SUNIX Quick Installation Guide

USB3.2 Gen2 10G & DisplayPort Alt-Mode PCIe Host Card with Dual USB Type-C Receptacles
Ver.1.1

Please visit https://www.sunix.com with product model for detail and latest manual/driver update

Introduction

SUNIX UPA2015 is compliant with the PCIe Gen3 specification for host PC system. Based on USB-C pure DFP (Downstream Facing Port) mode, it works up to 10 Gbps for data transfer when connecting to USB3.2 Gen2 compliant peripherals, while maintaining compatibility with existing USB peripheral devices. USB3.2 Gen2 performance is 2 times faster than USB3.2 Gen1 and 20 times faster than USB2.0 connectivity. In additional, one USB Type-C port supports DisplayPort Alternate-mode for video output, and the other is an USB data-only port.
With USB-C Receptacle, UPA2015 supports 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. UPA2015 supports 5VDC@1500mA power output to USB device with over current protection on each USB port. It's an ideal choice for external storage, smart phone, webcam, video devices, and all other USB electronic devices.

System Requirement

· One available x1, x4, x8 or x16 PCI Express slot. (Recommend PCI Express Gen3)
· Recommend Microsoft Windows 10 operation system or later version.
· INTEL Core i series Processor with 4GB DDR RAM or above.
· One DisplayPort source from INTEL GPU or Graphics card video output.

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.
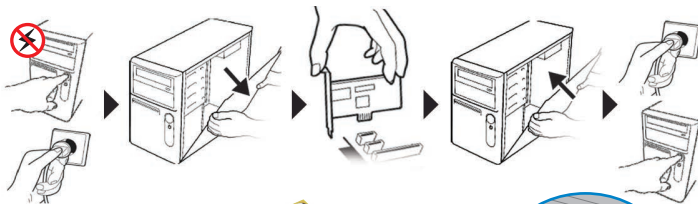1. UPA2015 -USB3.2 Gen2 & DisplayPort Alt-Mode PCIe Card w/ 2-port USB-C Receptacles
1. DisplayPort Male to DisplayPort Male cable 240mm
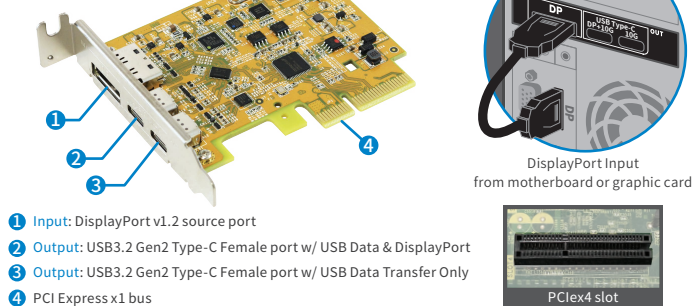3. Quick Installation Guide

Hardware Installation

SAFETY FIRST
To avoid damages, please make sure to remove any power connection before card installation, and follow the detailed steps given below before inserting the card into your computer.

1. Turn your computer off and remove the power plug from the power supply unit.
2. Remove the cover from the computer case.
3. Remove the metal cover plate on the rear of an available PCI Express slot (e.g. PCIe x16).
4. Insert the card into the available PCI Express slot and screw it firmly on the bracket side.
5. Connect DisplayPort cable between PC desktop's DisplayPort output port and add-on card's DisplayPort input port.
6. Place the cover back onto the computer.
7. Connect the power cable back to the power supply unit.

Hardware Guide

① **Input**: DisplayPort v1.2 source port
② **Output**: USB3.2 Gen2 Type-C Female port w/ USB Data & DisplayPort
③ **Output**: USB3.2 Gen2 Type-C Female port w/ USB Data Transfer Only
④ PCI Express x1 bus

DisplayPort Input from motherboard or graphic card

PCIex4 slot

Specifications

Hardware

BUS	PCIe Spec 3.0x2 (compliant with x4/x8/x16 slot)
Controller	PCIe USB3.2 Gen2 Host controller, Asmedia ASM3142
USB Standard	eXtensible Host Controller Interface (xHCI) Rev1.1
IRQ & IO	Assigned by System

