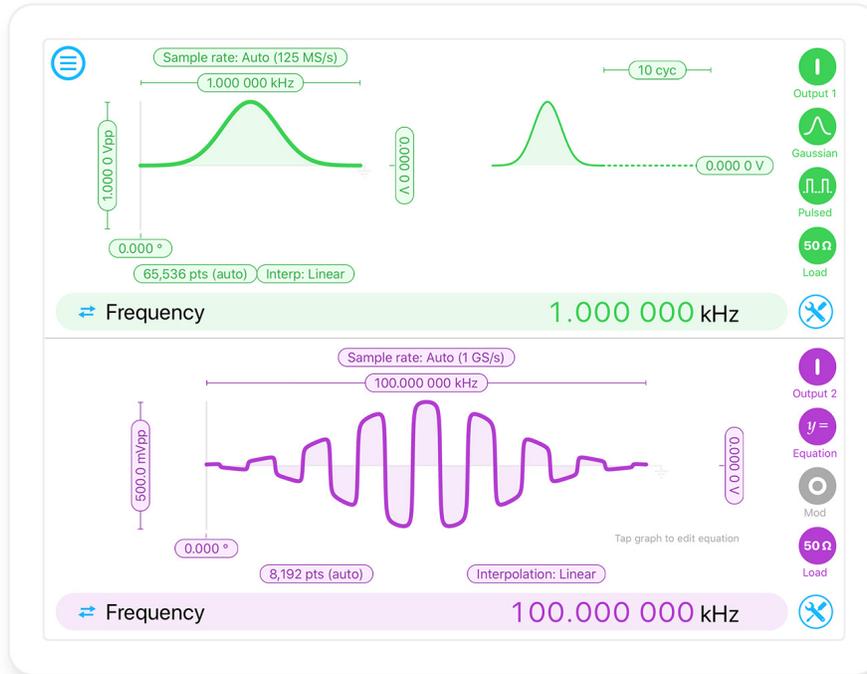# 300 MHz Arbitrary Waveform Generator

Moku:Lab's Arbitrary Waveform Generator can generate custom waveforms with up to 65,536 points at sample rates of up to 1 GSa/s. Waveforms can be loaded from a file, or input as a piece-wise mathematical function with up to 32 segments, enabling you to generate truly arbitrary waveforms. In pulsed mode, waveforms can be output with more than 250,000 cycles of dead time between pulses, allowing you to excite your system with an arbitrary waveform at regular intervals over extended periods of time.

Maximum Sample rate	Output Bandwidth	DAC Resolution	Independent triggering	Supported Waveforms
1 GSa/s	**300 MHz**	**16-bits**	**Burst/Pulsed**	**5 predefined, segmented equations (up to 32) or custom**

Features

- Two independent AWG channels with 300 MHz bandwidth
- Choose between one of the preset waveforms, load points from a file or input an equation directly
- Phase synchronization output between the two channels
- Configure pulsed output with up to 250,000 cycles of dead time between pulses

Specifications

- Supported waveforms: sine, Gaussian, exponential fall, exponential rise, sinc, equation editor, custom (from file)
- Output bandwidth (-3 dB): 300 MHz
- Output voltage: 2 Vpp into 50 Ω
- DC offset: ± 1 V with 100 µV resolution
- Phase offset: 0º to 360º with 0.001º resolution
- Maximum output rate:
  - 125 MSa/s with 65,536 points
  - 250 MSa/s with 32,758 points
  - 500 MSa/s with 16,384 points
  - 1 GSa/s with 8192 points

Applications

- Random pattern scanning
- System response simulation
- Additive manufacturing
- Quantum optics