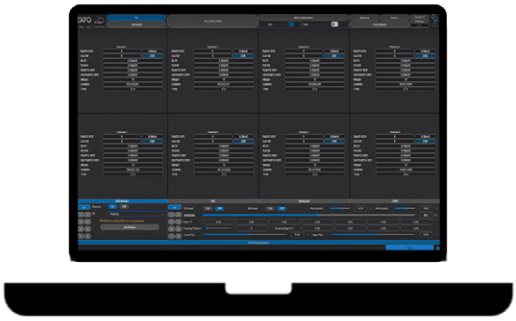
SPEC SHEET

BA-1600

1.6T BIT ANALYZER

- World-class, high-performance electrical BER tester for 1.6T design validation, including thermal testing.





KEY FEATURES

Full lifecycle validation for 1.6T, 800G and 400G across lab, fab and live environments

Superior hardware design: native electrical interface, excellent signal quality, clean eye diagram and low error floor

High-performance signal integrity and bit error rate (BER) testing for validating compliance and performance in next-gen 1.6T designs

Flexible, cost-effective: choose 8-channel unit for transceiver testing, or 4-channel unit for high-speed component testing

User-friendly GUI streamlines workflows, and reduces learning curves

PAM4 support for validating high-speed signaling performance

FEC generation and analysis testing to ensure data integrity over ultra-fast connections

Real-time FEC analysis: testing of pre/post FEC BER, symbol error distribution and FEC margin

BLER: Block error ratio statistics and an efficient FLR estimation mechanism, addressing the time constraints of ultra-low BER measurements

Powerful equalizer and channel simulator: powerful equalizer includes CTLE

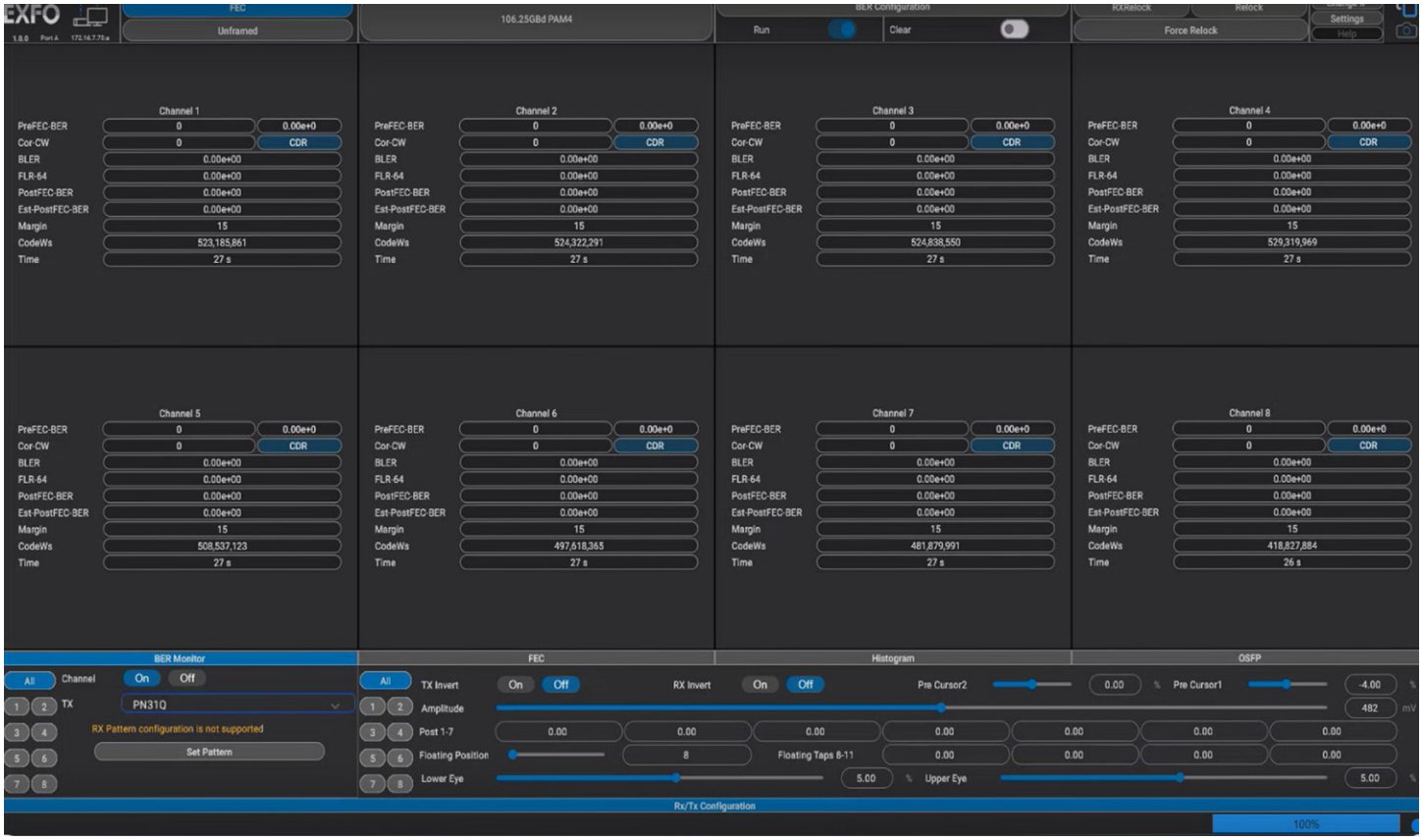
I²C register read/write access enables the direct control and monitoring of device parameters for fast, low-level diagnostics and efficient debugging

