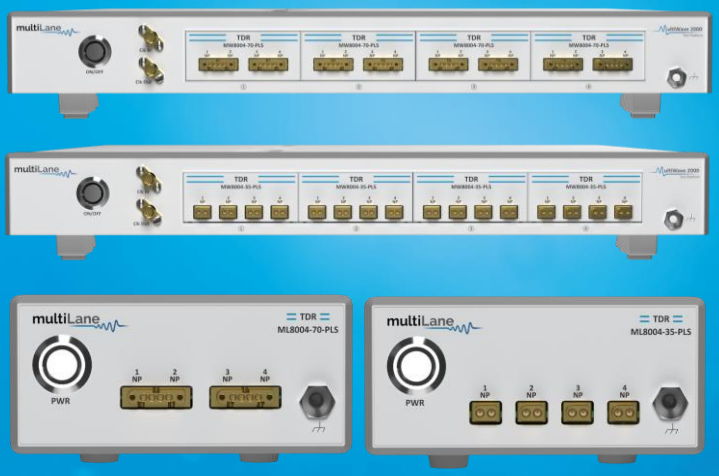
multiLane

DATASHEET

Innovation for the next generation



Pulsar Family

ML8004-35-PLS | ML8004-70-PLS
MW8004-35-PLS | MW8004-70-PLS

4-Differential Channel TDR per module | Up to 4 Modules per MultiWave Test Platform (MWTP) | Testing 16 channels | Time Domain Reflectometry | Return Loss | Skew

Summary

In such a fast-paced and data-hungry industry, reducing test time provides a significant advantage to high-tech providers seeking to increase productivity. MultiLane is dedicated to revolutionizing large-scale production testing with advanced, automate, high-through-put solutions.

Our solutions are geared toward automating the testing process, ensuring our partners receive precise, dependable measurements, while minimizing time spent testing.

Pulsar is a TDR that supports medium impedance characterization, and skew evaluation. Pulsar enables simultaneous testing on four channels and serves various critical applications in PCB and switch characterization, medium fault detection, and other essential industrial tasks. Crucially, Pulsar was designed with high throughput testing in mind, providing one of the fastest test times in the industry to best serve high scale production.

Pulsar-TDR

Introduction

Pulsar is a high throughput Time domain reflectometer. The true-differential TDR can determine the impedance profile and reflection loss on 4 channels simultaneously. It is designed and suited both for characterization as well as manufacturing.
MultiLane's Pulsar provides detailed SI insights allowing the detection of minor impedance mismatches and enabling proactive maintenance and optimization.

Figure 1: TDR Measurement on DAC + MCB

Key Features

- High Resolution TDR
- Low-cost quad-channel with fast rise-time domain reflectometry
- Return Loss measurement
- 4 ports per module expandable up to 32+
- Low power dissipation

TDR Applications

- DAC & high-density backplane cables and connectors Testing
- Switch Testing
- Semiconductor Testing
- PCB Testing and Probing
- Location of impedance discontinuities for Automotive Ethernet

Software Features

Pulsar's software allows the characterization of the DUT's impedance profile and return loss. The available or custom masks come with a Pass/Fail indicator to ensure the DUT's reliability in a few seconds.

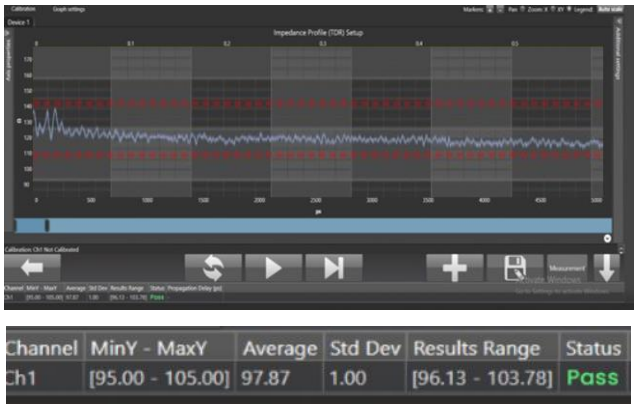


Figure 2: Impedance profile mask with pass verdict

Figure 3: Switch Testing using 4 Pulsars

TDR Specifications

Parameter	ML4025PLS	MW8004-35-PLS	ML4025F-PLS	MW8004-70-PLS
S&H Bandwidth	35Ghz		70Ghz	
S&H Gain Flatness	[-0,5, 0.5] dB		[-0.5, 0.5] dB	
Step response Rise/Fall Time (20%-80%)	10 ps		7 ps	
TDR resolution	1.5 mm		1 mm	
Electrical channel connectors	(4X) 1X2 ML SMPM		(2X) 1X4 ML SMPX	
Data Input	AC coupled		AC coupled	
Normal Operating Temperature	0 - 65 °C		0 - 65 °C	
Instrument Automatic Shutoff	65 °C (manual reboot is needed to turn it back on)		65 °C (manual reboot is needed to turn it back on)	
Power Dissipation	2.4 A @12V	2 A @12V	2.65 A @12V	2.25 A @12V

