Bode 100
The solution for your measurement tasks from 1 Hz to 50 MHz

Transmission/Reflection
Measure S-parameters of cables, filters, amplifiers antennas and more.

Resonance Frequency
Detect even very narrow, high-Q resonance peaks of piezo elements or RFID and NFC transponders.

Frequency Response
Measure the complex transfer function (Gain/Phase) of active and passive electronic systems.

Complex Impedance
Analyze passive electronic components and active electronic circuits.

Stability Analysis
Analyze electronic control systems such as power supplies. Generate Bode diagrams & Nyquist plots.

Automated Measurements
Integrate the Bode 100 into measurement setups via its versatile Automation Interface.
Bode 100
The Bode 100 consists of hardware and software. The high quality hardware ensures accurate measurement results in the wide frequency range from 1 Hz to 50 MHz. Its portable and compact design enables you to test wherever you want. Due to the versatile system design, the Bode 100 works as three devices in one:

1. Vector Network Analyzer
The vector network analyzer function of the Bode 100 allows you to measure:
- Swept S-parameters in the 50 Ω system
- Reflection coefficient and return loss
- Insertion loss of filters
- Group delay characteristics
- Influence of termination on amplifiers

2. Frequency Response Analyzer
The Bode 100 serves as a Gain/Phase meter and is ideally suited to measure:
- Transfer functions of electronic circuits
- Stability of control systems such as DC/DC converters or voltage regulators
- Power Supply Rejection Ratio (PSRR) respectively Audio Susceptibility

3. Impedance Analyzer
The Bode 100 offers you a high variety of impedance measurement possibilities to easily analyze:
- Electromagnetic devices such as transformers and inductors
- Capacitors and their parasitics
- Ultrasonic and piezo electric components or systems
- Very high Q-circuits such as quartz crystals and oscillators
- Input- and output impedance of electronic circuits
- Resonance frequency of RFID, NFC and wireless power systems

Your benefits:
- One device for multiple applications
- Accurate measurement results
- Simple setup - fast results
- Easy data processing
- Automated measurements
Bode Analyzer Suite

You can fully control the Bode 100 via the Bode Analyzer Suite (BAS). The BAS is an easy-to-use, intuitive user interface, which is included in the Bode 100 delivery. It allows you to control the Bode 100 hardware from your Windows PC. The BAS helps you to quickly measure and analyze your device under test. In addition, it offers great functions to save, document and share your measurement results.

Measurement Modes

The BAS offers pre-defined measurement modes for quick configuration of the Bode 100 hardware. Impedance measurements from mΩ to MΩ are supported in Shunt-Thru and Series-Thru configuration.

Analysis

To understand and optimize your system under test, the BAS offers all kind of chart formats, like Smith, Polar, Nyquist and Bode plots. You can extract all required results and parameters from your measurements using a great variety of analysis features.

Documentation

The BAS help you to easily extract the measurement results for your documentation. You can share and archive your results by:

- Exporting CSV, Excel or Touchstone files.
- Copying and pasting the results, charts and settings into your documents.
- Generating a PDF report containing all measurement graphs and device settings.
- Saving your entire measurement including the device settings to a *.bode3 file which can be viewed on any Windows PC having the Bode Analyzer Suite 3.0 or newer installed.

Integration & Automation

Easily automate your Bode 100 measurements via the Bode Automation Interface 3.0 using:

- OLE compliant controllers such as VBA (e.g. Excel), Matlab,…
- Programming languages like Visual Basic, C#, C++ or any other COM+ compatible system/language
- LabVIEW 2013 or newer
**Technical Data**

**Signal Source**
- Frequency range: 1 Hz to 50 MHz
- Output impedance: 50 Ω
- Waveform: Sinusoidal signal
- Signal level: -30 dBm to 13 dBm (at 50 Ω load)
- Connector: BNC

**Inputs: CH1, CH2**
- Input impedance: 50 Ω or 1 MΩ || 50 pF (software switchable)
- Receiver bandwidth: 1 Hz to 5 kHz
- Input attenuators: 0 dB, 10 dB, 20 dB, 30 dB, 40 dB
- Input sensitivity: 100 mV_RMS full scale
  (with 0 dB input attenuator)
- Dynamic range: > 110 dB
- Gain error: < 0.1 dB (calibrated)
- Phase error: < 0.5° (calibrated)
- Connector: BNC

**PC Requirements**
- Processor: Quadcore
- Memory: 2 GByte RAM
- Graphic Adapter: Super VGA (1024x768)
- USB Interface: USB 2.0 or higher
- Operating System: Windows 7 or higher

**General**
- Weight Bode 100: < 2 kg / 4.4 lbs
- Weight Accessories: < 0.5 kg / 1.1 lbs
- Dimensions: 26 x 5 x 26.5 cm
  10.25 x 2 x 10.5 inch
- DC power supply: 10 V - 24 V / 10 W
- AC power supply: 100 V - 240 V / 47 Hz - 63 Hz

**Delivery Includes**

- Bode 100 Vector Network Analyzer
- Bode Analyzer Suite on DVD
- Wide range power supply
- Wide range power supply
- USB cable
- 4 x BNC cable 50 Ω (m - m)
- 1 x BNC T-adaptor (f - f - f)
- 1 x BNC straight adapter (f - f)
- 1 x BNC 50 Ω load (m)
- 1 x BNC short circuit (m)
- Test objects: quartz filter and IF filter on a PCB

**Order number:** OL000100

**Additional Accessories**

- **B-WIT 100**
  - Wideband injection transformer for the signal insertion into control loops
  - **Order number:** OL000151

- **B-SMC**
  - Impedance test adapter for surface mount components
  - **Order number:** OL000152

- **B-WIC**
  - Impedance test adapter for through-hole type components
  - **Order number:** OL000153

- **B-AMP**
  - Amplifier to increase output power. Allows measuring impedance
  - **Order number:** OL000168

More technical data and accessories can be found at [www.omicron-lab.com](http://www.omicron-lab.com)