規格書
Data Sheet

CUSTOMER :

Basler

Model NO :

U3-PCIE1XG211-13

DESCRIPTION :

4-port USB 3.0 PCI Express x1 Gen 2 Host Card

Revision :

1.1.8

Date: 2023/4/20

CUSTOMER APPROVED	APPROVAL	ENGINEER	ISSUE BY

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Overview:

Introduction

The U3-PCIE1XG211-13 is USB 3.0 to PCI Express x1 Gen 2 host card. It fully integrates an Extensible host Controller Interface (xHCI) engine, a 4-port 5Gbps USB 3.0 transceiver, a PCI Express endpoint controller and a 5Gbps PCI Express transceiver. U3-PCIE1XG211-13 implements the Universal Serial Bus 3.0 Specification Revision 1.0 and the Extensible Host Controller Interface (xHCI) Specification Revision 1.0, and complies with the PCI Express Rev 2.1 Specification at 5Gbps data rate, and the PCI Local Bus Specification Revision 2.2. U3-PCIE1XG211-13 is backward compatible for operation with USB 2.0 and USB 1.1 devices.

The U3-PCIE1XG211-13 features GoXtream™ xHCI Accelerator Engine, which maps the xHCI standard directly into a set of parallel functional units, providing acceleration of all xHCI operations while maintaining compatibility with existing software driver models.

U3-PCIE1XG211-13 supports the following Battery Charging Protocols.
• Supports USB Battery Charging Specification Revision 1.2 for Charging Downstream Ports (CDP).
• Supports USB Battery Charging via Chinese Telecom Standard YD/T 1591-2009.
• Supports Apple™ Charge

Technical Specifications

PCIe Host Bus
• Single (x1) PCI Express Lane
• Supports PCI Express Specification Revision 2.1 at 5GT/s
• Supports PCI Bus Power Management Interface Specification revision 1.2
• Support for Latency Tolerance Reporting (PCIe)

USB Features
• Compliant with USB 3.0 Specification Revision 1.0
• Compliant with Extensible Host Controller Interface (xHCI) Specification revision 1.0
• 4 downstream USB ports support SS/HS/FS/LS data rates (5Gbps/480Mbps/12Mbps/1.5Mbps)
• Supports UASP (USB Attached SCSI Protocol)
• Supports xHCI debug capability
• Support for Ultra High-performance isochronous applications
• Support for Latency Tolerance Tolerance Messaging (USB)

Advanced Power Saving
• Support all USB 3.0 Power States: U0, U1, U2 and U3
• Support USB 2.0 Link Power management (LPM)
  ◦ USB-IF LPM PDK Standard
• PCIe Active State Power Management (ASPM) L0s and L1

USB Bus Power Input
Power Supply to the USB bus power may from the following source (A or B):
• A. From PCIe 12V (Step-Down)
• B. From Power Connector (5V only)
  1.From Big IDE 4-pin DC Power Connector
  2.From SATA 15pin Power Connector

Battery Charging Protocols
• Supports USB Battery Charging Specification Revision 1.2 for Charging Downstream Ports (CDP).
• Supports USB Battery Charging via Chinese Telecom Standard YD/T 1591-2009.
• Supports Apple™ Charge

USB3 cable lock mechanism
• Provides the threaded holes for the jack-screws of USB 3.0 A Plug w/Jackscrew lock Cable

Storage Temperature
• 0℃ to 70℃(32℉ to 150 ℉)
Storage Humidity
• 10% to 80% (Non-Condensing)

