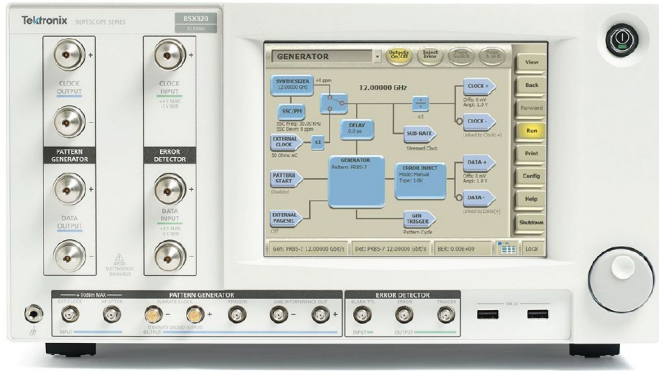


# PCI Express® 4.0 and 3.0 Base Specification Receiver Test Automation Software (BSXPCI4BSE)

For Tektronix BERTScope™ and Real-Time Oscilloscope



Developed for Tektronix by Granite River Labs (GRL), PCI Express 4.0 and 3.0 Base Specification Receiver Calibration and Test software for the Tektronix BERTScope BSX (BSXPCI4BSE) provides an automated, simple and efficient way to test your PCIe Receiver to the Base (ASIC) Specification.

BSXPCI4BSE automates both the BERTScope and the Tektronix real-time oscilloscope to calibrate the stressed-eye opening and test receiver conformance and jitter tolerance. Following the industry standard methodology, the GRL software uses Seasim statistical data-eye simulator to establish the calibrated test channel DDJ. The final calibrated eye diagram uses both Seasim and SigTest software to arrive at the final stressed eye diagram. Receiver jitter tolerance and margin testing can then be performed on the device under test.

BSXPCI4BSE Base Receiver Test software provides a simple user interface to automate complex PCIe testing. This software runs on Windows 7 or higher oscilloscope or PC operating system, and significantly reduces equipment calibration and test time.

BSXPCI4BSE Base Receiver Test software supports nested loop testing of multiple parameters to facilitate silicon PVT testing or testing across multiple test conditions, with results logged in an aggregated test report to leverage and protect your BERTScope investment and save valuable time and optimize the use of your resources across multiple projects.

BSXPCI4BSE can be further customized by the user or GRL Engineering using GRL's full KayaQ automation framework. Contact GRL at support@graniteriverlabs.com or through your Tektronix Account Manager for further details.

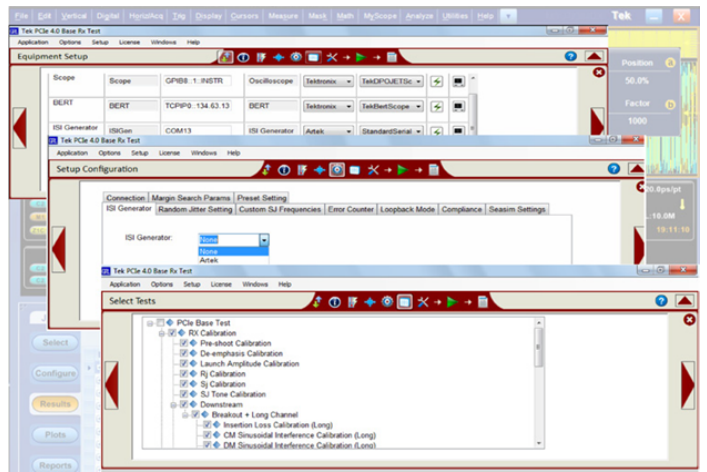
## Key features

- Automated calibration of signal impairments to achieve stressed Receiver Eye Height and Eye Width, in accordance with PCIe® 4.0 and 3.0 Base Specification, using Seasim for ISI Channel calibration and selection of Seasim or SigTest for final stressed eye calibration.
- Automated Receiver Compliance and Jitter Tolerance testing at the spec-defined or user-defined Jitter Frequency steps
- Automated Jitter Tolerance and Margin testing
- Automated user definable nested loop testing with test result aggregation.
- Simple setup, test execution, and reporting in PDF files
- Fully configurable and customizable
- Reduce technical risk using an industry-accepted calibration methodology
- Achieve consistent results with rapid test execution
- Extended customization available through GRL's full KayaQ™ automation framework

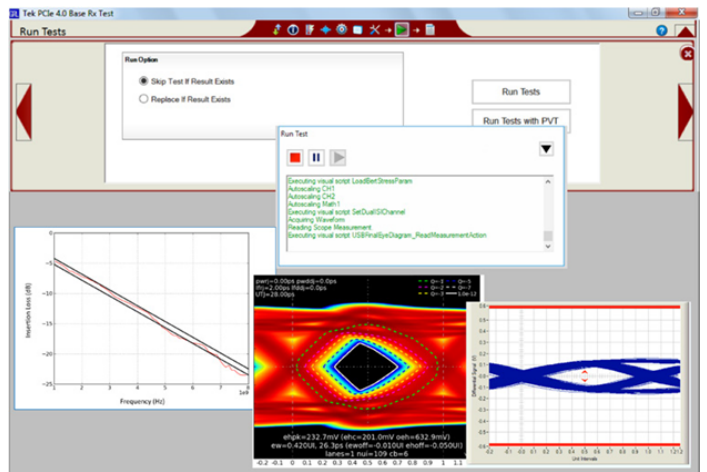
## Applications specifications

Specification	PCI Express base specification revision 4.0 and 3.0
Data rates	PCIe 4.0 (16 GT/s) and PCIe 3.0 (8 GT/s)
Supported receiver architecture	Common clock architecture

