Vector Network Analyzer Bode 100 - 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.

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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

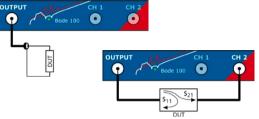
Smart Measurement Solutions®

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 m Ω to M Ω 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.

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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: 50Ω 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) < 0.5° (calibrated) Phase error:

PC Requirements

Processor: Memory (RAM): Graphics card: USB interface: Operating system:

Core-i Dual-Core (or similar) 2 GB, 4 GB recommended Graphics resolution: > Super VGA (1024x768) DirectX11 with Direct2D USB 2.0 or higher Windows 10

General

Weight Bode 100: Dimensions:

< 2 kg / 4.4 lbs26 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 $4 \times BNC$ 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: guartz 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: OI 000151



B-LFT 100

Low-frequency injection transformer Order number: OL000169

B-SMC



Impedance fixture for SMD components Order number: OL000152



Impedance fixture for THT components Order number: OL000153

B-WIC



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: B-RFID-B for Class 3: B-RFID-C for Class 6: Kit (A+B+C):

OL000170 OL000171 OL000172 OL000173



Carrying Case

Protective case for your Bode 100 Order number: OL000110

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