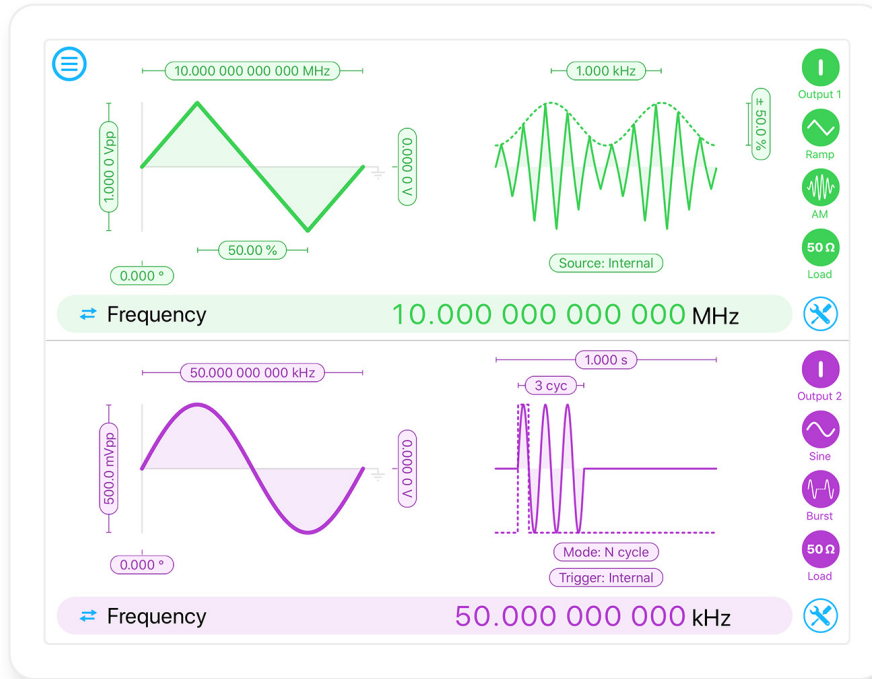# 250 MHz Waveform Generator

Moku:Lab's Waveform Generator enables users to generate two independent waveforms with a sampling rate of 1 GSa/s, a maximum frequency of 250 MHz and an output voltage range of ± 1 V into 50 Ω. Select between sine, square, ramp, pulsed or DC waveform shapes. Modulate the phase, frequency or amplitude, or generate triggered bursts or sweeps from an internal or external source.

Frequency Range	Sampling Rate	Resolution	Output Voltage Range	Modulation	Other Modes
DC to 250 MHz	**1 GSa/s**	**16 bit**	**± 1 V into 50 Ω**	**FM, AM, PM**	**Burst, Sweep**

Features

- Generate 2 independent waveforms from DC to 250 MHz
- 5 built-in waveforms: sine, square, ramp, pulse, and DC
- Intuitive graphical user interface with Python, MATLAB, and LabVIEW API support
- FM, AM, and PM modulation with internal waveform (cross-channel modulation) or external input
- Versatile trigger options: from input, dedicated TTL trigger port, or the other output channel

Specifications

- Output bandwidth: 300 MHz
- Frequency range:
  - Sine: 1 mHz to 250 MHz
  - Square: 1 mHz to 100 MHz
  - Ramp: 1 mHz to 100 MHz
  - Pulse 1 mHz to 100 MHz
- Pulse width: 4 ns to period
- Modulation bandwidth: 62.5 MHz
- Burst mode: start, N-cycle, gated
- Sweep time: 1 ms to 1 ks
- SFDR: >50 dBc below 20 MHz
- THD: 0.5% (1.5 MHz, 5 harmonics)

Applications

- Signal simulation
- Laser scanning microscopy
- Circuit design and characterization
- System synchronization
- Clock source
- DAC/Op-amp characterization