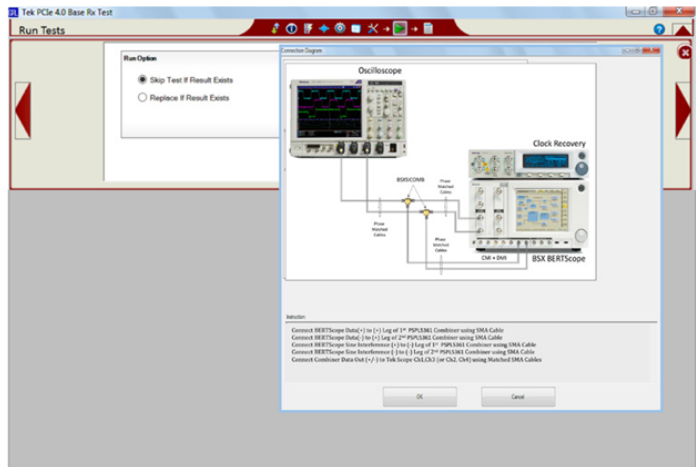
<p>Stressed eye calibration method</p>	<p>Seasim for Insertion Loss Calibration, Seasim &amp; SigTest for final eye calibration</p>
<p>Required equipment for PCIe 4.0 and 3.0 base specification testing</p>	<p>Tektronix BERTScope generator set:</p> <ul style="list-style-type: none"> <li>For 16 GT/s: BSX240/CR175A (minimum)</li> <li>For 8 GT/s: BSX125/CR125A or BSA125/DPP125/CR125 (minimum)</li> </ul> <p>Tektronix DPO/MSO7000DX or 7000SX Series Oscilloscope:</p> <ul style="list-style-type: none"> <li>For 16 GT/s: 25 GHz (minimum)</li> <li>For 8 GT/s: 16 GHz (minimum)</li> </ul> <p>Tektronix DPOJET (Jitter and Eye Analysis) software</p> <p>PCIe 4.0 compliant fixed or variable ISI channel</p> <p>If used with BSX model BERTScope:</p> <ul style="list-style-type: none"> <li>BSXSICOMB (2 ea. 40GHz RF combiner kit)</li> </ul> <p>If used with BSA model BERTScope:</p> <ul style="list-style-type: none"> <li>Tektronix AFG3000 arbitrary function generator high-performance SMA cables</li> </ul>



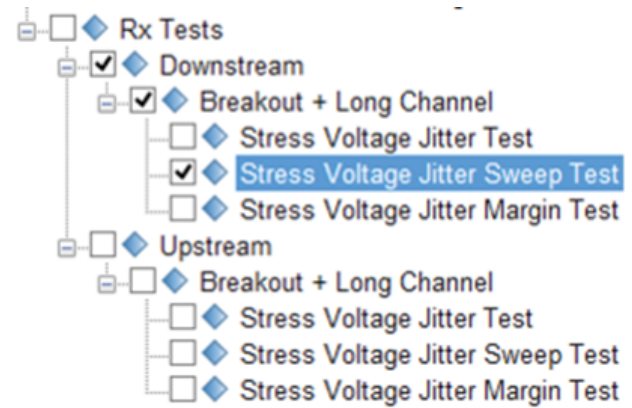
Fully configurable



Automated stressed eye calibration



Push-button automation



Selectable test suite

## Ordering information

### BERTScope Models

#### BSX

<b>BSXPCI4BSE</b>	PCI Express 4.0 and 3.0 Base Specification Receiver Test Automation Software for the BSX BERTScope - with Node Locked License to single Oscilloscope/PC OS.
<b>BSXPCI4BSE-FLT</b>	PCI Express 4.0 and 3.0 Base Specification Receiver Test Automation Software for the BSX BERTScope- with Floating License enabled by USB Dongle.
<b>BSXPCI4BSE-UP</b>	Upgrade from PCIe 3.0 BSA BERTScope software to PCIe 4.0 and PCIe 3.0 Base Specification Receiver Test Automation software for the BSX BERTScope
<b>BSXPCI4BSE-FLTUP</b>	Replace BSXPCI4BSE Node Locked License with Floating USB Dongle License. Requires GRL to disable Node Locked License.

#### BSA

<b>GRL-PCIE3-BASE-RX</b>	PCI 3.0 Base Specification Receiver Test Automation for BSA BERTScope (Tektronix Combiner included) - with Node Locked License to single Scope/PC OS.
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### Extended customization

BSXPCI4BSE can be further customized by the user or GRL Engineering using GRL's full KayaQ automation framework. Contact GRL at [support@graniteriverlabs.com](mailto:support@graniteriverlabs.com) or your Tektronix Account Manager for further details.

### Certifications

CE Marking Not Applicable.

Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.



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**For Further Information.** Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit [www.tek.com](http://www.tek.com).

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