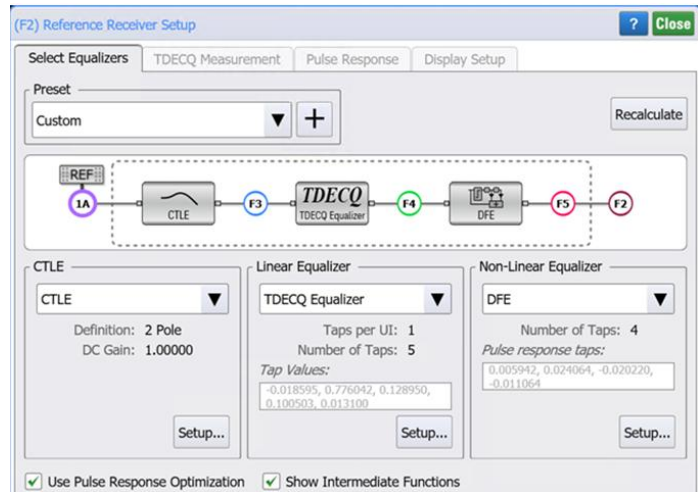




224G Linear/RTL 1.6Tbps Optical Measurements

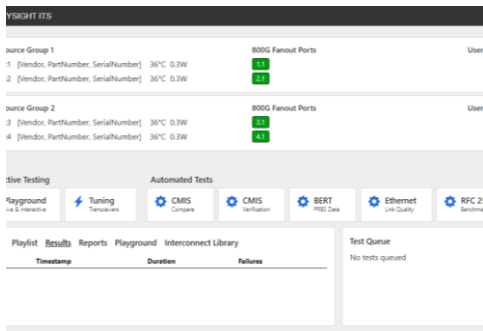
N1093 DCA-M: 120 GBd-capable optical bandwidth reference receiver with integrated clock recovery offering excellent lock sensitivity. High-sensitivity 224 Gb/s optical measurements operating in concert with FlexDCA SW advances to support emerging reference receiver co-optimization requirements, which are essential to OIF Linear and RTL link characterization at 1.6Tbps.



800G Interconnect Network and Performance Tester

Measurement features: 800GE PAM4 signaling on 106.25 Gb/s host electrical lanes

- L1 BERT, FEC SER, FLR, Pre-FEC BER, BER/FEC/PCS error injection
- Active, passive, optical & copper interconnect support
- Sequential scheduler and Rx Histogram (both built-in)
- Complete Layer 2/3 Ethernet testing, RFC benchmark and protocol emulation test
- Capable of support for RoCEv2/RDMA, AI Data Center SW
- **NEW Interconnect Test System Software**



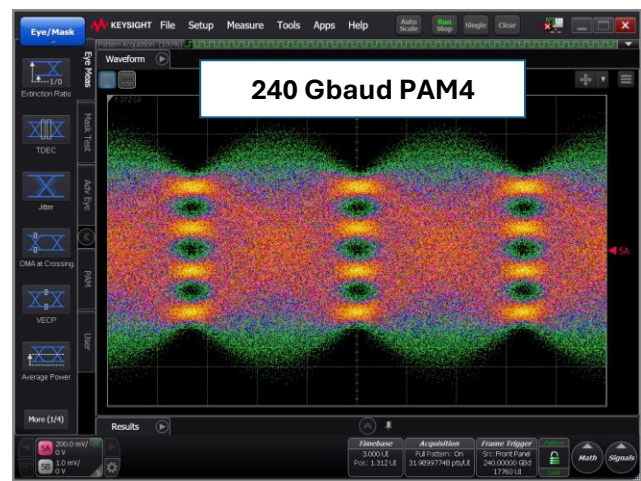
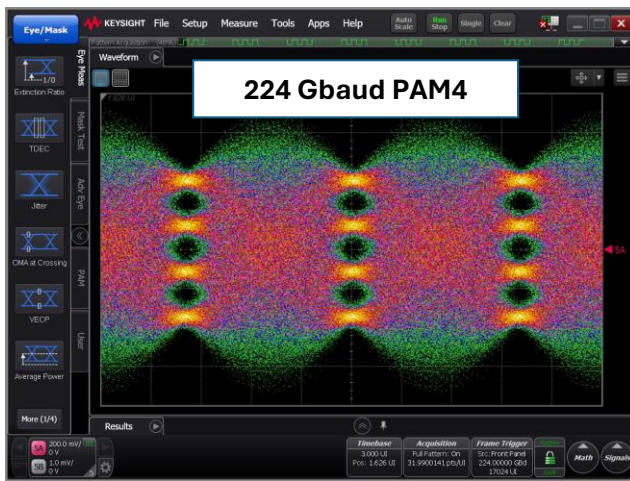
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Research on 448 Gbps IM/DD and 1.6Tbps Coherent Optical

While standardization of 224 Gbps interfaces (112 GBd PAM4) and 800ZR (coherent technology based on DP-16QAM) is still ongoing, the industry is addressing the challenges of achieving next high-speed data rate by exploring key factors such as interface support, modulation schemes, and test methodologies. Recently OIF has started the CEI-448G framework project to define the next electrical data rate targeting 448 Gbps. OIF is also working on the 1600ZR project to define a power optimized solution for a multi-vendor interoperable 1.6Tbps coherent optical interface, with focus on Data Center Interconnect (DCI) scenarios.

In the early R&D stage for 448 Gbps, various modulation schemes are being investigated. Using a Keysight PAM4 Generator, N1046A/N1032A DCA equipment it is possible to generate and analyze 150 GBd PAM8, 174 GBd PAM6 and 224 GBd PAM4.

For more information join Keysight in booth #1301 at OFC 2025.



800ZR and 400ZR transmitter testing

The Keysight portfolio of Optical Modulation Analyzer (OMA) are turn-key solutions that enable development of the coherent technologies required to advance performance in modern communication systems, such as those found in and connecting data centers. The comprehensive and powerful vector signal analysis (VSA) software provides deep insight into the transmitter signal quality, including impairment analysis of skews, I-Q offsets, amplitude imbalances and error vector magnitude (EVM). Beyond that, Keysight supports the ongoing development of a new transmitter quality metric (TQM) called extended transmitter constellation closure (ETCC) and the associated definition of a reference receiver.



Keysight OMA for coherent transmitter testing

Above: Compact and cost-optimized OMA for up to 400ZR.
Left: High-bandwidth, low-noise OMA for 800ZR and beyond. O-Band version available.