



RELY-TSN-LP-PCIe Time-Sensitive Networking Bridge Low Profile PCIe NIC

RELY-TSN-LP-PCIe is an out-of-the-box solution for Time Sensitive Networking (TSN) that allows seamless implementation of deterministic Ethernet networks and abstracts user equipment and applications from these technical complexities.

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

This device can be used as a PCIe TSN Endpoint and as a TSN Bridge

providing 3 multi-media Gigabit Ethernet ports.

As an Endpoint, it offers the possibility to introduce TSN technology in the device where it is hosted, for its integration in a deterministic network. It performs as a retrofitting tool in brownfield systems.

Its uniqueness lies in the fact that it's a smart pluggable low profile board that comprises in the same device hardware and software resources to implement specialized networking, synchronization and security oriented services.

Specifications



Communications

- 2x TSN Ethernet port
- 1x Service Ethernet port
- Media options (SFP cages):
 - » 10/100/1000Base-T
 - » 1000Base-X
 - » 100Base-FX
- RSTP IEEE802.1w
- VLAN support
- Ethernet type based or IEEE 802.1P Traffic prioritization
- 1 PPS output (MMCX interface)
- PCIe1.
- Seamless integration on old Legacy PCI Systems through optional adapter

TSN features

- 802.1AS – Timing and Synchronization
- 802.1Qbv – Enhancements for Scheduled Traffic
- 802.1Qav – Forwarding and Queuing Enhancements for Time-Sensitive Streams
- 802.1Qcc – Enhancements for Stream Reservation Protocol
- 802.1Qci* – Per-Stream Filtering and Policing
- 802.1CB* – Frame Replication and Elimination for Reliability

Software features

- Ethernet network drivers available for most OS (Linux, Windows, VxWorks, etc.)

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
- LLDP support

