introspect technology

Empowering Solutions for High-Speed Communications

BEST in Design & Test
2015 DesignCon
WINNER

Data Center
& Communications Brochure

SV3C
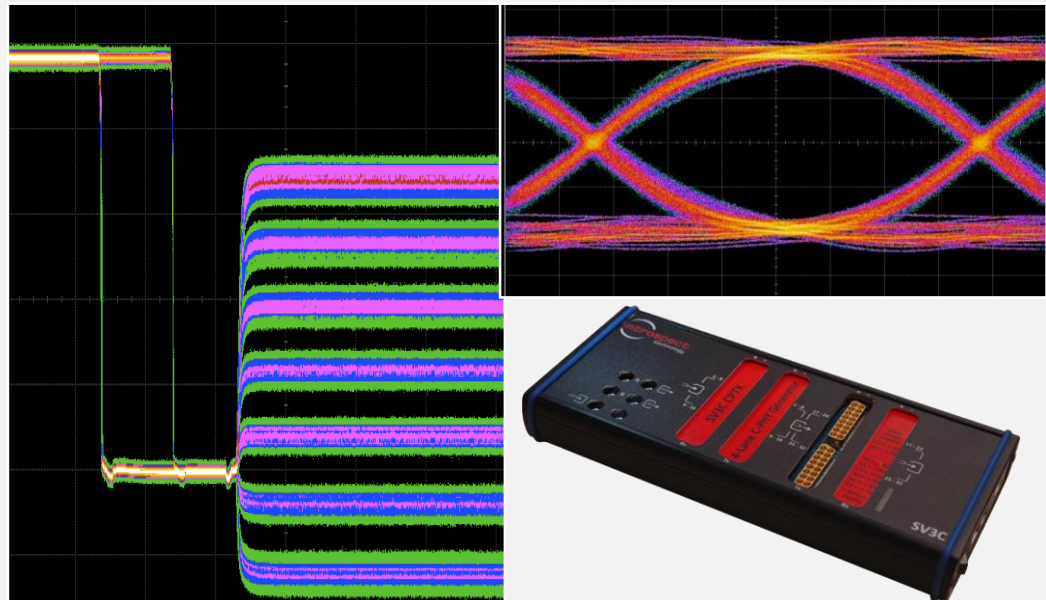
Industry leading solutions for laboratory, validation, and production testing in the rapidly changing landscape of high−speed I/O.

Ultra Portable

With Introspect, more engineers have access to high−performance testing, increasing throughput at every stage of a product's life cycle from the bench to customer service. What previously took racks of equipment fits in the palm of your hand.

SV1C Personal SerDes Tester

High Performance

All Introspect tools offer user−defined control over transmitter and receiver attributes including signal amplitudes, jitter injection, and phase delay. Capture eye diagrams and bathtub plots according to any data rate or pattern, in burst or high−speed−only modes. Full support for physical− and transport−layer testing of PCIe Gen1−Gen3, MIPI C−PHY, D−PHY, and more!
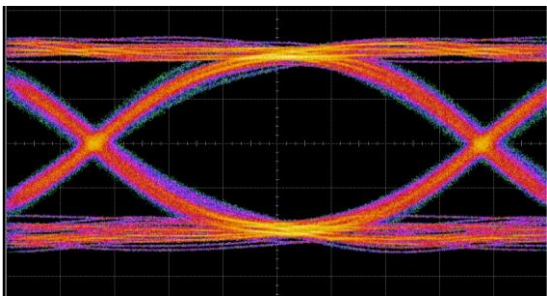
SV2C Eye Diagram at 28 Gbps

Powerful Software

Python−based software enables real−time control over your tests with the flexibility to build and automate to your needs. With a single line, execute a BER test, change data rate, or run command loops synchronized with your device to find its exact, optimized operating conditions. Automation made easy!
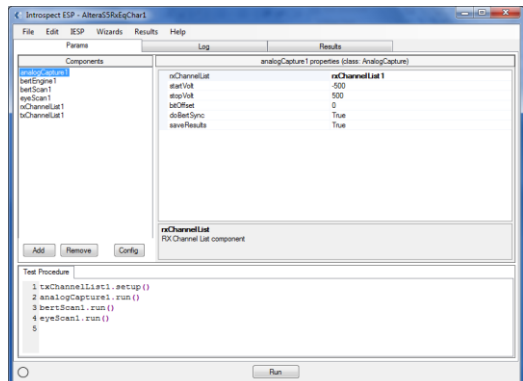
IntrospectESP GUI