Computer Platform

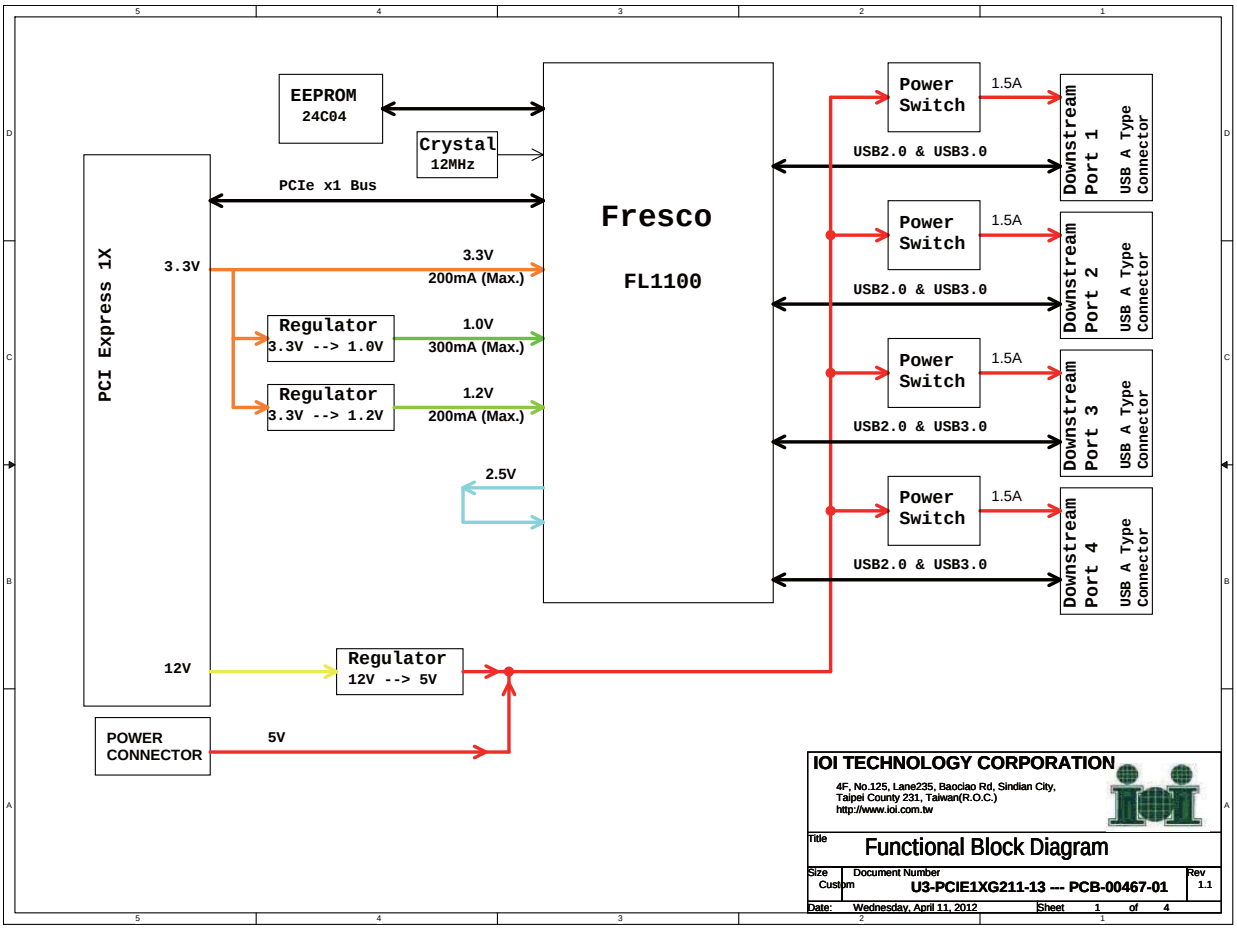
Computer with PCI Express slot (x1, x4, x8, x16)

Note:
For the best performance (5.0 Gbps), It should be installed in a PCIe Gen 2 compliant slot in the host computer. A PCIe Gen 1 compliant slot reaches up to 2.5 Gbps throughput

Operating System Requirements

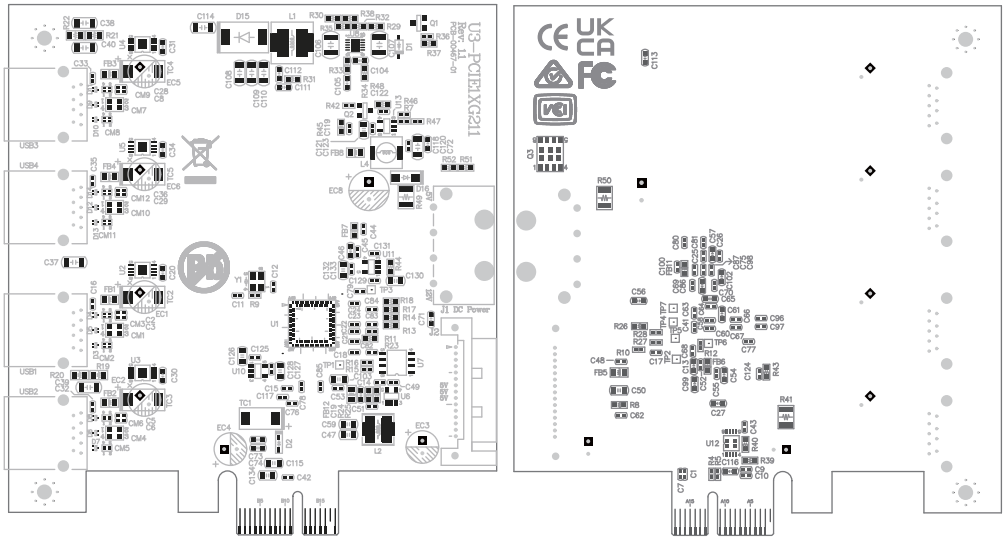
• If OS is Windows 8 or later , there are inbox driver for Fresco USB 3.0 Host Controller.
• Linux xHCI support under Linux kernel version 2.6.31 and after
• USB 3.0 Host Drivers
  ◦ Windows XP
  ◦ Windows Vista
  ◦ Windows 7
  ◦ Windows 8 and 8.1

