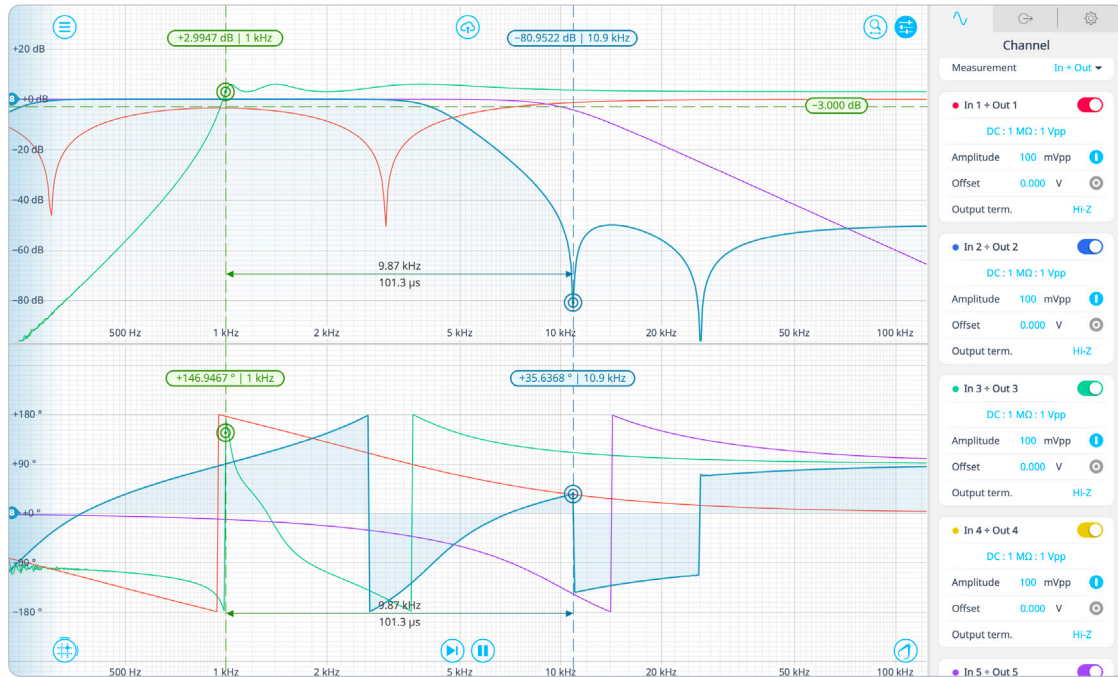




Frequency Response Analyzer



The Moku:Delta Frequency Response Analyzer enables frequency response measurements from DC to 2 GHz, leveraging eight input and output channels at 5 GSa/s to support simultaneous multi-point probing or parallel system testing. Combining 14-bit and 20-bit ADCs with frequency-dependent blending to deliver high dynamic range across the spectrum, while Dynamic Amplitude drive automatically adjusts excitation levels to optimize sensitivity. Up to 8192 sweep points can be measured with settling and averaging times between 1 μ s and 10 s to balance measurement speed and resolution. The system also supports harmonic demodulation up to the 15th harmonic and includes a dedicated math channel for real-time computation.



Frequency range
Up to 2 GHz

Input impedance
50 Ω or 1 M Ω

Averaging time
1 μ s to 10 s

Sweep
Linear / logarithmic

Output voltage range
Up to 10 Vpp

Harmonics detection
Up to 15th

Features

- Linear or logarithmic swept sine output
- Demodulate up to the 15th harmonic
- Measure entire system response with “In \div Out” or “In \div In 1” modes, or components of the system with “In \div In 1”
- 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
- Configurable measurement averaging and settling times
- Measure key metrics with cursors and markers
- Remove constant phase shift with delay compensation
- Option to unwrap phase

