



# USB2311C

USB3.1 Enhanced SuperSpeed  
Single port PCI Express Host Card  
with Type-C Receptacle



## Introduction

SUNIX USB2311C is a single-port Super-Speed USB3.1 PCI Express card, and it's compliant with the PCI Express Generation 3 specification for host PC system. Based on USB Type-C pure DFP (Downstream Facing Port) mode, it works up to 10 Gbps for data transfer when connecting to USB 3.1 compliant peripherals, while maintaining compatibility with existing USB peripheral devices. USB3.1 performance is 2 times faster than USB3.0 and 20 times faster than USB2.0 connectivity.

With USB Type-C Receptacle, SUNIX USB2311C sports reversible plug orientation and cable direction, which means that users will no longer need to be concerned with plug orientation/cable direction, making it easier to plug in. The new connector is smaller and thinner design, but drive higher power output capacity to USB device. SUNIX USB2311C supports 5VDC@3000mA power output to USB device with over current protection on each USB port. This card is an ideal choice for external storage devices, digital cameras, webcam, video devices, and all other USB electronic devices.

## Features

- PCI Express Base Specification Revision 3.0 single-lane ( x1 ) .
- Compliant with Universal Serial Bus 3.1 specification Gen2.
- Compliant with xHCI (eXtensible Host Controller Interface) specifications Revision 1.1.
- Supports simultaneous operation of multiple USB 3.1, 3.0, USB 2.0 and USB 1.1 devices
- Supports USB data transfer rate of 10G/5G/480/12/1.5 Mbps.
- Expands single external USB3.1 Super-Speed plus Type-C port (DFP) on the system.
- USB port supplies maximum +5VDC / 3000mA power output to USB device.
- Built-in over current protection on each USB port.
- Support device remote wakeup function from USB keyboard or mouse.
- Hot-swapping feature allows connect/disconnect device without powering down the system.
- Driver supports for Microsoft Windows 7, 8.x and 10 operation systems.
- Certified by Electromagnetic Compatibility (CE, FCC, VCCI, C-Tick, BSMI) and RoHS approval.

## Specifications

### Hardware

<b>BUS</b>	PCI Express Spec 3.0, Single-Lane (x1)
<b>Controller</b>	PCI Express USB3.1 Host controller, Asmedia ASM1142
<b>USB Standard</b>	eXtensible Host Controller Interface (xHCI) Rev1.1
<b>IRQ &amp; IO</b>	Assigned by System

### USB Communication

<b>Interface</b>	Universal Serial Bus 3.1 / 3.0 / 2.0 / 1.1
<b>Speed</b>	Super Speed+ (10Gpbs), Super Speed(5Gpbs) High Speed(480Mbps), Full Speed(12Mbps), Low Speed (1.5Mbps)
<b>No. of Port</b>	1-port
<b>PCB Connector</b>	USB3.1 USB Type-C port (Downstream Facing Port)
<b>Protection</b>	±15KV IEC61000-4-2 Air Gap Discharge ±8KV IEC61000-4-2 Contact Discharge

### Power

<b>Source</b>	+5VDC / SATA Power Connector Type
<b>Output Capacity</b>	USB Type-C Port: +5VDC / 3.0A / each port Note: Total power output capacity will be limited by system power supply.
<b>Over Current Protection</b>	USB Type-C Port: +5VDC / 3.7A / each port / Power Switch
<b>Power Consumption</b>	1.1 W @ 3.3V (board only without power output to USB device)

### Driver Support

<b>Microsoft</b>	Windows 7 (X86/X64) Windows 8.x / 10 (X86/X64) (Windows in-box driver)
<b>Linux</b>	Linux 2.6.31 or later (Linux OS already implemented USB3.0 driver)

### Environment

<b>Operation Temperature</b>	0 to 60°C (32 to 140°F)
<b>Operation Humidity</b>	5 to 95% RH
<b>Storage Temperature</b>	-20 to 70°C (-4 to 158°F)

### Standards and Certifications

<b>EMC</b>	EUR: CE, EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3 US: FCC Part 15 Class B TAIWAN: BSMI: CNS13438 AS/NZS: C-Tick: CISPR22 JAPAN: VCCI
<b>Green</b>	RoHS, CRoHS, WEEE

## Physical Characteristics

<b>PCB Dimension</b>	65.75 x 68.5 mm
<b>Bracket</b>	Standard 120 mm (Low Profile 80mm)
<b>Bracket Space</b>	1
<b>Mechanical Drawings (unit: mm)</b>	

### <Note>:

To comply with status of most motherboard's available PCIe x1 expansion slot, USB2312C adopts the PCIe Gen3/x1 (8Gb/s) interface connector design. However, most PC system does not support PCIe Gen3 specification, but only PCIe Gen2/x1 (5Gb/s) performance. So that SUNIX USB2312C could not sport full-power performances (10Gb/s). Please contact with your PC vendor for system detail information.

To satisfy USB3.1 10Gb/s SuperSpeed+ highest performance, please pick SUNIX USB2312 (USB3.1 PCIe add-on card with 2-port USB Type-A Receptacle) that adopts PCIe Gen2/x2 (10Gb/s) interface connector design. User has to plug USB2312 add-on card into PCIe x16 (or x4 above) slot on the mainboard, such as graphics add-on card adopting.



## Package

- USB2311C - 1-port USB3.1 PCIe Host Card with Type-C Receptacle
- CD Driver
- User's Manual

## Optional Accessory

- C2UCU00 - USB Type-C (Male) to Type-A (Female) Dongle

## Product Family

- USB2311C - USB3.1 PCIe Host Card with 1-port USB Type-C Receptacle
- USB2312C - USB3.1 PCIe Host Card with 2-port USB Type-C Receptacle
- USB2312 - USB3.1 PCIe Host Card with 2-port USB Type-A Receptacle
- USB2302C - USB3.0 PCIe Host Card with 2-port USB Type-C Receptacle
- USB2311CD - USB3.1 & DisplayPort (Alt -Mode) PCIe Host Card with USB Type-C Receptacle

### Headquarters

#### Taiwan

Sunix Co., Ltd.

Tel : +886-2-8913-1987

Fax : +886-2-8913-1986

Website : [www.sunix.com](http://www.sunix.com)

E-mail : [info@sunix.com](mailto:info@sunix.com)

#### America

SUNIX USA, INC.

Tel : +1 (909) 594-8022

Fax : +1 (909) 594-8906

Website : [www.sunix.com](http://www.sunix.com)

E-mail : [sales.sunixusa@sunix.com](mailto:sales.sunixusa@sunix.com)

#### Germany

Sunix Vertriebs GmbH

Tel : +49(0)6146-60 1345

Fax : +49(0)6146-60 1346

Website : [www.sunix.com](http://www.sunix.com)

E-mail : [info@sunix-euro.de](mailto:info@sunix-euro.de)

#### China

Shanghai Office

Tel : +86-21-6469-1670

Fax : +86-21-6468-8346

Website : [www.sunix.com.cn](http://www.sunix.com.cn)

E-mail : [info@sunix.com.cn](mailto:info@sunix.com.cn)

Beijing Office

Tel : +86-010-65308429

Fax : +86-010-65308421

Shenzhen Office

Tel : +86-755-33500418