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Data Sheet

August 3, 2026

KEYSIGHT

Keysight 33611A 80MHz Waveform Generator

Keysight 33611A 80 MHz Waveform Generator The Keysight 33611A is a single-channel 80 MHz Trueform waveform generator in the 33600A Series. Trueform technology provides low jitter (~1 ps), low THD, and high-fidelity arbitrary waveforms with standard 4 MSa memory (64 MSa with Option MEM). Sample rate spans 1 μ Sa/s to 660 MSa/s. Precision function/arb generation for analog/mixed-signal design validation; low-jitter clocking and edge placement; modulation and waveform sequencing in R&D and production test. The Keysight 33611A is a single-channel 80 MHz Trueform waveform generator in the 33600A Series. Trueform technology provides low jitter (~1 ps), low THD, and high-fidelity arbitrary waveforms with standard 4 MSa memory (64 MSa with Option MEM). Sample rate spans 1 μ Sa/s to 660 MSa/s. Precision function/arb generation for analog/mixed-signal design validation; low-jitter clocking and edge placement; modulation and waveform sequencing in R&D and production test.



MODEL

Keysight 33611A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

33611A

LISTING

<https://aumictechlabs.com/products/33611a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight 33611A is an 80 MHz single-channel arbitrary waveform generator built on Trueform technology, delivering signal integrity and measurement precision far beyond traditional DDS architectures. It generates sine waves to 80 MHz, pulses to 100 MHz, and supports nine standard waveforms plus user-defined arbitrary signals up to 4 MSa (expandable to 64 MSa). Sampling at 660 MSa/s or 1 GS/s with 14-bit amplitude resolution, the instrument achieves 0.03% THD, 1 ps

jitter, and phase noise of -125 dBc/Hz - enabling reliable performance in design validation, component characterization, and education. The 33611A operates in five modes: Continuous, Modulate, Frequency Sweep, Counted Burst, and Gated Burst. It applies AM, FM, PM, FSK, BPSK, PWM, and waveform summing across its full frequency range (1 μ Hz to 80 MHz sweep capability). Amplitude spans 1 mVpp to 10 Vpp into 50 Ω or 2 mVpp to 20 Vpp open-circuit, with 4-digit resolution. Harmonic distortion on sine waves runs 5 $\times$ lower than comparable DDS generators. Waveform creation flows through front-panel editing, direct capture from oscilloscopes, or external design in MATLAB and Excel. Trueform sequencing and summing allow construction of complex multi-tone signals without additional channels. Two-channel models can combine up to four waveforms. Technical Specifications Frequency: 80 MHz sine, 100 MHz pulse maximum Sampling Rate: 660 MSa/s, 1 GS/s Arbitrary Memory: 4 MSa standard; 64 MSa with Option MEM Amplitude Resolution: 14-bit; 4-digit display Amplitude Range: 1–10 Vpp (50 Ω); 2–20 Vpp (open circuit) Distortion: 0.03% THD; 5 $\times$ lower harmonics versus DDS Jitter: 1 ps; Phase Noise: -125 dBc/Hz Sweep Range: 1 μ Hz to 80 MHz Modulation: AM, FM, PM, FSK, BPSK, PWM, Sum Line Voltage: 100–240 Vac $\pm 10\%$, 50/60 Hz Key Features Trueform signal architecture for enhanced precision and low distortion Nine built-in waveforms; nine additional preset arbitrary shapes Front-panel and external waveform editing; MATLAB/Excel integration Waveform sequencing and summing without dual-channel hardware Five operating modes including frequency sweep and gated/counted burst Typical Applications Electronic design and prototype validation Component and subsystem characterization Signal integrity and jitter analysis Educational laboratory instruction Compatibility & Integration USB and LAN (LXI-Core) interfaces standard Optional GPIB (3446GPBU) External triggering and remote control via BenchVue, VEE, and LabVIEW

