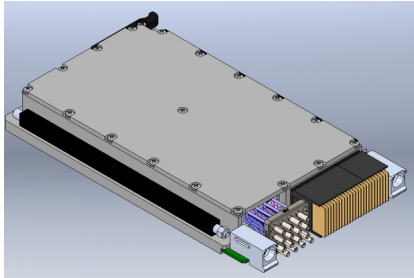
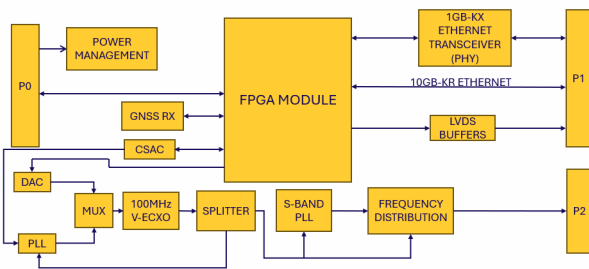


Radial Clock Plug-In Card (PIC)



System Architecture Diagram



TRAK TECOM Radial Clock Plug-in Card (PIC) is a SOSA™ aligned OpenVPX profile that drives Reference Clock and Auxiliary Clock signals across the VPX backplane to all other payload slots. The heart of this PIC is the TRAK TECOM vibration tolerant oscillator which provides ultra-low jitter clocks in harsh, vibration-prone installations typical of airborne and ground mobile military environments.

The default configuration includes a 100MHz ECXO, (11) 100MHz Reference Clock LVDS outputs and (11) 1PPS Auxiliary Clock LVDS outputs. The Auxiliary Clock input is used to discipline the ECXO and synchronize the Auxiliary Clock outputs. There is a 1Gb Ethernet port for control and status, a second 1Gb Ethernet port for NTP and PTP time services.

This PIC is engineered for interoperability and compliance to SOSA and VITA 65 guidelines for electrical, mechanical, and management interfaces.

Key Features

- SOSA-aligned PIC form factor (3U VPX)
- Electronic vibration compensated OCXO
- Low phase noise and ultra-low jitter clock distribution in harsh, vibration-prone environments
- Multi-output radial clock topology
- Phase alignment across outputs
- Management via standard control plane
- Designed for harsh environments (extended temperature, shock/vibration)

Options

- Phase-locked S-Band low phase noise frequency output. Fixed frequencies are available in 100 MHz increments from 2GHz to 4.5GHz.
- Frequency distribution subsystem providing multiple independent copies of 100 MHz and S-Band reference frequencies on the P2 NanoRF connector block.
- Commercial or M-Code GNSS receiver for time and frequency synchronization to UTC.
- Chip Scale Atomic Clock (CSAC) for high stability frequency reference in GNSS denied environments or when long holdover performance is required.

Applications

- Radar and sensor processing systems
- Electronic warfare platforms
- High-speed ADC/DAC synchronization
- Secure communications infrastructure



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