

# Dual Gigabit Ethernet

Mini PCIe Module



VL-MPEe-E7

Actual Size!

## Overview

The “E7” module is an extremely small and rugged dual Gigabit Ethernet add-on network interface card (NIC). Fully contained on a single Mini PCIe module, it does not require an additional daughter card for magnetic isolation. It provides a simple, clean, rugged way to add an Ethernet interface to most embedded computer systems.

The E7 includes IEEE 1588/802.1AS Precision Time Protocol support. This enables precision time-synchronization between network nodes. With this feature, the E7 can support advanced time critical, and synchronized applications across audio/video, mil/aero, and industrial use cases.

The E7 is designed and tested for full industrial temperature (-40° to +85°C) operation and meets MIL-STD-202H specifications for shock and vibration. It uses a latching connector to address cable detachment issues in hostile environments.

VersaLogic’s 10+ year product life support programs ensure long-term availability. This avoids expensive upgrades and migrations that come from short, disposable lifecycle products.

## Highlights **PRELIMINARY**

- **Dual Gigabit Ethernet**  
10BASE-TE/100BASE-TX/1000BASE-T
- **On-board magnetically coupled isolation**  
No need for off-board magnetics with custom cables
- **-40 to +85°C operating temperature**  
Performs in extreme environments
- **10+ Year Production Lifecycle**

# Dual Gigabit Ethernet

Product Data Sheet **PRELIMINARY**

Mini PCIe Module

## Specifications **PRELIMINARY**

General	
<b>Board Size</b>	Mini PCIe module (full size): 30 x 50.95 x 11.5 mm (1.18 x 2.01 x 0.45").
<b>Weight</b>	11 grams (0.41 oz.).
<b>Power Requirements</b>	3.3V ±5% @ 3 W Typical (supplied by the Mini PCIe socket).
<b>Manufacturing Standards</b>	IPC-A-610 Class 2
<b>Regulatory Compliance</b>	RoHS (EU 2015/863), Conflict Minerals compliant.
<b>Mini PCIe Signal Type</b>	PCI Express, Gen 1 and Gen 2.

Environmental	
<b>Operating Temperature</b> ◊	-40° to +85°C
<b>Storage Temperature</b>	-40° to +85°C
<b>Altitude</b> *	Operating To 4,570m (15,000 ft.)
	Storage To 15,240m (50,000 ft.)
<b>Thermal Shock</b>	5°C/min. over operating temperature.
<b>Humidity</b>	MIL-STD-202H method 103 – Humidity steady state
<b>Vibration, Sinusoidal Sweep</b> †	MIL-STD-202H method MIL-STD-202-204, Condition A: 2g
<b>Vibration, Random</b> †	MIL-STD-202H method MIL-STD-202-214, Condition A: 5.35g rms
<b>Mechanical Shock</b> †	MIL-STD-202H method MIL-STD-202-213, Condition G: 20g half-sine

Device I/O	
<b>Ethernet</b>	Two magnetically isolated auto-negotiation 10BASE-T/100BASE-TX/1000BASE-T ports. Latching connector
<b>VLAN</b>	802.1q
<b>Synchronization</b>	IEEE 1588/802.1AS-REV Precision Time Protocol
<b>Indicators</b>	External link/activity indicator signals to latching pin header
<b>Network Boot</b>	PXE Boot and Wake on LAN
<b>Efficiency</b>	Energy Efficient Ethernet (IEEE 802.3az)

Software	
<b>Operating Systems</b>	Compatible with Windows, Linux.

◊ Derate -1.1°C per 305m (1,000 ft.) above 2,300m (7,500 ft.)

\* Extended altitude specifications available upon request

† MIL-STD-202H shock and vibrate levels are used to illustrate the ruggedness of this product in general. Testing to higher levels and/or different types of shock or vibration methods can be accommodated per the specific requirements of the application. Contact VersaLogic Sales for further information.

Specifications are subject to change without notification. PCI Express is a registered trademark of the PCI-SIG. All other trademarks are the property of their respective owners.

## Modify a Module to Your Exact Requirements

COT's modifications are available in quantities as low as 100 pieces. Options include conformal coating, application-specific testing, BOM revision locks, special labeling, and more.

## Ordering Information **PRELIMINARY**

Model	Function	Operating Temp.
VL-MPEe-E7E	Dual Gigabit Ethernet Mini PCIe Module	-40° to +85°C

## Accessories

Part Number	Description
<b>Cables</b>	
VL-CBR-1604	Dual Ethernet adapter cable, latching, 12"
VL-CBR-0207	Ethernet activity cable 2-pin Pico Clasp to LED 12" (Two required)
<b>Hardware</b>	
VL-HDW-108	Mini PCIe module hold-down screws (10) for use with 2.5 mm standoffs.
VL-HDW-110	Mini PCIe module hold-down screws (10) for use with 2.0 mm standoffs.

## Other VersaLogic Mini PCIe Modules

Model	Function	Signaling
VL-MPEe-A1E	Analog input (12-bit resolution)	PCIe
VL-MPEe-A2E	Analog input (16-bit resolution)	PCIe
VL-MPEu-C1	Dual CAN Bus Interface	USB
VL-MPEe-E4E	Gigabit Ethernet Over Fiber Module	PCIe
VL-MPEe-E5E	Dual Channel Gigabit Ethernet Adapter	PCIe
VL-MPEe-E6	Gigabit Ethernet	PCIe
VL-MPEe-E6E-P	Gigabit Ethernet with POE+	PCIe
VL-MPEe-U2E	Four Serial ports. Twelve GPIO lines.	PCIe
VL-MPEe-V5E	Video Display Adapter. VGA and LVDS interfaces	PCIe
VL-MPEe-FW1	1394 Firewire Module	PCIe
VL-MPEs-F1Exx	mSATA drive (4/16/32 GB)	SATA
VL-MPEs-S3E	SATA adapter	SATA
VL-MPEu-G2E	GPS receiver	USB
VL-MPEu-G3E	Advanced GPS receiver	USB

Call VersaLogic Sales at (503) 747-2261 for more information!



Mini PCIe Modules