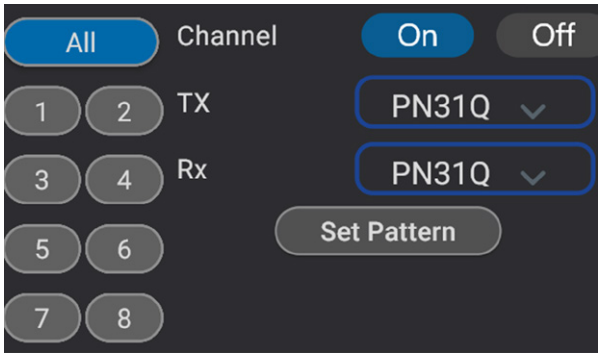
“Save-and-load” functionality for all applicable parameters reduces valuable time and ensures test consistency

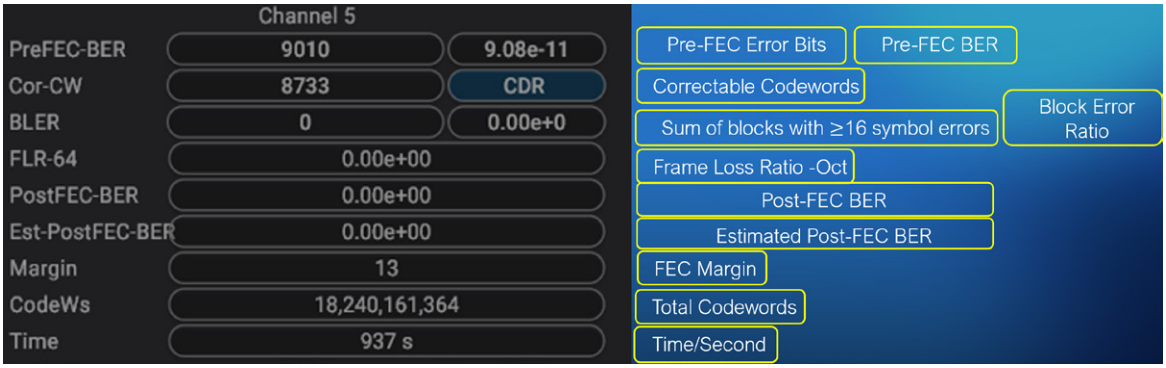
Automation simplifies complex test configurations and speeds up validation using a complete API suite

