

# User Manual

MOS-2110Z-1201E provides a simple method of adapting two USB 2.0 devices to a modern PCIe x 1 port. It accomplish by incorporating the industry standard PCIe bridge chip. It is compliant with USB 2.0 specification, with xHCI (eXtensible Host Controller Interface) specifications rev. 0.96.

MOS-2110Z-1201E supports simultaneous operation of multiple USB 2.0 and USB 1.1 devices, it can expands two external USB 2.0 Hi-Speed ports on the system. Each USB port supplies maximum +5V/ 500mA power output to USB device.

Besides, MOS-2110Z-1201E support hot-swapping feature allows to connect/ disconnect devices without powering down the system

## 1. Packing List

### MOS-2110Z-1201E

- ✚ USB controller miniPCIe card x1
- ✚ USB wire cable with I/O bracket x1
- ✚ Startup Manual x 1

**Note:** If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

## 2. Initial Inspection

You should find the following items inside the shipping package:

- ✚ USB controller miniPCIe card x1
- ✚ USB wire cable with I/O bracket x1
- ✚ Startup Manual x 1

The MOS-2110Z-1201E card harbors certain electronic components vulnerable to electrostatic discharge (ESD). ESD could easily damage the integrated circuits and certain components if preventive measures are not carefully paid attention to.

Before removing the card from the antistatic plastic bag, you should take following precautions to ward off possible ESD damage:

- ✚ Touch the metal part of your computer chassis with your hand to discharge static electricity accumulated on your body. Or one can also use a grounding strap.
- ✚ Touch the anti-static bag to a metal part of your computer chassis before opening the bag.
- ✚ Take hold of the card only by the metal bracket when removing it out of the bag.

After taking out the card, first you should:

Inspect the card for any possible signs of external damage (loose or damaged components, etc.). If the card is visibly damaged, please notify our service department or our local sales representative immediately. Avoid installing a damaged card into your system.

Also pay extra caution to the following aspects to ensure proper installation:

- ✦ Avoid physical contact with materials that could hold static electricity such as plastic, vinyl and Styrofoam.
- ✦ Whenever you handle the card, grasp it only by its edges. DO NOT TOUCH the exposed metal pins of the connector or the electronic components.

**Note!**

Keep the anti-static bag for future use. You might need the original bag to store the card if you have to remove the card from PC or transport it elsewhere.



## 3. Installation & Setup

### 3.1 Driver Installation

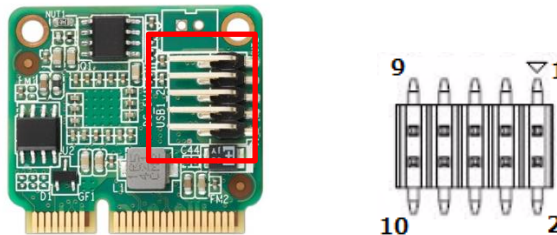
For MOS-2110Z-1201E driver download, please visit Advantech website:

[http://support.advantech.com/Support/SearchResult.aspx?keyword=MOS-2110Z-1201E&searchtab=s=BIOS,Certificate,Datasheet,Driver,Firmware,Manual,Online%20Training,Software%20Utility,Utility,FAQ,Installation,Software%20API,Software%20API%20Manual,3D%20Model&select\\_tab=Driver](http://support.advantech.com/Support/SearchResult.aspx?keyword=MOS-2110Z-1201E&searchtab=s=BIOS,Certificate,Datasheet,Driver,Firmware,Manual,Online%20Training,Software%20Utility,Utility,FAQ,Installation,Software%20API,Software%20API%20Manual,3D%20Model&select_tab=Driver)

## 4. Signal Connections

### 4.1 Switch and Jumper Settings

MOS-2110Z-1201E PCIe to 2-Ch USB 2.0 module (Unit: mm):



USB1_2 Pin #	Signal Name	USB1_2 Pin #	Signal Name
1	+VCC5_USB	2	+VCC5_USB
3	USB2_DM1	4	USB2_DM2
5	USB2_DP1	6	USB2_DP2
7	GND	8	GND
9	GND	10	GND

