KEYSIGHT TECHNOLOGIES (AGILENT HP)

DSA90604A

The Keysight Infiniium DSA90604A is a high-performance 6 GHz digital signal analyzer oscilloscope belonging to the DSA90000A Series. It integrates superior analog performance, deep analysis software, and a powerful hardware-software triggering system designed to provide deep insight and superior signal integrity for high-speed digital designs.

SPECIFICATIONS

General

Interfaces	LAN (10/100/1000Base-T), GPIB (IEEE-488.2), 6 × USB 2.0 Host (2 front, 4 rear), 1 × USB 2.0 Device, Dual-Link DVI, VGA, Auxiliary Output, Reference Clock Input/Output
Display	12.1-inch color XGA TFT-LCD touchscreen (1024 × 768 resolution)

Physical

Power Supply	100 - 240 VAC (±10%) at 50/60 Hz, max 800 W
Operating Temperature	5 °C to +40 °C °C
Dimensions (W×H×D)	434 mm × 283 mm × 505 mm mm
Weight	20.4 kg kg

Vertical System

Analog Bandwidth	6 GHz
Analog Rise Time (10% to 90%)	75 ps
Analog Rise Time (20% to 80%)	53 ps
Input Channels	4 analog channels
Input Impedance	50 Ω (±1.5%)
Input Coupling	DC
Input Sensitivity Range	1 mV/div to 1 V/div
DC Gain Accuracy	±2% of full scale
Maximum Input Voltage	± 5 V
Channel-to-Channel Isolation	40 dB (DC to 1 GHz), 30 dB (1 GHz to 6 GHz)
Noise Floor (at 5 mV/div)	234 µVrms
Offset Range	±0.4 V (1 to 100 mV/div), ±4 V (101 mV to 1 V/div)
Offset Accuracy	±(1.5% of channel offset setting + 1.0% of full scale + 1 mV)
Input VSWR	< 1.25:1 (DC to 4 GHz), < 1.5:1 (4 to 6 GHz)
Probe Interface	AutoProbe

Horizontal System

Main Timebase Range	5 ps/div to 20 s/div
Timebase Accuracy	±0.1 ppm (initial), ±0.1 ppm/year (aging)

Acquisition System

Maximum Real-Time Sample Rate	40 GSa/s (2 channels), 20 GSa/s (4 channels)
Maximum Memory Depth (Standard)	50 Mpts per channel (4 channels), 100 Mpts (2 channels)
Maximum Memory Depth (Optional)	500 Mpts per channel (4 channels), 1 Gpts (2 channels)
Acquisition Modes	Real-time, Equivalent-time, Segmented, Average

Trigger System

Trigger Sources	Channel 1, Channel 2, Channel 3, Channel 4, Auxiliary
Trigger Modes	Edge, Glitch, Width, Transition, Runt, Timeout, Window, Pattern, State, Setup/Hold, Sequence
Trigger Sequencing	2-level trigger sequencing
Internal Trigger Level Range	±4 divisions from center of screen

Waveform Measurements and Analysis

Waveform Math Operators	Add, Subtract, Multiply, Divide, FFT, Differentiate, Integrate, Square, Square Root, Log, Ln, Absolute Value
FFT Window Types	Hanning, Flat Top, Rectangular, Blackman-Harris, Hamming
Standard Analysis Software Bundle	Serial Data Analysis (SDA), EZJIT+ (Jitter and RJ/DJ Separation), InfiniiScan, Bandwidth/Noise Reduction

Computer System Specs

Operating System	Windows Embedded Standard 7
Storage Drive	250 GB (or larger) removable high-speed SATA hard drive

Power and Environmental

Non-Operating Temperature Range	-40 °C to +70 °C
Operating Humidity	Up to 95% relative humidity (non-condensing) at +40 °C
Operating Altitude	Up to 4,600 m (15,000 ft)

Compliance and Standards

Recommended Calibration Cycle	1 year
LXI Compliance	LXI Class C compliant

Display

Display Resolution	1024 × 768 pixels

Processor & Storage

CPU	Intel Core 2 Duo 3.0 GHz
System Memory	4 GB DDR2

Power

Power Consumption	800 W maximum (800 VA)
Line Voltage & Frequency	100-240 VAC (50/60 Hz), 100-120 VAC (400 Hz)

Environmental

Operating Vibration	0.21 g rms, 5 Hz to 500 Hz
Non-operating Vibration	2.09 g rms, 5 Hz to 500 Hz

Compliance

Safety Standards	IEC 61010-1:2001, EN 61010-1:2001, UL 61010-1:2004, CAN/CSA-C22.2 No. 61010-1:2004
EMC Standards	IEC 61326-1:2005, EN 61326-1:2006, CISPR 11:2003 Class A

Interfaces

USB Ports	6 x USB 2.0 host (2 front, 4 rear), 1 x USB 2.0 device (rear)
LAN Interface	10/100/1000 Base-T RJ-45
GPIB Interface	IEEE-488.2 interface
Video Outputs	1 x 15-pin VGA, 1 x DVI-D
Audio Ports	Mic-in, Line-in, Line-out (3.5 mm jack)
External Trigger Input	50 Ohm, BNC, max 5 V rms

Performance

Probing System	Autoprobe II (compatible with InfiniiMax I & II active probes)

Triggering

Hardware Serial Trigger Rate (Optional)	Up to 3.125 Gbps (with Option 011)
Hardware Serial Trigger Pattern Length	Up to 40-bit pattern (with Option 011)

TECHNOLOGY

Digital Phosphor Oscilloscope (DPO) / Digital Signal Analyzer

APPLICATIONS

High-speed digital debug, compliance testing (DDR, USB 2.0, Serial RapidIO), and jitter/noise analysis.