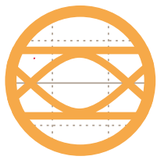
Testing 100G and 400G Designs Can Be Daunting

Test Challenges

Test Solutions

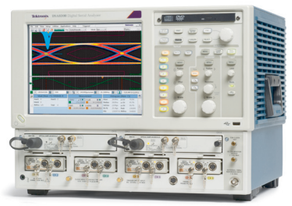


eye diagram analysis

- Eye Diagrams on 4 x 25G Electrical and Optical TX

eye diagram analysis

- High precision decomposition of noise and jitter components
- Small timing margin
- High frequency clock & data



DSA8300 Sampling Oscilloscope

- >70GHz bandwidth
- <100 fsec systems jitter noise
- Pass/Fail test with high throughput
- BUJ-based jitter analysis & Test automation
- Test automation

BER contour

- BER Characterization of 4 x 25G Electrical and Optical Rx

BER contour

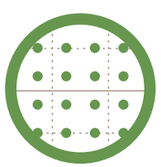
- Generation of complex impairments for DFE characterization
- Parallel topologies with crosstalk
- Long patterns (PRBS-31)

BSA286C Bit Error Rate Tester

- 28.6 Gb/sec with low intrinsic jitter
- Error location & jitter analysis
- 32Gb/sec signal conditioning/equalization

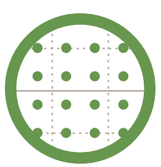
PPG/PED Multi-lane Bit Error Rate Tester

- Up to four 32Gb/s PG channels
- 40Gb/s error detection



complex modulation

- Analysis of 100G and 400G Complex Modulation



complex modulation

- I-Q tributary ambiguity resolution
- Coherent optical signal generation
- Varying 400G superchannel configurations

Coherent Optical Solutions

- Coherent signal generation and optical modulation
- PM-QPSK & PM-QAM analysis
- Works with real-time or equivalent-time oscilloscopes
- 400G+ multi-carrier superchannel analysis

Tektronix Has the Expertise You Need

See it at www.tektronix.com/100G

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http://www.mavin.com.tw

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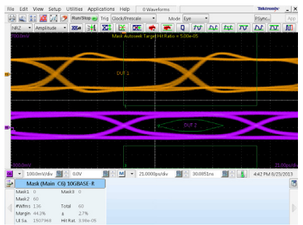
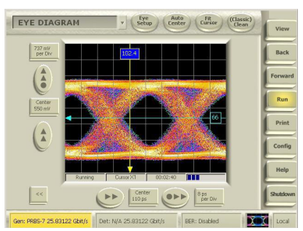
Tektronix

Providing a Deeper Level of Insight when Designs Fail



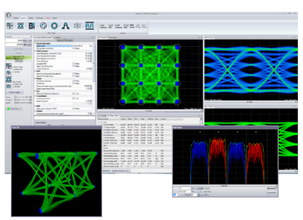
Comprehensive Jitter & Timing Analysis

- Support for 100G standards
- Mask Testing with automated pass/fail capabilities
- Bounded, Uncorrelated Jitter and noise (BUJ/BUN) separation
- Simultaneous test for multiple channels



Receiver Testing with Complex Impairments

- Low intrinsic noise for improved test margin
- Precise error location analysis
- Vertical & horizontal BER decomposition
- Extensive measurement reporting



Coherent Optical Signal Analysis

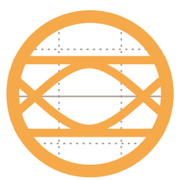
- Complete EVM, BER, and Q-plot support
- Real-time Matlab integration
- 400G+ multi-carrier superchannel spectrum
- 3D constellation/eye diagram
- Coherent Signal Generation >28Gbaud

Recommended Test Equipment for 100G

Standard	Throughput (Gb/sec)	Test Requirements	Recommended Tektronix Equipment
OIF CEI-28G VSR	28.05	Transmitter Electrical Receiver	DSA8300 with 80E10, LE320, BSA286C
100GBASE-LR4, SR4, OTU-4	4 x 25.781 4 x 27.95	Electrical Transmitter Optical Transmitter Electrical Receiver 4 x 25G end-to-end BER	DSA8300 with 80E10 DSA8300 with 80C15, LE320, BSA286C PPG3204 with PED3202
OIF DP-QPSK	4 X 32	Optical Modulation & BER Optical Signal Generation Pattern Generation	OM4106D with DPO73304DX OM5110 with AWG70001A PPG3204

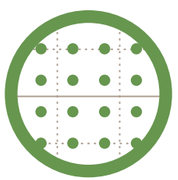
Product Data Sheets
Application Notes
How-to Videos
Free Posters & More!

Insight and Expertise for 100G Test



eye diagram analysis

BER contour



complex modulation

Get Answers to Your 100G Test Challenges

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