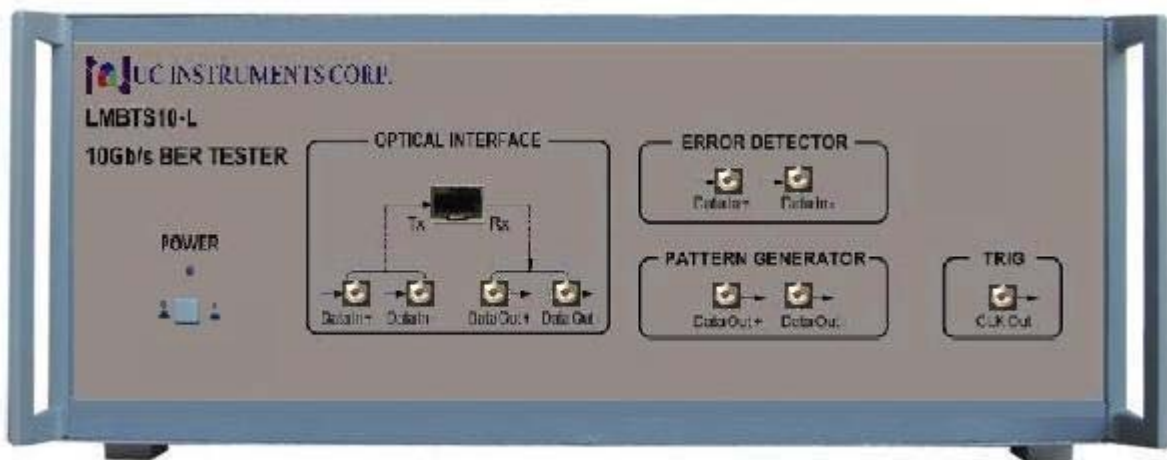


LMBTS10-L 10 Gb/s Bit Error-Rate Tester

Technical Specifications V1.00
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 UC INSTRUMENTS CORP.

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LMBTS10-L 10 Gb/s Bit Error-Rate Tester

The UC INSTRUMENTS' LMBTS10-L is a cost-effective easy-to-use 10G optical and electrical bit-error ratio tester (BERT) for R&D and manufacturing environments as well as field installations. The LMBTS10-L incorporates an internal reference clock, a pattern generator, clock recovery circuits, and a BER analyzer, in one compact module that provides both electrical and optical interfaces at data rates up to 11.5Gb/s. The LMBST10-L is offered with an RS-232 or USB interface.

LMBST10-L are models with built-in device module slot for SFP+ and XFP transceivers, respectively. The PPRBS outputs optical NRZ waveform with bit rate within 9.95~11.32 Gbps, with settable data pattern of 27-1, 223-1, 231-1 and a fixed 64-bit user-defined pattern. The instrument is controlled by external computer via a USB port, with full software support, drivers and programming guide for automation.

Features

- Bit rates from 9.95 ~ 11.32 Gb/s
- PRBS 27-1, 223-1, 231-1, and 64bit definable
- Pre-emphasis output signal functionality
- SFP+/XFP module slot option available
- Computer control via USB
- Cost effective solution for production

Applications

- Testing of optical transceiver modules (SFP+, XFP, X2, Xenpak, XPAK), transponders, linecards, and subsystems
- 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 backplane design
- Installation testing and troubleshooting in optical transport networks

Specification

Parameter	Min	Typ	Max	Units
Data Output (Electrical)				
Output Type			Differential	
Output Format			NRZ	
Termination			AC-Coupled	
Data Patterns			PRBS: 2 ₇ -1, 2 ₂₃ -1, 2 ₃₁ -1; 101010...pattern K28.5, CJPAT, CRPAT (Optional)	Pre-defined: User-defined: 128 bits to 2000 bits; 128 to 50000 bits (Optional)
Data Rates (Using the internal clock source)			Preset: 0C-192/ STM-64 (9.95328 Gbps); Infiniband (10Gbps), 10GbE (10.3125 Gbps), 10GFC (10.519 Gbps); G.709 (10.709 Gbps); 10GbE with FEC (11.096Gbps), 10GFC with FEC (11.317Gbps)	Custom Preset: Special Data rates requested by customers (Optional)
Data Rate Range	9.5		11.5	Gbps
Extended Data Rate Range (optional)	4.75		5.75	Gbps
	2.37		2.87	Gbps
Frequency Accuracy			± 50	ppm
Output Amplitude (Differential) Fixed (Standard) High Output Version, Fixed (Option) Variable Output Amplitude (Option)		1800		
Data output variable delay (Optional)	600 300		1000 1800	mV _{p-p} mV _{p-p} mV _{p-p}
Data Rise Time, (20 – 80%) ω		20	1	ps
Data Fall Time, (20 – 80%) ω		20		ps
Data Output RMS Jitter ω		1.4		ps
Error Injection			Single error; 10 ⁻⁷ , 10 ⁻⁸ , 10 ⁻⁹	
Connector		50	Nominal, SMA Female	
Data Output (Optical)				
Interface			MSA-Compliant XFP Transceiver housing	
Wavelength			850nm, 1310nm, 1550nm, DWDM	
Optical Connector			LC	
Clock Output				
Output Type			Differential	
Termination			AC- Coupled	
Output Amplitude (peak-to-peak)			300	mV _{p-p}
Connector		50	Nominal, SMA Female	
Trigger Output				
Output Amplitude	300			mV _{p-p}
Output Type			Single-ended, AC-coupled	
Connector			50 .SMA Female	

Error Analyzer

Error Analyzer

Parameter	Min	Typ.	Max	Units
Data Input (Electrical)				
Input Type			Differential	
Termination			AC-Coupled	
Data Patterns			PRBS: 2 ⁷ -1, 2 ²³ -1, 2 ³¹ -1; 101010 ... pattern	Pre-defined: K28.5, CJPAT, CRPAT (Optional) User-defined: 128 bits to 2000 bits (Optional); 128 bits to 50000 bits (Optional)
Data Rates			Same as pattern generator	
Data Input (a) Differential	100		1000	mV p-p
Clocking Mode			Built-in clock recovery	
Pattern Synchronization			Automatic	
Connector			50 SMA Female	
Data Input (Optical)				
Interface			XFP housing provided as a standard feature MSA-Compliant XFP Transceiver (Optional)	
Detector Type			p-i-n or APD (Optional)	
Optical Input (a) p-i-n APD			0.5 -7	dBm dBm
Wavelength			850nm, 1310nm, 1550nm, CWDM, DWDM	
Fiber Type			Multimode and Single Mode Fiber	
Optical Connector			LC	

System & General Specification:

PARAMETER	MIN	MAX	UNIT
Chassis Electrical Voltage	100	240	VAC
Current Drain at Normal Voltage		2.5	A
Operating Temperature Range	5	45	°C
Storage Temperature Range	-40	70	°C
Dimensions (L x W x H)		Standard 4U Rack	mm ³ inch ³
Optical Interface		Standard XFP housing	
PC Interface		RS232	
Standard Warranty		1 years	

Accessories Included

- . User Software
- . User Manual
- . Power cord
- . PC Interface cable

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UC INSTRUMENTS provides high performance, high value, low cost, affordable test and measurement instruments solution for our customers. Our extensive support sources can help you choose right UC INSTRUMENTS' products for your application and apply them successfully. Every instruments and system we sell a global warranty. All of our instruments with at least 18 months factory warranty.

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