



RF & Microwave Metrology

VNA Tools course (held at METAS, Switzerland)

VNA Tools is free and supports most of the Vector Network Analyzers (VNAs) in today's market. The software simplifies your tasks of generating accurate measurement uncertainty and vindicating metrological traceability. The software is ideal for flexible and modular external VNA calibration, error correction algorithms, device control, graphical capabilities, and a project-based data analysis. Its speed and performance will optimize the measurement uncertainty computation and propagation through a measurement model in compliance with the ISO-GUM. The software is available for download at www.metas.ch/vnatools. The three day course provides a practical and hands-on lesson with this superior and versatile software.

Course Date	November 08 to November 10, 2016, 3 days
Location	Federal Institute of Metrology METAS Lindenweg 50, 3003 Bern-Wabern, Switzerland
Language	The course will be given in English.
Target audience	Personnel of RF & Microwave laboratories that are required to perform S-parameter measurements and to demonstrate metrological traceability.
Objective	The participants will be able to use the metrology software VNA Tools II for S-parameter measurements and uncertainty computation.
Content	The primary focus is on the practical usage of the tool. Theoretical aspects of the implementation will be discussed. The participants are asked to bring a laptop to the course and will directly learn how to use the software in the different steps of the VNA measurement process. The course covers installation of the software, interaction with the VNA and data taking, VNA calibration and error correction, data visualization and export, evaluation of uncertainty contributions and uncertainty budget, good measurement practice. Specific topics related to the SI traceability and the accuracy of S-parameter measurements, as e.g. the role of connector imperfections in the definition of calibration standards, will be discussed as well. Lab visits will be offered after each course day.
VNA expert day	November 11, 1 day State of the art primary S-parameter traceability and how VNA Tools can support it (free for course participants).
Costs per person	CHF 2'762.- (VAT included, lunch is offered during the 3 course days)
Registration	Central Secretariat METAS sekretariat@metas.ch
Cancellation policy	The number of participants is limited to 16. METAS reserves the right to cancel the course if the minimum number of participants is not reached. Registration deadline: October 17, 2016.
Contacts / Course details	Juerg Rufenacht or Michael Wollensack Juerg.Rufenacht@metas.ch or Michael.Wollensack@metas.ch