



AOI Marks 1 Millionth 1.8GHz Amplifier Shipped, Unveils New Broadband & Optical Product Demos at SCTE TechExpo 2026

September 29, 2026

ATLANTA, SCTE TECHEXPO, September 29, 2026 — AOI (NASDAQ: AAOI), a leading provider of advanced optical and HFC networking products powering AI, today unveiled the demonstrations, new product arrivals, milestone celebrations, and speaker activity it brings to the SCTE TechExpo 2026 in Atlanta, September 29 – October 2.

Under the theme "Network Intelligence. Delivered.," AOI will host customers and partners at booth #H1448 (Building B) this week with demos spanning its Quantum18® amplifier portfolio, the QuantumLink™ software portfolio for remote network management and predictive maintenance — and the new QuantumWave™ tunable module for standardizing transport optics across the network core, hub and nodes.

A Historic Manufacturing Milestone

Front and center at AOI's booth will be a fully functioning golden Quantum 18 HGD amplifier display commemorating one of the industry's most significant hardware milestones: AOI Quantum Bandwidth has shipped its 1 millionth 1.8GHz amplifier.

The milestone reflects more than 25 years of manufacturing innovation. AOI has produced HFC amplifiers since 1997, beginning with the GainMaker platform it built and sold to industry tech vendors for many years as an ODM partner. AOI launched the Quantum Bandwidth brand in 2023, bringing its accumulated manufacturing legacy together with intelligent, predictive software to support autonomous network operations with AI for faster detection and response. With more than 1 million 1.8GHz amplifiers shipped to-date, AOI is the backbone of the broadband plant across the country.

"SCTE TechExpo is where our customers come to see what's next, and this year we're bringing proof of the dedicated R&D we have done to deliver on the vision for the future of connectivity," said Steve Pederson, Senior Vice President and General Manager, Broadband Business, AOI. "From a live 3.0GHz network running in the booth to the one-millionth 1.8GHz amplifier we've shipped, each element of our presence this year reflects the same commitment: building the intelligent infrastructure that operators need to deliver broadband experiences people can rely on."

Live at the Booth: How AOI is Helping Customers Expand Spectrum and Manage Intelligent Networks

Front and center is a first-of-its-kind concept demo showing a live downstream operation at 3.0GHz over a coaxial plant, showing the spectrum migration path continuing beyond 1.8 GHz. The demo consists of actual working hardware featuring a 3.0GHz concept amplifier, SC-QAMs, OFDM channels, and a 3.0GHz DOCSIS signal generator.

The live demo walls also feature AOI's full [QuantumLink](#) remote management software platform, running live on actual AOI amplifiers and nodes. Today, the company introduced new AI-driven capabilities within the platform that enable operators to turn visibility into immediate action. New capabilities include:

- **Self-Optimization**
QuantumLink Central's AI doesn't stop at finding network issues. It acts on them. When it detects a performance problem, it recommends and applies adjustments autonomously that keep the rest of the network stable until a permanent fix is made. Operators stay in control and approve each change before it is applied.
- **AI-Driven Automated Impairment Detection & Localization**
Tracking down the source of a network impairment has long been a slow, manual job that often needs technicians in the field. QuantumLink Central uses AI to detect impairments and pinpoint where they are coming from, remotely and automatically. This cuts troubleshooting time and truck rolls.
- **Network Health and Device Health**
QuantumLink Central gives operators a clear, real-time view of the health of their whole network. AI-driven health insights help teams quickly see where attention is needed most. They can then prioritize their work and move from reactive troubleshooting to proactive network management.
- **Predictive Maintenance**
QuantumLink Central uses AI to spot developing issues before they affect subscribers. It forecasts potential faults and tells operators how confident it is in each forecast and how much lead time they have. Maintenance can then be planned, instead of carried out as an emergency.

"Every hour a field team spends hunting for the source of a network issue, is an hour it isn't spending on the next upgrade," said Sahil Yadav, Head of Software and AI for AOI's Broadband Business. "We built these new AI capabilities in QL Central to take that burden off operators. It gives them a

clear view of network health, early warning of developing faults, and automated tools that find and address impairments remotely. It's a practical step toward autonomous network operations, and we look forward to showing it live at SCTE TechExpo."

AOI will have its [Quantum18 amplifier family](#) on display in multiple configurations, including HGBT, HGD, LE, MB, BLE, and GSN Node, giving engineers and procurement teams an up-close look at the popular amplifiers powering broadband networks across North America today.

First Look: QuantumWave Tunable Module

SCTE TechExpo 2026 marks the public debut of AOI's [QuantumWave™ 25G Tunable SFP](#), the newest addition to the Quantum Bandwidth product family. As operators deploy DOCSIS 4.0 and Distributed Access Architectures (DAA), transport links between the CCAP or virtualized core, aggregation hubs, and Remote PHY/Remote MACPHY devices are increasingly outgrowing traditional 10G connectivity. QuantumWave gives operators a cost-effective, compact option for mid-haul and backhaul links. They can deploy at 10G today and turn on 25G when traffic demands it, with no optics swap.

