented into existing infrastructure</li> </ul>

Module	10 Gbps	5 Gbps	2.5 Gbps	1 Gbps	100 Mbps
AQS-107/CX	XFI	XFI	XFI	XFI	XFI
AQS-108/CX		XFI	XFI	XFI	XFI
AQS-109/CX			XFI	XFI	XFI
AQS-109/CB			2500BASE-X	SGMII-with-AN	SGMII-with-AN

## Product Features

- Supports links up to 30 meters for 10G operations using Cat 6 multi-segment cabling
- Supports 5G/2.5G/1G/100M BASE-T operations up to 100 meters using Cat 5e or better cabling
- SFF-8431 and SFF-8432 MSA-compliant
- IEEE 802.3bz compliant and meets the NBASE-T specification
- MDI/MDIX crossover
- I<sup>2</sup>C 2-wire interface for IDs and PHY register access
- Bail latch style ejector mechanism
- Hot-pluggable SFP footprint
- RoHS-6 compliant (lead-free)
- Low power (2.5W maximum)
- Die-cast housing
- Indentions provided for labels on the bottom and sides of die-cast housing



## Ordering Codes

Device Name	Speed	Description	Temperature Range
AQS-107-CX-1	10G/5G/2.5G/1G/100M	10G SFP+ Copper Module (Host Interface-XFI)	Commercial 0°C to 70°C
AQS-108-CX-1	5G/2.5G/1G/100M	5G SFP+ Copper Module (Host Interface-XFI)	Commercial 0°C to 70°C
AQS-109-CX-1	2.5G/1G/100M	2.5G SFP+ Copper Module (Host Interface-XFI)	Commercial 0°C to 70°C
AQS-109-CB-1	2.5G/1G/100M	2.5G SFP+ Copper Module (Host Interface-2500BASE-X SGMII-with-AN)	Commercial 0°C to 70°C