Figure 4.1: Card Connector, Jumper and Switches

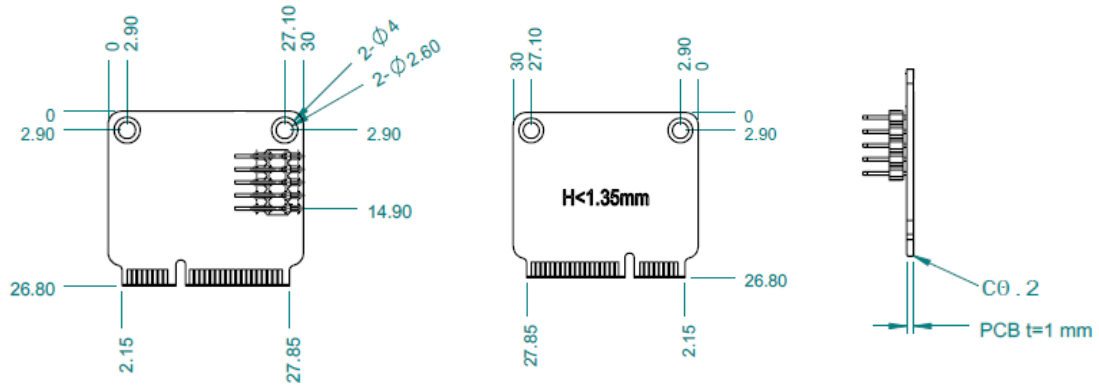


Figure 4.2: Physical Dimension

## 4.2 Signal connections

### 4.2.1 Pin Assignment

The pins are numbered as shown in the table below.

Figure 4.3: USB I/O Connector

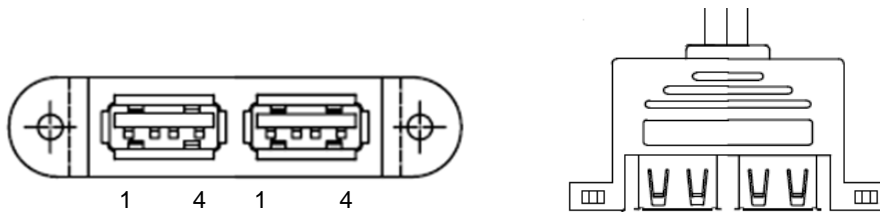


Table 4.2: MOS-2110Z-1201E Pin Definition

USB 1 Pin #	Signal Name	USB 2 Pin #	Signal Name
1	+VCC5_USB	1	+VCC5_USB
2	USB_D-	2	USB_D-
3	USB_D+	3	USB_D+
4	GND	4	GND

# Appendix. System Block Diagram

Below Figure shows the operation of Advantech EXM-522 2-Ch USB 2.0 module from the system level, including the major hardware blocks.

Figure 5.1 System Block Diagram

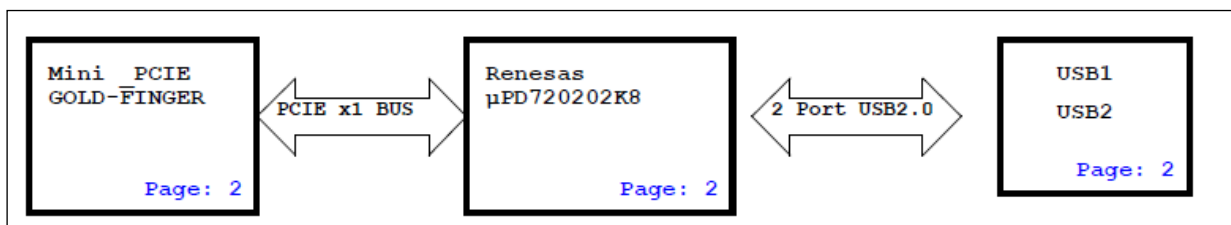


Figure 5.2 Power Distribution

