PCIe-9842

200 MS/s 14-Bit 1-CH High-Speed PCI Express Digitizer

PCI EXPRESS®

Introduction

The ADLINK PCIe-9842 is a 200 MS/s 14-bit 1-CH digitizer designed for applications such as LIDAR testing, optical fiber testing, and radar signal acquisition. The 100 MHz bandwidth analog input with 50 ohm impedance is designed to receive ±1 V high speed signal. With this simplified front-end design and high stable onboard reference, the PCIe-9842 provides not only high accuracy measurement results but also delivers high dynamic performance.

For applications that require data to be acquired and transferred in real-time, the PCIe-9842 utilizes the PCI Express x4 bus as its interface. When signals are converted from analog to digital data, the data will be transferred to host system memory continuously because of the high bandwidth of the PCI Express.

Features

- Up to 200 MS/s sampling rate
- High resolution 14-bit ADC
- ±1 V Input range with 50 Ω input impedance and DC couple
- Up to 100 MHz bandwidth for analog input
- High speed PCI Express x4 bus interface
- Scatter-Gather DMA data transfer for high speed data streaming
- One external digital trigger input
- Digital trigger output to stimulate external instruments
- Support Auto-calibration

- Operating Systems
  - Windows 7/Vista/XP
  - Linux
- Recommended Software
  - VB.NET/VC.NET/VB/VC++/BCB/Delphi
- Driver Support
  - WD-DASK for Windows
  - WD-DASK/X for Linux
  - DAQPilot for LabVIEW
  - DAQPilot for Windows
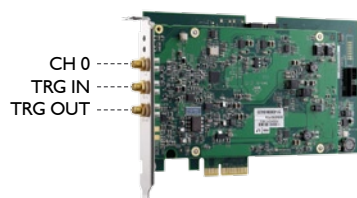 - DAQ-MTLB for MATLAB

Ordering Information

- **PCIe-9842**
  200 MS/s 14-Bit 1-CH High-Speed PCI Express Digitizer

Terminal Boards

- **DIN-20P-01***
  Terminal Board with One 20-pin Ribbon Connector and DIN-Rail Mounting
  * Cables are not included.

CH 0
TRG IN
TRG OUT

Specifications

Analog Input
- Number of Channels: 1 single-ended channel
- Input Impedance: 50 Ω ± 2%
- Input Coupling: DC
- Input Signal Range: ±1.0 V
- Overvoltage Protection: ±5 V
- ADC Resolution: 14-bit, 1 in 16384
- Offset Error: ±1 mV
- Gain Error: ±0.5% of input
- -3dB Bandwidth: 100 MHz

Timebase
- Sample Clock Source: Internal: onboard clock (oscillator)
- Timebase Frequency: 200 MHz

Trigger
- Trigger Source: Software, external digital
- Trigger Mode: Post-trigger, delay-trigger
- External Digital Trigger Input
  - Compatibility: 3.3 V TTL, 5V input tolerant
- Digital Trigger Output (Software Selectable)
  - Compatibility: 5 V TTL

On-board Reference / Data Memory
- Reference Voltage: +5.000 V
- Reference Temperature Drift: < ±5.0 ppm/°C
- Onboard Memory: 16 K samples
- Data Transfer Type: Scatter-Gather DMA transfer

General Specifications
- Environment
  - Operating Environment
    - Ambient temperature: 0°C to +50°C
    - Relative humidity: 5% to 95% non-condensing
  - Storage Temperature
    - Ambient temperature: -20°C to +80°C
    - Relative humidity: 5% to 95% non-condensing
- Physical
  - PCB Dimensions
    - 106.7 mm (H) X 174.6 mm (W)
- IO Connector
  - SMA X 3 for analog input & external trigger input and trigger output
- Bus Interface
  - PCI Express x 4
- Power Requirement

Power Rails	Full Load Current
+12 V	222 mA
+3.3 V	1.21 A

Certifications
- EMC/EMI: CE, FCC Class A