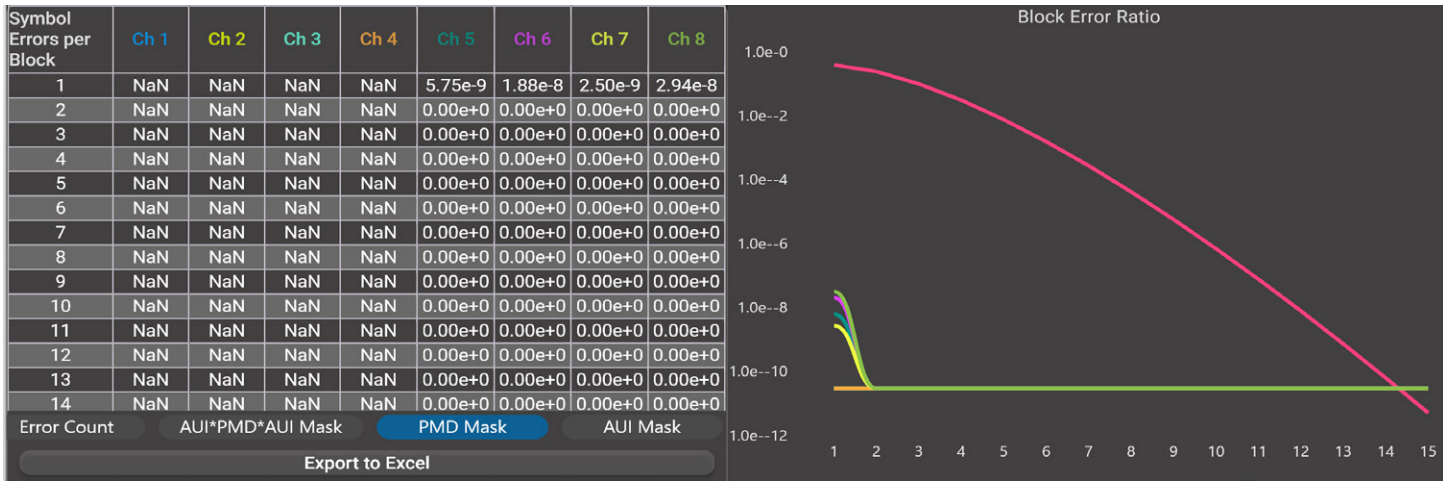
POWERFUL AND SIMPLIFIED USER INTERFACE

The BA-1600 graphical user interface (GUI) provides simplified and real-time test results per channel. It requires an external Windows-based PC with Ethernet capability to run the GUI and API.

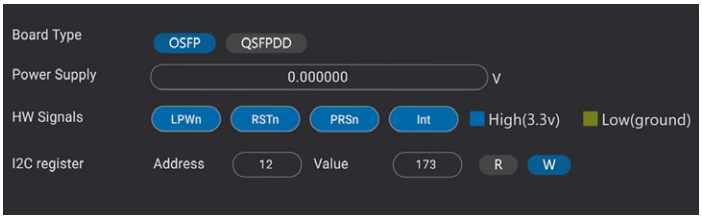








FEC channel distribution and BLER mask testing

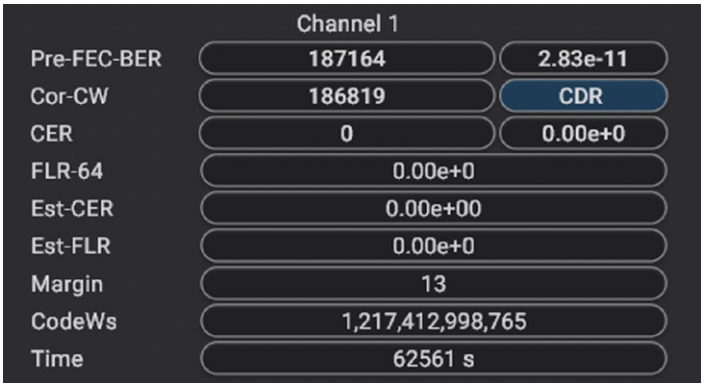


MCB control



Reference clock

WITH PAM4 CODING, A SIMPLE BER TEST IS NOT ENOUGH



FEC symbol error margin



FEC symbol error distribution plot



Channel histogram



14-tap mode

THE RIGHT MODEL FOR YOUR APPLICATION

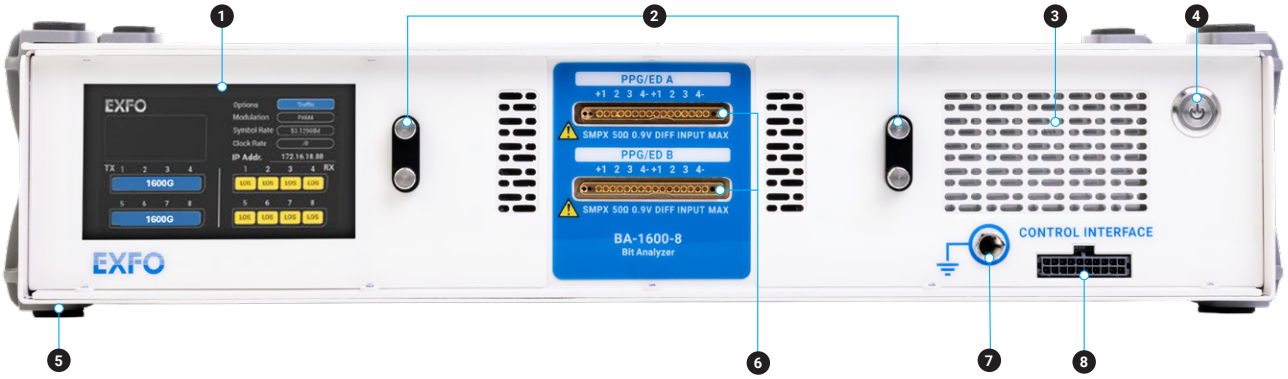
EXFO's **BA-1600 Series** and **BA-1600-OSFP** help teams solve the core challenges of 1.6T validation by combining high-speed performance, deeper error visibility, and repeatable workflows from R&D through manufacturing. The chart below shows which model is best suited to each application.

