PCI Express® Gen 2.0 / USB 2.0 Mini Card Interposer User Manual and *Quick Start Guide*

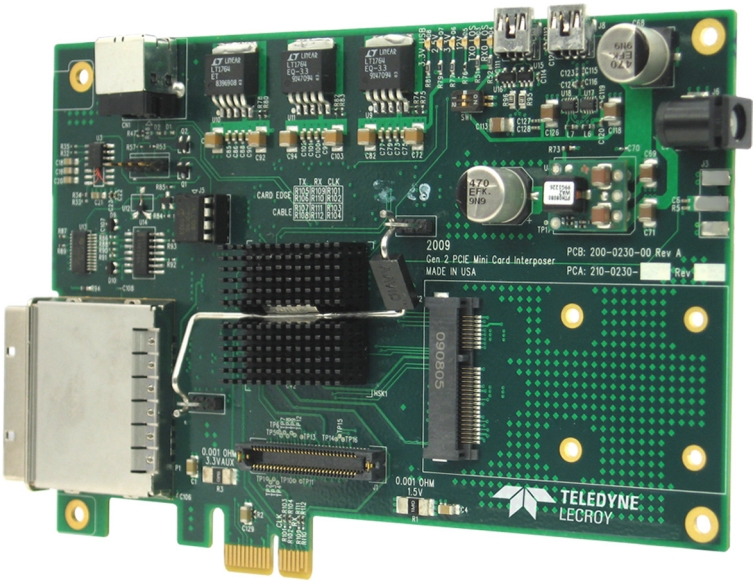
Before Starting

Use this document for quick installation and setup. If you experience problems or need more information, see the product manuals available at the Teledyne LeCroy web site https://teledynelecroy.com/sw/pciexpress

1 Introduction

Teledyne LeCroy's Mini Card Interposer supports development and test of small form factor I/O cards designed in compliance with Mini Card Electromechanical Specification Rev 1.2, developed by the PCI-SIG®. This specification provides for both PCI Express 2.0 and USB 2.0 communication channels, and individual cards may use either or both of these channels. The Mini Card Interposer allows developers to probe new Mini Card designs and capture serial data traffic using either a Teledyne LeCroy PCI Express Analyzer or a Teledyne LeCroy USB Analyzer, or both. The analyzer(s) can be used to capture, decode and display all traffic on both serial data buses for troubleshooting, debugging and monitoring system performance.

The Mini Card Interposer can be physically configured in one of two ways: (1) as an extender board plugged (via a cable) into a host Mini Card slot (e.g., notebook environment) and enables access to testing and probing of the Mini Card, or (2) with a standard PCI Express card slot to connect the Mini Card directly to the PCIe® card slot (e.g., desktop system) and yet still enable testing and probing of the Mini Card. In this second mode, only PCI Express traffic will operate.The Mini Card Interposer supports x1 PCI Express at data rates of 5 GT/s (PCIe 2.0). The card supports USB at data rates to 480 Mb/s (USB 2.0). The card provides analyzer connections to Teledyne LeCroy protocol analyzers for capture, decoding and display of data traffic. In addition, the interposer provides multiple test points for use in debugging during development, production and test.



PCI Express Gen2 Mini Card Interposer

2 Components

The interposer package includes the following components:

