

# USB Power Delivery Analyzer

## Key Features

### USB Power Delivery Analyzer

- Lightweight footprint, highly portable
- Monitor CC1/CC2
- Monitor VBUS and VCONN
- Stream to disk for trace capture
- Large capture sizes supported
- USB PD 2.0 BMC Decoder

### Performance

- Pass through of all USB 2.0, USB 3.1 data
- Monitor any Operating System
- Easy visualization for your power delivery packets

### Included Software [open source]

- PulseView visualization software
- Sigrok capture software

### USB Bus-powered

- Portable
- Field-deployable
- No extra power adapters needed

### Cost/Performance Benefits

- Competitive price
- Compact capture size

### Quality

- REACH, RoHS
- Manufacturing: ISO 9001:2008, ISO 13485, AS9100C ITAR certified
- Six month warranty



The USB Type-C connector and Power Delivery (PD) 2.0 are the two most impactful developments in USB in many years. These developments are evolutionary: the Type-C connector has a much smaller footprint, reversible architecture, support for higher speed communications, more power, and alternate protocols. PD 2.0 takes advantage of this new connector and further expands USB's appeal by enabling the delivery of power and data in more flexible ways. The new features build upon the strong foundation of prior generations of USB technology and allow the superior communications to be combined with video and more.

Since these new developments are incremental, Total Phase has developed an incremental approach, the USB Power Delivery Analyzer, provides a robust test and debugging solution for your Type-C and Power Delivery applications.

The combination of our USB Power Delivery Analyzer with the included [open source] PulseView visualization software, enables you to easily monitor and decode CC1/CC2 (configuration channel) while concurrently passing through USB 2.0 and USB 3.1 data lines.

Fast, simple, and portable, this is the most streamlined solution to test and debug your USB Power Delivery sources and sinks.

### Visibility for Power Delivery

- Monitor power delivery negotiation
- Visualize PD packets
- Decode PD packets

### Excerciser Capabilities

- Inject BMC incoded PD packets on the CC1 or CC2 lines
- Switch in Rd/Rp/Ra resistors on CC1 and CC2

### Using as a Power Sink

- When connected to a power source the dongle can be configured to negotiate a power contract at 5V to 20V

### Implement Type-C power delivery in your device, host, or hub

- Monitor detailed sink/source charging level negotiation
- See PD negotiation between multiple sources
- Test interoperability of how your device interacts with other Type-C PD solutions
- Test the interaction between source and sink
- Test/verify electronically marked cables
- Monitor upstream/downstream port role swap
- View entrance/exit for Alternate Mode

# USB Power Delivery Analyzer

## Applications

- Port Replicators
- Electronically marked cables
- Type-C hubs
- Type-C device negotiation
- Type-C host negotiation
- Dual Role Port ("DRP") monitoring
- Type-C chargers and power supplies
- Type-C adapters

## Specifications

### Software

#### PulseView (Open Source) Software:

- The PulseView software is an open source application to display Sigrok captured traces
- Compatible with Linux and Windows
- Easily visualize and decode the BMC (biphase mark code) bits, BMC packets, and BMC warnings
- Easily visualize the PD packet symbols, parts, payloads, type, and warnings
- Expand or contract the trace view to find interesting points in the power negotiation

#### Sigrok (Open Source) Software:

- Captures activity on CC1 and CC2, streaming the trace capture file to your hard drive

#### Operating Systems Supported: (32-bit and 64-bit)

- Windows: 7, 8, 8.1, 10 (future)
- Linux: Ubuntu 14.04 LTS 64-bit (current); Fedora, Arch, CentOS, Debian, SuSE (future)
- Mac OS X 10.5-10.10 (future)

### Hardware

#### USB Pass Through:

- SuperSpeed, 5/10 Gbps (USB 3.1 Gen 1/2)
- Hi-Speed, 480 Mbps
- Full-Speed, 12 Mbps
- Low-Speed, 1.5 Mbps

#### VBus Support: (Maximum)

- 20 volts, 3 amps

#### Target Ports: (DUT)

- USB Type-C receptacle
- USB Type-C plug

#### Analysis Port: (Connects to PC)

- USB 2.0 Type Micro B receptacle
- Analyzer is bus-powered

#### Included Cable:

- 6' USB Micro B to USB A

#### Physical Specifications:

- 25.4 mm x 38.1 mm x 6.4 mm (w x d x l)  
(1.00 in x 1.50 in x 0.25 in)
- 42 g (1.5 oz)

#### Operating Temperature

- 10 °C – 35 °C (50 °F – 95 °F)



Capturing, displaying and decoding traces with the Sigrok tooling

Ordering information	
Power Delivery Analyzer	
Part Number	TP350110
Country of Origin	USA
HTS	9030890100
ECCN	EAR99

