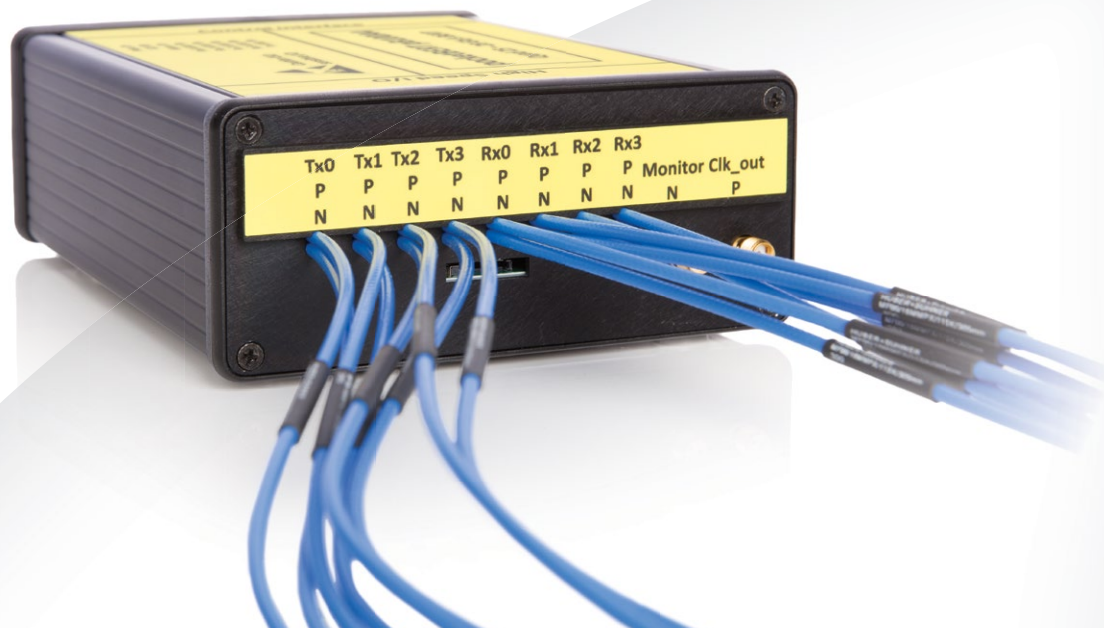


pB100A4

QUAD 24 Gbit/s TO 30 Gbit/s BIT-ERROR-RATE TESTER



Ideal for CFP2, CFP4, QSFP24 and QSFP28 testing in R&D and production stages, the pB100A4 can also be used as a pseudorandom binary sequence (PRBS) generator and checker during customer presentations and tradeshows.

SPEC SHEET

KEY FEATURES

Four-lane rate support for:

Continuous rate pattern generation and checking from 24 Gbit/s to 30 Gbit/s

Preset: 100GBASE-R4 at 25.78125 Gbit/s, OTL4 at 27.95 Gbit/s and 128G Fibre Channel at 28.05 Gbit/s rate settings

PRBS 7, 9, 15, 23 and 31; SSPR, CID and 128 bit user patterns

Separate error counts on 0 and 1 errors

Integrated precision frequency synthesizer

Individual channel configuration

Windows-based GUI and API interface to PC and error logs

Includes K-connectorized high-speed I/O cables

Compact and low-power design

OPTIONAL

Support for 4 x 10G

Receiver eye monitoring

TRANSCEIVER TESTING

The emerging CFP2, CFP4, QSFP24 and QSFP28 markets—including transceiver optical subassembly and receiver optical subassembly—require precise and cost-effective testing. The pB100A4 is ideal to generate and check a variety of bit patterns. This allows for easy adjustment and validation of transceivers. The solution’s high-quality output eyes, attached high-speed I/O cables, as well as graphical user interface (GUI) and application-programming interface (API) interfaces, enable widespread adoption at a very competitive price.

