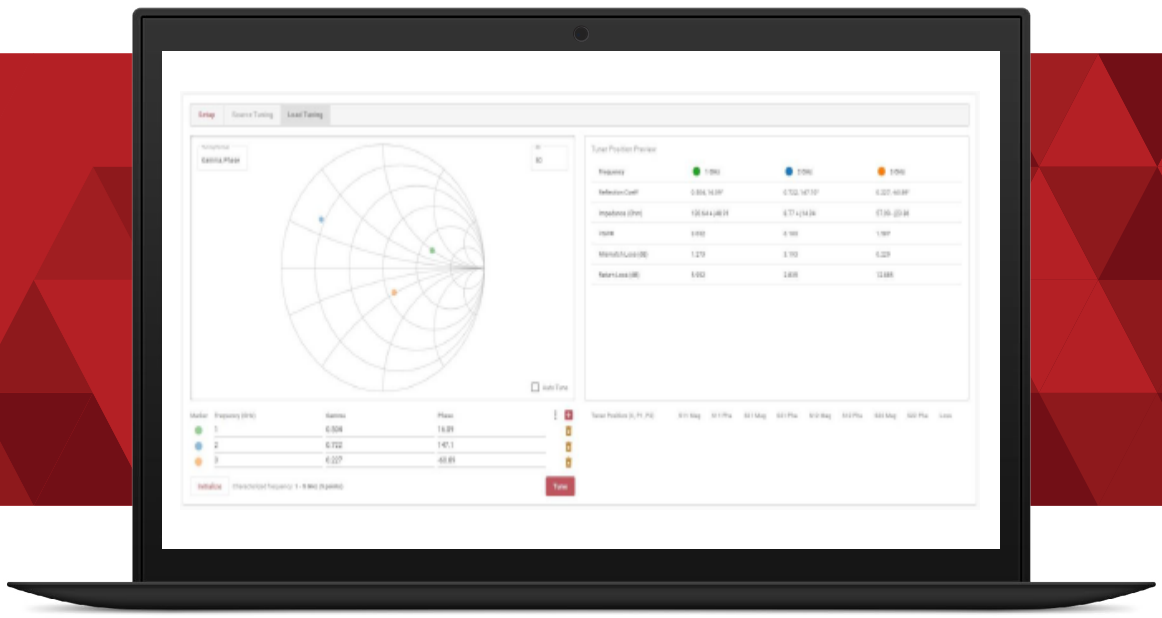
MTUNE Tuner Calibration and Control Software

DATA SHEET / 4T-025



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Introduction

MTUNE is a software package that allows device calibration/characterization and control of multiple tuner configurations for automated impedance tuning. It may be used in any application requiring the ability to match the impedance of a microwave circuit element or to establish specific impedances at a terminal interface at various frequencies. The software provides a standalone server (API) for remote communication for advanced use as well as interactive user interface to guide the user through the calibration and tuning process.

Software Features:

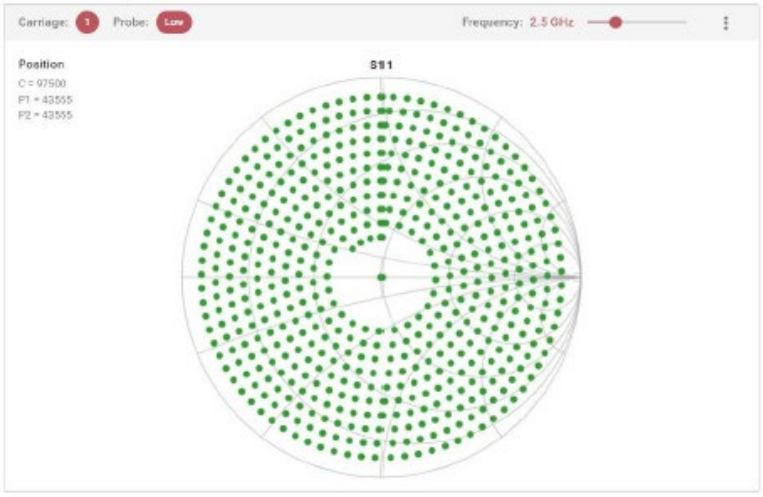
- Desktop and cloud-based applications enhances user flexibility
- Modern wizard-driven GUI with support for most commercial VNAs
- Automatic instrument identification for easy setup
- Stay up-to-date with software update reminders
- Enhanced user support with direct ticketing and error logging

