

GRL-USB-PD-C2

USB Power Delivery and USB Type-C™ Tester and Analyzer

The Only Complete USB Type-C Power Delivery Compliance Tester and Analyzer



- Fully integrated - does the work of 5 instruments in one platform
- Supports all USB Type-C Power Delivery 3.0 and 2.0 Compliance Tests
- Two fully independent ports - Source/Sink up to 200W
- Supports PHY test automation for DisplayPort and Thunderbolt 3 Alt Modes
- Integrates Qualcomm Quick Charge 4+ and Thunderbolt 3 test items

Product Overview

GRL-USB-PD-C2 (GRL-C2) is the only solution available that supports all compliance test specifications for USB Power Delivery 3.0 and USB Type-C Alternate Mode designs, and enables product developers to quickly run full compliance and validation test suites at the push of a button.

GRL-C2 provides an automated, efficient, and fully-integrated way perform all required USB Power Delivery version 3.0 and 2.0 and related tests over the USB Type-C connector, as well as PHY test automation for USB Type-C Alternate Modes.

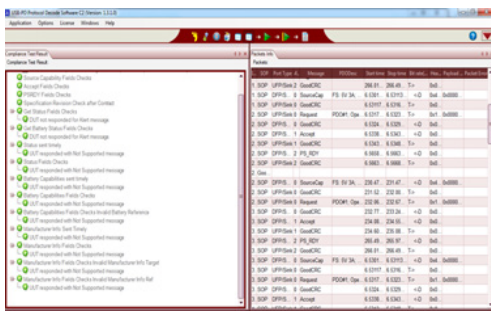
GRL-C2 automates all required USB PD compliance tests for power providers (chargers), consumers, dual-role ports, and cable and adapter E-Markers; and is the only solution available that integrates Qualcomm Quick Charge 4+ and Intel Thunderbolt™ 3 test items. GRL-C2 also incorporates analyzer capability to sniff PD traffic.

GRL-C2 integrates all required USB PD tests into a single 2-port tester, including all tests supported on GRL's USB-IF approved first generation solution introduced in 2015. Each port can be configured independently as a PD Provider or Consumer. All other PD Protocol and Power tests are fully integrated, removing the need for external electronic loads.

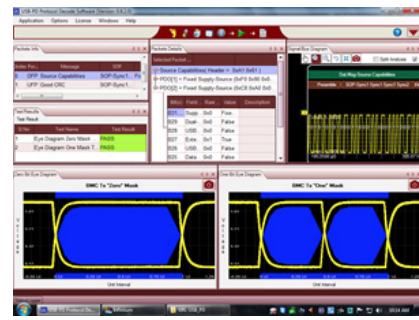
GRL-USB-PD-C2: The only instrument you need for USB Type-C Power Delivery and Alt Mode compliance testing.

Features

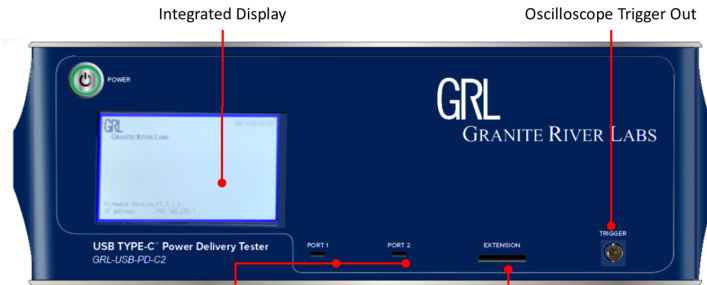
- Supports all required USB Power Delivery version 3.0 and 2.0 and related tests over the USB Type-C connector in one platform
- Integrated PHY Test Controller for DisplayPort, Thunderbolt 3, and HDMI Alternate Mode testing
- Integrated AUX Controller for DisplayPort Source and Sink Physical Layer Testing supporting multiple oscilloscope and BERT platforms
- USB PD protocol analyzer/sniffer mode, configurable between integrated UFP/DFP controller to DUT or as a 'pass through' using extension adapter
- Supports all USB PD devices including cable and adapter E-Markers, power providers (chargers), power consumers, and dual-role devices
- Supports DisplayPort over Type-C Alt mode CTS chapter 10 and 11
- Provides two independent PD test ports with 240W Provider and 200W Consumer emulation
- Integrates Qualcomm Quick Charge 4+ and Intel Thunderbolt 3 tests
- Runs all other USB PD tests internally, greatly reducing test times
- Access to CC1, CC2, SBU1, SBU2, Vbus signals for waveform capture via front panel extension adapter
- All power, oscilloscope, and protocol traces saved for further analysis and debug
- Automatically generates comprehensive .pdf, .csv, .html and .xml test reports



Fully Automated Compliance Testing



Comprehensive Electrical and Protocol Analysis



2 independent ports with 200W Provider and 200W Consumer emulation

Probing Access to CC1, CC2, SBU1, SBU2 and Vbus signals

Front Panel



Silicon Valley, USA

Hsinchu & Taipei, Taiwan

Shanghai, China

Dongguan, China

Yokohama, Japan

Bangalore, India

Böblingen, Germany

Singapore

Penang, Malaysia

Application Specifications

CTS/MOIs Supported

USB-IF Compliance Test Specifications and MOIs:

- USB PD 3.0 Power Delivery Test Plan
- USB PD 2.0 Power Delivery Test Plan
- Communications Engine MOI (BMC-PHY, BMC-PROT, BMC-POW)
 - Including new multi-tone BMC-PHY-RX-INT test
- Deterministic MOI (Protocol Analyzer Tests)
- Source Power Test (SPT) CTS - Including PPS Provider Voltage Step and Consumer Current Fold back.
- USB Type-C Functional Test Specification (Chargers Only)

Alt Mode Tests Specifications:

- VESA DisplayPort over USB Type-C
- Thunderbolt 3

Qualcomm Quick Charge 4

Required Equipment

GRL-USB-PD-C2 with Windows 7+ PC connected via Ethernet

Ordering information

For a formal quote and pricing contact info@graniteriverlabs.com

Model Number	Description
GRL-USB-PD-C2	USB Power Delivery and Type-C™ Tester and Analyzer
GRL-USB-PD-C2-QC	Upgrade GRL-USB-PD-C2 to Quick Charge 4.0 (SW Upgrade)
GRL-USB-PD-C2-CTRL	USB Type-C Physical Layer Test Controller (HW and API Only)
GRL-USB-PD-C2-SUP	Upgrades GRL-USB-PD-C2 to PD3.0 Tester (SW Upgrade)
GRL-USB-PD	GRL USB PD 3.0 Software for Oscilloscopes (SW Only)
GRL-USB-PD-FLT	GRL USB PD 3.0 Software for Oscilloscopes (SW with USB HW License)

About Granite River Labs

Granite River Labs (GRL) provides end-to-end Engineering Services and Test Solutions to help hardware engineers adopt connectivity technologies. A trusted partner of up-and-coming hardware developers to some of the largest companies in the world, GRL combines recognized industry experts, high performance test equipment, and automated test solutions. For additional information or questions regarding Granite River Labs, including quotes, product demonstrations, software and technical assistance, please contact us at: info@graniteriverlabs.com

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