Block Diagram

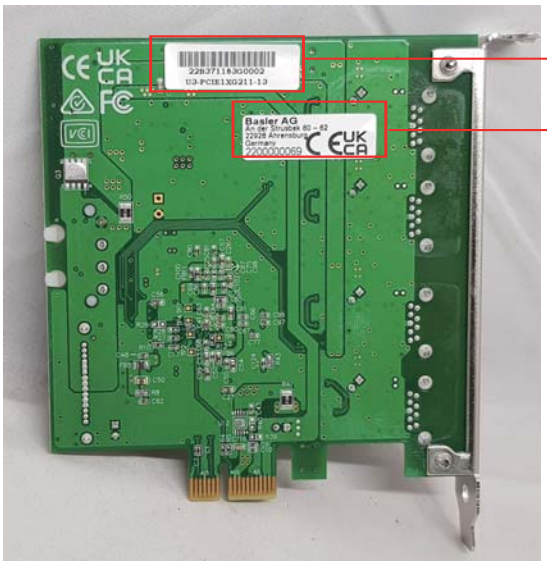


Silk Screen and Picture:

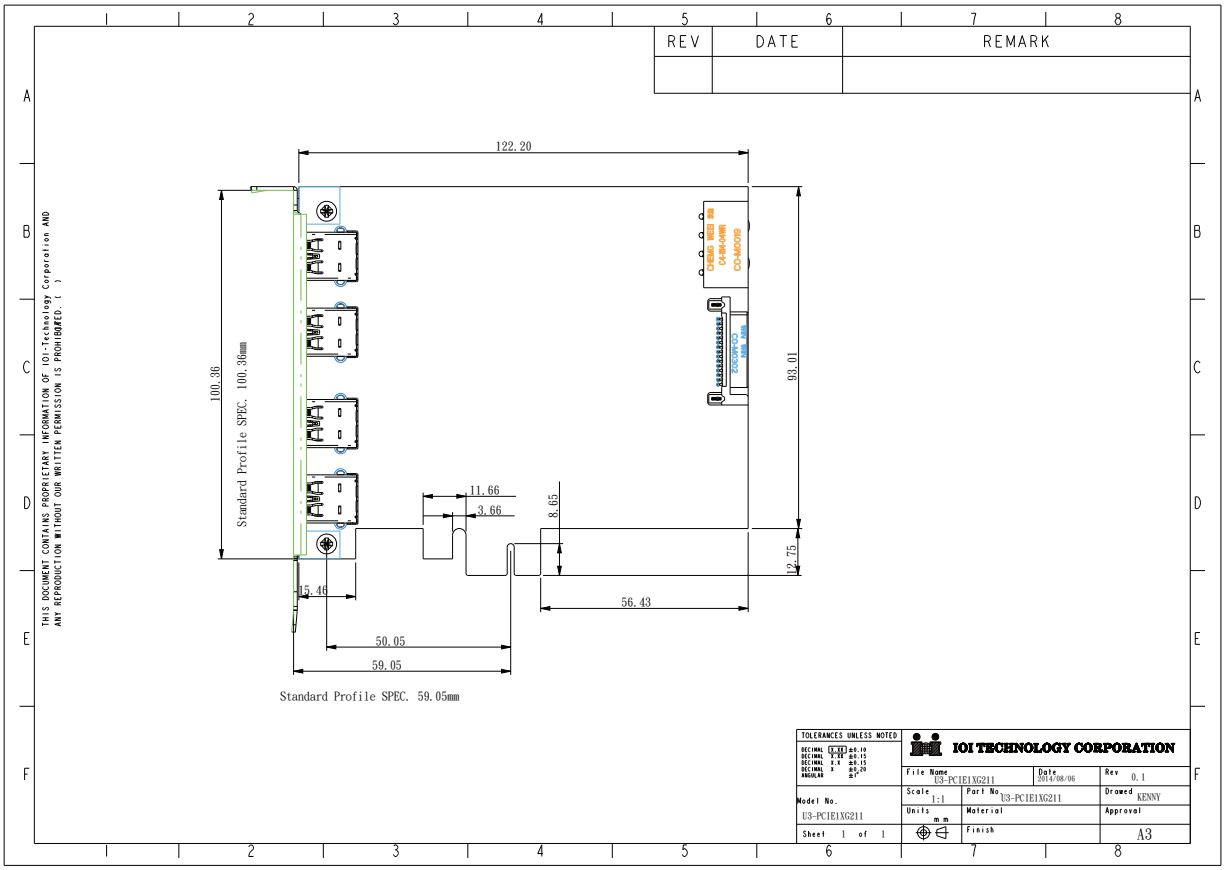
Silk Screen of U3-PCIE1XG211 P.C.B (PCB-00467-01)