Specifications

- Frequency range: 10 mHz to 2 GHz
- Averaging time: 1 μ s to 10 s
- Settling time: 1 μ s to 10 s
- Sweep points: 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192
- Input impedance: 50 Ω or 1 M Ω
- Output voltage range (into 50 Ω):
 - 1 Vpp
 - 10 Vpp (< 100 MHz)
- Input impedance: 50 Ω or 1 M Ω
- Input range: 100 mVpp, 1 Vpp, 10 Vpp, or 40 Vpp
- Measurement units: dB, dBm, dBVpp, dBVrms
- Noise floor: < 10 nV/ \sqrt Hz

Applications

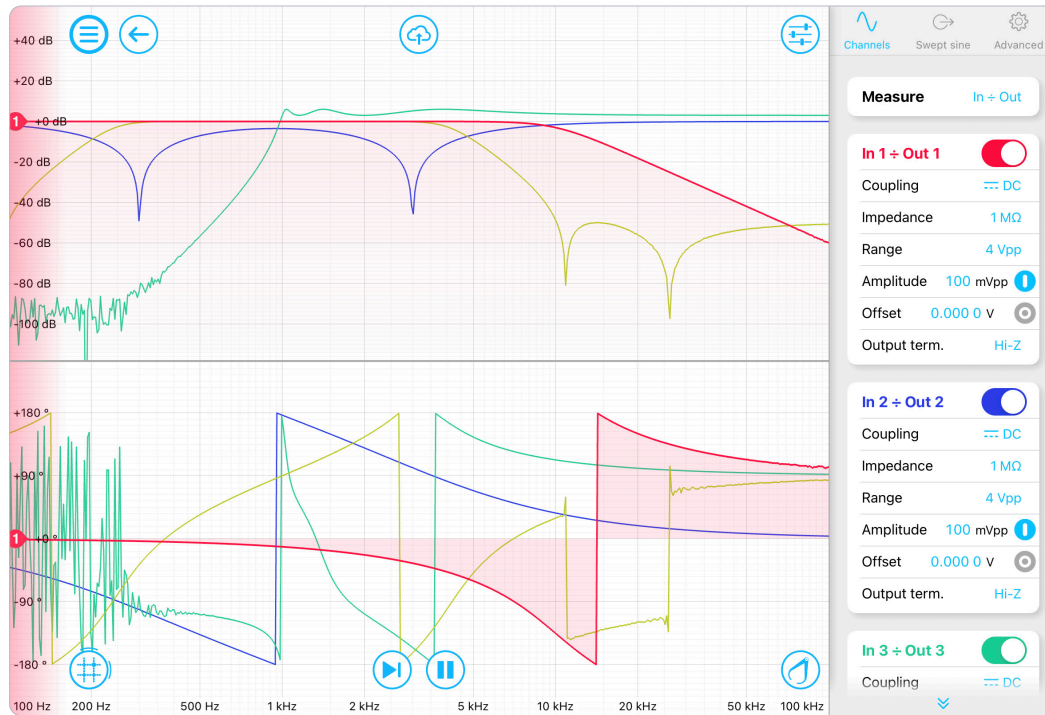
- RF filter and amplifier characterization
- Capacitance/inductance measurement
- EMI filter characterization
- Impedance spectroscopy
- Power supply analysis
- Stability analysis
- Sensor interface and conditioning circuit testing
- Control system validation
- Wide band device verification



Frequency Response Analyzer



The Moku:Pro Frequency Response Analyzer enables you to measure the frequency response of a system in both magnitude and phase using a swept sine output from 10 mHz to 500 MHz, with a noise floor of < -125 dBm across the entire frequency range. Moku:Pro is equipped with four inputs and four outputs, enabling differential or ratiometric measurements. Select up to 8192 points per sweep and configure settling and averaging times to balance total sweep duration and signal-to-noise ratio.