New and Updated Capabilities:

- Faster multi-frequency tuner characterization
- New tuner characterization validation process
- Enhanced frequency interpolation
- New non-harmonically related multi-frequency impedance tuning

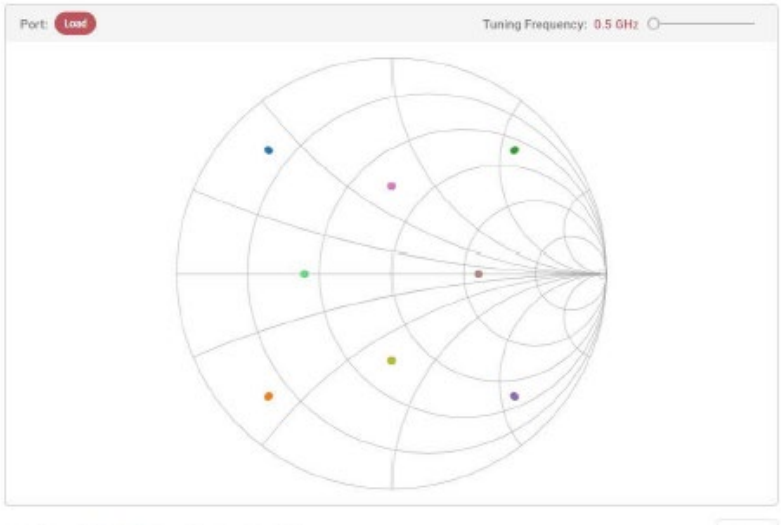
Characterize

Accurate impedance tuning and load pull measurements begin with accurate tuner characterization. MTUNE empowers users to easily configure tuner characterization block diagrams with a single tuner, multiple tuners, multi-carriage tuners as well as de-embeddable fixtures and components. By defining the measurement application (load pull vs. design validation test), MTUNE selects the most appropriate tuner characterization methodology and conditions. DVT tuner characterization speeds up the process by 10x to 100x depending on the number of frequencies selected.



Validate

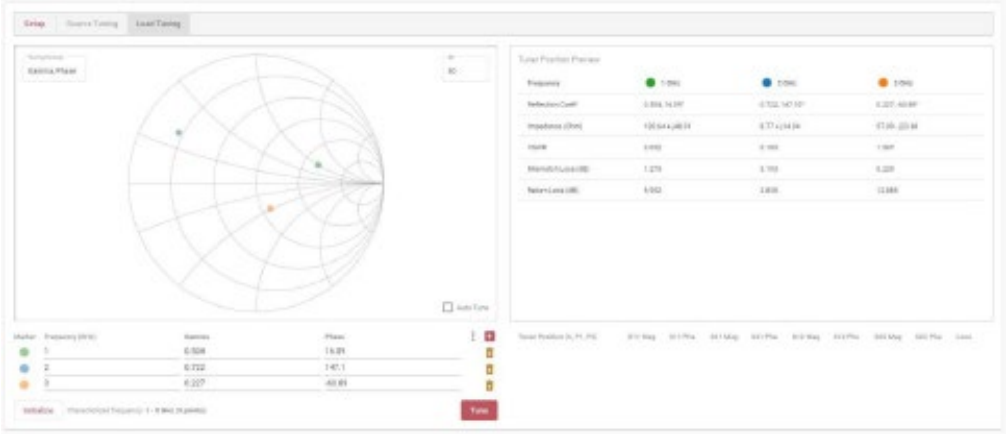
Validation is a critical step following any calibration, and tuner characterization is no exception. Tuner characterization relies on the measurement of highly accurate S-parameters for each tuning probe position, which in turn relies on the accurate configuration and de-embedding of the tuner characterization chain. MTUNE employs an intuitive and automated validation process whereby the tuner is commanded to tune a set of interpolated impedances for which the associated S-parameters are measured from the calibrated VNA. The error vector is calculated and reported and if less than the generally accepted value, recommends recalibration.



