GETCAMERAS

DATASHEET GRAB-D-PCIe4-10GPOE-1X1X

10 Gigabit Ethernet (POE+) to PCI Express x4 Gen 3 Host Card.

Highlights

- PCIe x4 Gen 3 (8.0 GT/s), Low-Profile PCI Form Factor
- IEEE 802.3an 10G, 5G, 2.5G,1G and 100M over up to 100m of Cat6a (or better) cables
- Supports POE+ (IEEE 802.3at Power Sourcing Equipment)
    - Isolated Flyback Design
        - DC-DC Converter is Isolated flyback design so that it's power output is electrically isolated from the power input
- Typical Power Consumption: 6 W at 10 Gbps, 4W at 5 Gbps full length 100 m Cat6a
- Standard compliance:
  IEEE 802.3bz – NBASE-T, IEEE 802.3x – flow control,
  IEEE 802.1P – quality of service, IEEE 802.1QAV – AVB
- Jumbo frame support up to 16 KB

Introduction

GRAB-D-PCIe4-10GPOE-1X1X is 10G/ 5G/ 2.5G/ 1000BASE-T/ 100BASE-TX Ethernet (POE+) to PCI Express x4 Gen 3 Host Card.

GRAB-D-PCIe4-10GPOE-1X1X supports 10GBASE-T Ethernet in compliance with the IEEE 802.3an standard, as well as 5 Gbps and 2.5 Gbps Ethernet speeds over standard Cat 5e and Cat 6 copper cables. Compliant to the IEEE 802.3bz standard ratified in September 2016, the GRAB-D-PCIe4-10GPOE-1X1X is also backwards-compatible with legacy 1000BASE-T Ethernet.

The GRAB-D-PCIe4-10GPOE-1X1X is a single-chip, single-port, high-performance PCIe 3.0 Multi-Gig 10GBASE-T/ 5GBASE-T/ 2.5GBASE-T/ 1000BASE-T/ 100BASE-TX Ethernet adapter. It incorporates

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Aquantia's AQrate PHY technology to deliver 1 GbE and 2.5 GbE network connectivity speeds over 100 m with zero change required for legacy cabling. Speeds ranging from 5 GbE to 100 M are supported by Cat 5e cabling while 10GbE requires a minimum of Cat6 with Cat 6a running up to 100 m..

Technical Specifications

PCI Express	• PCI Express Gen3 or Gen2, (Supports line rates of 8.0 GT/s and 5.0 GT/s per lane) • Bus width: Supports Gen3 x4 or Gen2 x4 • MSI, MSI-X, and legacy INTx PCIe interrupts, Improved CPU utilization and network performance
MAC	• Large Send Offload (LSO), Receive-Side Scaling (RSS), Direct Cache Access (DCA) header checksum o Increased network performance and lower host CPU utilization • WoL power management o Supports low power modes • On-chip CPU DASH o Desktop management • MACsec o Secured traffic over Ethernet links • Quality of Service (QOS) support o Up to eight traffic classes and Data Center Bridging (DCB) • Jumbo frames (up to 16Kbytes) o Improves network performance with reduced CPU utilization • IPv4, IPv6/TCP and IPv6/UDP checksum offload o Offloading calculations and improved CPU usage
PHY	• Integrated Aquantia AQrate PHY featuring NBASE-T technology o 100 meters over Cat 6a at 10Gbps o 100 meters over Cat 5e and Cat 6a at 5Gbps/ 2.5Gbps/ 1Gbps/ 100Mbps • Advanced cable diagnostics o On-chip high resolution cable analyzer • Audio Video Bridging (AVB) and 1588v2 o Management of time-sensitive traffic packets • EEE support o PHY power savings mode • Supported Data Rates o 10G/ 5G/ 2.5 G/ 1G/ 100 Mbps • Standard compliance o IEEE 802.3bz – NBASE-T, IEEE 802.3x – flow control, IEEE 802.1P – quality of service, IEEE 802.1QAV – AVB
POE+ Feature	• Supports IEEE 802.3at Power Sourcing Equipment (PSE) • Isolated Flyback Design o DC-DC Converter is Isolated flyback design so that it's power output is electrically isolated from the power input • Operates from a 54 V supply • Provides PD real-time protection through the following mechanisms: overload, under-load, over-voltage, over-temperature, and short-circuit. • Auto mode – allows turning PDs on and off automatically.
Special Features	• Hardened components rated for extreme temperatures • Redundant power inputs • Surge and ESD protection • Low-profile design
Power	• Input: 48 – 56V DC • Compatible power supply: TI-S15052, TI-S24052, TI-S12048, TI-S24048 (sold separately) • Max. consumption: 2.24W @ 48V DC

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Power Input for POE+	• Step-Up 12V from either PCIe Slot or auxiliary SATA power connector
	  o From PCIe Slot
	  ▪ 25 W Slot (Max. 25W)
	  ▪ 75 W Slot (Max. 30W)
	  o From SATA Power Connector
	  ▪ SATA Power (Max. 30 W)

Dimensions	• 64.4mm(H) x 148mm(L) • 121g
Certifications	• CE • UKCA • FCC • VCCI • RCM

Mechanical drawing

Not Available

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