

News Release

Teledyne LeCroy, Coherent Solutions, Anritsu and Oclaro showcase latest 400G test platform at OFC 2016

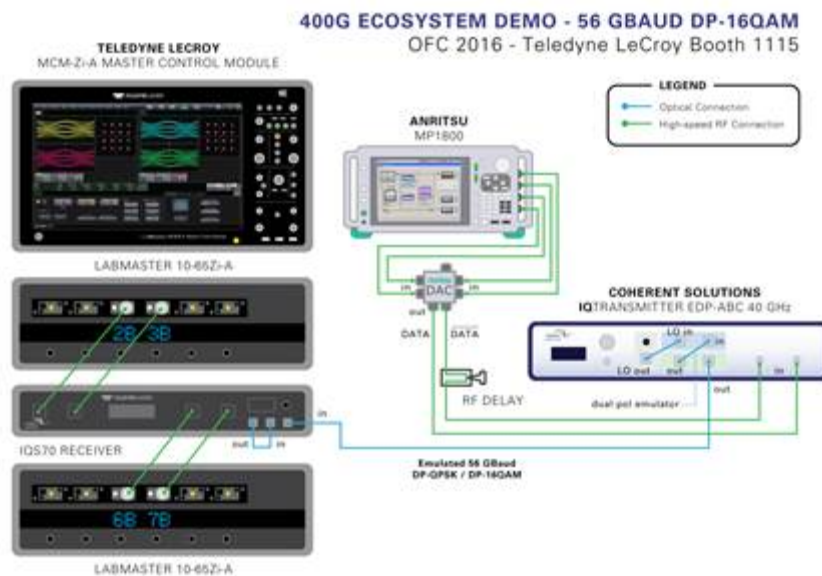
High-performance platform for 400G test combines a new DAC-based 56 Gbaud PAM4 generator with the highest-bandwidth coherent transmitter and optical modulation analyzer available

Chestnut Ridge, NY, Richardson, TX, Auckland, NZ and San Jose, CA - March 8, 2016

Teledyne LeCroy, Anritsu Company, Coherent Solutions Ltd. and Oclaro, Inc. (NASDAQ: OCLR) today announced a new joint effort to demonstrate the highest performance single-carrier 16QAM signal generation and analysis capabilities available at 56Gbaud. The demonstration of the partners' latest optical communications test equipment platform takes place at OFC 2016 in Anaheim, CA, USA in the Teledyne LeCroy booth #1115.

The platform incorporates the highest-performance equipment available for generating, transmitting, receiving and analyzing coherent optical signals at 400G rates. Anritsu's MP1800A Signal Quality Analyzer and G0361A high-speed DAC generate the high-quality 56Gbaud, PAM4 RF signal (112 Gbps). Coherent Solutions' IQTransmitter then uses Oclaro's latest 40GHz LiNbO3 modulator to turn these PAM4 RF signals into an optical 16QAM signal. New modulation-format-independent Automatic Bias Control (ABC) technology, also from Coherent Solutions, automatically optimizes and stabilizes the signal. Teledyne LeCroy's 65GHz LabMaster 10-65Zi-A high-bandwidth real-time oscilloscope combines with the 70GHz IQS70 coherent optical receiver and Optical-LinQ integrated OMA software to accurately characterize the modulated optical signal.

"Being able to generate a high-quality 16QAM signal at rates as high as 56GBaud using commercially available instruments is a major milestone in the pathway to single-carrier 400G. It is also a great way to showcase the latest products in the coherent communications ecosystem," said Andy Stevens, CEO of Coherent Solutions.



Anritsu's MP1800A Signal Quality Analyzer (SQA) is a market-leading Bit Error Rate tester offering a comprehensive suite of test capabilities to support complete signal and transmission integrity analysis. In the demonstration, the MP1800A will be integrated with the G0361A, a 64Gbaud 2-bit D/A Converter (DAC) with dual-channel 2x1 multiplexers. The solution featuring the G0361A and MP1800A BERT eliminates the complex setup and configuration issues associated with legacy systems while also minimizing capital equipment costs.