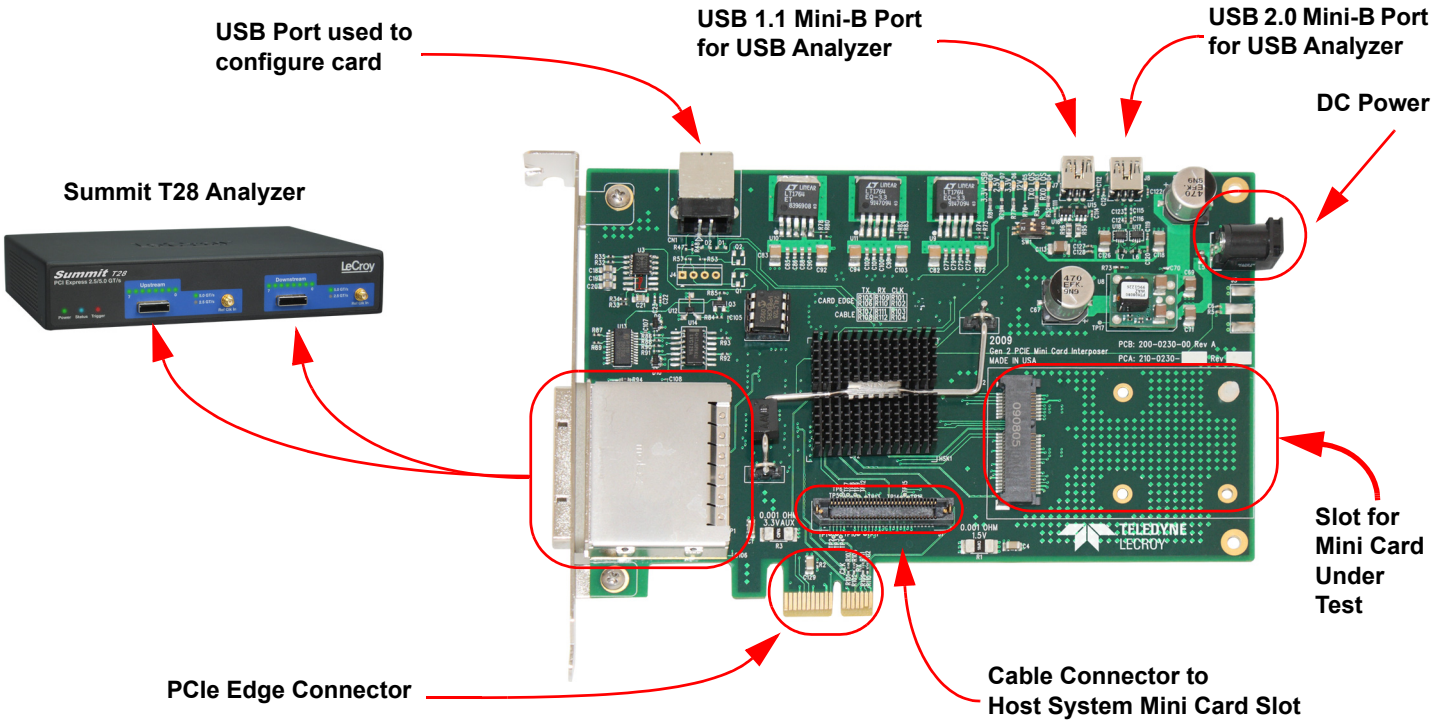
- PCI Express Gen2 Mini Card Interposer
- Power Supply (12V @ 5A)
- User Manual and Quick Start Guide (this document)

Inspect the received shipping container for any damage. Unpack the container and account for each of the system components listed on the accompanying packing list. Visually inspect each component for absence of damage.

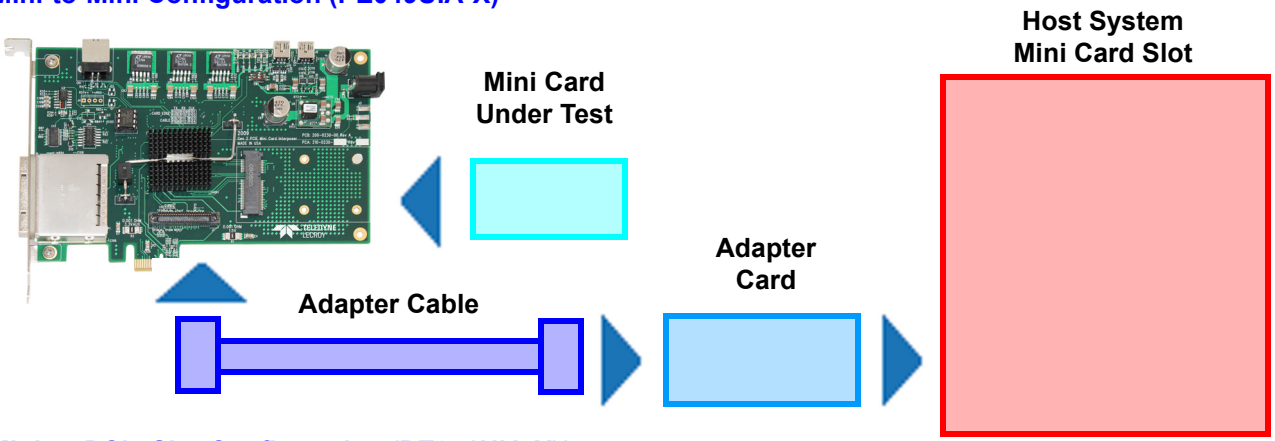
In the event of damage, notify the shipper and Teledyne LeCroy. Retain all shipping aterials for shipper's inspection.