Video / Audio Interface

Input	Standard DisplayPort Female, DisplayPort Ver1.2/1.1
Output	USB-C port
Audio	Yes (audio pass-through)

USB Communication

Interface	Universal Serial Bus 3.2 Gen2 / Gen1 / 2.0 / 1.1	No. of Port	2-port
Speed(Per-second)	Super Speed+(10Gb), Super Speed(5Gb), High Speed(480Mb), Full Speed(12Mb), Low Speed(1.5Mb)		
PCB Connector	USB-C port (Downstream Facing Port)		
Protection	±15KV IEC61000-4-2 Air Gap Discharge, ±8KV IEC61000-4-2 Contact Discharge		

Power

Source	PCI Express Bus Power
Output Capacity	USB-C Port: USB bus power: +5VDC / 1.5A / each port Note: Total power output capacity will be limited by system power supply.
Over Current Protection	USB-C Port: +5VDC / 1.5A / each port / Power Switch
Power Consumption	3.0W @ 3.3V (board only without power output to USB device)

Driver Support

Microsoft	Windows 8.x / 10 (X86/X64) /11(Windows in-box driver)

Environment

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)		

Physical Characteristics

PCB Dimension	85.30 x 55.75 mm
Bracket	Standard 120 mm (Low Profile 80mm)
Bracket Space	1

Standards and Certifications

EMC	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
Green	RoHS, CRoHS, WEEE

Notice: 1. In order to get USB3.2 Gen2 performance, please use a PCIe Generation3 slot for card installation.
2. Please always use the "Safely Remove USB Device" icon in the taskbar before unplug or eject your USB device to prevent your pc to crash and lose valuable data.

Driver Installation

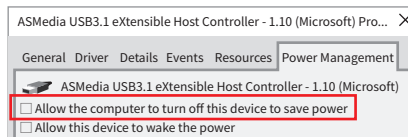| Operating System	USB 3.1 10G Driver	Remark
Windows 10	Driver Free	Microsoft Windows in-box driver (with UASP).
Windows 8.1		
Windows Server 2012R2		
Windows 8 Windows Server 2008R2	Driver is Necessary *USB 3.1 Host Diver *Microsoft USB Hotfix	User has to install additional USB 3.1 driver. *Asmedia USB 3.1 Host IC Driver (without UASP). *Microsoft USB Hotfix Diver KB 2581464.
Linux	Support	Please update Linux Kernel to 4.6 or later to implement USB 3.1 10G performance.
MAC OS	Do NOT support	Do NOT support
DOS	Do NOT support	Do NOT support

NOTE: "Microsoft® USB Hotfix" driver must be installed separately on Win7 and Server 2008 R2 due to licensing issues. Please visit http://support.microsoft.com with keyword "KB 2581464" to download the driver package.

1) You can download the latest driver from SUNIX official website (https://www.sunix.com)
2) Please plug the card into the available I/O slot
3) Unzip the software file and run setup.exe under Windows operating system.

Setup.exe

Do Not Select Power Save

Go to **Device Manager > Asmedia USB3.1 eXtensible Host controller > Power Management,** then DISABLE "Allow the computer to turn off this device to save power" to prevent any power issue.

Hardware Verification

Please launch "**Device Manager**" to verify hardware installation correctly.
Start > Control Panel > Device Manager

Under Windows 7, 8, and 2008 OS: **ASMedia XHCI1.1 Controller**

Under Windows 10, 8.1, and Server 2012 OS: **ASMedia USB 3.1 eXtensible Host Controller - 1.10 (Microsoft)**

Device Manager

Driver Uninstallation

Click on the "**Programs and Features**" tab in the Windows Control Panel
Start > Control Panel > Programs and Features
Navigate to the "Uninstall or Change a Program Page"
then double click **ASMedia USB Host Controller Driver** to start the uninstallation.

Programs and Features

Troubleshooting

Q 1. If the card or connected devices do not work properly, please perform the troubleshooting steps below:
A 1: a. Check that all cables are correct and securely connected.
b. Make sure the USB device is powered on.
c. Make sure the devices are being supplied with enough power.
d. Make sure there are no issues with the card installation.
e. Make sure to connect a DisplayPort cable between the PC's and the add-on card's DisplayPort port.

