## 4-Trios, up to 4.5 Gsps Instrument for MIPI C-PHY Generation

The SV3C-CPTX MIPI C-PHY Generator is an ultra-portable, high-performance instrument that enables exercising and validating MIPI C-PHY receiver ports. Capable of generating any traffic and being completely data-rate agile, the C-PHY generator includes analog parameter controls that enable gaining deep insights into receiver sensitivity performance and skew / jitter tolerance. Featuring 4 Trio lanes which enables testing of an entire MIPI C physical layer receiver port and full protocol testing of both CSI and DSI packets.
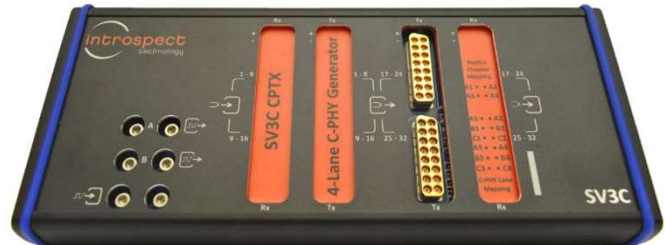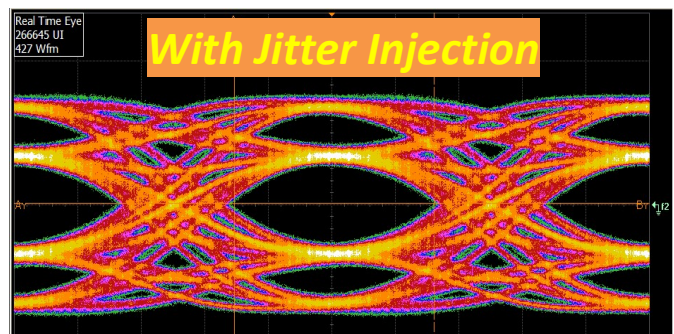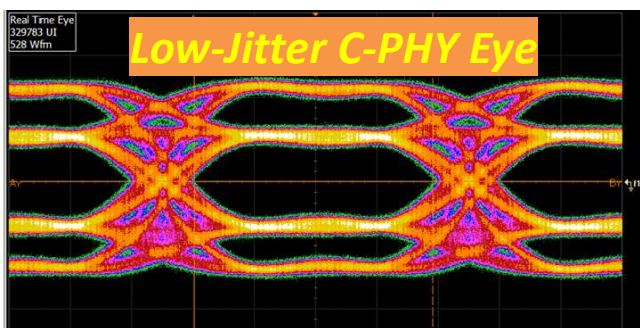
## Key Features:

- **Data rates:** 80 Msps to 4.5 Gsps fully-continuous operating range, including automatically generating and handling LP and HS data.
- **Lanes:** 4 Tx
- **Signal impairments:** each pattern generator channel offers independent voltage, timing and jitter injection
- **Pattern Generation:** Generate traffic including CSI and DSI, color-bar and active image frames.
- **Easy to Use:** Introspect ESP enables interactive operation or full automation

## Key Benefits:

- **Parallel:** with increasing crosstalk issues, a truly parallel system allows for the most comprehensive "stress test" that is possible. The SV3C tests all your lanes simultaneously.
- **Self Contained:** an all-in-one system reduces bench space and helps create a portable test and measurement environment; the SV3C integrates multiple tools into one.
- **Automated:** scripting capability is ideal for debug tasks, firmware verification, and full-fledged production screening of devices and system modules.

## Typical application: Receiver Stressing



*Low-Jitter C-PHY Eye*

*With Jitter Injection*

**For Developing** • **For Verifying** • **For Shipping**

## Transmitter Parameters

| Parameter | Value | Description |
|---|---|---|
| Number of Transmitters | 4 | Each lane is 3 wires to make up a Trio |
| HS Single-ended Voltage Swing | 0 – 400 mV | Per wire level setting |
| LP Differential Voltage Swing | 600 – 2000 mV<br>-100 – 600 mV | Logic High Range<br>Logic Low Range |
| Transmitter Skew Adjust | +/- 20 UI | |
| Total Memory Space | 4 GByte | Space allocated to transmit patterns and images |

## Pattern Generator Functions

| Feature | Description | Benefit |
|---|---|---|
| Pattern Generators | Pre-built image formats, RAW, RGB, and YUV, HS-Only, HS-Only+PRBS, and packet loop pattern sequencers | Allows for flexible stimulus generation (e.g. training sequences or compliance patterns) |
| Analog Controls | Polarity inversion, voltage swing, transmit pre-emphasis, duty cycle, bit-slip | Provides deep receiver stress characterization with truly independent multi-variable analysis |
| Synthesis Capability | Sinusoidal jitter injection, random jitter injection, de-emphasis generation | Allows for comprehensive receiver testing with internally synthesized noise sources |



Negative Voltage Sweep Start -100mV



Negative Voltage Sweep End +200mV

**For Developing • For Verifying • For Shipping**