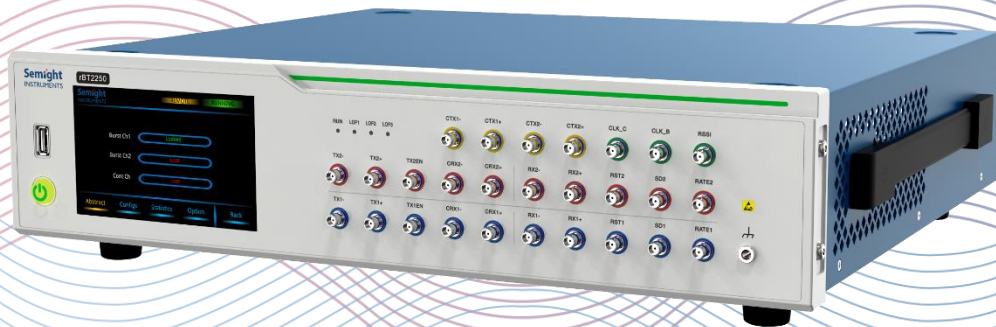




# rBT3250

50G Burst Mode Bit Error Ratio Tester

Version 1.2





## Product Description

The Burst Mode Bit Error Ratio Tester rBT3250 (the Product) can accelerate the access of next generation PON passive optical network broadband to the network, realize networking through PON (Passive Optical Network), and support the deployment of optical fiber in households and offices, i.e. FTTH (fiber to the home) and FTTP (fiber to the premises). The standard PON of ITU (GPON) and IEEE (EPON) provides two-way operations from multiple ONUs (optical network units) that are located at or close to user, to the OLT (optical line terminal) of network provider.

The rBT3250 new burst error code analyzer, which is developed by Semight Instruments to test the OLT (optical line terminal) of next generation 25G/50G PON, is used for evaluating the 25G or 50G OLT receiver performance under the burst mode. The Product employs 2 independent burst pattern generators and bit error detector channel, supports bit error analysis under continuous mode or burst mode, and has the capability of generating two-way burst time division-code sequences and analyzing bit errors. The pattern time sequence is flexible and adjustable and provides low-speed control channels, such as synchronized laser enable and reset signals, for the corresponding test channels based on the device test requirements. Besides, the Product supports built-in clock recovery, to realize auto distance measurement and long fiber test. Therefore, it can greatly simplify the test setting, connection, and reduce occupation space and test cost.

## Characteristics & Advantages

- Support signal output and bit error test under burst and continuous mode;
- Supported rate under burst mode: 24.8832Gbps, 25.78125Gbps, 49.7664Gbps, 51.5625Gbps;
- Burst channel configuration: Integrated with 2 independent high-speed burst data channels; 2 pattern generator channels and 2 burst bit error test channels with configurable burst time sequence supported;
- Support 2 synchronized ONU laser enable control channel; control level is LVTTTL 3.3V, and no external connection of level switch is required;
- Support 2 double reset control channel: Reset position and reset width are adjustable;
- Support 1 RSSI Trigger: RSSI Trigger position and pulse width are adjustable;
- Additional and continuous pattern generator channel and detection channel: 2 channels of 50G NRZ/PAM4;
- Support LOS measurement: Each test channel has LOS monitoring channel, in order to monitor SD (signal detect) signal and judge LOS;
- Support CDR (clock recovery): Similar with OLT device, it will conduct clock recovery when receiving data each time;
- Based on built-in clock recovery, the Product can work in the real working environment of long fiber, which can't be realized in other schemes commonly adopted in the industry, for these systems do not support CDR and long fiber has influence on time delay and jitter.

## Product Applications

- R&D and production test of 25G/50G PON OLT modules;
- Test of burst linear TIA chip: Verify the working status of TIA (trans-impedance amplifier) device under the



