Model 7894

High-Speed Clock Generator - PCIe

ReadyFlow Board Support Package

Features

- Provides sample clock for up to four separate PCIe Cobalt or Onyx boards
- Locks to user-supplied 10 MHz reference clock or on-board reference.
- OCXO provides an exceptionally precise clock

General Information

Model 7894 High-Speed Clock Generator provides fixed-frequency sample clocks to PCIe Cobalt and Onyx boards in multi-board systems. It enables synchronous sampling, playback and timing for a wide range of multichannel high-speed data acquisition and software radio applications.

Sample Clock Synthesizer

The Model 7894 uses a high-precision, fixed-frequency, PLO (Phase-Locked Oscillator) to generate an output sample clock. The PLO accepts a 10 MHz reference clock through a front panel SMA connector. The PLO locks the output sample clock to the incoming reference. A power splitter then receives the sample clock and distributes it to four front panel SMA connectors.

The 7894 is available with sample clock frequencies from 1.4 to 2.0 GHz.

On-board Reference Clock

In addition to accepting a reference clock on the front panel, the 7894 includes an on-board 10 MHz reference clock. The reference is an OCXO (Oven-Controlled Crystal Oscillator), which provides an exceptionally precise frequency standard with excellent phase noise characteristics.

Physical Characteristics

The 7894 is a standard PCI Express board. The board does not require programming and the PCIe interface connector is used solely for power.

Specifications

Sample Clock Frequency: Fixed, 1.4 to 2.0 GHz by ordering option

Sample Clock Outputs

Type: Four front panel female SMA connectors

Output Level: +10 dBm, nominal, sine wave

Reference Clock In

Type: Front panel female SMA connector

Frequency: 10 MHz

Input Impedance: 50 ohms

Input Level: 0 dBm to +10 dBm, sine wave

Reference Clock Out

Type: Front panel female SMA connector

Center Frequency: 10 MHz

Output Impedance: 50 ohms

Output Level: +10 dBm, nominal, sine wave

Frequency Stability vs. Change in Temperature: 50.0 ppb

Frequency Calibration: ±1.0 ppm

Aging

Daily: ±10 ppb/day

First Year: ±300 ppb

Total Frequency Tolerance (20 years): ±4.60 ppm

Phase Noise

1 Hz Offset: -67 dBc/Hz

10 Hz Offset: -100 dBc/Hz

100 Hz Offset: -130 dBc/Hz

1 KHz Offset: -148 dBc/Hz

10 KHz Offset: -154 dBc/Hz

100 KHz Offset: -155 dBc/Hz

PCI Express Interface

PCIe Bus: x4 or x8, power only

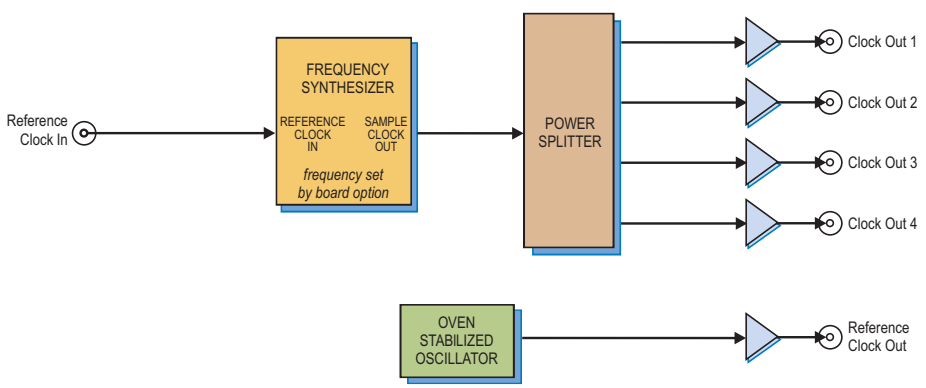
Environmental

Operating Temp: 0° to 50° C

Storage Temp: –20° to 90° C

Relative Humidity: 0 to 95%, non-cond.

Size: Half length PCIe card, 4.38 in. x 7.13 in.



PENTEK

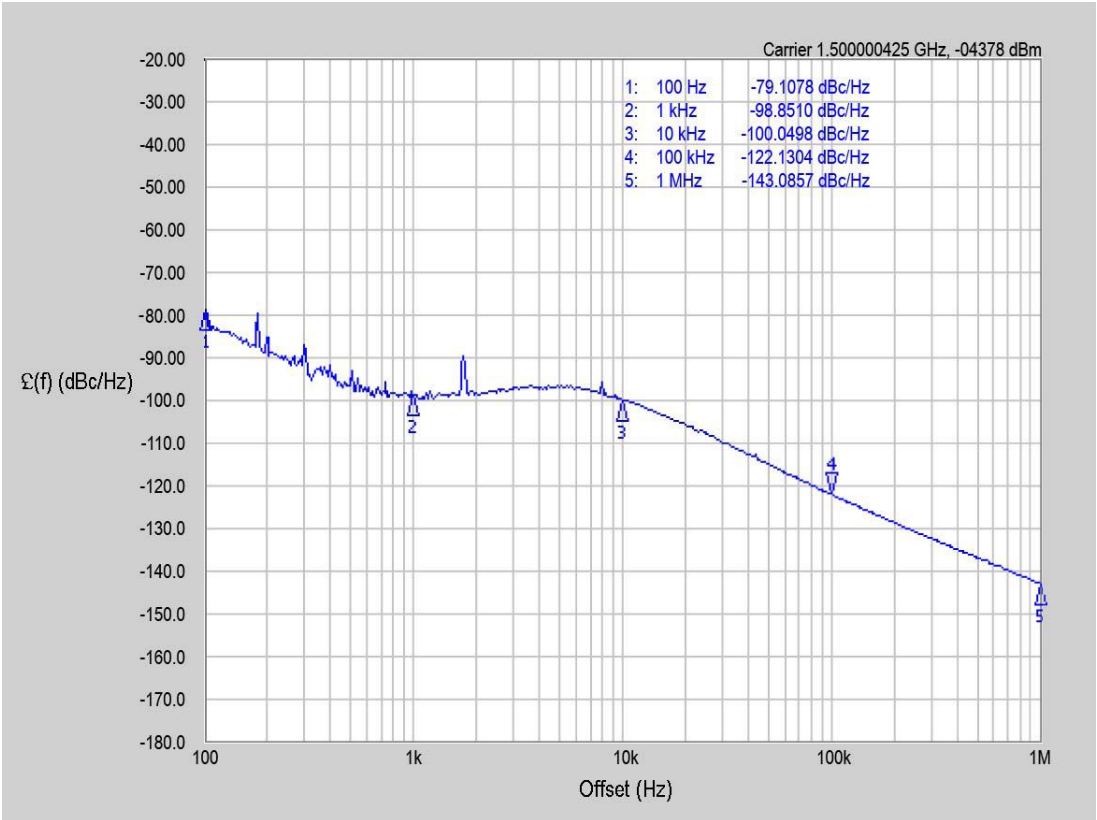
Pentek, Inc. One Park Way ◆ Upper Saddle River ◆ New Jersey 07458

Tel: 201·818·5900 ◆ Fax: 201·818·5904 ◆ Email: info@pentek.com

www.pentek.com

Sample Clock Phase Noise

Phase Noise (1 Hz BW, typical)



Phase Noise 10.00 dB/Ref -20.00 dBc/Hz

Ordering Information

Model	Description
7894	High-speed Clock Generator - PCIe
Options	**Description**
150	1.500 GHz sample clock
180	1.800 GHz sample clock

Contact Pentek for additional sample clock options