

Anritsu and Polar Instrument Solution for Delta-L 4.0 Measurement Based on Atlas SI Software with Anritsu 4-Port Benchtop VNAs

Introduction

Delta-L is an algorithm developed by Intel for PCB manufactures for verifying PCB design. The Vector Network Analyzer serves an important requirement for all PCB manufactures in order to be in compliant with Delta-L testing and satisfying the link budget for backplane design on the Intel servers. Delta-L measures: insertion loss within differential pairs, and uncertainty of insertion loss, impedance, and effective dielectric constant for PCB's. The Delta-L 4.0 has higher frequency coverage, is more accurate and efficient, and is the most recent version of software.

Anritsu and Polar Instruments

Anritsu 4-port performance ShockLine and VectorStar vector network analyzers (VNAs) combined with the Polar Instrument Atlas SI software proves to be a simple, yet powerful tool for PCB mass production lines. The easy to use Atlas SI software was developed for operators with no or minimum experience with VNAs. A step-by-step guide is provided to perform calibration and measurement to show a 'pass' or 'fail' result of the device under test. An operator does not need to know how a VNA or Delta-L algorithm works.

Basic Functions:

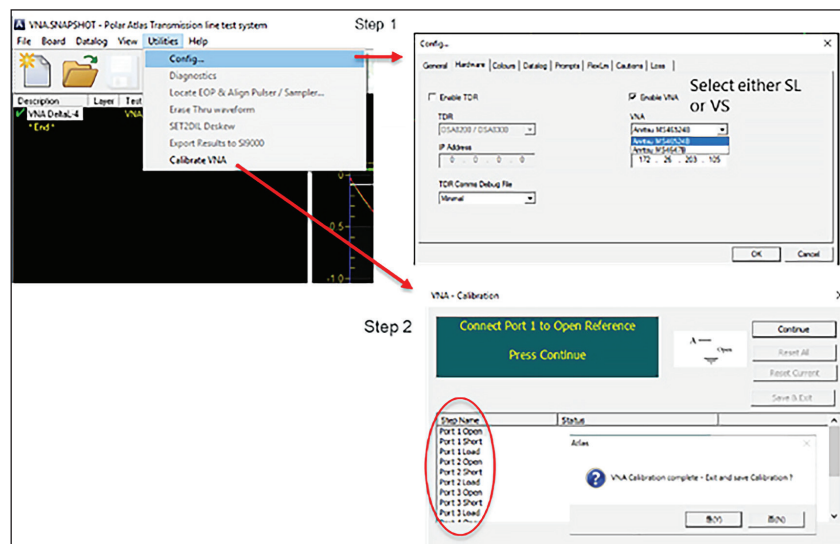
- Able to measure differential insertion loss of PCB backplanes
- Able to calculate the uncertainty of insertion loss based on Delta-L algorithm

Functions and Enhancements

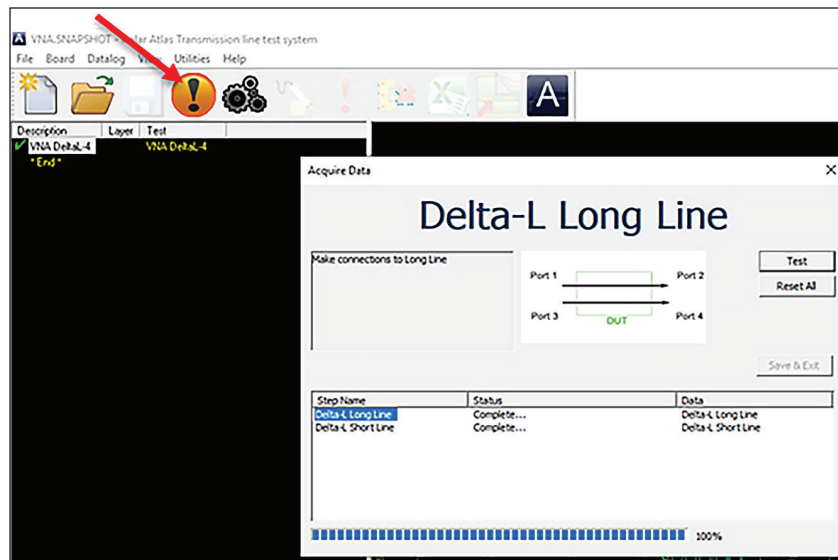
- Enhanced physical fitting algorithm up to 40 GHz from 20 GHz
- New pitch dimension to 0.5 mm from 0.75 mm to cover 30+ GHz for the test board
- Only requires 2 transmission lines: 5 inches test coupon and 10 inches DUT board
- Probes bandwidth requirement: 30+ GHz