Features & description

From manufacturer datasheet

Features

- Bandwidth: 80 MHz; 1 channel
- Trueform technology; edge jitter < 1 ps (200× better than typical DDS class claims in Keysight literature)
- THD: 0.03% class (Trueform)
- Arb memory: up to 4 MSa standard; 64 MSa with Option MEM; multi-segment sequencing
- Sample rate: 1 μ Sa/s to 660 MSa/s (33611A/12A)
- Interfaces: LAN, USB; optional GPIB; optional OCX oven reference
- Built-in waveforms plus user-defined arbitrary with sequencing

33611A Characteristics / Specifications

PARAMETER	VALUE
Model	33611A
Manufacturer	Keysight Technologies
Instrument Type	Waveform / Arbitrary Waveform Generator (Trueform)
Family	33600A Series
Alias	33611A; Keysight 33611A; Agilent 33611A Bandwidth and Channels
Maximum Frequency	80 MHz
Number of Channels	1
Sample Rate (FS)	1 μ Sa/s to 660 MSa/s, 1 μ Sa/s resolution
Waveform Length	32 Sa to 4 MSa per channel (64 MSa with Option MEM), 1 Sa increments
Volatile Memory	4 MSa/channel (64 MSa/channel with Option MEM); 512 sequence steps per channel
Edge Jitter	< 1 ps (Trueform literature vs DDS)
THD (typical)	Trueform class ~0.03% (see datasheet tables for VOUT = 1 Vpp vs > 1 Vpp)
Bandwidth	80 MHz; 1 channel
THD	0.03% class (Trueform)
Arb memory	up to 4 MSa standard; 64 MSa with Option MEM; multi-segment sequencing
Sample rate	1 μ Sa/s to 660 MSa/s (33611A/12A)
Interfaces	LAN, USB; optional GPIB; optional OCX oven reference

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

Parameter	Value
Model	33611A
Manufacturer	Keysight Technologies
Instrument Type	Waveform / Arbitrary Waveform Generator (Trueform)
Family	33600A Series
Alias	33611A; Keysight 33611A; Agilent 33611A

Bandwidth and Channels

Maximum Frequency: 80 MHz

Number of Channels: 1

Sine Frequency ($V_{OUT} \leq 8 \text{ Vpp}$): 1 μHz to 80 MHz, 1 μHz resolution

Sample Rate and Memory

Specifications

PARAMETER	VALUE
Sample Rate (FS)	1 μSa/s to 660 MSa/s, 1 μSa/s resolution
Waveform Length	32 Sa to 4 MSa per channel (64 MSa with Option MEM), 1 Sa increments
Volatile Memory	4 MSa/channel (64 MSa/channel with Option MEM); 512 sequence steps per channel

User-Defined Arbitrary: Up to 4 MSA (64 MSA with Option MEM) with multi-segment sequencing

Signal Fidelity

Edge Jitter: < 1 ps (Trueform literature vs DDS)

THD (typical): Trueform class ~0.03% (see datasheet tables for VOUT = 1 Vpp vs > 1 Vpp)

Amplitude Flatness (rel. to 1 kHz, VOUT = 1 Vpp): fOUT 60–80 MHz ± 0.30 dB (spec); for VOUT > 1 Vpp ± 0.40 dB in same band (per 33600A datasheet)

Modulation

AM standard; FM deviation 1 μ Hz to 40 MHz (33611A/12A), 1 μ Hz resolution

Additional modulation and coupling modes per 33600A Series datasheet

Options

Option MEM: Increases arb memory from 4 MSa/channel to 64 MSa/channel

Option OCX: Oven-controlled frequency reference for improved stability, jitter, and phase noise

Option SEC: NISPOM / file security (family option)

Optional GPIB interface

Operational Notes

Do not confuse with 33612A (80 MHz, 2-ch) or 33621A/33622A (120 MHz). Prefer Keysight 33600A Series datasheet 5991-3272 for full amplitude, THD, and phase-noise tables by frequency and VOUT.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.