

KEYSIGHT TECHNOLOGIES (AGILENT HP)

81141A

The Keysight Technologies (formerly Agilent) 81141A is a high-speed serial Pulse Data Generator operating up to 7 GHz. Designed for physical layer validation, characterization, and stress testing of high-speed digital transmission systems, it features low-jitter signals, fast transition times, and 1 GHz linear delay modulation for rigorous jitter tolerance and jitter transfer measurements.

SPECIFICATIONS

General

Interfaces	GPIB, LAN, USB
Display	8.4 inch color LCD
Warm-up Time	30 min

Physical

Power Supply	100 to 240 V AC ($\pm 10\%$), 47 to 63 Hz, 300 VA max
Operating Temperature	5 to 40 °C °C
Dimensions (W×H×D)	424 mm × 145 mm × 432 mm mm
Weight	14.5 kg kg

Timing and Delay Characteristics

Frequency Range	170 MHz to 7 GHz
Jitter Modulation Bandwidth	1 GHz
RMS Jitter	< 1 ps RMS
Subrate Clock Generator	Supported

Pulse Output Performance

Transition Time (10% to 90%)	< 45 ps
Data Formats	NRZ, R1, RZ
PRBS Generation Range	2 ⁷ -1 to 2 ³¹ -1
Pattern Memory Depth	32 Mbit
Sequencing and Looping	Supported (for protocol-based data)
Data Output Configuration	Differential
Clock Output Configuration	Differential
Trigger Output Configuration	Single-ended

Trigger and Sync Options

External Inputs	Trigger input, External clock input
Event Trigger Capabilities	Supported

Environmental

Storage Temperature	-40 to +70 °C
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Data Output

Data Output Amplitude Range	100 mVpp to 1.80 Vpp
Data Output Voltage Window	-2.00 V to +3.00 V
Data Output Crossing Point Range	30% to 70% (typical)
Data Output Impedance	50 Ω (nominal)

Clock Output

Clock Output Amplitude Range	100 mVpp to 1.80 Vpp
Clock Output Voltage Window	-2.00 V to +3.00 V
Clock Output Impedance	50 Ω (nominal)

Delay Control

Delay Control Range	-1.000 ns to +1.000 ns
Delay Control Resolution	1 ps
Phase Control Range	-360.0° to +360.0°
Phase Control Resolution	0.1°

External Clock Input

External Clock Input Frequency	170 MHz to 7 GHz
External Clock Input Amplitude	100 mVpp to 2.0 Vpp

Delay Modulation Input

Delay Modulation Input Range	-1.0 V to +1.0 V
Delay Modulation Input Impedance	50 Ω (nominal)

Compliance & Standards

Safety Compliance	IEC 61010-1, EN 61010-1
EMC Compliance	EN 61326-1

TECHNOLOGY

Pulse Pattern Generator (PPG)

APPLICATIONS

Physical layer testing, high-speed bus design validation, and fundamental laboratory research

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.