Picture of U3-PCIE1XG211-13 PCBA



Mechanical Dimension:



Kit Parts Information:

Datasheet of USB 3.0 host controller
USB IF TID 380000026

FL1100-1Q0-EX

PCI Express to 4-port USB 3.0 Host Controller

Introduction

The FL1100 is Fresco Logic's single-chip PCI Express to USB 3.0 host controller. It fully integrates an Extensible Host Controller Interface (xHCI) engine, a 4-port 5Gbps USB 3.0 transceiver, a PCI Express endpoint controller and a 5Gbps PCI Express transceiver. FL1100 implements the Universal Serial Bus 3.0 Specification Revision 1.0 and the Extensible Host Controller Interface (xHCI) Specification Revision 1.0, and complies with the PCI Express Rev 2.1 Specification at 5Gbps data rate, and is backward compatible to the PCI Local Bus Specification Revision 2.2. FL1100 is compatible for operation with USB 2.0 and USB 1.1 devices.
The FL1100 controller features Fresco Logic's patented GoXtream™ xHCI Accelerator Engine, which maps the xHCI standard directly into a set of parallel functional units, providing acceleration of all xHCI operations while maintaining compatibility with existing software driver models.
The FL1100 supports USB Debug Capability defined by the xHCI specification. Debug capability enables low-level system debug using a USB-to-USB connection between two computers, and is a requirement from Microsoft for those platforms that wish to achieve Windows Logo Certification for Windows 8 and beyond.
With its innovative architecture and high level of integration, FL1100 delivers exceptional performance, while minimizing total system cost and providing the most straightforward usage model in the industry.

Feature

- Compliant with USB 3.0 Specification Revision 1.0
- Compliant with Extensible Host Controller Interface (xHCI) Specification Revision 1.0
- 4 downstream USB ports support SS/HS/FS/LS data rates (5Gbps/480Mbps/12Mbps/1.5Mbps)
- Supports Battery Charging Specification Revision 1.2 for Charging Downstream Ports (CDP)
- Supports USB charging via Chinese Telecom Standard YD/T 1591-2009
- Supports Apple™ Charge
- Single (x1) PCI Express Lane
- Supports PCI Express Specification Revision 2.1 at 5GT/s
- Supports PCI Express Card Revision 1.0
- Supports PCI Bus Power Management Interface Specification Revision 1.2
- 3.3V/1.2V/1.05V power supply
- Supports 12MHz crystal oscillator
- Integrated SuperSpeed USB transceiver
- Integrated PCI Express transceiver
- WHQL certified driver support for Windows 8, Windows 7, Windows Vista and Windows XP
- Linux xHCI support under Linux kernel version 2.6.31 and after
- Supports UASP (USB Attached SCSI Protocol)
- Supports xHCI debug capability
- Support for Ultra High-performance isochronous applications
- Support for Latency Tolerance Reporting (PCIe) and Latency Tolerance Messaging (USB)

Certifications & Compliances:

CE/UKCA Test: Pass
FCC Test : Pass
VCCI Test: Pass
RCM Test: Pass

VERIFICATION OF COMPLIANCE

CERTIFICATE OF COMPLIANCE

CERTIFICATE OF COMPLIANCE

CERTIFICATE OF COMPLIANCE

Model No.	RoHS (2011/65/EU & 2015/863)	EU RoHS Exemption	US TSCA	Reach SVHC Contained	Reach SVHC	Note
U3-PCIE1XG211-13	Compliant	7a/ 7c-I	Compliant	Lead ※Note 1/Note 2	Compliant	Re Series: 7c-i DI-S0042: 7a

Note 1: Some electronic components contain lead 7439-92-1 under the permission of RoHS exemption.

Note 2: Some electronic components contain lead under the permission of RoHS exemption (7C-I) in a glass or ceramic. REACH ECHA is not applicable for articles containing glass and ceramics since they are classified under REACH as UVCB substances (substance of unknown or variable composition, complex reaction products or biological material).

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