Generators and Analyzers for 100G/400G, GPON, and Others

Introspect provides parallel test capability to understand the limits of your devices and measure real-world performance. The SV1C, SV3C parallel BERT solutions are versatile transmit and receive solutions capable of generating a wide range of signal conditions and impairments. They are ideal for testing transceivers, ASICs, and active or passive optical networks. The SV2C is the world's most compact 28 Gbps enabling 100G/400G transceiver test environment creation with crosstalk generation, jitter injection, and eye opening measurement.

Development & Validation

- **PC-controlled instrumentation**

- **On-the-fly programming** of pattern payloads, signal parameters, jitter injection, and equalization settings

- **Capture eye diagrams** up to 28 Gbps, count errors and analyze packets for timing and payload analysis
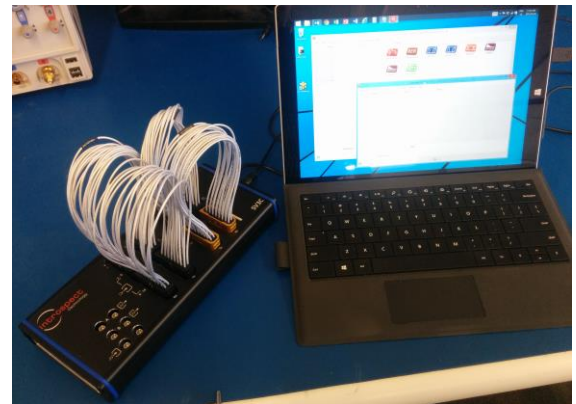


SV3C connected to tablet running ESP Software takes very little bench space

Production Test

- All-included **tester-on-board** for integration into any custom test platform

- Built-in voltage regulation, clock synthesis, and analog controls allow for **retrofitting legacy ATE**

- **Low cost test** for fiber channel transceiver test, optical receiver test, multi-ONU PON

- **Multi-site test** for LVDS, PCIe, XAUI, HDMI, and others

SV2D Direct Attach SerDes Test Module bolts onto any test card and offers full-featured 8 Lane, 28 Gbps production test coverage
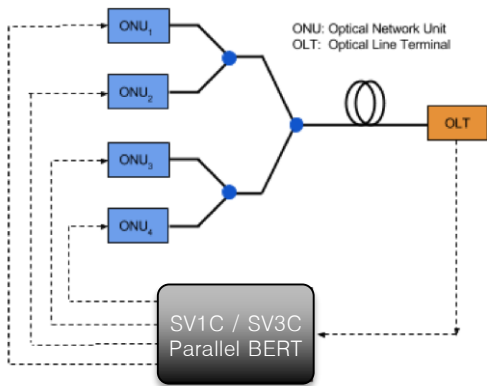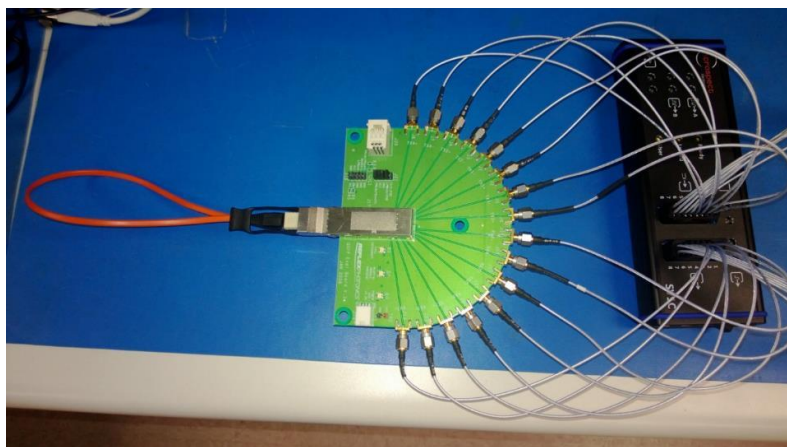
SV1C/SV3C performing complete Multi–ONU GPON test: time–multiplexed pattern generation and burst–mode BER checking
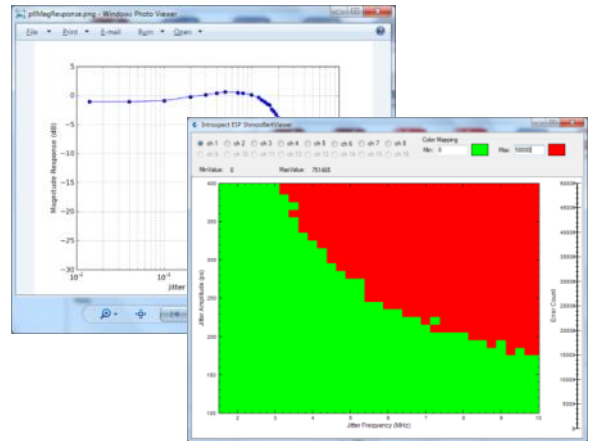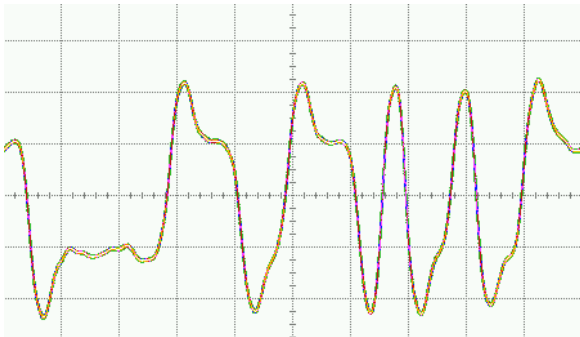

