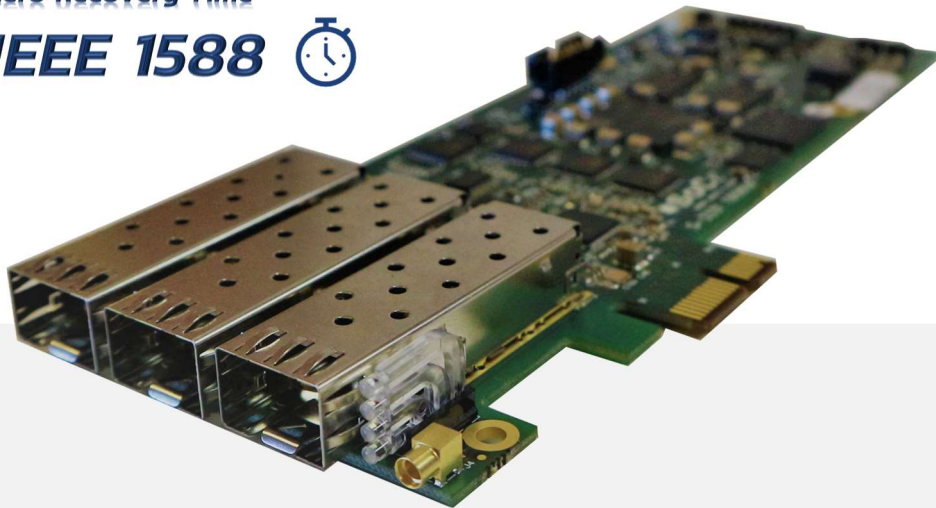




HSR PRP

Zero Recovery Time

IEEE 1588



RELY-PCIe-LP Time-aware Redbox-DAN Low Profile PCIe NIC

In a market that is undergoing the revolution of new powerful small sized equipment, RELY-PCIe-LP provides the most demanding networking features to any kind of PC, regardless of its size.

PCI Express (PCIe) is the most extended high-speed serial computer expansion bus. It is the de-facto standard for expansion boards in PC computers and it is gaining acceptance in Industrial PCs and even in SCADA systems.

RELY-PCIe-LP is a low profile PCIe pluggable board that comprises in the same device hardware and

software resources to implement specialized networking, synchronization and security oriented services.

RELY-PCIe-LP can be used as a multi-media PCIe Redbox-DAN, operating as an HSR/PRP node of a high-availability network and connecting an Ethernet network segment with an HSR/PRP network.

The device uses dedicated hardware for low latency switching and for implementing high accuracy clock synchronization based on IEEE 1588 standard.

Specifications



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Communications

- Autonomous management of Supervision Frames and IEEE 1588-2008 PTPv2 support
- Cut-through operation for the HSR ring to minimize the latency in the ring
- Store&forward for PRP and Ethernet operation
- 2x HSR/PRP/Ethernet ports + 1x Ethernet port
- Media options (SFP cages):
 - » 10/100/1000Base-T
 - » 1000Base-X
 - » 100Base-FX
- Zero-Packet-Loss redundancy modes:
 - » IEC 62439-3 v3 Clause 5 "High-availability Seamless Redundancy (HSR)"
Supported modes: H, N, U, HSR-SAN, PRP- HSR, HSR-HSR
 - » IEC 62439-3 v3 Clause 4 "Parallel Redundancy Protocol (PRP)"
Supported modes: Duplicate discard, duplicate accept, transparent reception, PRP-HSR
- Optional modes:
 - » IEC 62439-2 Clause 5 "Media Redundancy Protocol (MRP)"
 - » "Device Level Ring (DLR)" for Ethernet IP
- RSTP IEEE802.1w
- VLAN support
- Ethernet type based or IEEE 802.1P Traffic prioritization
- 1 PPS output (MMCX interface)
- PCIe x1.
- Seamless integration on old Legacy PCI Systems through optional adapter

Software features

- Ethernet network drivers available for most OS (Linux, Windows, VxWorks, etc.)
- IEEE 1588-2008 PTPv2 Ordinary Clock and Boundary Clock support. Profiles: Default, Power, IEC 61850-9-3, 802.1AS

Processing performance

- On-board FPGA for high-speed network switching and PTP timestamping
- Multi-core CPU unit to support autonomous software applications

Configuration and Management

- On-board integrated Web Server to provide HTML5-GUI configuration access:
- Accessible through HTTP(S)
- Configuration profiles and Firmware updates
- Real-time network monitoring

