

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N6030A

The Agilent N6030A is a high-performance 15-bit, 1.25 GS/s PXI/CompactPCI arbitrary waveform generator designed for creating complex wideband waveforms. It offers 500 MHz of modulation bandwidth per channel and over 65 dBc of SFDR, making it ideal for testing radar, satellite, and frequency agile systems.

SPECIFICATIONS

General

Interfaces	PXI, CompactPCI
Bus Interface	PXI/CompactPCI
Recommended Calibration Cycle	1 year

Physical

Power Supply	+3.3 VDC (2.0 A), +5 VDC (3.2 A), +12 VDC (1.0 A), -12 VDC (0.2 A) via backplane; 37 W total power consumption
Operating Temperature	0 to 50 °C °C
Dimensions (W×H×D)	60.3 mm × 128.7 mm × 213.3 mm mm
Weight	1.15 kg kg

Channel Configuration & Core Architecture

Number of Channels	2
DAC Resolution	15 bits
Maximum Sample Rate	1.25 GS/s
Output Configuration	Differential and single-ended

Arbitrary Waveform Performance

Analog Bandwidth	500 MHz per channel
Modulation Bandwidth	500 MHz per channel
Spurious-Free Dynamic Range (SFDR)	>65 dBc
Maximum Waveform Memory Depth	Up to 16 MS (optional)
Maximum Definable Waveform Segments	Up to 32,768
Maximum Unique Definable Sequences	Up to 16,000

Trigger & Synchronization

Multiple Module Synchronization	Supported
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System Connectivity & Control

Software Control	MATLAB
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Physical Characteristics & Compliance

Form Factor	3U PXI / CompactPCI
Module Width	3 slots

Sequencing & Modulation

Modulation Bandwidth (with Wideband I/Q Upconverter)	1 GHz
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Output Performance

Harmonic Distortion (<10 MHz)	< -65 dBc
Harmonic Distortion (<100 MHz)	< -50 dBc
Harmonic Distortion (<500 MHz)	< -40 dBc
Non-Harmonic Spurious (<100 MHz)	< -75 dBc
Non-Harmonic Spurious (<500 MHz)	< -65 dBc
Noise Floor (10 MHz to 500 MHz)	-150 dBm/Hz (typical)
Rise/Fall Time (10% to 90%)	< 450 ps
Output Impedance	100 Ω (differential)
Maximum Output Voltage	1 V _{pp} (differential, into 100 Ω)

Clocks and Reference

Internal Clock Sample Rate	1.25 GS/s
External Reference Input Frequency	10 MHz
External Clock Input Frequency	200 MHz to 1.25 GHz
Reference Output Frequency	10 MHz

Triggers & Markers

Marker Outputs	2 (front panel SMA connectors, adjustable delay)
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Connectors

Front Panel Connectors	SMA (differential analog outputs, external clock/ref input, triggers, markers)
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Environmental

Storage Temperature	-40 to +70 °C
Operating Altitude	Up to 4,600 m
Storage Altitude	Up to 15,300 m
Relative Humidity	Up to 95% at 40 °C (non-condensing)

Performance

Amplitude Flatness	± 0.5 dB (DC to 500 MHz)
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Analog Output

Programmable Attenuation Range	0 to 31.5 dB
Programmable Attenuation Resolution	0.5 dB

Waveform Generation

Minimum Waveform Length	320 samples
Waveform Length Resolution	8 samples

Options

Option 300	Dynamic Image Rejection
Option 008	8 MSample Memory per Channel
Option 016	16 MSample Memory per Channel

Software & Drivers

Driver Support	IVI-COM, IVI-C, LabVIEW
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TECHNOLOGY

Arbitrary Waveform Generator (AWG)

APPLICATIONS

Radar, satellite, and frequency agile system testing; wideband RF/IF subsystem simulation

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