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 impedance 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 helps 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.X installed.

Integration & Automation

Easily automate your Bode 100 measurements via the Bode Automation Interface 3.X 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 2015 or newer
Technical Data

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

**Inputs: CH1, CH2 (BNC Connector)**
- Input impedance: 50 Ω or 1 MΩ || 50 pF
- 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 @ 0dB
- Dynamic range: > 100 dB
- Gain error: < 0.1 dB (calibrated)
- Phase error: < 0.5° (calibrated)

**PC Requirements**
- Processor: Core-i Dual-Core (or similar)
- Memory (RAM): 2 GB, 4 GB recommended
- Graphics resolution: > Super VGA (1024x768)
- Graphics card: DirectX11 with Direct2D
- USB interface: USB 2.0 or higher
- Operating system: Windows 10

**General**
- Weight Bode 100: < 2 kg / 4.4 lbs
- Dimensions: 26 x 5 x 26.5 cm / 10.25 x 2 x 10.5 inch
- DC power demand: 10 V - 24 V / 10 W

**Delivery Includes**
- Vector Network Analyzer Bode 100
- Bode Analyzer Suite on DVD
- Printed Quick Start Guide (English)
- Power supply (100 V - 240 V / 47 Hz - 63 Hz)
- USB cable
- 4 x BNC cable 50 Ω (m - m)
- 1 x BNC T-adapter (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

**Accessories**

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

**B-LFT 100**
Low-frequency injection transformer
Order number: OL000169

**B-SMC**
Impedance fixture for SMD components
Order number: OL000152

**B-WIC**
Impedance fixture for THT components
Order number: OL000153

**B-AMP 12**
Amplifier to increase output power.
Order number: OL000168

**B-LCM**
Low-frequency common mode choke
Order number: OL000175

**PML 1110**
Passive 10:1 probe for Bode 100
Order number: OL000110

**B-RFID**
Measure contactless resonance-frequency and Q-factor of RFID and NFC tags
Order numbers:
- B-RFID-A for Class 1: OL000170
- B-RFID-B for Class 3: OL000171
- B-RFID-C for Class 6: OL000172
- Kit (A+B+C): OL000173

**Carrying Case**
Protective case for your Bode 100
Order number: OL000110

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