Mechanical Dimensions

Figure 4: ML8004-35-PLS / ML8004-70-PLS Dimensions

MW8004-xx-PLS is compatible with the MultiWave Test Platform (MWTP), the user can choose any configuration to fit up to 4x MW modules in 1x MultiWave Test Platform (MWTP).

Figure 5: MW8004-35-PLS Module

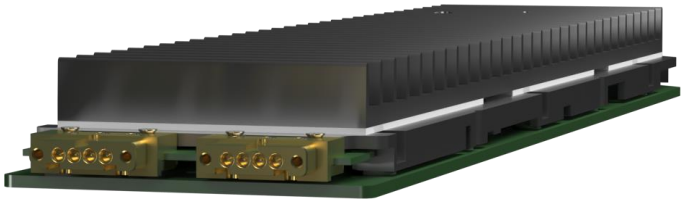


Figure 6: MW8004-70-PLS Module

Figure 7: 4xMW8004-35-PLS in the MultiWave Test Platform (MWTP)

Figure 8: 4xMW8004-70-PLS in the MultiWave Test Platform (MWTP)

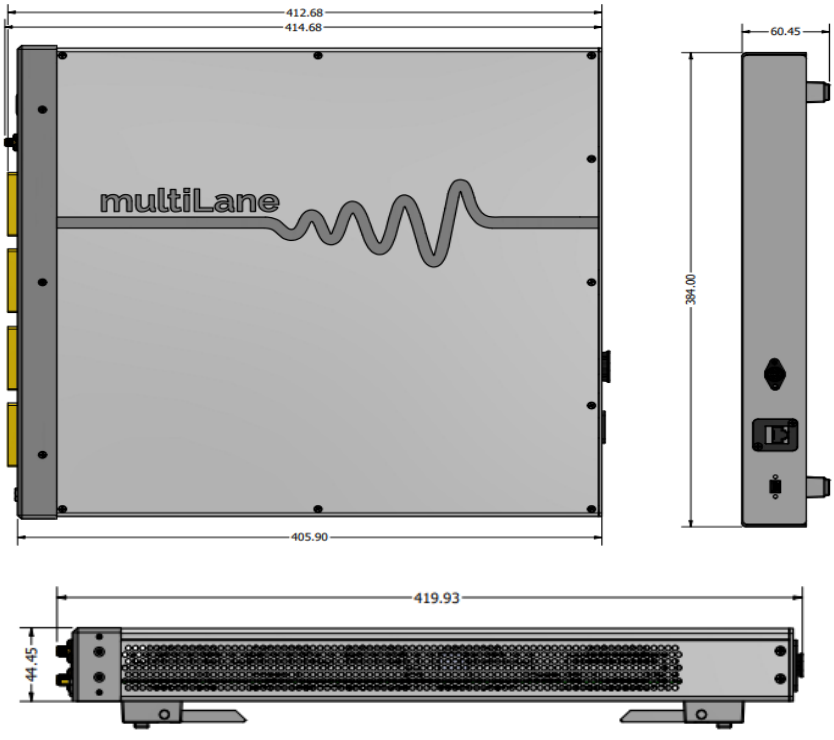


Figure 9: MultiWave Test Platform (MWTP) Outline

Ordering Information

Option	Description
ML8004-35-PLS **MW8004-35-PLS**	10 ps rise time TDR
ML8004-70-PLS **MW8004-70-PLS**	7 ps rise time TDR
3YW	Total 3-year warranty

Recommended Accessories

Instrument	Recommended QSFPDD to SMPM / SMPX Cable Assembly PN	Recommended OSFP to SMPM / SMPX Cable Assembly PN
ML8004-35-PLS **MW8004-35-PLS**	142-7046-516	142-7082-516
ML8004-70-PLS **MW8004-70-PLS**	142-7316-500	142-7316-000

Please contact us at sales@multilaneinc.com

OSFP to SMPM Cable Assembly

QSFP-DD to SMPM Cable Assembly

QSFP-DD to SMPS Cable Assembly

OSFP to SMPS Cable Assembly

This equipment contains ESD sensitive components and may become damaged when contacted with an electrostatic charge. To prevent equipment damage, please use proper grounding techniques.