

SUNIX USB 3.2 Enhanced SuperSpeed PCI Express Host Card with Type-C Receptacle

User Manual



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Visit <https://www.sunix.com> and search keyword "USB2321C" or scan the QR code on the left for manual and driver updates.

Introduction

SUNIX USB2321C is a 1 port Super-Speed USB 3.2 Gen2x2 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 20 Gbps for data transfer when connecting to USB 3.2 compliant peripherals, while maintaining compatibility with existing USB peripheral devices. USB 3.2 performance is 2 times faster than USB 3.2 Gen2x1 (USB 3.1 Gen2) and 4 times faster than USB 3.2 Gen1x1 (USB 3.0) connectivity.

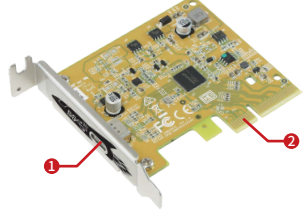
SUNIX USB2321C allowing for up to two lanes of 10Gbps operation to realize a 20Gbps data transfer rate for USB C connectivity. With USB Type-C Receptacle, SUNIX USB2321C sports reversible plug orientation and cable direction, which means that users will no longer need to be concerned with plug orientation/cable direction, making it easier to plug in. SUNIX USB2321C supports 5VDC@1.5A 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.

Package

Please Check if the following items are present and in good condition upon opening your package. Contact your vendor if any item is damaged or missing.

1. USB2321C - 1-port USB 3.2 (Gen2x2) PCIe Card with Type-C Receptacle
2. User Manual (this document)

Hardware Guide



- 1 External USB 3.2 SuperSpeed 20G Type-C Female port (with 5V@1.5A Power Output)
- 2 PCI Express x4 Gold Finger

Note:

To satisfy USB 3.2 20Gb/s SuperSpeed+ highest performance, USB2321C adopts the PCIe Gen3x2 or Gen2x2 interface connector design to support full-power performances (20Gb/s). User has to plug USB2321C add-on card into PCIe x16 (or x4 above) slot on the mainboard, such as graphics add-on card adopting.

System Requirement

- One available x4, x8 or x16 PCI Express slot. (Recommend PCI Express Gen3)
- Microsoft Windows or Linux operation system.
- INTEL Core i Processor with 4GB DDR RAM or above.

Features

- PCI Express Base Specification Revision 3.0 4-lane.
- Compliant with Universal Serial Bus 3.2 specification.
- Compliant with xHCI (eXtensible Host Controller Interface) SPEC Rev 1.1.
- Supports simultaneous operation of multiple USB 3.2, 3.1, 3.0, 2.0 & 1.1 devices.
- Supports USB data transfer rate of 20G/10G/5G/480/12/1.5 Mbps.
- Expands single external USB 3.2 (Gen2x2) Super-Speed plus Type-C port (DFP) on the system.
- USB port supplies maximum +5VDC / 1.5A power output to USB device.
- Built-in over current protection on each USB port.
- Hot-swapping feature allows connect/disconnect USB devices.
- Driver supports for Microsoft Windows 8.x and 10 operation systems.
- Certified by Electromagnetic Compatibility (CE, FCC, VCCI, BSMI).
- Green Product meets RoHS standard and Low Power consumption.

Hardware Installation

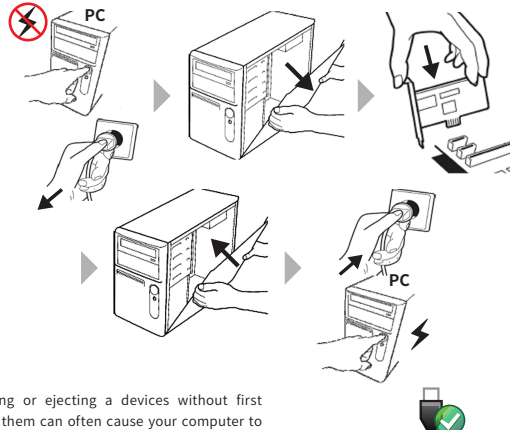
Follow the instruction given below to install the PCI Express Card:

1. Turn your computer off and remove the power plug from the plug socket.
2. Remove the cover from the computer case.
3. Remove the metal cover plate on the rear of a free PCI Express slot (e.g. PCIe16).
4. Insert the card into one free PCI Express slot and screw it firmly on the bracket side.
5. Place the cover back onto the computer.
6. Insert the plug into the plug socket.



Safety First

To avoid damaging to the computer, make sure to remove any power connection before card installation.



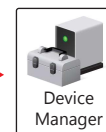
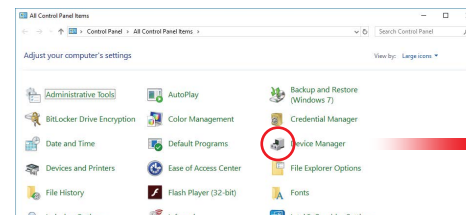
Unplugging or ejecting a device without first stopping them can often cause your computer to crash and lose valuable data. To safely unplug or eject any of the USB devices, always use "Safely Remove USB Device" icon on the taskbar to quickly unplug or eject your USB devices.