Q 2. Computer failed to start after inserting the USB 3.1 PCI Express card.
A 2: Turn off the computer, remove the USB 3.1 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 PCIe slot correctly.
Please clean the PCI-bus gold finger, then reinstall into a different PCIe slot.

Q 3. The USB cable has been extended and the device no longer works.
A 3: The length of the USB cable(or extended cable)must not exceed 1.0 meter. If an USB repeater must be used, the total cable length must not exceed 1.0 meter. Longer cables may cause poor performance.

Q 4. Is it possible to connect current USB1.1, 2.0, 3.0 devices to the USB3.1 PCIe card?
A 4: Yes, it is possible, but depending on your device you may not achieve full USB 10G performance.

Q 5. There is a yellow exclamation point on the controller in Device Manager.

Other devices
Universal Serial Bus (USB) Controller

A 5: a. Please shutdown your computer and move the card to another available slot then re-install the driver.
b. Move your mouse cursor over the device then right-click, select "Update Driver".
c. This exclamation point usually means there is a resource conflict between the cards in your system.
Please move the card to another available slot then restart your computer.
Windows will reconfigure itself and re-assign resources.
Check your device manager again.

Q 6. Why am I not getting full USB3.1 performance?
A 6: Please make sure your computer PCIe slot support PCIe gen3 speed.
USB3.1 PCIe Card benchmarks perform up to 700~750MB/s with SSD (Solid State Drive) RAID 0 (strip) structure. So please check that if your USB 3.1 device can handle full USB 3.1 bandwidth.

Q 7. Will my USB 3.0/2.0 device boost performance when connecting with USB3.1 card?
A 7: USB 3.1 cards provide higher USB communication bandwidth between PCs and USB devices.
However, speeds are limited by the capacity of your USB device.

Q 8. Why is ASMedia USB3.0 eXtensible Host Controller - 0110 (Microsoft) showing in the device manager, instead of USB3.2 description?
A 8: SUNIX UPA2015 uses the Windows in-box driver with Windows 8.x and 2012 operating systems; it shows a default USB description. Microsoft will fix this issue at the next USB driver update. However, you can still can distinguish USB 3.1 and USB 3.0 controllers by following descriptions:
USB 3.1 = eXtensible Host Controller Ver 1.1 Controller = 0110 (Microsoft)
USB 3.0 = eXtensible Host Controller Ver 1.0 Controller = 0100 (Microsoft)

Q 9. How to enable UASP (USB Attached SCSI Protocol) features?
A 9: The SUNIX USB 3.1 host card driver supports the UASP features included with Windows in-box drivers. However, your connected USB device must support UASP simultaneously and you may have to install additional UASP drivers for your USB device such as USB Enclosure.

Q10. I can not get display output from the first (top) USB-C port.
A10: The first (top) USB-C port supports USB data only and it will not output DisplayPort video. But the second USB-C port supports both USB data and DisplayPort Alt-Mode features. You can connect a USB-C video adapter to the second USB-C port.
Of course, be sure to connect DisplayPort cable between the PC's and the card's DisplayPort port.

Q11. There is an exclamation mark (USB-Serial) in the device manager after the card's driver installation has finished.

Other devices
USB-Serial (Single Channel)   USB-Serial (Single Channel) Vendor MFG

A11: Move your mouse cursor over the device then right-click, select to update the USB to serial driver, or contact SUNIX for driver update. After the driver installation is ready, the correct information shows as below.
This USB-Serial device is designed for firmware update purposes.
If you do not need to upgrade your firmware version you may skip this warning.

How do you want to search for drivers?
→ Search automatically for drivers

Q12. There is an exclamation mark (Billboard device) in the device manager when I connect a DisplayPort Alt-Mode Video dongle to the second USB-C port.

Other devices   Other devices   Universal Serial Bus controllers
USB 2.0 BILLBOARD   BILLBOARD Interface   Billboard Interface

A12: This may happen on Windows 7 and 8 operating systems. USB Billboard Class is a brand-new specification for USB-C DisplayPort Alt-Mode device identification. Microsoft supports USB Billboard device drivers on Windows 8.1 and 10 operating systems, but not for Windows 7 or 8. However, your USB-C DisplayPort Alt-Mode video dongle still works without issue, so please ignore this warning message.