Key Benefits Include:

- **Dual-mode 10G/25G Operation:** Configure for 10G or 25G NRZ in the same hot-pluggable SFP28 module, so capacity can grow without replacing hardware.
- **Simplified Inventory:** A narrow-linewidth C-band tunable laser covers 48 DWDM channels (ITU channels 16–63, 100 GHz spacing), so one part number replaces wavelength-specific spares.
- **Extended Reach:** Up to 40 km at 25G and up to 80 km at 10G on single-mode fiber, with an APD receiver and CDR with electronic dispersion compensation.
- **Built for the Outside Plant:** Operates from -20°C to 85°C with -40°C cold-start support and uses a copper upper cover for heat dissipation.
- **Low Power:** Under 4.5W on a single 3.3V supply.

Speaker Session: "The Intelligent 6GHz HFC Network"

Sahil Yadav, Head of Software and AI for AOI's Broadband Unit, will present on the convergence of extended spectrum and network intelligence. In the session, "The Intelligent 6GHz HFC Network," panelists will explore what AI-driven operations on today's 1.8 GHz plant teach us about the road to 3 and 6 GHz, from turning smart amplifier telemetry into predictive insight to building the trust operators need before automation takes over. A must-see session for technology and business leaders, network architects, and operations teams deciding how AI and extended spectrum fit into their network roadmap. Full access pass holders can experience the session on Wednesday, September 30, 12:45 – 2:00 pm on the Convergence stage. Full details [here](#).

New Insights: AOI's TechExpo Blog Series

AOI published two new blogs as resources for cable operators planning their next network upgrades. In the Q&A blog, "What AI Actually Needs Before It Can Run the Network," Sahil Yadav, Senior Director of Software Development for AOI's Broadband Business, explains why accurate telemetry and network visibility, rather than the AI model itself, are the foundation for moving AI from pilots into production, and where operators should start with automation. Read the blog [here](#).

The companion checklist blog, "DOCSIS 4.0 Deployment: Questions Every Operator Should Ask," covers the key questions operators should answer before replacing amplifiers: which parts of the network to upgrade first, whether passives, power and transport optics are ready, and how remote management can change day-to-day operations. Read the blog [here](#).

Introducing "Hot Topics"

"Hot Topics," is a new video series out now from AOI that pairs industry VIPs with candid conversation while trying our latest hot & spicy sauces on chicken wings. As each episode unfolds, guests tackle tough questions while working through progressively hotter sauces while they do it. Our debut episode features Mark Bridges, President and CTO of CableLabs getting while covering the technology decisions, operator priorities, and industry shifts defining broadband's next chapter. Watch the debut episode [here](#).

It's Here! Season Two of AOI's 'Spicy Slice' Campaign

AOI's ["Spicy Slice" campaign](#) is back and brings the heat with new daring cable industry experts facing new challenges while tasting new hot sauces! Watch the new season [here](#). Come by the booth to try Packet Loss Pete, created for the cautious, and Coaxial Combustion for the most daring, among several other flavors.

New White Paper: Beyond 1.8 GHz: Evaluating Paths to 3.0GHz

AOI has also published a new white paper, "Beyond 1.8 GHz: Evaluating Paths to 3.0 GHz HFC Networks," to help cable operators plan their next phase of spectrum expansion. The paper gives operators a three-part decision framework covering the engineering constraints, the engineering responses, and the operational and economic factors. Read the whitepaper [here](#).

New Podcast Episode: 'The Layer 1 Lounge' in the [AOI Studio](#): 'Beyond DOCSIS 4.0: Is 3 GHz the Future of Cable Networks?'

The cable industry is deep into DOCSIS 4.0 deployments at 1.8 GHz, so why are engineers already talking about 3 GHz? In this Podcast episode, AOI's Corey Chapman, Head of Product Management for AOI's Broadband Business, breaks down what it actually takes to push HFC networks to 3.0GHz: the physics of signal loss, amplifier architecture tradeoffs, energy efficiency constraints, and the industry consensus still being built. View the Podcast [here](#).

Additional Resources:

- [AOI Quantum Bandwidth](#)
- [AOI HFC Amplifiers](#)
- [QuantumLink](#)
- [QuantumWave](#)

- [AOI Newsroom](#)
- [AOI Studio](#)

About AOI

Applied Optoelectronics, Inc. (AOI) is a leading developer and manufacturer of advanced optical and HFC networking products that are the building blocks for AI datacenters, CATV and broadband fiber access networks around the world. AOI supplies this critical infrastructure to tier-one customers across cloud computing, CATV broadband, telecom, and FTTH markets. The company has R&D facilities in Atlanta, GA, and engineering and manufacturing facilities at its corporate headquarters in Sugar Land, TX, as well as in Taipei, Taiwan and Ningbo, China. For additional information, visit www.ao-inc.com.

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