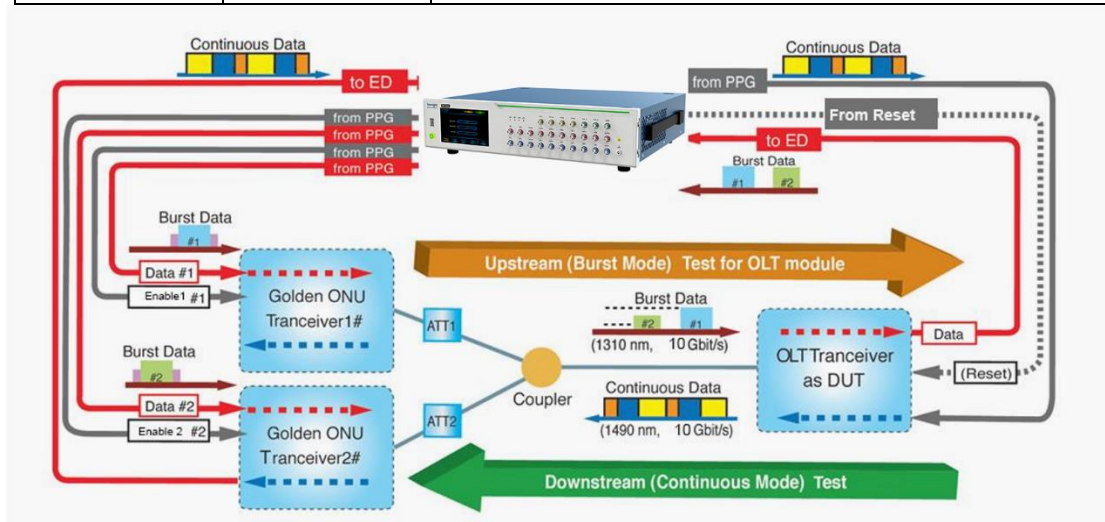
- burst signal condition;
- Some scenarios with special requirements for pattern time sequence;
- Multi-channel signal output, multi-way signal pattern synchronization and time delay synchronization;
- Generation of SDI pattern or framing signal and bit error detection;

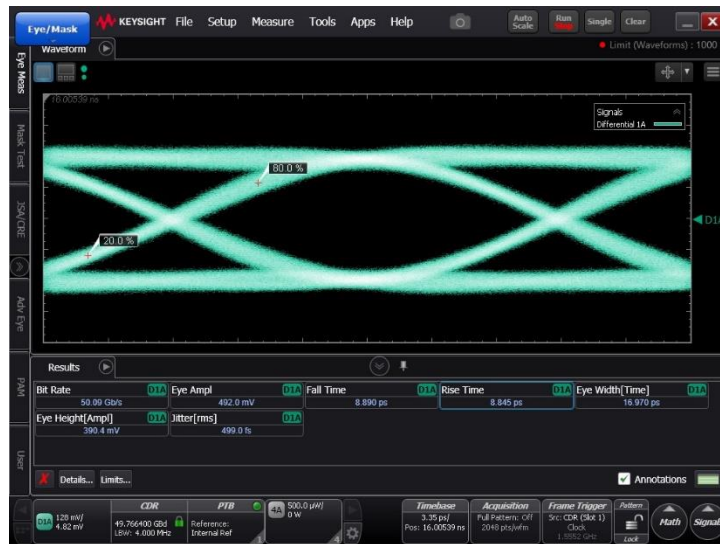
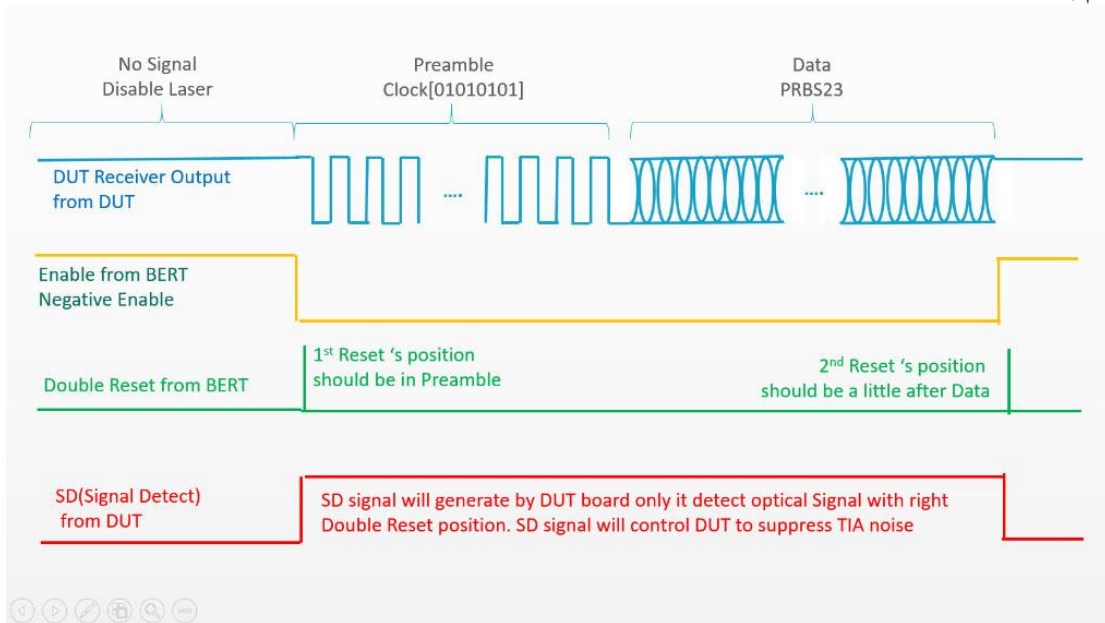
## Technical Indicators