Frequency range
Up to 500 MHz

Input impedance
50 Ω or 1 M Ω

Averaging time
1 μ s to 10 s

Sweep
Linear/logarithmic

Output voltage range
Up to 20 Vpp

Harmonics detection
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 four systems simultaneously, or one system at multiple points
- Demodulate up to the 15th harmonic

Specifications

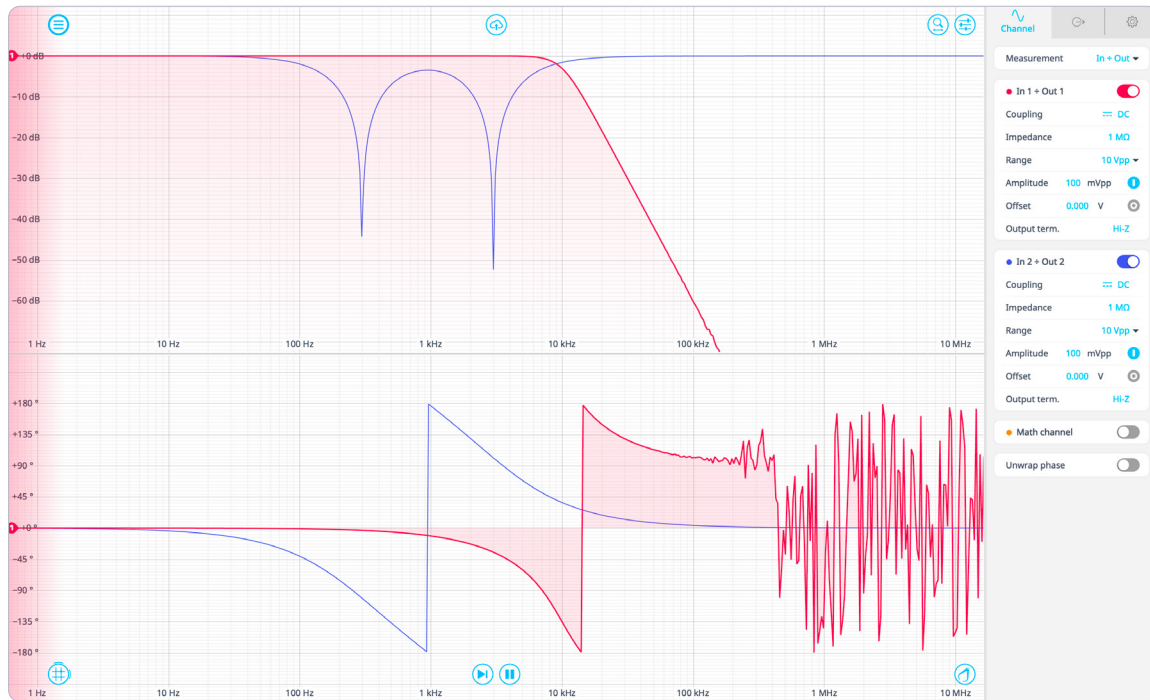
- Frequency range: 10 mHz to 500 MHz
- Averaging time: 1 μ s to 10 s
- Settling time: 1 μ s to 10 s
- Sweep points: 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192
- Source impedance: 50 Ω or 1 M Ω
- Output voltage range:
 - 4 Vpp
 - 20 Vpp (< 100 MHz)
- Input impedance: 50 Ω or 1 M Ω
- Input range: 400 mVpp, 4 Vpp, or 40 Vpp
- Measurement units: dB, dBm, dBVpp, dBVrms
- Noise floor:
 - < 100 kHz: < -125 dBm
 - 100 kHz to 300 MHz: < -135 dBm
 - 300 MHz to 500 MHz: < -125 dBm

Applications

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



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
Up to 200 MHz

Input impedance
50 Ω or 1 M Ω

Averaging time
1 μ s to 10 s

Sweep
Linear/Logarithmic

Output voltage range
2 Vpp into 50 Ω

Harmonic detection
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 μ s to 10 s
- Settling time: 1 μ s 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 M Ω
- 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

