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[1]

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, macOS

USB Bus-Powered

- Portable
- No extra power adapters needed

Quality

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

[1] MDIO monitoring is available in the current versions of the API and version 2.20 of Data Center

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 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

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.

I2C and SPI Peripherals Use

Beagle™ I2C/SPI Protocol Analyzer

Applications

Sensors	Video	Industrial and Home Automation	Audio Processing	Scan for Video
Accelerometers	VGA	Motor controls	Codecs	
Pressure	DVI	Lighting controls	Signal Processing	
Temperature	HDMI			
Light				

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

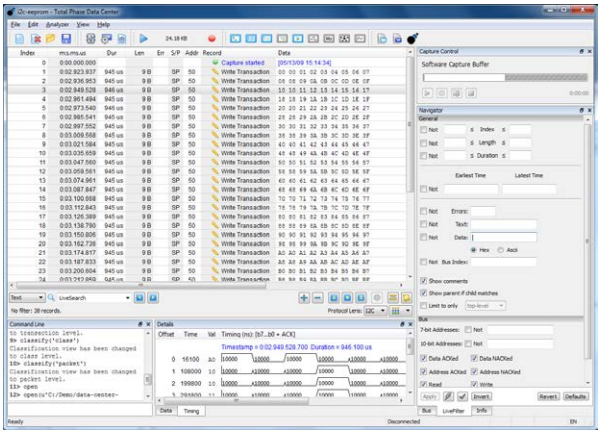
- LiveDisplay™ technology allows for real-time interactive display and analysis of I2C (SMBus decoding supported), SPI, or MDIO traffic
- LiveFilter™ and LiveSearch™ tools allow for real-time interactive filtering and searching
- Collaborate easily by sharing capture files
- Export saved capture files 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, 10, 11, and later
- Linux: Red Hat, SuSE, Ubuntu, Fedora
- macOS: 13 and later



Data Center

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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