SPEC SHEET

BA-4000-L2 Traffic and Bit Analyzer

800G/1.6T TESTER OF L2 TRAFFIC PLUS L1 BER

- Combined L1 BER tester and L2 traffic analyzer for 800G DR4/FR4/LR4 and 1.6T optical engines.

KEY FEATURES

- Inherits BA-4000 signal integrity and BER test function
- Powerful and user-friendly graphical user interface (GUI)
- L2 frame test
- Real-traffic FEC analysis
- Supports breakout cable testing scenario
- Latency testing for AI/ML transceiver
- Supports various frame sizes from 64 to 16000

BA-4000-L2 READY FOR 800G AND 1.6T TESTING

The BA-4000-L2 is an industry-leading 800G/1.6T traffic analyzer and BER tester from L2 system view.

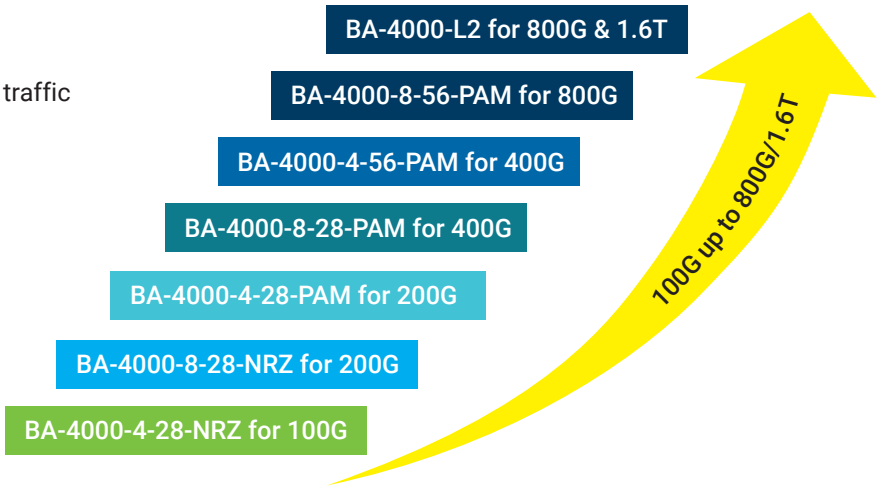

Figure 1. Part of the BA-4000 series of optical test solutions (from 100G to 800G+), the BA-4000-L2 features powerful layer-2 functions.

POWERFUL AND SIMPLIFIED USER INTERFACE

The BA-4000-L2 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.

Figure 2. User-friendly GUI.

COMBINED L1 BER TESTER AND L2 TRAFFIC ANALYZER

The BA-4000-L2 supports up to 32-tap feed-forward equalizer (FFE). It detects intersymbol interference (ISI) and far-end reflection.

Figure 3. Detect ISI and far-end reflection.

Monitor key parameters such as Rx/Tx frame counts and line utilization. Real-time FEC analysis provides testing of pre/post FEC BER, symbol error distribution and FEC margin.

Figure 4. Test pre/post FEC BER, symbol error distribution and FEC margin.

SPECIFICATIONS

All specifications are typical, at 23 °C ± 2 °C unless otherwise specified.

TECHNICAL SPECIFICATIONS	
Interface	4×O-SMPM RF connector (67 GHz bandwidth)
Unframed BERT (pattern supported by PPG)	PRBS 9Q/11Q/15Q/23Q/31QSSPRQ and user-defined pattern
Unframed BERT (pattern supported by ED)	PRBS 9Q/11Q/15Q/23Q/31Q
Ethernet frame L2 configurable into 2×400G or 8×100G	Tx/Rx frame counts Frame loss ratio Frame size 64 to 16000 bytes, EMIX supported Line utilization Frame size distribution Traffic shaping Alarms/Errors: link down, no traffic, pattern loss, LOA
L2 MAC address	Configurable
FEC statistics/distribution	FEC margin/distribution plot
Channel polarity	Support Tx/Rx invert
Tx pre-emphasis	7 taps (3 pre-cursors, a main cursor, and 3 post-cursors)
Unframed BERT (error injection)	Inject bit error in PRBS pattern
Rx equalizer	Auto adaptive CTLE, 32-tap FFE, and DFE
Rx equalizer tap value display	Display on dashboard
Clock output	For sampling scope & sync, and clock ratio /4,/8,/16,/32
Clock in	For sync with another unit to support 1.6 T (16×100G)
Low speed control interface I2C	Control transceiver with EXFO 800G MCB
Option – PCSA	
PCS error generation	FEC-UNCOR-CW, 66B Block, FEC-COR-CW, FEC-SYMB, Alignment marker errors
PCS information monitor	Pre-FEC BER/SER by PCS lanes, PCS lane mapping etc.
PCS skew generation and measurement	TBD
PCS alarms and errors	LOAML, Exc. Skew, Inv. Marker, Alarms Adv.
Latency measurement	2×400G, 8×100G, able to be turned on/off
Software latency	Set and align
Frequency offset injection	Unframed mode: ±300 ppm Framed mode: ±300 ppm
Frequency offset monitoring	Supported

GENERAL SPECIFICATIONS		
Size (H × W × D)		139 mm × 443 mm × 229 mm (5 ½ in × 17 ½ in × 9 in)
Weight		≤ 10 kg (22 lb)
Temperature	Operating Storage	5 °C to 40 °C (41 °F to 104 °F) –20 °C to 70 °C (–4 °F to 158 °F)
Relative humidity		20% to 80%
Power		100 to 127 V, 50/60 Hz 200 to 240 V, 50/60 Hz 400 W max.

ORDERING INFORMATION

BA-4000-XX-XX

Model
L2 = 800G 8-channel traffic analyzer and BER tester

Option
PCSA = Advanced PCS functions

Example: BA-4000-L2-PCSA

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Printed in Canada 24/03