SUGGESTED SOLUTIONS

	BA-1600-4	BA-1600-8	BA-1600-8SE	BA-1600-OSFP
Transceiver vendors	●	●	●	●
Cable vendors	○	●	●	●
Component vendor	●	○	○	●
Research and development (lab use)	●	●	○	●
Production and manufacturing	○	○	●	●

DESIGNED FOR HIGH-SPEED AND MULTISERVICE

1. Display 4.5 inch
2. MCB support bracket mount (optional)
3. Air inlet
4. Power button
5. Foot rest
6. RF user connectors (SMPX)
7. Grounding jack
8. MCB interface connector





SPECIFICATIONS

BA-1600 SERIES			
	BA-1600-4	**BA-1600-8**	**BA-1600-8SE**
Channels	4	8	8
Connectors	RF SMPX 1×16 connector	RF SMPX 1×16 connector	RF SMPX 1×16 connector
Modulation/Coding	PAM4 / Gray code		
Data rate per lane (GBd)	106.25, 53.125, 26.5625		
Data rate adjustment (ppm)	±250		
PPG amplitude (mV_{ppd})	900 (Max)		
TX pre-emphasis taps	10 (fixed) + 4 (floating) [a]		
Jitter RMS (mUI)	≤ 23 [a]		
EOJ03 (mUI)	≤ 25 [a]		
JH4n (mUI)	≤ 135 [a]		
ED receiving range (mV_{ppd})	300 to 1200		
ED damage level (mV_{ppd})	1300		
GUI	Standard	Standard	Option
API (automation)	Standard		
Unframed mode	Standard: 26.5625G Option: 53.125G, 106.25G		
FEC mode	Option	Option	Standard
Size (H × W × D)	103 mm × 465 mm × 300 mm (4.1 in × 18.3 in × 11.8 in)		
Weight	≤ 10 kg (22 lb)		
Pattern supported by PPG and ED	PPG: PRBS 7Q/9Q/10Q/11Q/13Q/15Q/20Q/23Q/31Q/49Q/58Q/SSPRQ/SQUARE_WAVE ED: PRBS 7Q/9Q/10Q/11Q/13Q/20Q/23Q/31Q/49Q/58Q [b]		
Rx sensitivity (mV_{ppd})	≥300 [c]		
Temperature Operating	5 °C to 40 °C (41 °F to 104 °F)		
Temperature Storage	−20 °C to 70 °C (−4 °F to 158 °F)		
Relative humidity	20% to 80%		
Power	100 Vac to 240 Vac (47 Hz to 63 Hz) 55 W typical / 80 W max.		

a. Max 14 UI away from fix taps.

b. Only 13Q, 20Q, 23Q, 31Q, 49Q, 58Q patterns are supported in RX at 106.25 GBaud.

c. BER <e-11 for the below channel conditions:
- BA TX → 150 mm cable → Jonction → 150 mm Cable → BA RX
- Optimal transceiver tunning for the channel is applied
- BA TX mV amplitude is then decrease from 900 mV until BER hit e-11 (PRBS31Q)

ACCESSORIES	
GP-3273	RF loopback cable SMPX to SMPX 1×16 (qty: 1)
GP-3274	RF fanout cable SMPX 1×16 to V 1.85 mm male (length = 15 cm) (qty: 1)
GP-3275	RF fanout cable SMPX 1×16 to V 1.85 mm male (length = 30 cm) (qty: 1)
GP-3276	BA-1600 MCB cable assembly (this is the low-speed CMIS control cable) (qty: 1)
GP-3277	19” relay rack mounting bracket + screws/HW



GP-3273



GP-3274



GP-3275



GP-3276

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