Beagle™
I2C/SPI
Protocol Analyzer

**Key Features**

**Real-Time Non-Intrusive Monitoring**
- I2C (SMBus supported): Up to 5 MHz
- SPI: Up to 24 MHz
- MDIO (Clause 22 and 45): Up to 2.5 MHz

**Data Center™ Software**
- Real-time display, search, and filtering of captured data
- Bit-level timing down to a 20 ns resolution
- Capture traces to >25 GB

**Beagle API**
- Create custom software applications
- Example files included
- Cross-platform support for Windows, Linux, Mac OS X

**USB Bus-Powered**
- Portable
- No extra power adapters needed

**Quality**
- CE, REACH, RoHS
- Manufacturing: ISO 9001, ISO 13485, AS9100C, ITAR
- One year warranty

An ever-wider array of devices and the increasing pressure to minimize costs means that you need to get the most out of your embedded systems interface tools - and the Beagle I2C/SPI Protocol Analyzer is expressly designed to enable your competitive edge.

The Beagle I2C/SPI Protocol Analyzer is the ideal tool for debugging and monitoring traffic on your I2C, SPI, or MDIO based applications. The Beagle analyzer provides a high performance bus monitoring solution in a small, portable package. It provides fast, interactive, real-time visibility into the protocol layer of your embedded system.

**Enhanced Visibility**
- See data displayed in real-time
- Interactive debugging: make a change and see the results in real-time
- Real-time display filter displays user-defined views
- Longer recording buffer than a scope (data streamed to PC's memory)
- Collaborate easily by sharing saved captures with colleagues with Data Center software

**I2C and SPI Peripherals Use Case**
Using the Beagle I2C/SPI analyzer, users can easily debug the communication between a master and slave I2C and SPI peripherals such as EEPROMs, accelerometers, pressure sensors, temperature sensors, touch sensors, and much more.

**I2C in Video Use Case**
Video display standards such as VGA, DVI, and HDMI all contain I2C as a means to easily transmit information such as maximum resolution and frequencies between the video controller and the monitor. The Beagle I2C/SPI analyzer can be used to easily monitor and identify any communication issues on the I2C lines for display applications.

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1 MDIO monitoring is available in the current versions of the API and version 2.20 of Data Center.
Beagle™ I2C/SPI Protocol Analyzer

Applications

<table>
<thead>
<tr>
<th>Sensors</th>
<th>Video</th>
<th>Industrial and Home Automation</th>
<th>Audio Processing</th>
<th>Scan for Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerometers</td>
<td>VGA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td>DVI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>HDMI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specifications

Software

The Data Center™ Software is a bus monitoring software application that displays captured USB, I2C, SPI, and CAN bus data in true real-time through the Beagle™ line of hardware protocol analyzers and the Komodo™ line of CAN interfaces.

Data Center Software Features

- LiveDisplay™ technology allows for real-time interactive display and analysis of I2C (SMBus decoding supported), SPI, or MDIO traffic
- LiveFilter™ and LiveSearch™ tools allow for real-time interactive filtering and searching
- Collaborate easily by sharing capture files
- Export saved capture files to CSV format

Beagle API and LabVIEW Support

- Create custom applications using the flexible, powerful, and well-documented Beagle API
- 32- and 64-bit support for C/C++/C#, Python, .NET, VB.Net, VB 6
- LabVIEW Instrument drivers

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

- Windows: 7, 8, 8.1, 10
- Linux: Red Hat, SuSE, Ubuntu, Fedora
- Mac OS X: 10.7-10.13

Hardware

Target Data Monitoring
- I2C: Up to 5 MHz
- SPI: Up to 24 MHz
- MDIO: Up to 2.5 MHz

Target Bus Interface
- I2C, SPI, MDIO

Host Bus Interface
- USB 2.0
- Type B receptacle

Target Bus Cable
- 10-pin ribbon cable
- 1.27 mm (0.05”) pitch
- 130.175 mm (5 1/8”) length

Target Bus Connector
- Type: 2x5 IDC female, 2.54 mm (0.10”) pitch
- Pinout: Power: GND [2, 10], NC/+5V [4, 6]
- I2C: SCL [1], SDA [3]
- SPI: MISO [5], SCLK [7], MOSI [8], SS [9]
- MDIO: MDC [7], MDIO [8]

DC Characteristics
- Target Power: +5V, 25 mA max
- I2C/SPI/MDIO Signal: 3.3V, 10 mA
- Dimensions (W x D x L)
  - 55.6 x 22.2 x 89 mm (2.19” x 0.87” x 3.5”)
- Weight
  - 64 g (0.14 lbs)
- Operating Temperature
  - 10 to 35 °C (50 to 95 °F)

Ordering information

Beagle I2C/SPI Protocol Analyzer
- Part Number: TP320121
- Country of Origin: USA
- HTS: 9030890100
- ECCN: EAR99

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