

100G/Lane Multimode Optical Device TDECQ Test Solution

Signal Quality Analyzer-R MP1900A

BERTWave™ MP2110A

Data centers are progressively switching from 100GbE to 400 and 800GbE connections to handle ever-increasing data traffic volumes caused by the 5G mobile rollout and spread of cloud computing and AI applications. The O/E interface of optical transceivers used for communications between data-center servers supports 100G/lane, and 400G communications over distances of 50 and 100 m use the IEEE 400GBASE-VR4 and SR4 standards, respectively. Optical transceivers and devices supporting 100G/lane and multimode fibers are in development. Anritsu's 100G/lane test solution is configured using the Signal Quality Analyzer-R MP1900A sampling oscilloscope and BERTWave MP2110A bit error tester. This solution supports TDECQ measurement in accordance with the 400GbE-VR4 and SR4 850 nm multimode standards to facilitate efficient development and production of optical devices.

[Target Applications] 100G/200G/400G/800GbE, Multimode fiber, Optical transceiver, Optical devices, VCSEL

Features of MP1900A and MP2110A Multimode 100G/Lane Test Solution

- 53.125 Gbaud PAM4 signal TDECQ measurement (built-in IEEE 802.3db Fiber Emulation Filter)
- Four-channel 850 nm wavelength optical sampling oscilloscope
- High-quality PAM4 signal pattern generator
- Shorter test times using multichannel measurement

850/910 nm 53Gbaud PAM4 Optical Transceiver/TOSA Device Test

MP1900A
Signal Quality Analyzer-R



- High-quality waveforms for reliable measurements
- Shorter test times using multichannel measurement

TOSA
(VCSEL)

or

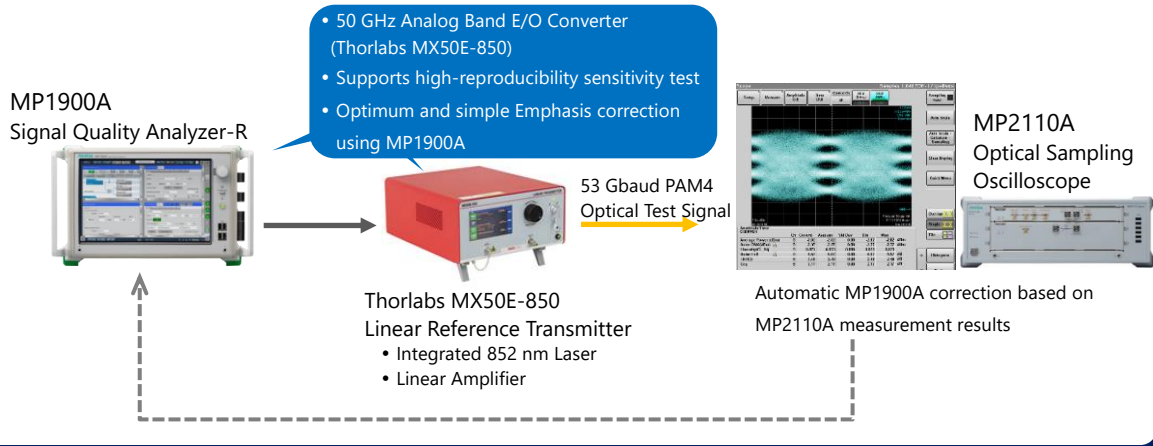
Optical
Transceiver

MP2110A
Optical Sampling Oscilloscope

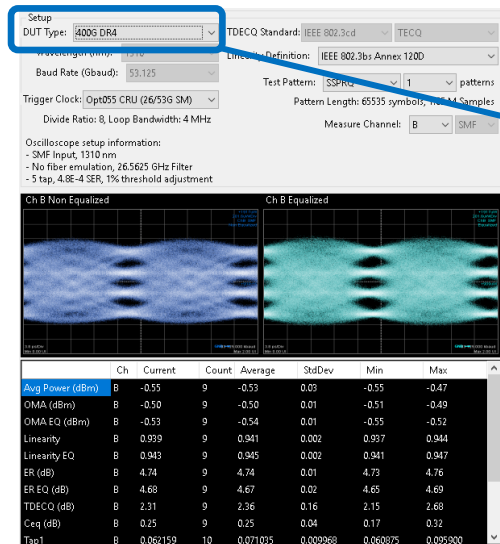


- IEEE 802.3db TDECQ measurement
- Shorter test times using multichannel measurement
- TDECQ measurement tool supports main transceiver standards in addition to VR and SR.

850 nm 53 Gbaud PAM4 ROSA Device Test Reference Signal



About MP2110A TDECQ Measurement Tool



TDECQ Measurement Tool Screen Example

TDECQ Measurement Tool supports main transceiver standards

- 400G SR4
- 100G VR1
- 100G SR1
- 100G SR2
- 100G DR1
- 100G FR1
- 100G LR1
- 100G ER1
- 200G VR2
- 200G SR2
- 200G SR4
- 200G DR4
- 200G FR4
- 200G LR4
- 200G ER4
- 400G VR4
- 400G SR4
- 400G SR4.2 850nm
- 400G SR4.2 910nm
- 400G SR8
- 400G DR4
- 400G DR4-2
- 400G FR4
- 400G FR8
- 400G LR4-6
- 400G LR8
- 400G ER8
- 800G VR8
- 800G SR8
- 800G DR8
- 800G DR8-2

Sets measurement parameters automatically according to selected transceiver standard

Configuration Examples

Model	Name	1-Lane Test	4-Lane Test	Note
MP1900A	Signal Quality Analyzer-R	1	1	
MU181000B	12.5GHz 4port Synthesizer	1	1	
MU196020A	PAM4 PPG	1	4	Opt-002 (58 Gbaud), Opt-011 (Emphasis)
MP2110A	BERTWave	1		Opt-040 (Quad Optical Scope), Opt-061 (Low Noise and Multimode), Opt-095 (PAM4 Analysis)
MX50E-850	50 GHz Linear Reference Transmitter, 852 nm Laser	1	-	Contact Thorlabs Inc.