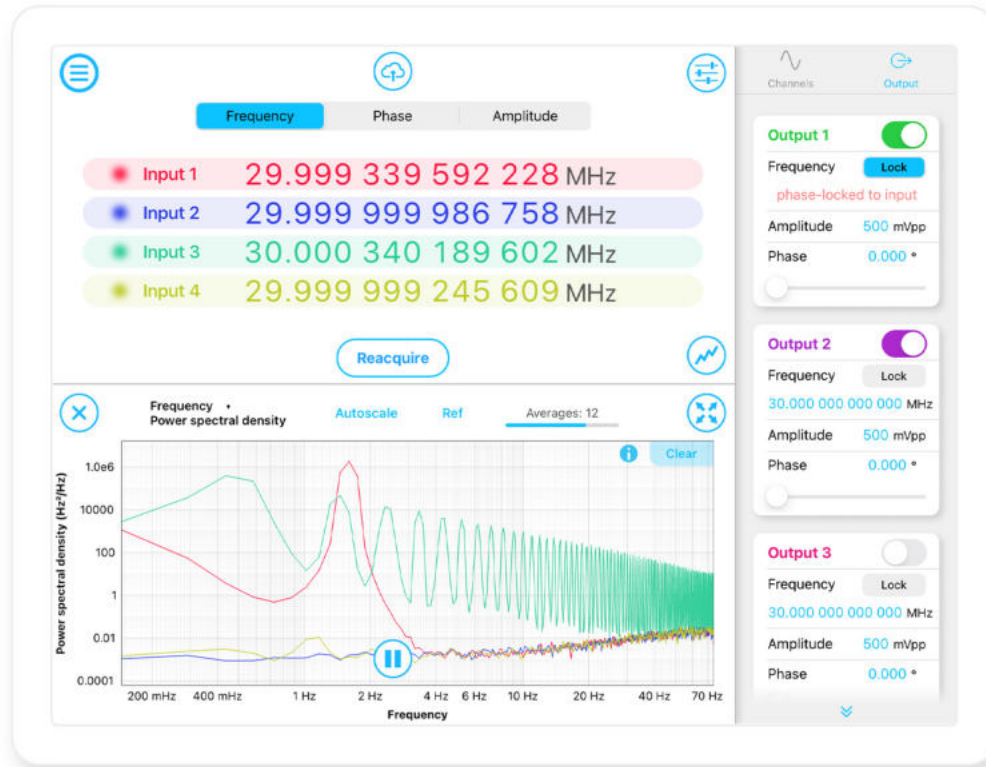




# 300 MHz Phasemeter

Moku:Pro's Phasemeter measures phase (relative to a reference clock) of up to four input signals with better than 6  $\mu$ radian precision from 1 kHz up to 300 MHz. Based on a digitally implemented phase-locked loop architecture, Moku:Pro's Phasemeter provides exceptional dynamic range, zero dead-time, and measurement precision that exceeds the performance of conventional lock-in amplifiers and frequency counters.



**Frequency Range**  
1 kHz to 300 MHz

**Tracking Bandwidth**  
Up to 10 kHz

**Phase precision**  
6  $\mu$ rad/ $\sqrt{\text{Hz}}$

**Frequency precision**  
10  $\mu$ Hz/ $\sqrt{\text{Hz}}$

**Data capturing rates**  
30 Hz, 120 Hz, 477 Hz

**Built-in Analysis**  
Allan Deviation

## Features

- Four independent phasemeter channels with output options that track and record the phase, frequency, and amplitude of two independent signals
- Phase-locked output option enables you to generate sine waves that are phase-locked to the inputs
- Real-time spectral analysis to display and save Power Spectral Densities, Allan Deviation, and more
- Phase-locked loop tracking bandwidths from 10 Hz up to 10 kHz

## Specifications

- Input frequency range: 1 kHz - 300 MHz
- Input voltage range: 400 mVpp, 4 Vpp, or 40 Vpp
- Frequency set-point precision: 1.4  $\mu$ Hz
- Tracking bandwidth: 10 Hz, 40 Hz, 150 Hz, 600 Hz, 2.5 kHz, 10 kHz
- Data acquisition rates: 30 Hz, 120 Hz, 477 Hz
- Phase precision: down to 6  $\mu$ rad/ $\sqrt{\text{Hz}}$
- Frequency precision: down to 10  $\mu$ Hz/ $\sqrt{\text{Hz}}$
- Sine wave generators: Four-channel 500 MHz (manual or input-locked)

## Applications

- Oscillator analysis
- Optical/ultrasound ranging
- Gravitational wave detection
- Interferometry
- Phase-locked loop