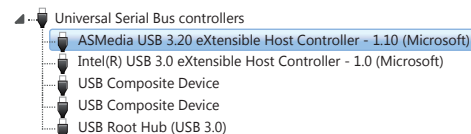
Hardware Verify

Click on the "Device Manager" tab in the Windows Control Panel

Start > Control Panel > Device Manager



Under Win10, 8.x and 2012 OS, entry Universal Serial Bus controllers catalog, and "ASMedia USB 3.20 eXtensible Host Controller - 1.10 (Microsoft)" shows in the device manager.



Specifications

Hardware		Driver Support	
BUS	PCI Express Spec 3.0, 4 Lane	Microsoft	Windows 8.x / 10 (X86/X64) (Windows in-box driver)
Controller	PCI Express USB3.2 Host controller, ASM3242		
USB Standard	eXtensible Host Controller Interface (xHCI) Rev1.1		
IRQ & IO	Assigned by System		

USB Communication

Interface	Universal Serial Bus 3.2/3.1 / 3.0 / 2.0 / 1.1
Speed	Super Speed+ (Gen2x2=20Gbps), Super Speed+ (Gen2x1=10Gbps), Super Speed(5Gbps) High Speed(480Mbps), Full Speed(12Mbps), Low Speed (1.5Mbps)
No. of Port	1-port
PCB Connector	USB 3.2 USB Type-C port (Downstream Facing Port)
Protection	±8KV IEC61000-4-2 Air Gap Discharge ±4KV IEC61000-4-2 Contact Discharge

Power

Source	PCI Express Bus Power
Output Capacity	USB Type-C Port: +5VDC / 1.5A Note: * USB Power Delivery Protocol does NOT support. * Built-in over current protection on each USB port. * Maximum total power output depends on the capacity of user's power supply unit.
Power Consumption	1.1 W @ 3.3V (board only without power output to USB device)

Environment

Physical Characteristics	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 70°C (-4 to 158°F)
PCB Dimension	79.3 x 68.5 mm
Bracket	Standard 120 mm (Low Profile 80mm)
Bracket Space	1

Standards and Certifications

EMC	EUR: CE, EN55032 Class B, EN55035 US: FCC Part 15 Class B TAIWAN: BSMI: CNS13438 JAPAN: VCCI
Green	RoHS, CrRoHS, WEEE



Troubleshooting

Q 1. If card and devices connected to the computer do not seem to be working properly, please perform below basic troubleshooting steps:

- Ans: a. Check that all cables are correct and securely connected.
b. Make sure USB device's power is turned on.
c. Make sure your device power require under 1.5A.
d. Make sure there is no problem with the card installation.

Q 2. Computer failed to start after inserting the USB 3.2 PCI Express card.

Ans: Turn off the computer, remove the USB 3.2 PCI Express card, and try to restart the computer. If the computer starts successfully, it means that the card has not been inserted into the PCI Express slot correctly. Please clean PCI golden finger by rubber firstly, then change another PCI-E slot!

Q 3. How to deal with there is a yellow exclamation point on controller?



Universal Serial Bus (USB) Controller

- Ans: a. Please shutdown your PC, move the card to another available slot then disable and enable USB 3.2 driver.
b. Please point on this device then right-click on the mouse. Selecting "Update Driver" to renew USB driver.
c. This exclamation point usually means there is a resource conflict between this card and another card in your system. Please move the card to another available slot. Restart your computer.
Windows will re-configure itself and re-assign resources. Check your device manager again.

Q 4. The USB cable has been extended and the device no longer works.

Ans: The length of the USB 3.2 cable must not exceed 1.0 meters. Please do not extend the cable or a USB repeater must be used if the cable is longer than 1.0 meters. The longer cable causes poor performance.

Q 5. Is it possible to connect current USB 1.1/2.0/3.0/3.1 devices to the USB 3.2 PCIe card?

Ans: Yes it works. Device will not obtain the USB 3.2 10G top performance, but depends on your USB 3.0/2.0 device.

Q 6. I could not get USB 3.2 top performance?

Ans: USB 3.2 PCIe Card benchmark performs up to 2000MB/s with NVMe SSD. So please check your USB 3.2 device could satisfy USB 3.2 bandwidth.

Q 7. Will my USB 3.0/2.0 device raises performance when connecting with USB 3.2 card?

Ans: USB 3.2 card provides higher USB communicating bandwidth between PC desktop and USB device. However USB device implements performance limits on your USB device data throughput capacity itself.

Q 8. Does this card support USB Power Delivery Protocol?

Ans: This USB 3.1 card does NOT support USB Power Delivery Protocol.

