Using industry leading VCSEL technology and an advanced new light-engine design, the 3M Active Optical Cable (AOC) Assembly provides excellent cost/performance value. The direct attach QSFP+ and CX4 AOC assemblies deliver four channels of bi-directional data while using minimal energy per end.

**Features**
- Low power AOC
- Certified to the InfiniBand Integrator’s List for 20 Gbps and 40 Gbps (DDR and QDR respectively)
- Quick, easy installation – plug and play
- Lightweight, flexible and routable
- Compliant with SFF, InfiniBand and ethernet specifications
- Qualified to Telcordia GR-486-CORE
- Bend-insensitive fiber
- Up to 100 m in length

**Applications**
- High-performance computing clusters
- Data center networks
- IB and GigE switches
- High-speed servers
- Storage
- Routers, hubs, load balancer
3M™ Active Optical Cable (AOC) Assemblies

### Product Specifications

<table>
<thead>
<tr>
<th>Module Form Factor</th>
<th>QSFP+</th>
<th>CX4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocols Supported</td>
<td>Infiniband, 40G Ethernet</td>
<td>Infiniband, 3.125G per channel XAUI, Ethernet</td>
</tr>
<tr>
<td>Channels</td>
<td>4 channels, bi-directional</td>
<td>4 channels, bi-directional</td>
</tr>
<tr>
<td>Channel Data Rate</td>
<td>1 to 10.3125 Gbps/channel</td>
<td>up to 5 Gbps/channel</td>
</tr>
<tr>
<td>Operating Optical Wavelength</td>
<td>850 nm</td>
<td>850 nm</td>
</tr>
<tr>
<td>Aggregate Bandwidth</td>
<td>40 Gbps</td>
<td>20 Gbps</td>
</tr>
<tr>
<td>BER</td>
<td>&lt;10E-15</td>
<td>&lt;10E-15</td>
</tr>
<tr>
<td>Operating Case Temperature</td>
<td>0 to +70°C</td>
<td>0 to +70°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40° to +70°C</td>
<td>-40° to +70°C</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>3.3 V</td>
<td>3.3 V</td>
</tr>
<tr>
<td>Electrical Interface</td>
<td>38-pin edge connector</td>
<td>34-pin edge connector</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>500 mW per end</td>
<td>&lt;660 mW per end</td>
</tr>
<tr>
<td>Management Interface</td>
<td>Serial, I2C</td>
<td>N/A</td>
</tr>
<tr>
<td>Fiber Type</td>
<td>OM2+, 50 µm Bend Insensitive</td>
<td>OM2+, 50 µm Bend Insensitive</td>
</tr>
<tr>
<td>Cable Length</td>
<td>Up to 100 m</td>
<td>Up to 100 m</td>
</tr>
<tr>
<td>Outer Cable Diameter</td>
<td>3 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>Cable Type</td>
<td>Plenum and LSZH</td>
<td>Plenum and LSZH</td>
</tr>
<tr>
<td>Compliance</td>
<td>SFF-8436, FCC Class B and CE, RoHS* 6, Class 1M Laser, Telcordia GR-486-CORE</td>
<td>SFF-8470, FCC Class B and CE, RoHS 6, Class 1M Laser, Telcordia GR-468-CORE</td>
</tr>
</tbody>
</table>

### Ordering Information

QSFP+ parts configurations are available on customer drawing 78-5100-2442-1. CX4 parts configurations are available on customer drawing 78-5100-2496-7. Please reference these drawings for additional details and availability.

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**6AXX-X04X1-XXX.X-0**

- **22 = QSFP+**
- **44 = CX4**
- **A = QSFP+**
- **B = CX4**

**Cable Jacket**

- **2 = Plenum**
- **4 = LSZH**

**Standard Lengths:** 2-30 meters, 35, 40, 45, 50, 60, 70, 80, 90 100 meters
Related Products

3M™ High-Speed Copper Cable Assemblies for QSFP+ Applications
Made with 3M™ Twin Axial Cable technology, the QSFP+ direct attach copper cable assembly is a low-cost, flexible solution that complements QSFP+ AOC assemblies to address the diverse needs of customers seeking reliable, high-density 40 Gbps solutions.

3M™ Cable Assemblies for SFP+ Applications
The 3M Cable Assembly for SFP+ Applications is a passive copper cable assembly which utilizes 3M Twin Axial Cable technology to create a highly-flexible, foldable, high-performance solution, with up to 10 Gbps for storage, networking, high-performance computing and data center applications.

The First of Its Kind:

- Excellent SI performance
- Extremely low profile
- Light-weight
- Tightly packaged, flexible ribbon format
- Very small bend radius (2.5 mm) enables efficient routing
- Infiniband QDR/FDR; 40G Ethernet; FibreChannel / SAS-2.1
- SFF-8436 compliant

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