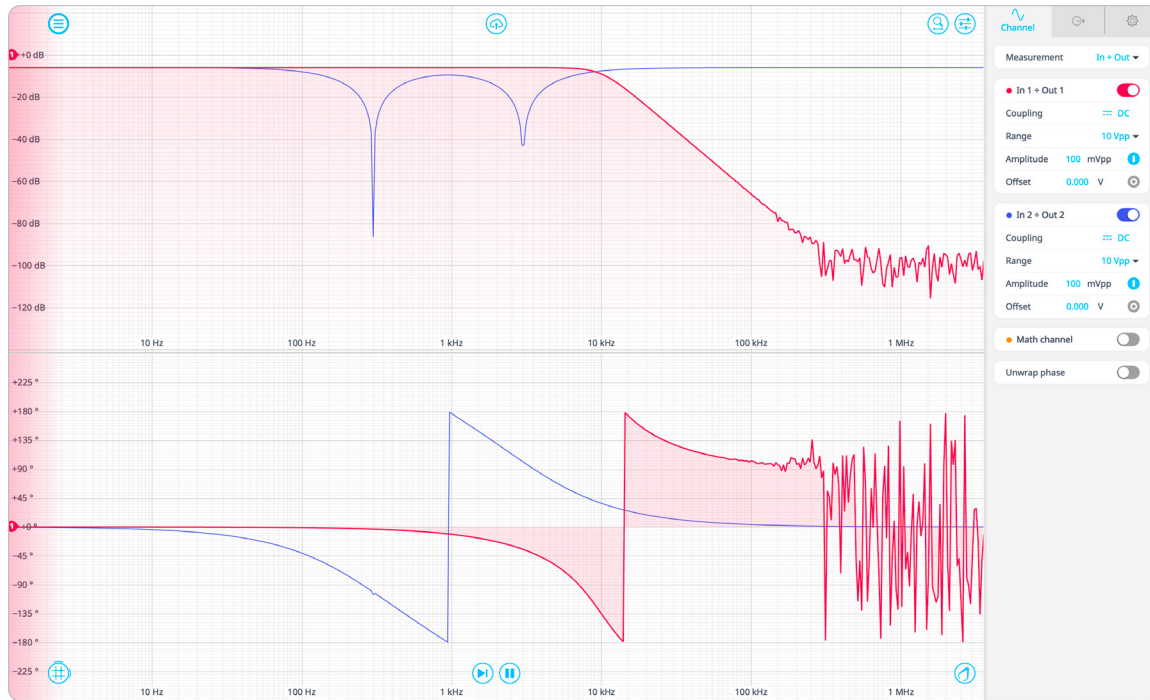
- Capacitance/inductance measurement
- EMI filter characterization
- Impedance measurement
- Power supply analysis
- Stability analysis



20 MHz Frequency Response Analyzer



The Moku:Go Frequency Response Analyzer enables you to measure the frequency response of a system in both magnitude and phase using a swept sine output from 10 mHz to 20 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.



Frequency Range
Up to 20 MHz

Input Impedance
1 M Ω

Averaging time
1 μ s to 10 s

Sweep
Linear/Logarithmic

Output Voltage Range
10 Vpp

Harmonics Detection
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
- Use cursors and markers to measure exact values on the plots
- Measurement averaging and settling times are highly configurable
- Saturation detection and avoidance with Dynamic Amplitude drive
- Probe two systems simultaneously, or one system at two points
- Demodulate up to the 15th harmonic

Specifications

- Frequency range: 10 mHz to 20 MHz
- Averaging time: 1 μ s to 10 s
- Settling time: 1 μ s to 10 s
- Sweep points: 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192
- Output voltage range: 10 Vpp
- Input impedance: 1 M Ω
- Input voltage range: 10 Vpp or 50 Vpp
- Measurement units: dB, dBm, dBVpp, dBVrms
- Noise floor: up to -80 dB

Applications

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