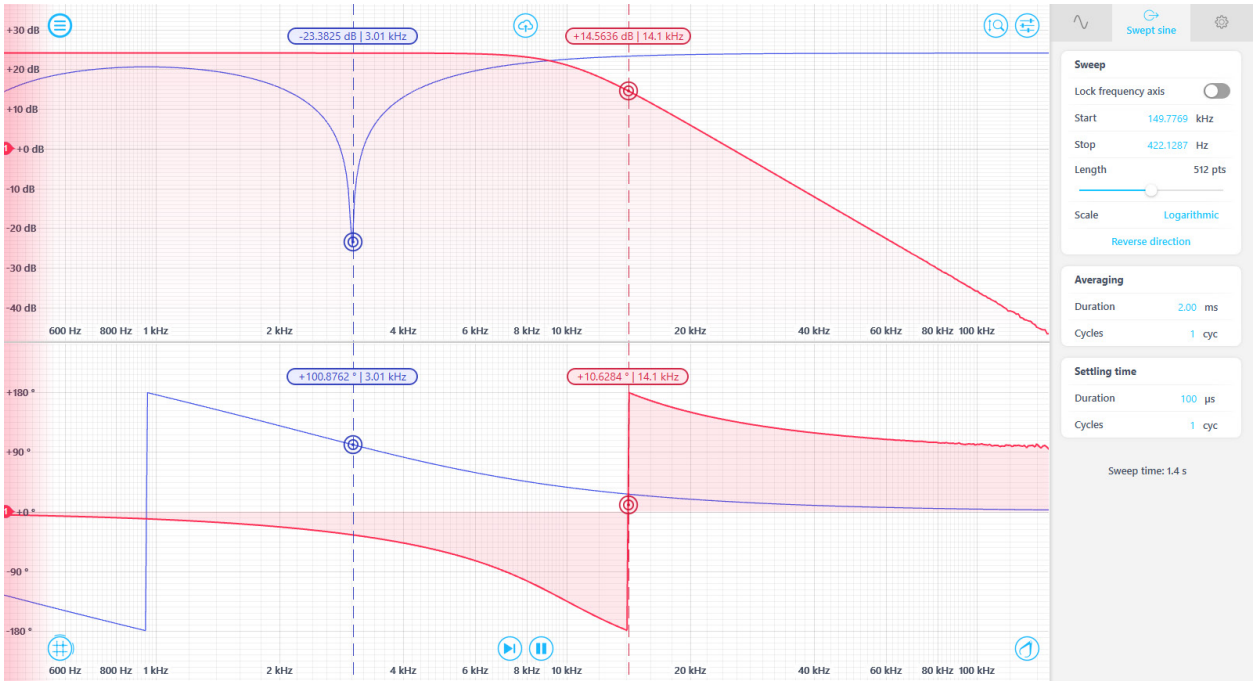
Moku:Lab Instrument Datasheet

Frequency Response Analyzer

The Moku:Lab Frequency Response Analyzer lets you measure the frequency response of a system in both magnitude and phase using a swept sine output from 10 mHz to 200 MHz. Select from between 32 and 8192 points per sweep and configure settling and averaging times to balance total sweep duration and signal-to-noise ratio. Dynamic output control to maximize SNR and avoid saturation across the frequency range.



Frequency range	Input impedance	Averaging time	Sweep	Output voltage range	Harmonic detection
Up to 200 MHz	**50 Ω or 1 MΩ**	**1 µs to 10 s**	**Linear/Logarithmic**	**2 Vpp into 50 Ω**	**Up to 15th**

Features

- Linear or logarithmic swept sine output
- Math channel to add, subtract, multiply, divide, or apply an arbitrary calculation to response functions as they are acquired
- Saturation detection and avoidance with Dynamic Amplitude drive
- Measure key metrics with cursors and markers
- Configurable measurement averaging and settling times
- Probe two systems simultaneously, or one system at two points
- Demodulate up to the 15th harmonic

Specifications

- Frequency range: 10 mHz to 200 MHz
- Averaging time: 1 µs to 10 s
- Settling time: 1 µs to 10 s
- Sweep points: 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192
- Source impedance: 50 Ω
- Output voltage range: 2 Vpp
- Input impedance: 50 Ω or 1 MΩ
- Input voltage range: 1 Vpp or 10 Vpp
- Noise floor: 10 mHz to 100 kHz: -100 dBm
  100 kHz to 1 MHz: -125 dBm
  1 MHz to 50 MHz: -130 dBm
  50 MHz to 200 MHz: -120 dBm

Applications

- Capacitance/inductance measurement
- EMI filter characterization
- Impedance measurement
- Power supply analysis
- Stability analysis