All Introspect products offer jitter tolerance and stressed eye test capability
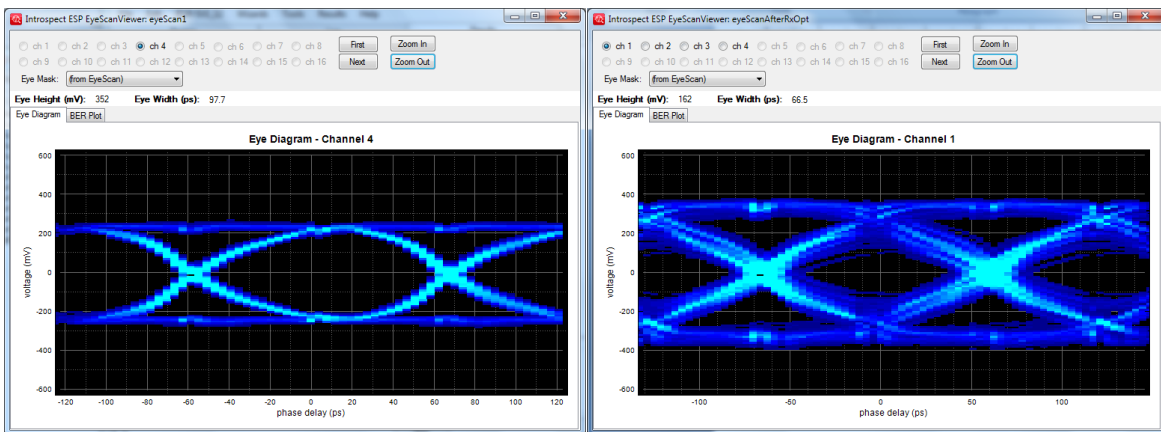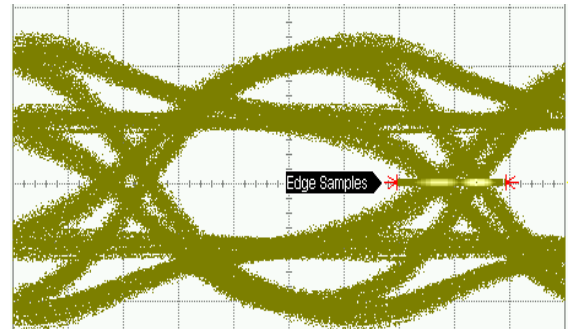

Parallel test systems (such as SV1C, SV2C, SV3C) enable exercising devices under real–world conditions to uncover real crosstalk effects

