

**Aumictech**

Test & measurement • bought, sold, repaired, calibrated

Data Sheet

August 5, 2026

KEYSIGHT / AGILENT

Keysight (Agilent) 81180B 4.6 GSa/s Arbitrary Waveform Generator

Keysight (Agilent) 81180B 4.6 GSa/s Arbitrary Waveform Generator The Keysight 81180B is a high-speed arbitrary waveform generator sampling at up to 4.6 GSa/s with three selectable output paths: DC-coupled direct DAC (~1 GHz bandwidth), DC-coupled amplified path (>600 MHz, up to 2 V), and AC-coupled amplified path (~1.5 GHz, ~10 dBm). Dual-channel options with 16 M or 64 M waveform points. Suitable for wideband IQ/modulation stimulus and high-speed AWG applications. Wideband communications stimulus; radar/EW baseband; high-speed DAC emulation; multi-channel synchronized AWG (with sync cable option). The Keysight 81180B is a high-speed arbitrary waveform generator sampling at up to 4.6 GSa/s with three selectable output paths: DC-coupled direct DAC (~1 GHz bandwidth), DC-coupled amplified path (>600 MHz, up to 2 V), and AC-coupled amplified path (~1.5 GHz, ~10 dBm). Dual-channel options with 16 M or 64 M waveform points. Suitable for wideband IQ/modulation stimulus and high-speed AWG applications. Wideband communications stimulus; radar/EW baseband; high-speed DAC emulation; multi-channel synchronized AWG (with sync cable option).



MODEL

**Keysight / Agilent
81180B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81180B

LISTING

<https://aumictechlabs.com/products/81180b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight (Agilent) 81180B is an arbitrary waveform generator delivering sample rates up to 4.6 GSa/s with 12-bit vertical resolution. This dual-channel instrument generates complex signals for wireless communications, satellite, radar, and software-defined radio applications. It supports arbitrary, sequenced, and standard function generation modes with advanced sequencing for dynamic real-time waveform control and efficient memory utilization.

Technical Specifications

Generation Performance Sample rate: 10 MSa/s to 4.6 GSa/s variable Vertical resolution: 12-bit Waveform memory: 16 MSa standard (64 MSa optional) Bandwidth and Modulation Per-channel modulation bandwidth: 1 GHz I/Q modulation bandwidth: 2 GHz Direct RF carrier frequency: Up to 1.5 GHz Channel Architecture Channels: 2 standard configuration Phase-coherent or independent channel operation Interchannel skew control: -3 ns to +3 ns with 10 ps resolution Multi-instrument synchronization: Two units form 4-channel system

Output Specifications Single-ended amplitude: 2 Vpp into 50 Ω Differential amplitude: 4 Vpp into 50 Ω Three software-selectable amplifiers: I/Q (1 GHz differential, DC-coupled), Direct RF (>1.5 GHz AC-coupled bandwidth), Time Domain (low overshoot/jitter, differential, DC-coupled)

Sequencing and Markers Advanced sequences: Up to 1 per channel Sequence segments: 16,000 per sequence Total sequences: Up to 1,000 External 8-bit input for dynamic segment/sequence control Markers: 2 per channel with controlled position, width, and level

Key Features Arbitrary waveform generation with downloadable memory segments Smart trigger with hold-off and programmable pulse width Marker output independent of DAC resolution Conditional jumps and loop control within sequences Real-time dynamic control via external input

Typical Applications Wireless communications signal generation, satellite payload simulation, radar waveform synthesis, software-defined radio development, and multi-channel coherent signal generation.

Compatibility & Integration Two 81180B units synchronize for 4-channel operation. Channel coupling supports both phase-coherent and independent modes with precise interchannel skew adjustment.

Features & description

From manufacturer datasheet

Features

- Sample rate: up to 4.6 GSa/s
- Three output paths: Direct DAC / Amp DC / Amp AC
- Direct DAC bandwidth ~1 GHz; Amp DC >600 MHz; Amp AC ~1.5 GHz
- Memory options: 16 Mpts (216) or 64 Mpts (264) dual-channel
- Phase noise class ~-100 dBc/Hz at 10 kHz offset (published typical conditions)
- Sync option for two units → four channels

81180B Characteristics / Specifications

PARAMETER	VALUE
Model	81180B
Manufacturer	Keysight Technologies (Agilent)
Instrument Type	Arbitrary Waveform Generator
Alias	81180B Sampling / Memory
Max sample rate	4.6 GSa/s 81180B-216: dual-channel, 16,000,000 points 81180B-264: dual-channel, 64,000,000 points Output Paths (typical published)
Direct DAC	DC-coupled, ~1 GHz BW
Amplified DC	>600 MHz analog BW, up to ~2 V
Amplified AC	~10 dBm, ~1.5 GHz analog BW Spectral (example published typicals at stated conditions)
Phase noise	-100 dBc/Hz @ 10 kHz offset (class)
Harmonics / nonharmonics	per 81180B datasheet 5991-0364EN tables Operational Notes Prefer Keysight 81180B datasheet 5991-0364EN for full amplitude, SFDR, and filter option tables.
Sample rate	up to 4.6 GSa/s
Three output paths	Direct DAC / Amp DC / Amp AC
Memory options	16 Mpts (216) or 64 Mpts (264) dual-channel
Bandwidth	~1 GHz; Amp DC >600 MHz; Amp AC ~1.5 GHz - Memory options: 16 Mpts (216) or 64 Mpts (264) dual-channel - Phase noise class ~-100 dBc/Hz at 10 kHz offset (published typical conditions) - Sync option for two units → four channels

81180B Specifications

PARAMETER	VALUE
Applications	Wideband communications stimulus; radar/EW baseband; high-speed DAC emulation; multi-channel synchronized AWG (with sync cable option).
Key Features	- Sample rate: up to 4.6 GSa/s
Technical Specifications	Model: 81180B
Sampling / Memory	Max sample rate: 4.6 GSa/s
Output Paths (typical published)	Direct DAC: DC-coupled, ~1 GHz BW
Operational Notes	Prefer Keysight 81180B datasheet 5991-0364EN for full amplitude, SFDR, and filter option tables.

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	81180B
Manufacturer	Keysight Technologies (Agilent)
Instrument Type	Arbitrary Waveform Generator
Alias	81180B

Sampling / Memory

Max sample rate: 4.6 GSa/s

81180B-216: dual-channel, 16,000,000 points

81180B-264: dual-channel, 64,000,000 points

Output Paths (typical published)

Specifications

PARAMETER	VALUE
Direct DAC	DC-coupled, ~1 GHz BW
Amplified DC	>600 MHz analog BW, up to ~2 V
Amplified AC	~10 dBm, ~1.5 GHz analog BW

Spectral (example published typicals at stated conditions)

Phase noise: -100 dBc/Hz @ 10 kHz offset (class)

Harmonics / nonharmonics: per 81180B datasheet 5991-0364EN tables

Operational Notes

Prefer Keysight 81180B datasheet 5991-0364EN for full amplitude, SFDR, and filter option tables.

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 5, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.