<b>Pattern Generator Indicators</b>	Output	Differential	AC coupling , 100Ω terminal matching
		Single Ended	AC coupling , 50Ω terminal matching
	Output amplitude	100-600mVp-p	Differential
	Output channel	Burst data channels (50Gbps NRZ/PAM4)	Support Burst/Continuous mode
		Continuous channel (50Gbps NRZ/PAM4)	Support Continuous mode
	Pattern	Supports: PRBS7, 15, 23, 31, SSPR, User Defined and CID pattern	
	Support rate	24.8832Gbps, 25.78125Gbps, 49.7664Gbps, 51.5625Gbps;	
	Rise Time	<12ps	20%~80%
	Jitter	<0.9ps	RMS
	Pre-emphasis	Supports pre-emphasis adjustment to improve the impact of test cables and test fixtures on the signal quality	
	Pattern sequence	Each channel supports the generation and editing of preamble code, protection time and load timing signals	
	CID pattern	Supports continuous "1" ,continuous "0" pattern as length from 64-128 bits(adjustable)	
	Connector type	2.4 mm female,50Ω	
	Clock output	1/2、 1/4、 1/8、 1/16 divided clock output	
	Laser enable	Provide 2 groups of laser enable signal output (synchronized with corresponding pattern generator channel)	
	Enable output level	TTL Level, support selection as High/Low and Continuous High/Low	
	Reset signal output	Provides 2 groups of reset signal outputs (each reset signal is synchronized with error receiver channel)	
	Reset signal width	Adjustable	
	Reset signal position	Adjustable, support Auto-Range	
	RSSI trigger output	Supports RSSI trigger (adjustable for RSSI trigger signal pulse width, repeat frequency and position)	



<b>Error Detector Indicators</b>	Input type	Differential
	Data rate	24.8832Gbps, 25.78125Gbps, 49.7664Gbps, 51.5625Gbps;
	Impedance	100Ω
	Amplitude	100~800mVpp
	Sensitivity	>100mV
	Clock mode	Built-in clock recovery
	Synchronization	Automatic synchronization and ranging
	Connector	2.4 mm female,50Ω
<b>General Indicators</b>	Environment	It shall be used in indoor facilities
	Operating	0°C~+55°C, 30%~80% Relative Humidity with no condensation
	Storage	-30°C~70°C, 10%~90% Relative Humidity with no condensation
	Altitude	Operating altitude: 0m to 2000m,Storage altitude: 0m to 4600m
	Power supply	Voltage range:100-240VAC, frequency range :50/60Hz, Maximum power: 250W
	Preheating	10 minutes
	Dimensions (mm)	395±0.5*440±0.8*112±0.3(with foot pad and handle)
	Weight (kg)	Net Weight 8.0 kg





## Read the information before ordering

Host	Instruction
rBT3250	50G Burst Mode Bit Error Ratio Tester Host
<b>Options</b>	
B11	1x50Gb/s Burst PPG + 1x50Gb/s Burst ED
B21	2x50Gb/s Burst PPG + 1x50Gb/s Burst ED
B22	2x50Gb/s Burst PPG + 2x50Gb/s Burst ED
<b>Option Guide</b>	
Standard	rBT3250-B21 2 ONUs and 1 OLT pairing, uplink and downlink 50G



Simplified	rBT3250-B11	1 ONU and 1 OLT pairing, uplink and downlink 50G
Full equipped	rBT3250-B22	2 ONUs and 1 OLT pairing, uplink and downlink 50G; or 2 sets of ONU and OLT single-burst



## Contact us

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Visit [www.semight.com](http://www.semight.com) for more information.

\*This information is subject to change without notice.