

KEYSIGHT TECHNOLOGIES (AGILENT HP)

DSAX92004A

The Keysight Technologies Infiniium DSAX92004A is a high-performance Digital Signal Analyzer oscilloscope featuring a 20 GHz analog bandwidth, 80 GSa/s real-time sample rate on 2 channels, and a deep standard memory of 50 Mpts per channel. It is optimized for high-speed digital designs, serial data analysis, and advanced physical-layer testing.

SPECIFICATIONS

General

Interfaces	LAN (10/100/1000Base-T), LXI class C, USB 2.0 host (6 ports), USB 2.0 device (1 port), GPIB (optional), DisplayPort, DVI, VGA, External Trigger Input, Auxiliary Output, 10 MHz Reference Input/Output
Display	12.1-inch diagonal color TFT-LCD touchscreen, 1024 x 768 pixels
Bandwidth Upgradability	Upgradable to 33 GHz via software license upgrade
LXI Compliance	LXI Class C

Physical

Power Supply	100 - 240 VAC $\pm 10\%$ at 50/60 Hz, maximum power consumption 1100 VA
Operating Temperature	5 °C to +40 °C °C
Dimensions (W×H×D)	432 mm x 330 mm x 483 mm mm
Weight	24.2 kg kg

Vertical System - Analog Channels

Analog Bandwidth (-3 dB)	20 GHz
Calculated Rise Time (10% to 90%)	22.5 ps
Calculated Rise Time (20% to 80%)	16 ps
Number of Input Channels	4
Input Coupling	DC
Vertical Resolution	8-bit (up to 12-bit with high resolution)
Input Sensitivity Range	1 mV/div to 1 V/div
Offset Range	± 1.2 V (at 1 to 100 mV/div), ± 4 V (at 101 mV/div to 1 V/div)
DC Gain Accuracy	$\pm 2\%$ of full scale

Acquisition System

Maximum Real-Time Sample Rate	80 GSa/s (on 2 channels), 40 GSa/s (on 4 channels)
Maximum Record Length (Memory Depth)	2 Gpts (on 2 channels), 1 Gpts (on 4 channels)
Maximum Sample Rate (2 Channels)	80 GSa/s
Maximum Sample Rate (4 Channels)	40 GSa/s
Standard Memory Depth (4 Channels)	100 Mpts
Maximum Memory Depth (2 Channels)	2 Gpts (configuration dependent)
Maximum Memory Depth (4 Channels)	1 Gpts (configuration dependent)

Horizontal System

Timebase Range	2 ps/div to 20 s/div
Timebase Accuracy	±0.1 ppm
Intrinsic Jitter	< 100 fs rms

Trigger System

Trigger Sources	Channel 1, Channel 2, Channel 3, Channel 4, Auxiliary (External)
Trigger Modes	Auto, Normal, Single
Trigger Coupling	DC, AC, LF Reject, HF Reject
Standard Trigger Types	Edge, Edge Transition, Glitch, Width, Runt, Timeout, Pattern, State, Window, Setup/Hold

Waveform Measurements and Analysis

Automatic Measurements	Over 50 vertical, horizontal, mixed, and frequency domain measurements
Waveform Math Operators	Add, Subtract, Multiply, Divide, FFT, Differentiate, Integrate, Square, Square Root, Absolute Value, Log, Common Log, Exponential
FFT Window Types	Hanning, Hamming, Rectangular, Blackman-Harris, Flat Top

Display and User Interface

Waveform Display Formats	YT, XY, XYZ
Operating System	Windows 7 (64-bit) or Windows 10 (configuration dependent)
Internal Storage	Removable Solid State Drive (SSD) ≥ 250 GB

Connectivity and Interfaces

Reference Clock Input	10 MHz, 0 dBm to +10 dBm
Reference Clock Output	10 MHz, ≥ 0 dBm into 50 Ω

Environmental and Compliance

Storage Temperature Range	-40 °C to +70 °C
Operating Humidity	Up to 95% relative humidity (non-condensing) at +40 °C
Operating Altitude	Up to 3,000 m (9,842 ft)
Electromagnetic Compatibility (EMC)	IEC 61326-1, EN 61326-1
Safety Certifications	IEC 61010-1, CAN/CSA-C22.2, UL 61010-1

Physical Characteristics

Form Factor	Benchtop
Cooling Type	Forced air cooling

Inputs & Outputs

Probe Interface	AutoProbe II (50 Ω)
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Vertical System

Vertical Noise Floor	1.34 mV rms (typical, at 50 mV/div, 20 GHz)
Channel-to-Channel Isolation	≥ 40 dB (DC to 20 GHz)

System

System Memory	8 GB DDR3
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Included Licenses

Included Jitter Analysis Software	EZJit Plus (N5400A) standard
Included Serial Analysis Software	Serial Data Analysis (SDA) software (E2688A) standard

Triggering

Hardware Serial Trigger Rate	6.25 Gbps (standard on DSA models)
Trigger Sensitivity (Edge)	1.0 div @ 20 GHz

Rear Panel Connections

Rear Panel External Display Outputs	DisplayPort, DVI-I
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TECHNOLOGY

Digital Signal Analyzer (DSA)

APPLICATIONS

High-speed serial bus compliance testing, jitter analysis, RF/microwave signal characterization, and high-performance digital system design

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