



# 40GbE QSFP+ Active Optical Cable

MC2210310-xxx



Mellanox® MC2210310 is a QSFP+ VCSEL-based (Vertical Cavity Surface-Emitting Laser) active optical cable (AOC) designed for use in 40GbE Ethernet systems. MC2210310 AOC offers high port density and configurability, and a much longer reach than passive copper cables in the data centers. Since the AOC is hot pluggable, it is easy to install and replace.

MC2210310 has a standard SFF-8665 compliant QSFP+ port on the electrical side towards the host system. It contains four multi-mode fibers (MMF) optic transceivers per end, each operating at data rates of up to 10.3125Gb/s. This integrated cable solution provides reliable transport for aggregate data rates of up to 40Gb/s.

Rigorous production testing ensures the best out-of-the-box installation experience, performance and durability. Mellanox's unique quality active fiber cable solutions provide power-efficient connectivity for data center interconnects. They enable higher port bandwidth, density and configurability at a low cost, and reduced power requirement in the data centers.

Table 1 - Absolute Maximum Ratings

Parameter	Minimum	Maximum	Units
Supply voltage	-0.3	3.6	V
Data input voltage	-0.5	3.9	V
Control input voltage	-0.3	3.9	V
Storage temperature	-10	70	°C

Table 2 - Operational Information

Parameter	Minimum	Typical	Maximum	Units
Supply voltage (Vcc)	3.15	3.3	3.45	V
Power consumption	---	0.8	1	Gb/s
Supply noise tolerance	66	---	---	mV

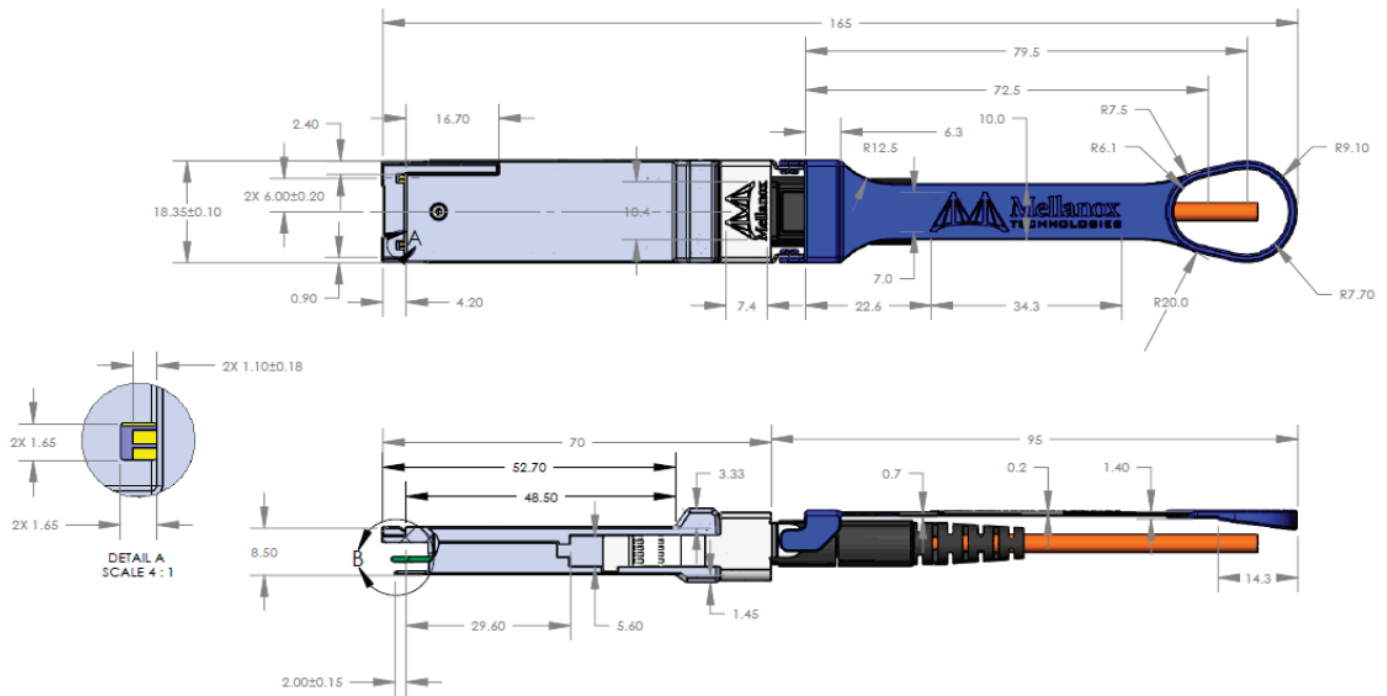
Table 3 - Cable Mechanical Specifications

Parameter	Value	Units
Diameter	Option 1: 3.3mm; Option 2: 3.0mm	mm
Minimum bend radius	35	mm
Length tolerance (See Figure 1 for the cable length definition.)	Length < 5m: +300mm /-0 5m < Length < 50m: +500mm / -0 50m < Length: +1000mm /-0	m
Cable color	Length < 30m: (OM2) Orange Length > 30m: (OM3) Aqua	m

