



NEWS RELEASE

Adtran breaks industry record for single-carrier 800G long-haul transport

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News summary:

- Field trial reaches 2,220km distance across live NYSERNet network with 14 route-and-select flexgrid ROADMs
- Simplified interface reduces cost, complexity and energy consumption
- Next-gen DSP enables ultra-high symbol rate to set new industry standard

NEW YORK--(BUSINESS WIRE)-- Adtran[®], Inc., (NASDAQ: ADTN), the leading provider of next-generation open and disaggregated networking solutions, today announced that it successfully completed a field trial of 800Gbit/s single-carrier transport, achieving error-free transmission over a record distance of 2,220km in NYSERNet's production network. The test route passed through 14 route-and-select flexgrid ROADMs comprising a total of 28 wavelength-selective switches. Leveraging 140GBd digital signal processing (DSP) technology from Acacia, an industry leader for silicon-based high-speed optical interconnect products, this result was made possible by Adtran's use of continuous symbol rate tuning and probabilistic constellation shaping offered by Acacia's Coherent Interconnect Module 8 (CIM 8). The trial showcases an opportunity for network operators to increase capacity and efficiency while minimizing complexity and cost.

"We've taken single-carrier 800Gbit/s data transmission further than ever before. And we've achieved it not in a lab but in a real-world network also carrying live traffic. What's more, we succeeded without any optimization to the line system, maintaining the same amplifier settings used before the field trial. We've demonstrated that the highest capacity and reach can now be accomplished even over deployed fiber comprising a mix of standard G.652 and G.655 and including multiple network nodes and flexgrid ROADMs," said Sorin Tibuleac, director of system



architecture at Optical Networks, Adtran. “Building on the success of our TeraFlex™ CoreChannel™ technology, these results represent the next milestone in the development of high-speed optical networks. The potential to enhance throughput while minimizing opex and operational complexity is immense.”

Adtran’s trial marks the longest distance ever achieved for 800Gbit/s data transport using a single optical carrier with real-time DSP. To realize this, it utilized Acacia’s CIM 8 transceiver technology, which increases baud rates up to 140Gbd to generate 800Gbit/s signals. By achieving long-distance transmission with single-carrier optics, the demo helps operators reduce footprint and energy consumption. The trial used **Adtran’s FSP 3000 open line system (OLS)**, which provided the necessary flexibility to configure the wider required bandwidth and perform testing. Featuring a modular architecture, multiple amplification and multiplexing options, and different chassis sizes, this truly open OLS enables operators to deploy customized and future-proof solutions.

“We’re pleased to play a key role in this trial and proud of our record-breaking network. Alongside our partners, we’re showing that the highest speeds are now possible over extremely long distances, even in intricate and heterogeneous network environments. This demo reveals a way to address complexity and cost while eliminating the need for expensive and unnecessary infrastructure expansion,” commented Bill Owens, chief network architect at NYSERNet. “The success of this trial offers a major boost to the research and education institutions we support. By working with global leaders like Adtran and Acacia, we’re ensuring that our network can benefit from the latest innovation and keep our academic community at the forefront of scientific research.”

“Our field trial sets a new standard for long-haul, single-carrier data transmission over an existing network with live customer traffic. It shows the full potential of our technology to increase capacity and efficiency while reducing power consumption and expense,” noted Christian Rasmussen, VP of DSP and optics engineering at Acacia. “Our CIM 8 coherent optical module was instrumental in enabling this achievement. Featuring our 8th generation DSP and advanced silicon photonics, the CIM 8 module offers baud rate adjustment up to 140GBd and continuous modulation, which optimizes the use of available spectrum. This gives service providers complete transmission flexibility to match their network’s architecture, improve fiber utilization and simplify deployments.”

About Adtran

Adtran, Inc. is a leading global provider of open, disaggregated networking and communications solutions that enable voice, data, video and internet communications across any network infrastructure. From the cloud edge to the subscriber edge, Adtran empowers communications service providers around the world to manage and scale services that connect people, places and things. Adtran solutions are used by service providers, private enterprises, government organizations and millions of individual users worldwide. Adtran, Inc. is a wholly-owned subsidiary of ADTRAN Holdings, Inc. (NASDAQ:ADTN and FSE: QH9). Find more at **Adtran**, **LinkedIn** and **Twitter**.

About NYSERNet

NYSERNet, established in 1985, is a 501(c)3 nonprofit organization founded by New York's higher education community to promote science and education. Our goal is to enhance the research and educational objectives of our members by providing tailored, innovative, and cost-effective data and networking technology solutions. With over 35 years of experience, NYSERNet has been at the forefront of delivering cutting-edge internet services for research and education. We are governed by our members, comprising top universities, colleges, museums, healthcare organizations, regional information centers, and research institutions. www.nysernet.org

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