

R&S®RTx-K36: FREQUENCY RESPONSE ANALYSIS (BODE PLOT) OPTION ¹⁾



Customize your oscilloscope with the frequency response analysis option

- Easily and quickly analyze low frequency response on your oscilloscope with the R&S®RTx-K36 frequency response analysis (Bode plot) option
- The R&S®RTx-K36 frequency response analysis (Bode plot) option uses the oscilloscope's built-in waveform generator to create stimulus signals ranging in frequency from 10 Hz to 25 MHz. Measuring the ratio of DUT signal input and output at each test frequency, the oscilloscope plots gain and phase logarithmically
- Easily export and save results as an image or in CSV format for documentation or additional analysis

Common uses

Characterize the frequency response of a variety of electronics such as passive filters and amplifier circuits

Determine the gain and phase margin of switched-mode power supplies or linear regulators to determine the control loop stability

Measure the power supply rejection ratio or power supply ripple rejection (PSRR) to determine the power supply's output stability

Key specifications					
Frequency range	10 Hz to 25 MHz				
Test modes	Fixed or custom amplitude profile				
Points per decade	10 to 500 points				
Plots	Logarithmic gain and linear phase				
Analysis	Waveform markers and tabular view of test results				

Your benefit	Features					
Integrated low frequency response analysis on your scope	Use your oscilloscope to make low frequency phase and gain measurements. The application supports frequencies from 10 Hz to 25 MHz					
Low entry price	The application with a two-channel R&S®RTB2000 is available for a fraction of the cost of a dedicated network analyzer. The application also runs on the R&S®RTM3000 and R&S®RTA4000 models for users when need a higher bandwidth oscilloscope					
Easy documentation	Save test results to a USB device or to a PC (connected via LAN or USB MTP) for documentation					



Profile the amplitude

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Profiling the amplitude output level of the generator helps suppress the noise behavior of your DUT when measuring the control loop response or PSRR. Profiling also improves the signal-to-noise ratio.

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Start: 100 H	z Stop: 4.	97 MHz	Points: 500 Pts/			Gen.: O	• Ampl. Profile	
Bode Plot								
Bode Plot: Input =	C1. Output = C2							6
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918	6.82k		0.2248		36.44*	100mVpp		
919	6.85k	Hz	0.1648		36.36*	100mVpp		
	6.89k	Hz	0.0948		36.30*	100mVpp		
921	6.928	Hz	0.0248		36.291	100mVpp		
922	6.95k	Hz	-0.05dB		36.33*	100mVpp		
	6.98k	Hz	-0,13dB		36.28*	100mVpp		
	7.01k		-0.20dB			100mVpp		
	7.05k		-0.28dB			100mVpp		
			-0.34dB			100mVpp		
			-0.42dB			100mVpp		
		Hz	-0.49dB			100mVpp		
			-0.56dB		35.93*	100mVpp		
930		Hz	-0.67 dB			100mVpp		
	7.248		- 0.74 dB		36.89*	100m¥pp		
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Marker	Frequency	Gain			_			
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The measurement results table provides detailed information about each measured point (frequency, gain and phase shift). When using markers, the applicable row of the results table is highlighted. Screenshots and table results can be quickly saved to a USB device for reporting.

Improve resolution



Choose the points per decade to set up and modify the resolution of your plot. The oscilloscope supports up to 500 points per decade. Drag markers to the desired position directly on the plotted trace and easily determine the phase and gain margin.

Low-noise accessories



Accurate control of loop response or PSRR characterization highly depends on choosing the right probes, since the peak-to-peak amplitudes of both V_{in} and V_{out} can be very low at some test frequencies. The low-noise R&S®RT-ZP1X 1:1 passive, 38 MHz bandwidth probe improves dynamic range.

Model configuration information	
Base model	Order No.
R&S®RTB2002 oscilloscope, 70 MHz, 2 channels	1333.1005.02
R&S®RTB2004 oscilloscope, 70 MHz, 4 channels	1333.1005.04
R&S®RTM3002 oscilloscope, 100 MHz, 2 channels	1335.8794.02
R&S®RTM3004 oscilloscope, 100 MHz, 4 channels	1335.8794.04
R&S®RTA4004 oscilloscope, 200 MHz, 4 channels	1335.7700.04
Software option	Order No.
R&S®RTB-K36 frequency response analysis (Bode plot) option	1335.8007.02
R&S®RTM-K36 frequency response analysis (Bode plot) option	1335.9178.02
R&S®RTA-K36 frequency response analysis (Bode plot) option	1335.7975.02
Application bundle	Order No.
R&S®RTB-PK1 consists of the following options: -K1, -K2, -K3, -K15, -K36, -B6	1333.1092.02
R&S®RTM-PK1 consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K15, -K31, -K36, -K37, -B6	1335.8942.02
R&S®RTM-PK1US consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K15, -K31, -K36, -K37, -B6	1335.9190.02
R&S®RTA-PK1 consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K31, -K36, -K37, -B6	1335.7775.02
R&S®RTA-PK1US consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K31, -K36, -K37, -B6	1335.7998.02
Probe	Order No.
R&S®RT-ZP1X, 38 MHz, 1 MΩ, 1:1	1333.1370.02

Low frequency injection transformers

邮编: 100096

传真: 010-62176619

Picotest J2120A for PSRR (10 Hz to 10 MHz) Picotest J2100A (1 Hz to 5 MHz) or J2101A (10 Hz to 45 MHz)

Omicron WIT100 wide injection transformer (1 Hz to 10 MHz) Omicron B-LFT100 (1 Hz to 30 KHz)

All options can be retrofitted

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