Enabling Your Competitive Edge

**Beagle™ USB 480 Power Protocol Analyzer**

**Key Features**

**Current/Voltage Monitor**
- Real-time graphing of \( V_{BUS} \) current and voltage values
- Interactive and bi-directional correlation of current/voltage values with USB data

**USB 2.0 Advanced Triggers**
- Create state-based and flexible trigger conditions based on data patterns, packet types, error types, events, and other criteria
- Hardware packet filtering
- Up to eight independent states and six matches per state for USB 2.0 captures
- Digital inputs and outputs to synchronize with oscilloscopes or logic analyzers

**High-Performance HW Buffer**
- 256 MB capacity
- Large circular buffer

**Real-Time Non-Intrusive Monitoring**
- Real-time data analysis and display
- Automatic bus speed detection
- Low/Full/High-Speed USB 2.0
- Capture traces to >25 GB

**Real-Time USB Class-Level Decoding**
- HID, Audio, Video, Still Image, Printer
- Mass Storage, Hub
- Network, Mobile, CDC

**Quality**
- CE, REACH, RoHS, ISO9001
- One year warranty

As USB devices continue to grow in number and complexity, developers need their monitoring and analysis tools to keep pace. The Beagle™ USB 480 Power Protocol Analyzer enables your competitive edge with its unique, powerful features and a price that is a fraction of competing equipment.

The Beagle USB 480 Power Protocol Analyzer Series enables \( V_{BUS} \) current and voltage measurement within our industry-leading Data Center software. The enhanced USB 2.0 advanced triggering, extra-large hardware buffer, and one-click correlation of voltage and current measurement to protocol-level activity ensures that engineers can take advantage of our unique real-time data analysis and display, enabling them to easily debug the functionality of their embedded systems while also optimizing the power profile of their applications.

**Link \( V_{BUS} \) Current/Voltage Measurements with USB Data**

Other than DMMs and oscilloscopes, few tools are dedicated to measuring current and voltage of USB \( V_{BUS} \) — and even fewer link these measurements with captured USB data. The Beagle USB 480 Power Protocol Analyzer correlates current and voltage data with USB traffic at the click of a mouse button.

**Host-Side Use Case**

Developers of host-related products such as rechargeable batteries, tablets, and laptops can verify their \( V_{BUS} \) current/voltage output, and monitor any effects caused by the attachment of various peripheral devices.

**Device-Side Use Case**

There is a plethora of USB peripherals on the market, each with its own specific power consumption profile. Developers of peripherals such as web cameras, HID devices, mobile devices, and portable mass storage devices can verify how much current and voltage their devices consume, with respect to timing and USB data.

1 Available with USB 2.0 Advanced Triggers Upgrade or Beagle USB 480 Power Protocol Analyzer - Ultimate Edition
Beagle™ USB 480 Power Protocol Analyzer

**Applications**

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**Specifications**

**Hardware**

- **USB 2.0 Monitoring:**
  - High Speed, 480 Mbps
  - Full Speed, 12 Mbps
  - Low Speed, 1.5 Mbps

- **Target Device Port:**
  - USB 2.0 Type A receptacle

- **Target Host Port:**
  - USB 2.0 Type B receptacle

- **Analysis Port (connects to PC):**
  - USB 2.0 Type B receptacle
  - Analyzer is bus-powered

- **Digital I/O Port:**
  - Mini DIN 9 connector
  - 4 inputs, 4 outputs, 1 ground
  - Digital inputs are rated for 3.3 V and max 30 MHz
  - Digital outputs are rated for 3.3 V and 10 mA

- **Current/Voltage Measurement:**
  - Peak Current: 3 A (transient)
  - Peak Voltage: 20 V (transient)

- **Dimensions:**
  - W x D x L: 70 mm x 26 mm x 114 mm
  - (2.76 in x 1.02 in x 4.49 in)

- **Weight:**
  - 97.5 g (0.21 lbs)

- **Operating Temperature:**
  - 10 to 35 °C (50 to 95 °F)

**Software**

- **Data Center Software Features**
  - Real-time $V_{BUS}$ current/voltage monitoring
  - Interactive correlation of current/voltage with USB data
  - USB 2.0 advanced user-defined triggers available
  - LiveDisplay™ technology allows for capture and display of current/voltage readings and USB traffic
  - LiveFilter™ and LiveSearch™ tools allow for real-time interactive filtering and searching
  - Real-time USB class-level decoding
  - Collaborate easily by sharing capture files

- **Beagle API**
  - Create your own custom applications using the flexible, powerful, and well-documented Beagle API
  - Supported languages: C/C++, C#, Python, .NET, VB.NET, Visual Basic 6

- **Supported Operating Systems (32-bit and 64-bit)**
  - Windows: 7, 8, 8.1, 10
  - Linux: Red Hat, SuSE, Ubuntu, Fedora
  - Mac OS X: 10.7-10.14

**Ordering information**

Beagle USB 480 Power Protocol Analyzer - Standard Edition
- Part Number: TP323510

Beagle USB 480 Power Protocol Analyzer - Ultimate Edition (includes USB 2.0 Advanced Triggers Upgrade)
- Part Number: TP323610

USB 2.0 Advanced Triggers Upgrade
- Part Number: TP323710

Country of Origin: USA
- HTS: 9030890100
- ECCN: EAR99