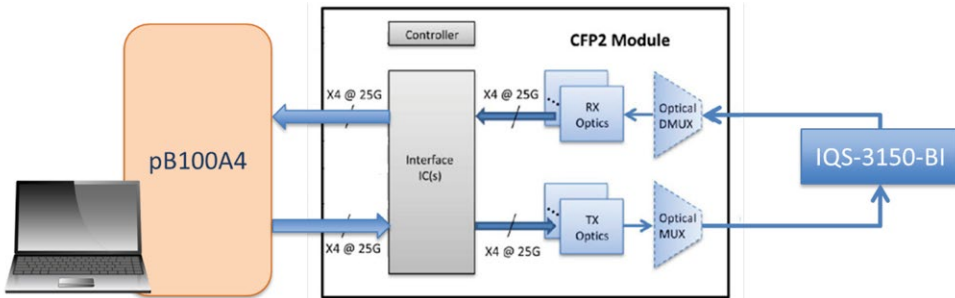


Figure 1. Typical setup for CFP2 testing

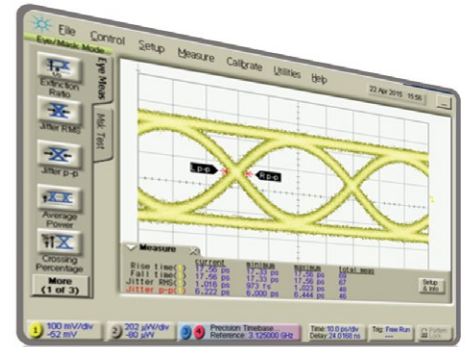


Figure 2. Example of an eye diagram at one of the output of the pB100A4



Figure 3. Windows-compatible GUI

EASY INTEGRATION INTO AUTOMATED TEST SYSTEMS

In addition to the Windows-compatible GUI provided, the pB100A4 can easily be integrated into an automated testing environment for production using the API interface. Control over an Ethernet port will be available shortly.

TECHNICAL SPECIFICATIONS

Transmitter

| | |
|------------------------|---|
| Data rate (Gbit/s) | Minimum: 24 Maximum: 30 |
| Amplitude | 1000 mV (at 28 Gbit/s) |
| Tr/Tf (typical) | 12 ps ^a |
| Jitter (telecom) | Maximum: 0.08 (U _{i,pp} , 10 MHz to 200 MHz, one-minute duration, SSPR pattern and emphasis off) |
| Jitter (Ethernet mode) | Maximum: 0.28 (U _{i,pp} , SSPR pattern, no emphasis, 10 MHz to 0.75 x T, where T is the symbol rate, BER 10 to 12) threshold |
| Impedance (typical) | 50/100 Ω, SE/differential |
| Error insertion | Minimum: 1 Maximum: 64 |

Receiver

| | |
|---|----------------------------|
| Data rate (Gbit/s) | Minimum: 24 Maximum: 30 |
| Sensitivity | 40 mV, differential |
| Rx compensation (dB peaking at 15 GHz) | Minimum: 0 Maximum: 7 |
| Rx impedance (typical) | 50/100 Ω, SE/differential |
| Lowest BER (typical) | 5 x 10 ⁻² |

Clock options

| | |
|---------------|---|
| Clock outputs | Line rates: 1/8, 1/16, 1/32, 1/40, 1/80, 1/160 Single-ended: typical 300 mV |
| Clock inputs | Line rates: 1/8, 1/16, 1/32, 1/40, 1/80, 1/160 Differential: minimum: 400 mV maximum: 1200 mV |

GENERAL SPECIFICATIONS

| | |
|-----------------------------|--|
| Size (H x W x D) | 178 mm x 127 mm x 508 mm (7 in x 5 in x 2 in) |
| Available cable length | ~ 280 mm (11 in) |
| Weight | 0.9 kg (2 lb) |
| Temperature | 0 °C to 40 °C (32 °F to 104 °F) |
| Relative humidity | 0 % to 80 % non-condensing at 40 °C |
| DC input | 5 V, 4 A (maximum) |
| Power dissipation (typical) | 15 W |
| Connectors | 2.92 mm K-connector for signal I/O SMA for clocks |
| Compliance | RoHS, CE |

PATTERNS

| | |
|-------|----------------------|
| PRBS | 2 ⁷ -1 |
| | 2 ⁹ -1 |
| | 2 ¹⁵ -1 |
| | 2 ²³ -1 |
| | 2 ³¹ -1 |
| Other | Square |
| | SSPR |
| | CID |
| | 128 bit user-defined |

Note

a. For low-frequency square-wave test pattern of eight ones followed by eight zeros. Maximum main tap; no emphasis.

ORDERING INFORMATION**pB100A4-XX-K12****Model**

pB100A4 = Quad 24: 30 Gbit/s Bit-Error-Rate Tester

Software options

00 = Without software options

10 = Enables 4 x 10G

EYE = Enables receiver eye diagram quality monitoring

Connector

K12 = 12 pigtails with 2.92 mm K-type connectors

Example: pB100A4-10-K12

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