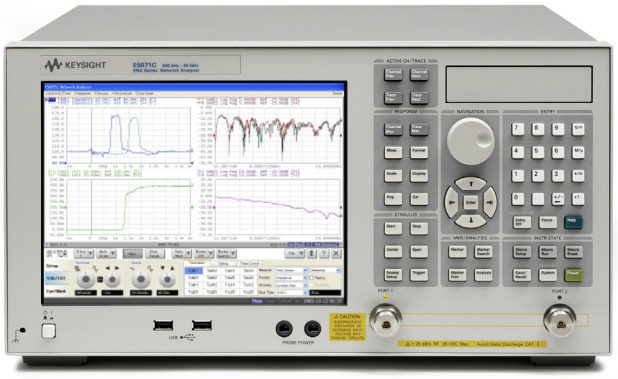
Keysight Technologies
Compliance Test Solution Using E5071C ENA Option TDR

Comprehensive measurement solution for interconnect analysis



Certified High-speed Digital Standards

Cable & Connector assembly
- USB 2.0/3.0/3.1/Type-C
- HDMI
- SATA
- DisplayPort
- MHL
- PCIe®
- 100BASE-TX[1]
- 10GBASE-T[1]
- 10GBASE-KR / 40GBASE-KR4[1]
- BroadR-Reach

Transmitter & Receiver (Hot TDR)
- HDMI
- SATA
- MIPI™ (D-PHY & M-PHY)
- MHL
- Thunderbolt
- 10GBASE-KR / 40GBASE-KR4[1]

1. Certification program for Ethernet is not available. MOI and state file are provided for self-compliance.

Certified Solution For High-speed Digital Standards

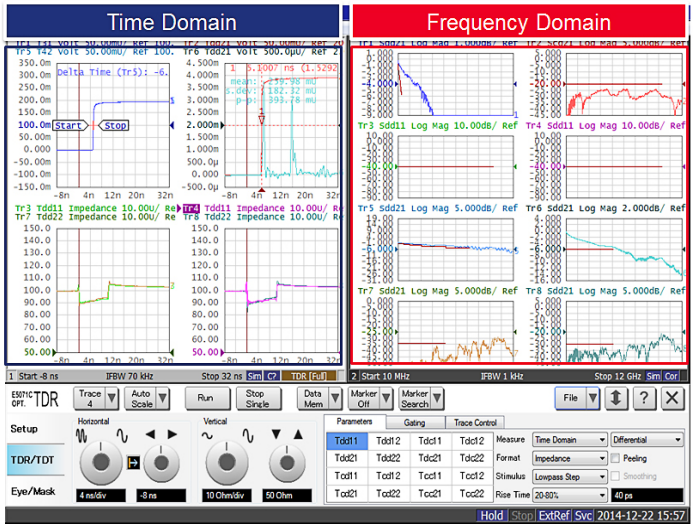
All high-speed digital standards have technical documents defining the required measurement parameters to ensure interoperability between devices from different manufacturers. ENA Option TDR is a certified solution for cable/connector and transmitter/receiver impedance compliance testing for a variety of the standards. The solution is used worldwide by authorized test centers to perform compliance testing.

All method of implementation (MOI) documents and state files for ENA Option TDR are currently available for free download from the Keysight web site at www.keysight.com/find/ena-tdr_compliance. State files contain pre-configured setups in accordance with the standard requirements and allows for quick and easy measurements of your devices.

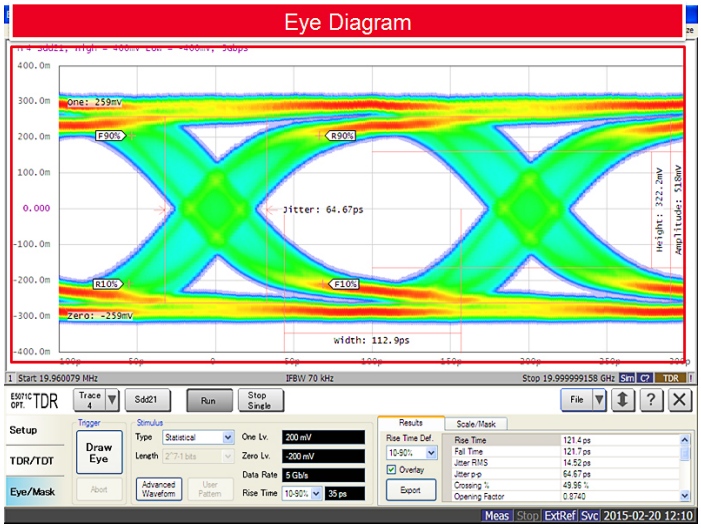
ENA Option TDR Features

Features	Values
One-box solution	Frequency domain, time domain, and eye diagram analysis is available in a single instrument. By observing both the time and frequency domain responses simultaneously, deeper signal integrity insight can be obtained.
Fast and accurate measurements	Due to the low noise architecture, oftentimes averaging is not required as in traditional TDR oscilloscopes. Real-time analysis allows for more efficient troubleshooting of designs.
High ESD Robustness	High ESD robustness (up to 3 kV) is achieved through internal protection circuits, dramatically reducing downtime and repair costs compared to previous solutions.
Simple and intuitive setup	Certified MOI documents that guide through necessary compliance tests are available free of charge. By recalling the state file, you can easily setup, measure and perform limit testing for pass/fail judgment.
Hot TDR measurements	Hot TDR is the impedance measurement of active devices under actual operating conditions. ENA Option TDR provides faster and more accurate impedance measurements of transmitters in the operating state.

KEYSIGHT TECHNOLOGIES



USB3.1 Connector & Cable Measurement Example



HDMI 1.4b Cable Measurement Example (Stressed Eye Diagram)

Refresh Technology at a Lower Cost

Upgrade hardware

Upgrade your E5071C's frequency options (up to 20 GHz) at any time after purchase to meet future measurement demands as data rates increase. The E5071C's upgradability will keep your instruments up-to-date and extend the life of your test systems for future expansion.

Premium Trade-in Solutions

Receive up to 35% credit when you trade eligible models toward the new E5071C network analyzer. Visit http://tradein.em.keysight.com for more details. Contact your local Keysight sales representative, if you want to trade models that are not listed.

Ordering Information

E5071C ENA Series Network Analyzer	
Option 480	4-port test set, 9 kHz to 8.5 GHz without bias tees
Option 485	4-port test set, 100 kHz to 8.5 GHz with bias tees
Option 4D5	4-port test set, 300 kHz to 14 GHz with bias tees
Option 4K5	4-port test set, 300 kHz to 20 GHz with bias tees
Option TDR	Enhanced Time Domain Analysis Option

For further details, visit www.keysight.com/find/ena-tdr

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A personalized view into the information most relevant to you.

www.keysight.com/find/ena-tdr_compliance

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus

Published in USA, March 9, 2015
5991-2850EN
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