The Key Advantages of Atlas SI Solution with Anritsu's VNAs

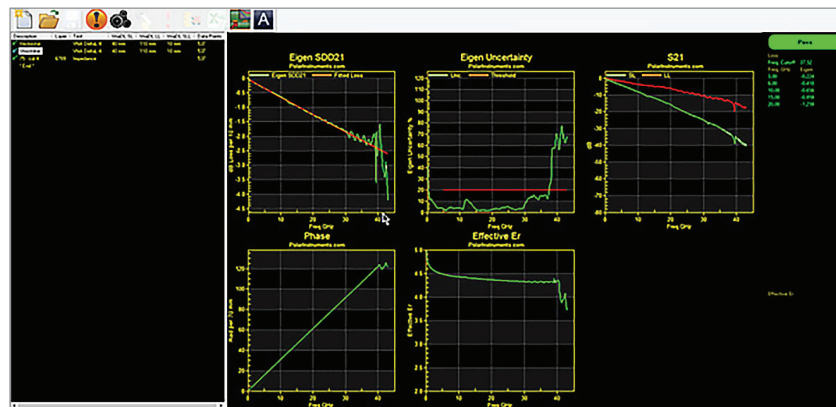
- Atlas SI software supports Anritsu's 4-Port Performance ShockLine MS46524B and VectorStar Microwave MS4647B VNAs, exclusively
- Simple GUI operation and transparent to the users for the two step selection of either the Anritsu ShockLine 4-Port Performance or VectorStar Microwave VNAs and calibration



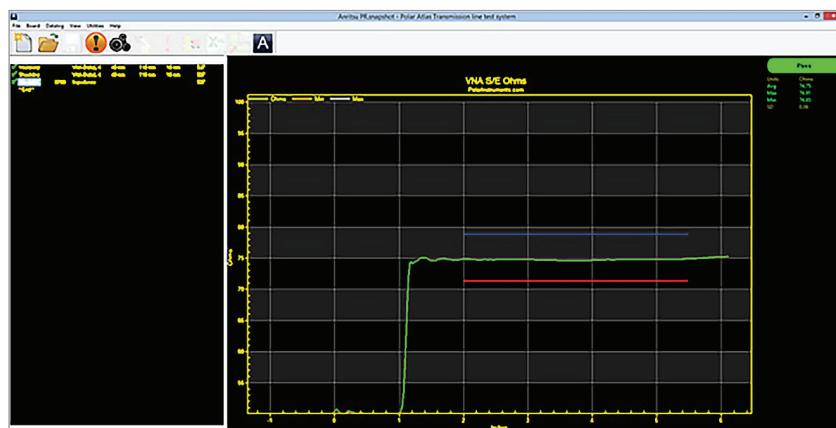
- Click on (Y) for calibration complete, click on the "arrow pointed to". This will measure short and long lines



- Result of Delta-L 4.0 using Atlas SI software for VectorStar
- Below is the result of Delta-L 4.0 using Atlas SI software for VectorStar



- The impedance measurement for 75 ohm for both ShockLine and VectorStar



Polar Instrument has solution, with Anritsu VNAs, have unique and special capabilities for making delta L PCB measurements which will help customers in making quick and accurate measurements results. The solution will include either ShockLine 4-Port Performance MS46524B or VectorStar Microwave MS4647B VNAs, Atlas SI software, and probes.

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Further product information and technical tips are on the Polar YouTube channel
www.youtube.com/polarinstruments.



VectorStar VNA Family



ShockLine VNA Family

Anritsu Advancing beyond

Specifications are subject to change without notice.

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