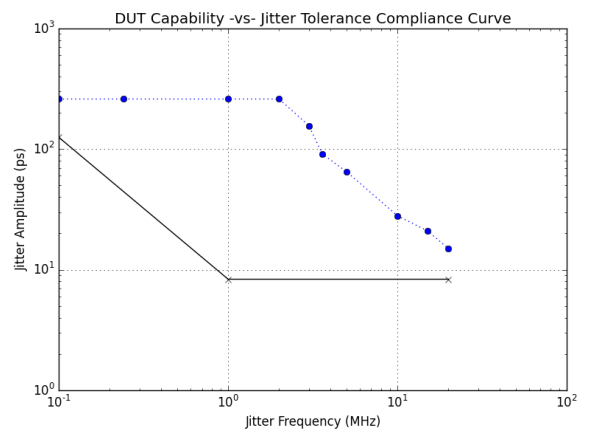*Complete 4 x 10 Gbps QSFP+ production test setup using SV1C*
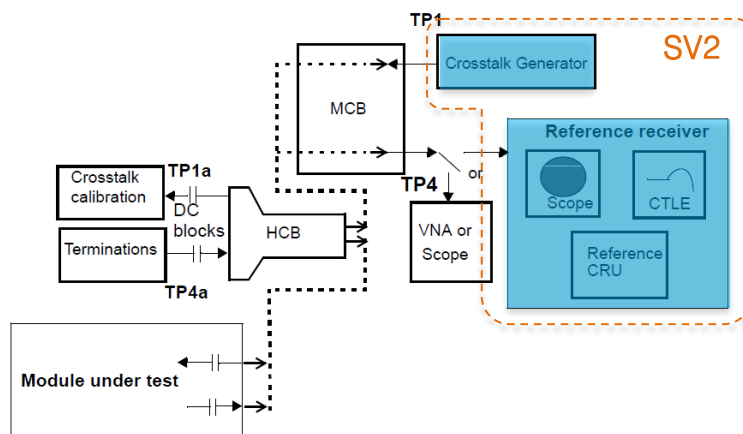
SV2C 28 Gbps pre-emphasis waveform

SV2C 28 Gbps pre-emphasis eye diagram

High-quality signal parameters allow for robust testing of 100G receivers

Automated parallel receiver jitter tolerance test at 28 Gbps

CAUI-4 setup with crosstalk generator, reference receiver and test pattern generation and error detection

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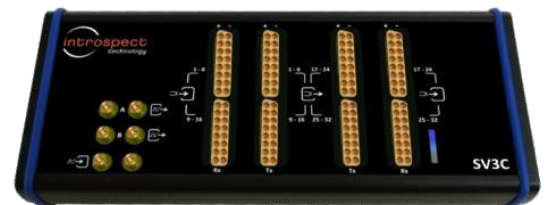| Product Name*	Ideal for…	Main Features
SV1C *(Item No. 4204, 4208, 4212, or 4214)*	• Fiber Channel, Sonet/SDH, Ethernet transmission systems • SFP, SFP+, QSFP+, SFF, XFP form factors • Multi−ONU PON applications • ASIC and IP Core validation • Reference transmitter and reference receiver test setup	• 8 pattern generators (PG), 8 error detectors (ED) per test system • Jitter injection, de−emphasis generation, receiver equalization • Eye diagram measurement • Arbitrary pattern generation and measurement
SV2C *(Item No. 5128)*	• 10Gb, 40Gb, 100Gb Ethernet transmission systems • Fiber Channel, Sonet transmission systems • QSFP+, CFP form factors • Reference transmitter and reference receiver test setup	• 8 pattern generators (PG), 8 error detectors (ED) per test system • Jitter injection, de−emphasis generation, receiver equalization • Eye diagram measurement • Arbitrary pattern generation and measurement
SV3C *(Item No. 4504, 4508, 4512, or 4514)*	• Multi−ONU PON applications • High lane count ASIC validation • Reference transmitter and reference receiver test setup	• 32 pattern generators (PG), 32 error detectors (ED) per test system • Jitter injection, de−emphasis generation, receiver equalization • Eye diagram measurement • Arbitrary pattern generation and measurement
SV1D *(Item No. 4104, 4108, 4112, or 4114)*	• Custom tester implementation	• Pluggable tester−on−board • Identical capability to SV1C
SV2D *(Item No. 5028)*	• Custom tester implementation	• Pluggable tester−on−board • Identical capability to SV2C
SV3D *(Item No. 4404, 4408, 4412, or 4414)*	• Custom tester implementation	• Pluggable tester−on−board • Identical capability to SV3C

* All products include Introspect ESP Software license; 18GHz or 40 GHz cable assemblies sold separately

SV1C

SV2C

SV3C

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