

MicroMux Quattro™

100GbE and 200GbE support in 400GbE slots
without additional rack space

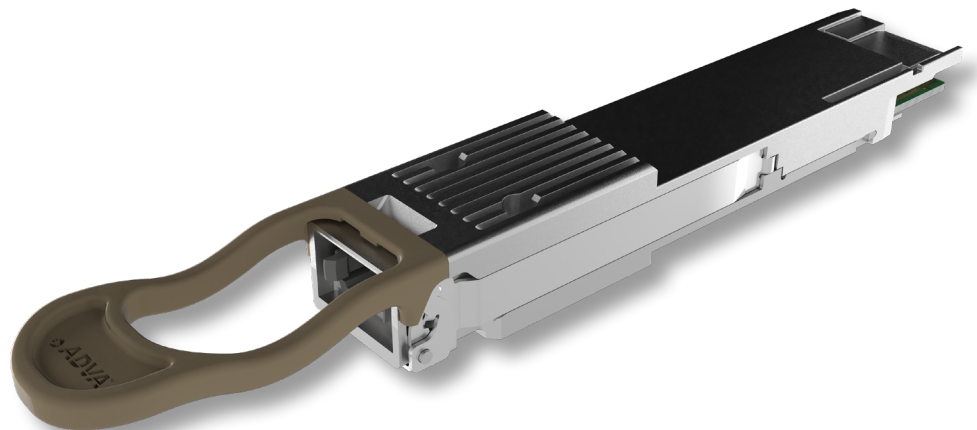
Benefits

- **Support 100GbE on 400GbE ports**
Converts a 400GbE QSFP-DD port into four independent 100GbE or two 200GbE ports
- **Flexible, software configurable**
Enables four 100GBase-SR4/CWDM4/LR4, two 200GBase-SR8 or one 400GBase-SR16 from a single 400GbE QSFP-DD slot
- **Save cost and operational complexity**
Eliminates the need for costly aggregation devices that also increase rack space and points of failure
- **Four times higher density of 100GbE ports**
By transforming each 400GbE port into four 100GbE ports, MicroMux™ Quattro offers higher port density than standard 100GbE pre-aggregation devices
- **Standard-compliant plug-and-play QSFP-DD**
Electrically and mechanically compliant to QSFP-DD standard cages; CMIS-Rev 3.0 compliant
- **FEC termination/creation**
KP2 FEC for 100GAUI-2 electrical interfaces, KR4 FEC for SR4 and FEC free for LR4 optical interfaces

Overview

The growth of bandwidth demand has prompted network operators to introduce **400Gbit/s Ethernet-based connectivity**. The next-generation equipment that is being deployed to support this demand however is mainly equipped with 400Gbit/s ports and offers limited options for efficient legacy 100Gbit/s services. Our MicroMux™ Quattro plug solves this problem by transforming each 400GbE port into four 100GbE ports or two 200GbE ports without additional costly equipment that adds complexity, footprint increase and power consumption to the node.

Built as a standard-compliant QSFP-DD form factor, our MicroMux™ Quattro offers a simple and innovative solution to support 100GbE or 200GbE services where the deployed infrastructure is designed for 400GbE only. It packs the functionality of four independent 100GBase-SR4, CWDM4 or LR4 interfaces or two independent 200GBase-SR8 interfaces into a single QSFP-DD housing. Since there's no need for other expensive aggregation devices, MicroMux™ Quattro saves cost, rack space and power consumption. What's more, with less equipment and interconnecting points in the network, MicroMux™ Quattro significantly reduces operational complexity. Whether in data center, enterprise or service provider applications, our MicroMux™ Quattro helps you maximize the use of your existing hardware.



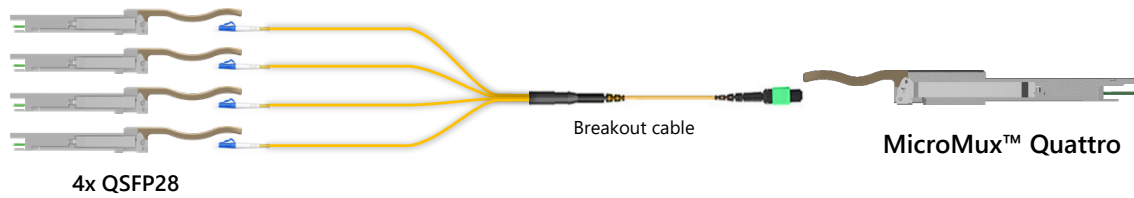
MICROMUX QUATTRO™

High-level technical specifications

Parameter	MicroMux Quattro™ SR4	MicroMux Quattro™ CWDM variant	MicroMux Quattro™ LR4
Operating wavelengths	840nm to 860nm	1264.5nm to 1277.5nm 1284.5nm to 1297.5nm	1294.53nm to 1296.59 nm 1299.02nm to 1301.09 nm 1303.54nm to 1305.63 nm 1308.09nm to 1310.19 nm
Optical output power per channel	-8.4dBm to 2.4dBm	-6.5dBm to 2.5dBm	-4.3dBm to 4.5dBm
Extinction ratio	2dB	3.5dB	4dB min
Transmitter dispersion penalty	4.4dB	3dB	2.2dBm max
Optical return loss tolerance	12dB	20dB	20dBm min
Eye mask {X1, X2, X3, Y1, Y2, Y3} Hit ratio of 5e-5 per IEEE	{0.3, 0.38, 0.45, 0.35, 0.41, 0.5}	{0.31, 0.4, 0.45, 0.34, 0.38, 0.4}	{0.25, 0.4, 0.45, 0.25, 0.28, 0.4}
Receiver sensitivity per channel (BER 5e-5) (dBm)	-10dBm [@BER 5e-5]	-10dBm [@BER 5e-5]	-10.6dBm [4x25G, @1e-12]
Received optical power range per channel (dBm)	-10.3dBm to 2.4dBm	-11.5dBm to 2.5dBm	-11.1dBm to 4.5dBm [4x25G, @1e-12]
Clock accuracy	+/-100ppm	+/-100ppm	+/-100ppm
Case temperature range	0°C to 70°C	0°C to 70°C	0°C to 70°C
Power consumption	17.5W	19W	20W
Optical interface	MPO32	Quad SN	Quad SN
Hardware Specification	QSFP-DD Rev 4.0	QSFP-DD Rev 4.0	QSFP-DD Rev 4.0
Managemnet interface	CMIS 4.0	CMIS 4.0	CMIS 4.0

Applications in your network

Enables 100GbE and 200GbE services in the latest 400GbE equipment by interconnecting to already deployed interface (i.e. SR4/CWDM4/LR4) with just a hot swappable QSFP-DD plug



MicroMux™ Quattro converts a 400GbE port into four 100GbE or two 200GbE ports with zero footprint increase

