

# MicroMux™ Edge BiDi

## 4x10GBASE-BX40D bi-directional QSFP+

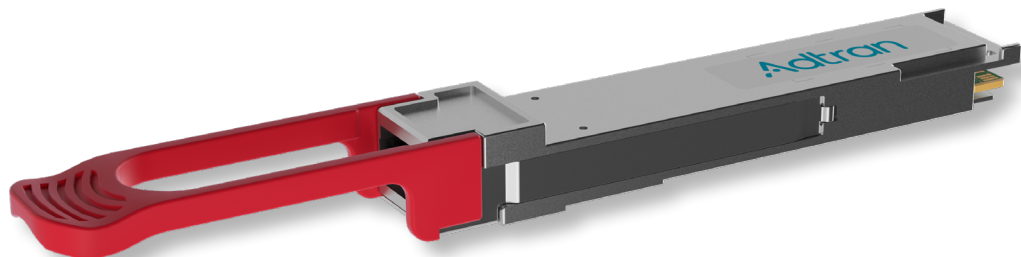
### Benefits

- **Standard-compliant QSFP+ packaging**  
Electrically and mechanical compliant to QSFP+ standard; compliant with IEEE802.3cp. MPO12 optical connector
- **Symmetrical latency**  
Single-fiber working ensures same latency in both transmit and receive directions
- **Extended reach**  
Up to 40km in single-mode fiber (SMF)
- **10GbE single-fiber working connectivity**  
The MicroMux™ Edge BiDi uses two sets of wavelengths in the 1300nm range (TX 1330nm / RX 1270nm)
- **Higher faceplate density**  
Four 10GBASE-BX40D bidirectional interfaces in just a QSFP+ pluggable module
- **Low footprint and power consumption**  
Hot-swappable QSFP+ pluggable module dissipating 4W maximum

### Overview

**Our MicroMux™ Edge BiDi pluggable device addresses the demand for cost-efficient 10Gbit/s Ethernet (10GbE) connectivity in areas where fiber availability is at a premium.** With a standard-compliant QSFP+ form factor and bidirectional technology, it provides the functionality of four independent 10GbE interfaces to any equipment with a QSFP port. This makes it ideal for single fiber feeders for access networks, as well as for applications where the latency must be the same in both the transmit and receive directions.

Our MicroMux™ Edge BiDi pluggable transceiver module, part of the MicroMux™ series, offers customers a flexible and cost-effective solution to provide 10GbE connectivity deployments in wireless front/midhaul and wholesale/enterprise Carrier Ethernet. The integration technologies used allow the functionality of four independent 10GBase-BX40D interfaces to be packed into a single QSFP+ housing. Used in tandem with our bi-directional BX40U SFP+ at the other end, or a third-party bidirectional SFP+, the MicroMux™ Edge BiDi provides duplex communication over a single fiber. It uses a 1330nm optical signal in the transmit direction and a 1270nm optical signal in the receiving direction. For each of the four optical interfaces, the two optical signals are coupled into the same fiber inside the QSFP+ module. To reach the 40km transmission distance an APD is used in the receiver side. Bidirectional transmission over a single fiber minimizes fiber consumption and ensures the same latency in both the transmit and receive direction. With this feature set, our MicroMux™ Edge BiDi is ideal for single-fiber working feeders for wireline/wireless access/edge networks, as well as for 5G wireless fronthaul/midhaul use cases where symmetric latency is essential.



# MICROMUX™ EDGE BIDI

## High-level technical specifications

Parameters	Minimum	Maximum
Transmitter operating wavelengths	1320nm	1340nm
Average optical output power	-3dBm	3dBm
Extinction ratio	5.5dB	
Transmitter dispersion penalty		2.6dB
Side-mode suppression ratio	30dB	
Optical return loss tolerance		21dB
RINx OMA		-128dB/Hz
Transmitter reflectance		-12dB
Launch power (min) into OMA minus TDP	-1dBm	
Receiver operating wavelengths	1260nm	1280nm
Maximum receive power (damage)	-3dBm	
Receiver sensitivity (average)		-19dBm
Received overload	-21.2dBm	-7dBm
Receiver reflectance		-26dB
Power consumption		5W
Operating case temperature	0°C	70°C
Management	Two-wire i2c communication interface; Low-speed electrical interface compliant with SFF-8436	
Environmental sustainability	RoHS and REACH compliant	

## Applications in your network

Single-fiber working feeder for wireless X-haul and wholesale/enterprise Carrier Ethernet use cases that require minimal fiber consumption and symmetric latency

