

ECU-P1524LSE

Virtualized HSR/PRP PCI Express Communication Card with SFP interface



Features

- Intel® X550 Controller
- 4 x GbE SFP ports
- PCIe Gen.2 x4 host interface
- Low Profile (half length) form factors
- Support HSR Protocol (IEC-62439-3, Clause 5)
- Support PRP Protocol (IEC-62439-3, Clause 4)
- Supports multi-mode fiber (SX) and single-mode fiber (LX) modules
- Supports SR-IOV based virtualization
- CE/FCC Certification
- Support IEEE 1588 v2



Introduction

The ECU-P1524LSE provides high-reliability redundant networking in the form of high-availability seamless redundancy (HSR) and parallel redundancy protocol (PRP) to a virtualized computer system via the use of PCIe SR-IOV which is based on the Intel® X550 chipset. The four SFP ports can be configured to support various optical transceivers, such as single-mode SX, multi-mode LX, and 1GbE Base-T copper modules.

Specifications

Form factor		PCIe half length, half height, double width
Controller	Controller	Intel® X550
Networking	PCIe Interface	Gen 2 x4 (enumerates as two gen 2 x4 devices due to PCIe switch on board)
	Virtualization	PCIe single root I/O virtualization (SR-IOV) with 64 virtual machine device queues (VMDq)
	Number of redundant networks	2 redundant networks (4 physical network interfaces)
	Network interfaces	2 pairs (4 interfaces) of SFP cages to support copper or optical modules
	Network data rate	100/1000Mbps
HSR/PRP	Redundancy protocols	Compatible with IEC 62439-3 Clause 5 "High-availability Seamless Redundancy (HSR)" and IEC 62439-3 Clause 4 Parallel Redundancy Protocol (PRP)"
	LED Status	4 x Act/Link, 4 x 100/1000M
	Ethernet Interface	4 x SFP (mini-GBIC) Ethernet ports with HSR/PRP (1000Base-FX & 100Base-FX)
Time synchronization	Pulse Per Second (1PPS) Signalling	Connections on face of card with optional SMA auxiliary edge plate (1 in, 1 out) (TBD)
	IEEE 1588 time synchronization	PTP (IEEE1588-2008) and PTP profile for power utility automation (IEC 61850-9-3, IEC 62439-3 Edition 3.0)
	Voltage/Watts	+12V/13.1W, +3.3V/1.8W
Power	Power Supply	Via PCIe connection
	Power Consumption	15W excluding SFP modules (not supplied)
	Board Dimension (L x W x H)	68.9 x 181 x 20.32mm
Mechanical Design	Box Dimension (L x W x H)	260 x 145 x 90mm
	Bracket	Full height and half height options available
	Cooling	Integrated fan
	Weight	Gross Weight: 600g; Net Weight: 250g
	Operating Humidity	0 to 90% (non-condensing)
Environment	Operating Temperature	-25 ~60°C (-13 ~ 140°F) with FAN
	Storage	-45~85°C (-49~185°F)
	EMC	CE/FCC Class A
Certification	OS Version	Linux Ubuntu 24.04
	Hypervisor	KVM
	VLANs	4096

Ordering Information

Part Number	Description
ECU-P1524LSE-A	HSR/PRP 4-port SFP 1GbE, Intel® X550, FPGA, FAN

Please contact your Advantech representative for a list of supported and validated transceiver modules.

SFP Module

Part Number	Description
SFP-GMM-550	IE-SFP/1250-ED, MM850-LC
SFP-GTX	SFP/10-1250, TX