

# OptoBERT™ OPB-04X10

## 4-Channel 10 Gbps Electrical Bit-Error-Rate Tester (BERT)



### Overview

The OptoBERT™ OPB04X10 is the industry's most compact, cost-effective, easy-to-use 4-channel 10Gbps electrical bit-error-ratio tester (BERT) for testing components, cables and systems in R&D and manufacturing environments. The OPB04X10 incorporates four pattern generators, four BER analyzers, an internal reference clock, and clock recovery circuits in one compact module to simultaneously test four channels at data rates up to 11.3 Gb/s. The OPB04X10 is offered with an RS-232 or USB interface and a standard 2-year warranty.

An intuitive Graphical User Interface enables easy point-and-click operation. Software drivers are available for incorporating the OptoBERT into test automation suites using programs like LabVIEW, VisualBASIC and VEE.

BER test data from the OptoBERT are output directly to a spreadsheet file without any programming.

### Applications

- Testing of optical transceiver modules ( SFP+, XFP, X2, Xenpak, XPAK, QSFP+, CFP), transponders, line-cards, and subsystems
- Testing of active optical cables, RF cables
- Testing of opto-electronic components and devices (TOSA, ROSA, lasers, etc...)
- Testing of Gb/s ICs, PCBs, electronic modules, subsystems, and systems
- Serial bus and high-speed backplanes
- Source for 40Gb/s test platforms

### Key Features

- ▶ **Four integrated Generators and BER Analyzers in one compact unit**
- ▶ **Internal Reference Clock**
- ▶ **Internal Clock Recovery**
- ▶ **Data Output Amplitude Control**
- ▶ **Multiple Patterns: PRBS, User-defined**
- ▶ **Intuitive GUI and Automated Test Report**
- ▶ **Easy-to-Use, Compact and Cost-Efficient**
- ▶ **2-year Warranty**

### Preset Data Rates

<b>SONET / SDH</b>	
0C-192: STS-192 / STM-64	9.95328 Gbps
G.709	10.709 Gbps
<b>ETHERNET</b>	
10GBASE-T	10 Gbps
10GBASE-R (LAN/PHY)	10.3125 Gbps
10GBASE-R OTU2 FEC	11.096 Gbps
<b>FIBRE CHANNEL</b>	
10 x FC (10GFC)	10.519 Gbps
10GFC with FEC	11.317 Gbps
<b>INFINIBAND &amp; HDMI</b>	
4 x Infiniband	10 Gbps
HDMI 1.3	10.2 Gbps

Additional Preset Data Rates available on request

## Pattern Generator

Parameter	Min	Typ	Max	Units
Data Output Type	SMA Female, AC-coupled, Differential.			
Data Rate Range	9.95		11.3	Gbps
Frequency Accuracy			± 50	ppm
Output Amplitude (single-ended)	100		400	mV <sub>p-p</sub>
Data Rise/Fall Time, (20 – 80%) <sup>(1)</sup>		35		ps
Data Output RMS Jitter <sup>(1)</sup>		2		ps
Trigger Output Amplitude	300			mV <sub>p-p</sub>

## Error Analyzer

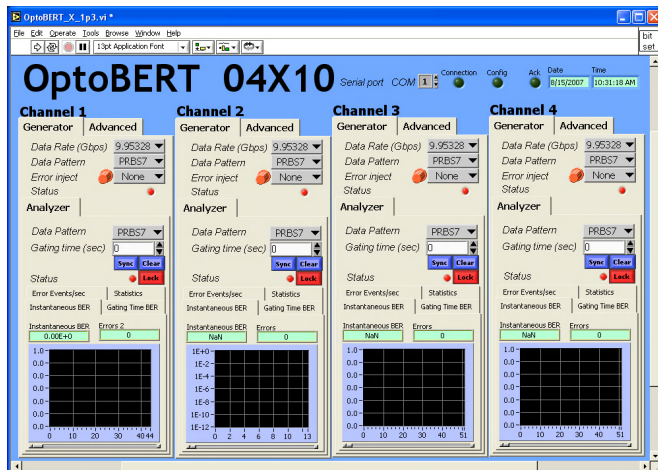
Parameter	Min	Typ.	Max	Units
Input Type	SMA female, AC-coupled, Single-ended			
Data Patterns	• PRBS: 2 <sup>7</sup> -1, 2 <sup>31</sup> -1; 101010...pattern, 64 bits user-defined (Optional)			
Data Rate Range	9.95		11.3	Gbps
Data Input <sup>(1)</sup> (Differential)	100		1000	mV p-p
Clocking Mode	Built-in clock recovery			

(1) Measurements based on PRBS2<sup>23</sup>-1 data at 9.95328 Gbps (OC-192)

## System Specifications

PARAMETER	MIN	MAX	UNIT
Chassis Electrical Voltage	100	240	VAC
Operating Temperature Range	5	45	°C
Storage Temperature Range	-40	70	°C
Dimensions (L x W x H)	300 x 240 x 64		mm <sup>3</sup> inch <sup>3</sup>
PC Interface	USB/RS-232		
Standard Warranty	2 years		

## Software



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