3 Connections

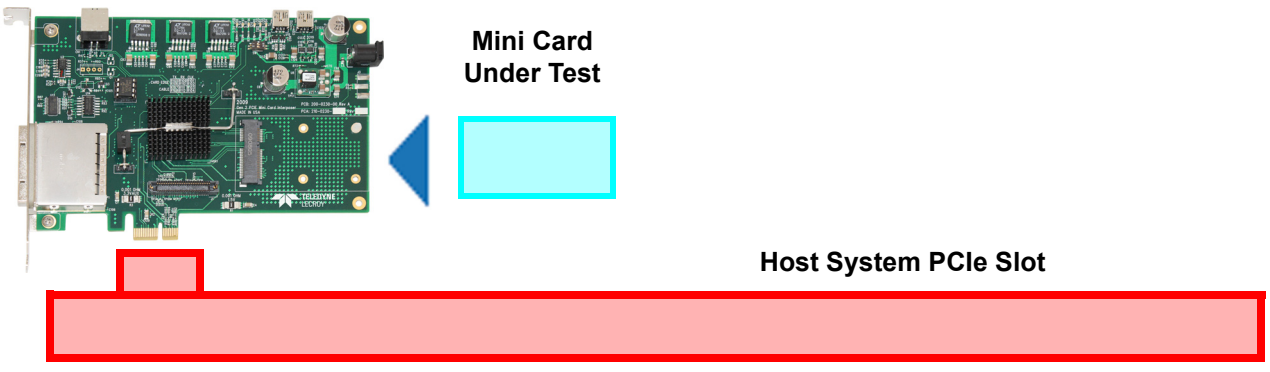
PCI Express Gen2 Mini Card Interposer Interconnection Overview*



Mini-to-Mini Configuration (PE049UIA-X)*



Mini-to-PCIe Slot Configuration (PE051UIA-X)*



* **Note**: Card is pre-configured to use either PCIe card slot or cable to Mini-Card slot, but not both.

4 Test Points

Table 1: Mini Card Interposer Test Points

Test Point	SIGNAL NAME	DESCRIPTION
TP1	WAKE#	Open drain, active low signal that is driven low by a PCIe Mini Card function to reactivate the PCIe Link hierarchy's main power rails and reference clocks.
TP2	COEX1	Provided to allow for the implementation of wireless coexistence solutions between the radio(s) on the Mini Card and other off-card radio(s).
TP3	COEX2	
TP4	CLKREQ#	Request that the PCIe reference clock be available (active clock state) to allow the PCIe interface to send/receive data.
TP5	UIM_PWR	User Identity Module power. Refer to ISO/IEC 7816-3 for details on voltage and current requirements for the UIM_VPP power source for class A devices.
TP6	UIM_DATA	This signal is used as output (UIM reception mode) or input (UIM transmission mode) for serial data.
TP7	UIM_CLK	This signal provides the UIM card with the clock signal.
TP8	UIM_RESET	This signal provides the UIM card with the reset signal.
TP9	UIM_VPP	Reserved for future use for devices of other classes. Refer to ISO/IEC 7816-3 for more details on the voltage and current tolerance requirements for the UIM_VPP power source for class A devices.
TP10	UIM_C8	Reserved for future UIM interface (if needed)
TP11	UIM_C4V	
TP12	W_DISABLE#	Provided for wireless communications add-in cards to allow users to disable, via a system-provided switch, the add-in card's radio operation in order to meet public safety regulations or when otherwise desired.
TP13	PERST#	De-asserted when the system power sources are within their specified voltage tolerance and are stable.
TP14	LED_WWAN#	Three LED signals are provided to enable wireless communications add-in cards to provide status indications to users via system provided indicators. LED_WPAN#, LED_WLAN#, and LED_WWAN# output signals are active low and are intended to drive system-mounted LED indicators.
TP15	LED_WAN#	
TP16	LED_WPAN#	

5 Environmental Conditions

- Temperature: Operating 32° F to 122° F (0° C to 50° C)
- Temperature: Non-Operating 14° F to 176° F (-10° C to 80° C)
- Humidity: Operating 10% to 90% RH (non-condensing)

Teledyne LeCroy Customer Support

Online Download

Periodically check the Teledyne LeCroy Protocol Solutions Group web site for software updates and other support related to this product. Software updates are available to users with a current Maintenance Agreement.

Web: teledynelecroy.com/sw/pciexpress
E-mail: psgsupport@teledyne.com
Support: teledynelecroy.com/support/contact

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Changes

Product specifications are subject to change without notice. Teledyne LeCroy reserves the right to revise the information in this document without notice or penalty.

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