OptoBERT™ OPB5000

5Gbps Compact Bit-Error-Rate Tester

Overview

The OPTELLENT OptoBERT™ OPB5000 is a cost-effective easy-to-use bit-error-rate tester (BERT) for testing datacom ICs, devices, components, modules and systems in R&D and manufacturing environments as well as field installations of Storage Area Networks (SANs). OPB5000 supports 4GFC, 2GFC and 1GFC. The OPB5000 tester is also ideal for Gigabit Ethernet, Infiniband (2.5G) and PCIe testing. It incorporates a pattern generator, clock recovery circuits, and a bit-error-ratio analyzer in one compact module that provides optical and electrical interfaces at up to 5Gb/s.
An intuitive graphical user interface (GUI) enables easy point-and-click operation. The GUI displays error counts, BER, and related statistics.
The OptoBERT has a recording feature to output the measured BER results into a spreadsheet file without any programming or scripting.

Applications

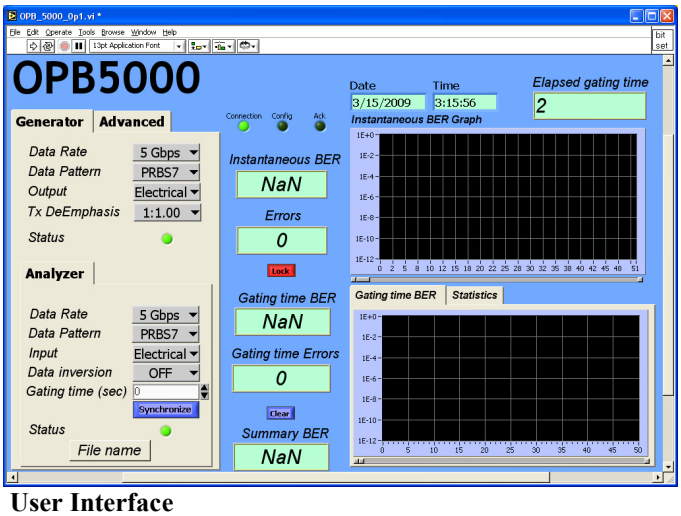
- Optical/electrical testing of ICs, components, modules and systyems for 1x, 2x and 4 x Fibre Channel (FC), Gigabit Ethernet, Infiniband, PCIe
- Installation testing and troubleshooting of Storage Area Networks (SANs)
- Cost-effective solution for manufacturing testing of Fibre Channel transceivers, eliminating expensive traditional BER test equipment in production lines

Key Features

- **Electrical and optical interfaces**
- **Internal Clock Recovery**
- **PRBS, Stress and User patterns**
- **Transmit De-emphasis option**
- **Automated Measurement Report**
- **Easy-to-use and Cost-efficient**

Software

The OptoBERT™ OPB5000 software runs on Windows 98/2000/NT and XP over RS-232 serial interface via an RJ-45 Connector provided on the front panel. A Serial-to-USB converter can be used if a USB port is available. A software driver is available for incorporating the OptoBERT into test automation suites using programs like C++, LabVIEW, VisualBASIC, and HP VEE.



User Interface

Optellent Inc. Phone: (408) 230-1329 Fax: (408) 228-8976 Email: sales@optellent.com www.optellent.com

Data Rates

Fibre Channel (1GFC)	1.0625 Gb/s
Gigabit Ethernet	1.25 Gb/s
2 X Fibre Channel (2GFC)	2.125 Gb/s
Infiniband, PCIe	2.5 Gb/s
4 X Fibre Channel (4GFC)	4.25 Gb/s
Infiniband, PCIe	5 Gb/s

Pattern Generator

Parameter	Min	Typ	Max	Units
Optional data rates	OC3 (155.52 Mb/s); OC12 (622.08 Mb/s); OC48 (2488.32 Mb/s)			
Data Patterns	**Standard:** PRBS 2^7-1, 2^{23}-1, 2^{31}-1 **Optional:** CJPAT, CRPAT, User			
Output type	Differential, SMA			
Frequency accuracy			± 50	ppm
Data rise/fall time [1]		70		ps
Data output RMS jitter[1]		5		ps
Data output amplitude[1, 2,,3]		500	800	mV
De-emphasis output	1:1		1:0.5	
Clock output amplitude		200		mV
Optical output power	-9			dBm
Connector, Optical	LC (SFP)			

[1] Measurements based on PRBS 2^7-1 data at 4.25Gb/s
[2] Variable output amplitude option available
[3] Differential output

Optical Output:
SFP transceiver is optional
Wavelength options: 850nm, 1310nm, and 1550nm

Error Analyzer

Parameter	Min	Typ	Max	Units
Input type	Single-ended AC coupled, SMA			
Optional data rates	OC3 (155.52 Mb/s); OC12 (622.08 Mb/s); OC48 (2488.32 Mb/s)			
Data Patterns	**Standard:** PRBS 2^7-1, 2^{23}-1, 2^{31}-1 **Optional:** CJPAT, CRPAT, User			
Electrical sensitivity [1]			100	mV
Electrical data input	100		1000	mV
Optical data input	-14			dBm
Clocking mode	Built-in clock recovery			
Connector, Optical	SFP LC (SFP)			

[1] Measurements based on PRBS 2^7-1 data at 4.25 Gb/s.

System/ General Specifications

PARAMETER	MIN	MAX	UNIT
Chassis Electrical Voltage	100	240	VAC
Current Drain at Normal Voltage		1.4	A
Operating Temperature Range	5	40	°C
Storage Temperature Range	-40	70	°C
Dimensions (L x W x H)	273x216x45 10.75x8.5x1.75		mm^3 $inch^3$
RS 232 PC Interface	RJ-45 connector		
Warranty	2 years		

Ordering Information

OPB5000 -X- X- X- X

- **A** : Variable output amplitude
- **0**: No Optical Transceiver;
  1: Optical Transceiver (SFP) 850nm
  2: Optical Transceiver (SFP) 1310nm
  3: Optical Transceiver (SFP) 1550nm
- **0** : Normal output
  D: Transmit De-emphasis
- **P:** Preset Data Rates
  C: Custom Data Rates

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