

MA-4000 Module Analyzer

ALL-IN-ONE BER TESTER—MCB FOR 100G/400G



The all-in-one solution for transceiver qualification on the production floor, including a bit-error-rate tester, module compliance board (MCB) and power supply.

KEY FEATURES

8 channels, 10 - 28 GBd supporting PAM4 and NRZ

Integrated MCB (no RF cable required)

High flexibility supporting the most popular transceivers.
Daughter cards available: QSFP-DD, OSFP, QSFP28, SFP28, SFP-DD

Future-proof design with replaceable MCB

Built-in power supply for four-corner testing

I²C control function supported

Pre-and post-FEC BER

Featuring FEC distribution (codewords vs symbol errors)

SPEC SHEET

SMART MCB DESIGN

Superior SI performance and long insertion life

- › Uses daughter board system (no external MCB required)
- › Supports QSFP-DD, OSFP, QSFP28, SFP-DD, SFP28 (direct connection)
- › Easy to replace after connector insertion life cycle to ensure reliability
- › No RF connector on MCB to minimize thermal chamber size
- › One-fifth thermal cycling time compared to external MCB



Easy-to-replace MCB in direct contact with BERT

FEC SIMULATION SOFTWARE

Powerful function for Burst Error Analysis

- › Supports PRBS error check and correction
- › Pre- and post-FEC BER
- › Supports KP4/KR4 and low latency FEC protocols
- › Supports FEC lane striping function
- › Codewords vs. symbol error
- › FEC margin auto calculation

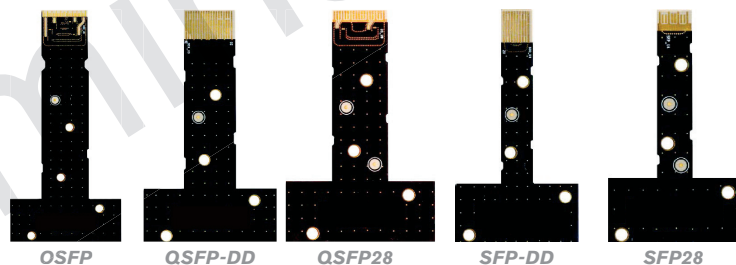


Minimized thermal chamber for industry's fastest thermal cycling

LOOPBACK BOARD

Excellent signal integrity (SI)

- › Supports most of MSA
- › High-performance signal integrity
- › Smart design that requires no housing
- › Easy plug and unplug



SPECIFICATIONS

Module Analyzer

Number of channels	8
Data rate per lane (GBd)	25.78125, 26.5625, 28.05, 28.9 (PAM4/NRZ) 9.95328, 10.3125, 10.709, 11.3176, 12.5, 14.025, 24.33024 (NRZ only)
Modulation	NRZ/PAM4
Pattern	PRBS 7/9/11/13/15/23/31 PRBS7 - 31Q, SSPRQ, user-defined pattern
Amplitude maximum (mV_{ppd})	800/1000
High power mode amp. (mV_{ppd})	1.5 V (as an option)
Rise time / Fall time (ps)	15/15
Jitter rms (fs)	500

ED

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Input range (mV_{ppd})	200 - 1500
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Clock out

Clock output ratio	8/16/32/64
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Power supply

Output voltage (V)	3.13 - 3.465
Adjustable step (mV)	25
Max power (W)	10
Current monitoring	Supported

Daughter card (MCB)

Built-in I2C and I/O control

ORDERING INFORMATION

MA-4000-XX-XX-XX

Model

8-28-PAM = 8x28 GBd PAM4 module analyzer (10G - 28G)

Options

FEC = 26G PAM4 FEC simulator software

Daughter card (MCB)*

MA-QSFPDD = QSFP-DD module test board

MA-OSFP = OSFP module test board

MA-QSFP28 = QSFP28 Module test board

MA-SFPDD = SFP-DD Module test board

MA-SFP28 = SFP28 Module test board

Accessories

LB-QSDD = QSFP-DD loopback board

LB-OSFP = OSFP loopback board

LB-QS28 = QSFP28 loopback board

LB-SFDD = SFP-DD loopback board

LB-SF28 = SFP28 loopback board

MA-9000-ESD = Electrical screwdriver

a. Loopback board included

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