



*Next generation*



## ***RELY-TSN-PCIe***

### *Next generation* **TSN Bridge PCIe NIC**

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

This device can be used as a PCIe **TSN Endpoint** and as a **TSN Bridge** providing 2 multi-media Gigabit Ethernet ports and 2 internal 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.

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-TSN-PCIe *next generation* is a smart pluggable board that comprises in the same device hardware and software resources based on Xilinx UltraScale™ technology to implement specialized networking, synchronization and security oriented services.

These key features makes RELY-TSN-PCIe platform the most reliable and multipurpose networking device for critical environments.

## Specifications



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### Communications

- 2x Ethernet port
- Media options (SFP cages):
  - » 10/100/1000Base-T
  - » 1000Base-X
  - » 100Base-FX
- RSTP IEEE802.1w
- LLDP support
- VLAN support
- IEEE 802.1P Traffic prioritization
- 1 PPS output
- PCIe x1. Seamless integration on old Legacy PCI Systems through optional adapter

### TSN features

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

### Software features

- Ethernet network drivers available for most OS:
  - » Linux, Windows, VxWorks, etc.

### Processing performance

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

### Configuration and Management

- SNMPv3, SSH, Netconf support
- On-board integrated Web Server to provide HTML5-GUI configuration access:
  - » Accessible through HTTP(S)
  - » Configuration profiles and Firmware updates
  - » Real-time network monitoring