"The 400GbE Ethernet standard now under investigation uses faster symbol bit rates and more lanes, as well as the PAM modulation method to increase the transfer capacity per unit time. As will be shown in the demonstration, connecting the new G0361A to the MP1800A SQA offers support for generating high-baud-rate PAM4 signals to help move next-generation technology forward," said Hiroshi Goto, Digital/Optics Business Development Manager, Anritsu Company.

Coherent Solutions' new IQTransmitter offers an unparalleled 40GHz of RF bandwidth and incorporates the new modulator Automatic Bias Control (ABC) circuitry, which provides fully pattern-independent bias control. This is a critical capability for the investigation of higher-order modulation formats such as 16QAM. The 40GHz IQTransmitter provides research, development, and production environments with a stable, coherently modulated optical signal for component and system characterization. "We are very pleased to showcase our new IQTX-40 IQTransmitter in this system, which sets a new standard for high baud-rate optical signal generation and analysis instrumentation," states Coherent Solutions' CEO, Andy Stevens.

The Oclaro 400G LiNbO₃ external modulator is the industry's first device explicitly designed to enable speeds of 400G and beyond on a single wavelength or carrier. "By eliminating the need to use two wavelengths with the 16QAM modulation format, Oclaro's new modulator will enable customers to accelerate the design and test of next-generation, high-speed 400Gb/s networks," said Adam Carter, Chief Commercial Officer at Oclaro. "We are pleased to see our modulator being used in this industry-first development platform as this represents a major milestone in the design, test, and delivery of the higher-speed networks that carriers are demanding."

Teledyne LeCroy's Optical Modulation Analysis solution provides the industry's best performance by combining the highest bandwidth with the most flexible analysis. The 70GHz bandwidth IQS70 Coherent Optical Receiver integrates seamlessly with the world-leading LabMaster 10Zi-A oscilloscope and OpticalLinQ software, delivering the most complete optical modulation analysis package. "Consistent bandwidth leadership means Teledyne LeCroy oscilloscopes have become crucial tools for those pushing the boundaries of optical communications technology," said Patrick Connally, Product Manager for high-performance oscilloscopes at Teledyne LeCroy. "Our complete optical modulation analysis solution enables us to continue that trend in this leading-edge development platform."

The joint demonstration will be on display at the Teledyne LeCroy booth #1115. A second set up will be on display at Oclaro booth #1601.

A technical presentation showcasing the set up will be hosted on Wednesday 23rd March 2016, 3pm, at the Teledyne LeCroy booth #1115.

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About Coherent Solutions

Coherent Solutions combine extensive knowledge and experience with agile R&D teams to bring you highly advanced OEM and ODM solutions. The company specializes in coherent optical communication test and measurement instruments from signal generation to characterization. For further information, visit www.coherent-solutions.com

About Oclaro

Oclaro, Inc. (Nasdaq: OCLR), is a leader in optical components, modules and subsystems for the core optical, enterprise and data center markets. Leveraging more than three decades of laser technology innovation, photonics integration, and subsystem design, Oclaro provides differentiated solutions for optical networks and high-speed interconnects driving the next wave of streaming video, cloud computing, application virtualization and other bandwidth-intensive and high-speed applications. For more information, visit www.oclaro.com

About Teledyne LeCroy

Teledyne LeCroy is a leading manufacturer of advanced test instruments that measure, analyze, and verify complex electronic signals. The Company offers [high-performance oscilloscopes](#) and [protocol test solutions](#) used by electronic design engineers in a wide range of application and end markets. Teledyne LeCroy is based in Chestnut Ridge, N.Y. For more information, visit Teledyne LeCroy's website at teledynelecroy.com

About Anritsu

Anritsu Company is the United States subsidiary of Anritsu Corporation, a global provider of innovative communications test and measurement solutions for 120 years. Anritsu's "2020 VISION" philosophy engages customers as true partners to help develop wireless, optical, microwave/RF, and digital solutions for R&D, manufacturing, installation, and maintenance applications, as well as multidimensional service assurance solutions for network monitoring and optimization. Anritsu also provides precision microwave/RF components, optical devices, and high-speed electrical devices for communication products and systems. The company develops advanced solutions for 5G, M2M, IoT, as well as other emerging and legacy wireline and wireless communication markets. With offices throughout the world, Anritsu has approximately 4,000 employees in over 90 countries. To learn more visit www.anritsu.com

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