## HIGHLIGHTS

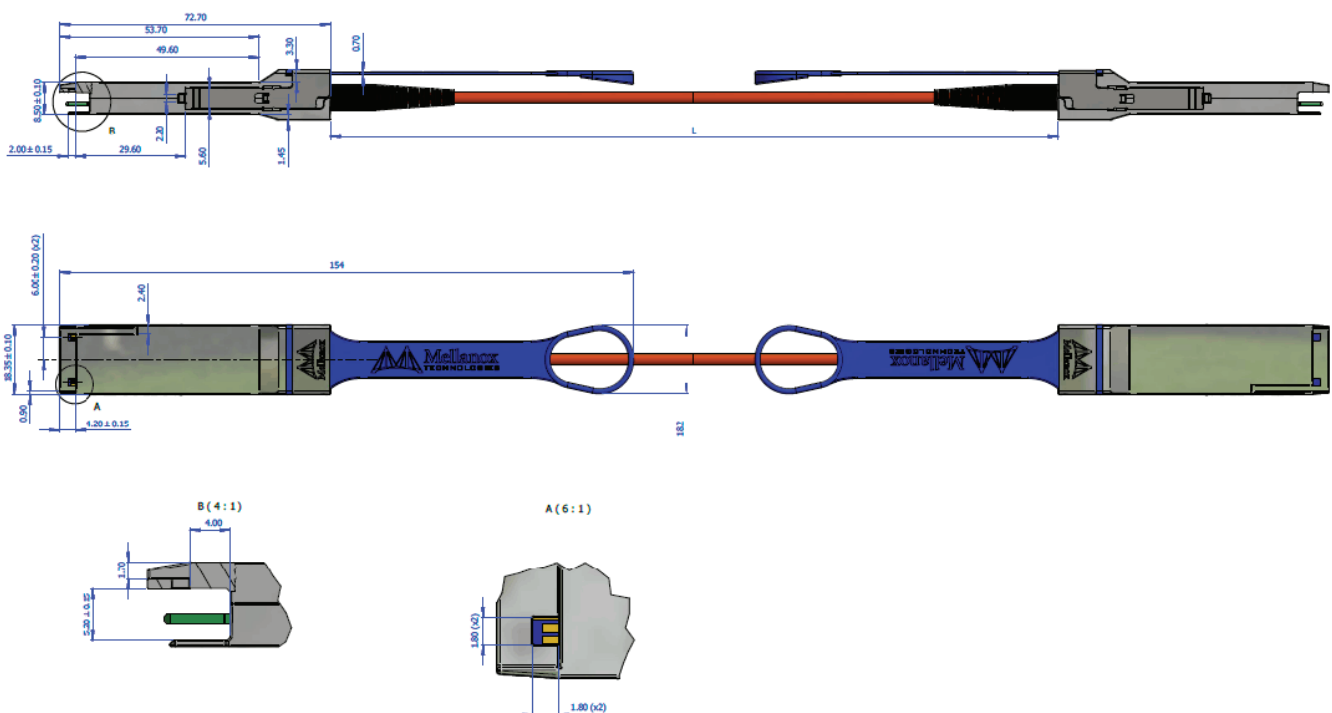
- Up to 100Gb/s data rate
- Up to 40GbE or 40Gb/s data rate
- Programmable Rx output amplitude
- 0.8W power consumption at low Rx output amplitude
- SFF-8685 and SFF-8436 compliant
- IEEE 802.3ba 40GbE compliant
- Operating case temperature of 0-70°C
- 3.3V power supply
- BER better than 1E-15
- Hot pluggable
- Class 1 laser safety
- Up to 100 meters in length
- Standard multimode fiber
- RoHS compliant
- Plenum rated (OFNP)
- SFF-8636 compliant I<sup>2</sup>C management interface

# Mechanical Schematics (Option 1)



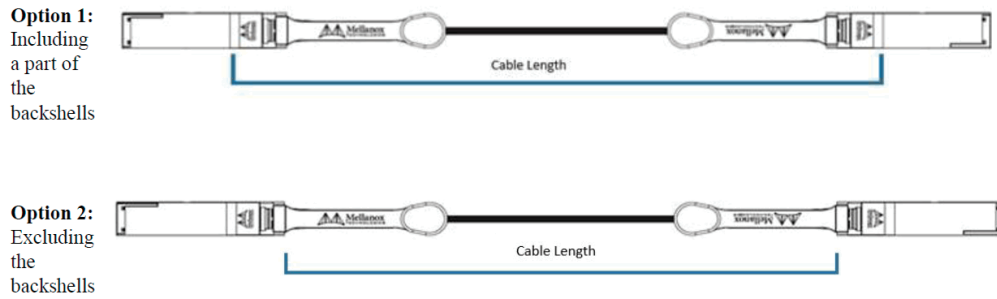
Note: Multiple options are specified to ensure supply chain robustness. The provided option depends on availability and may change from shipment to shipment.

# Mechanical Schematics (Option 2)



Note: Multiple options are specified to ensure supply chain robustness. The provided option depends on availability and may change from shipment to shipment.

**Figure 1.** Cable Length Definition



**Table 4 - Part Number and Description**

OPN	Description
MC2210310-003	Mellanox® active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 3m
MC2210310-005	Mellanox® active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 5m
MC2210310-010	Mellanox® active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 10m
MC2210310-015	Mellanox® active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 15m
MC2210310-020	Mellanox® active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 20m
MC2210310-030	Mellanox® active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 30m
MC2210310-050	Mellanox® active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 50m
MC2210310-100	Mellanox® active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 100m

Note. See Figure 1 for the cable length definition.

### Warranty Information

Mellanox LinkX AOC cables include a 1 year limited hardware warranty, which covers parts repair or replacement.



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