

Article Overview

The Nordic 200G Active Optical Device is a high-speed, short-distance optical module designed for 200G Ethernet transmission in data centers, available in QSFP56 and QSFP-DD form factors.

Overview

A 200G Active Optical Cable (AOC) is an active fiber optic cable that integrates electro-optical and opto-electronic conversion chips to transmit high-speed signals over optical fibers . It is primarily used for short-distance multi-channel data communication and interconnect applications in data centers, supporting transmission distances from 1 to 100 meters depending on fiber type .

Types and Form Factors

- o QSFP56 AOC
 - o Four transmit and receive channels
 - o Each channel supports up to 56Gbps using PAM4 modulation
 - o Aggregate data rate: 200Gbps
 - o Optical interface: MPO or LC connectors
 - o Wavelength: 850nm, 1310nm, CWDM, or LWDM
- o QSFP-DD AOC
 - o Eight transmit and receive channels
 - o Each channel supports up to 28Gbps using NRZ modulation
 - o Aggregate data rate: 200Gbps (up to 212.5Gbps in some configurations)
 - o Electrical interface: 8-lane, compatible with QSFP56
 - o Optical interface: MPO or duplex LC connectors
 - o Wavelength: 850nm

Working Principle

The AOC converts electrical signals into optical signals at one end using an electro-optical conversion device. The optical signal is then transmitted through the fiber, modulated, and received at the other end, where it is converted back into an electrical signal . This allows high-speed, low-latency data transmission with minimal signal degradation over short distances.

Applications

- o Direct 200G connection: Both ends are 200G modules for high-speed links.
- o 200G to 2x100G branching: One end connects to a 200G module, the other to two 100G modules,



Nordic Active Optical Device 200G

supporting up to 212.5Gbps. Power consumption: 200G

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BlueOptics offers premium 200G Active Optical Cables (AOC) and Direct Attach Copper (DAC) cables, specifically designed for

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Active Optical Cables (AOC) use optical fibers, allowing for longer distance transmission compared to copper cables and being less

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The Active Optical Devices market was valued at \$6.57 billion in 2025 and is projected to reach \$15.29 billion by 2034, growing at

The 200G QSFP56 Active Optical Cable (AOC) is a cutting-edge solution for short-range, high-speed data transfer

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Nordic Active Optical Device 200G

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