Tune

MTUNE offers a point-and-click graphic user interface that allows fundamental, harmonic, non-harmonically related multi-frequency, and frequency-interpolated impedance tuning. The tool allows users to define their reference plane, selecting fixtures or components to de-embed and tune at the DUT reference plane.

In addition, MTUNE offers an API for users that wish to easily control their tuner(s) and take advantage of the characterization and validation steps through the application. For details on the API functionality and commands, please refer to the operation manual.



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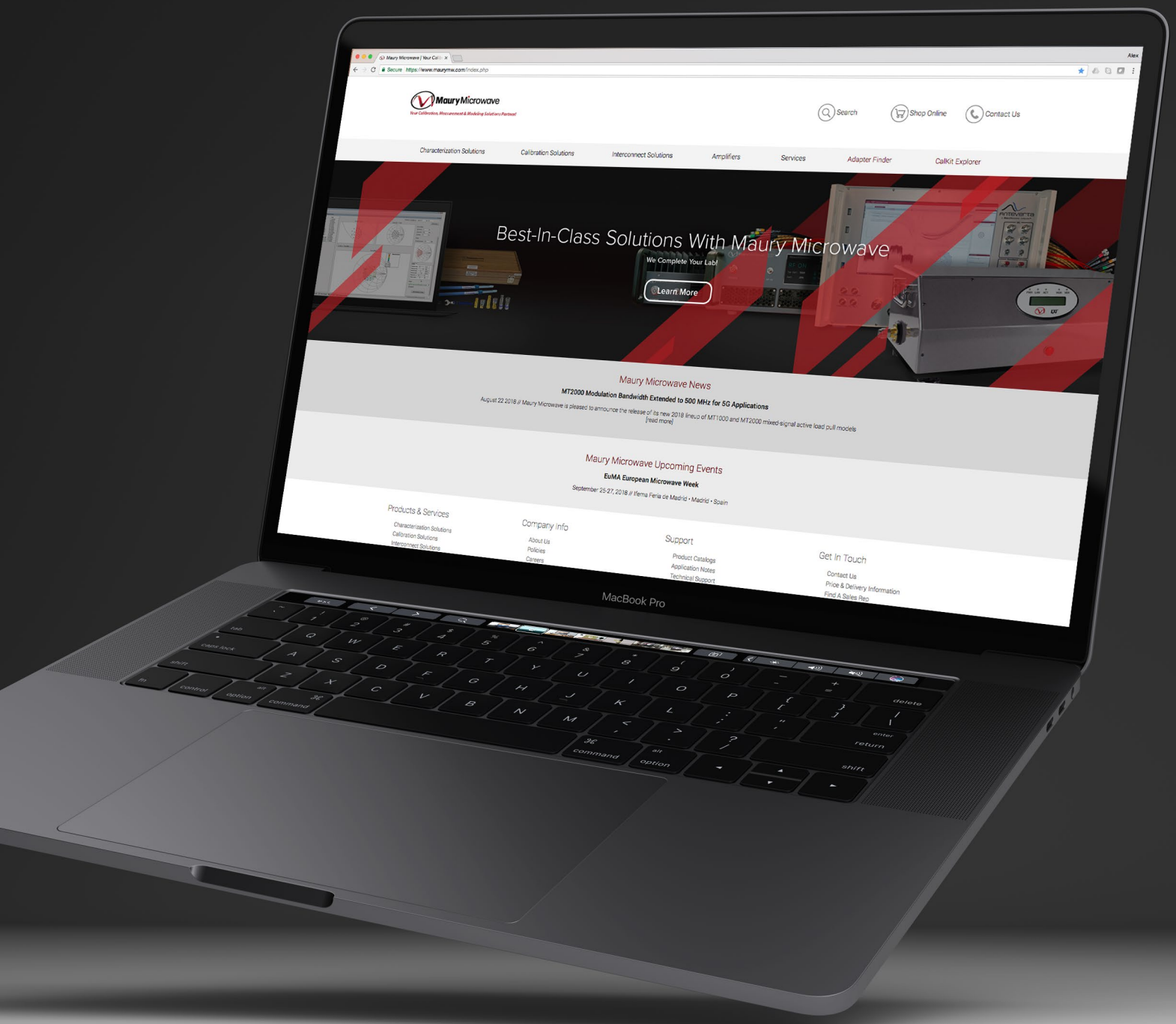

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