

KEYSIGHT TECHNOLOGIES (AGILENT HP)

U2022XA

The Keysight U2022XA is a high-performance USB peak and average power sensor designed for fast, accurate power measurements up to 40 GHz. Operating without a separate power meter mainframe, this USB-connected sensor offers a 30 MHz video bandwidth, 80 MSa/s continuous sampling rate, and internal calibration capabilities, making it ideal for wideband modulated signals, radar, and wireless communications testing.

SPECIFICATIONS

General

Interfaces	USB 2.0 (Micro-B connector, SCPI compatible)
Display	None (requires PC or host instrument with Keysight BenchVue or compatible software)

Physical

Power Supply	USB Bus Powered (5 VDC, max 500 mA)
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	50 mm × 40 mm × 156 mm mm
Weight	0.226 kg kg

Measurement Ranges & Power Specifications

Frequency Range Minimum	50 MHz
Frequency Range Maximum	40 GHz
Power Measurement Range (Peak)	-30 dBm to +20 dBm
Power Measurement Range (Average)	-45 dBm to +20 dBm
Maximum Continuous Input Power	+23 dBm (average) / +30 dBm (peak, < 10 µs)
Maximum DC Input Voltage	5 VDC

Sensor Technology & Architecture

Video Bandwidth	30 MHz
Rise/Fall Time	≤ 13 ns
Minimum Pulse Width	50 ns
Measurement Modes	Peak, average, peak-to-average ratio, time-gated, free-run

RF Port Characteristics

Input Impedance	50 Ω
RF Connector Type	2.4 mm (male)
Maximum SWR (50 MHz to 10 GHz)	1.20
Maximum SWR (10 GHz to 18 GHz)	1.25
Maximum SWR (18 GHz to 26.5 GHz)	1.30
Maximum SWR (26.5 GHz to 40 GHz)	1.50

Triggering & Sampling

Maximum Sampling Rate	80 MSa/s continuous
Internal Trigger Level Range	-20 dBm to +20 dBm
External Trigger Input Level	TTL compatible (0 to 5 V)
External Trigger Output Level	TTL compatible (0 to 5 V)

Meter Compatibility & System Integration

Internal Zeroing and Calibration	Supported (built-in internal zeroing and calibration)
Recommended Calibration Cycle	1 year

Connectivity & Host Interfaces

Software Compatibility	Keysight BenchVue (BV0007B), Keysight Toolkit
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Environmental Parameters

Storage Temperature Range	-40 to +70 °C
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Environmental

Operating Altitude	Up to 4,600 m (15,000 ft)
Storage Altitude	Up to 15,240 m (50,000 ft)
Operating Humidity	Up to 95% RH at 40 °C (non-condensing)

Triggering

External Trigger Latency	30 ns ± 10 ns
External Trigger Jitter	< 1 ns

Power

Current Requirement	450 mA maximum
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Performance

Trace Time-base Range	2 ns/div to 100 ms/div
Maximum Number of Trace Points	40,000 points
Real-time Measurement Speed (Fast Buffered Mode)	> 25,000 readings/s
Real-time Measurement Speed (Normal Mode)	> 1,000 readings/s

Measurements

Automated Pulse Measurements	Rise time, fall time, pulse width, duty cycle, pulse period, pulse top, pulse base, peak, average, peak-to-average ratio, overshoot, delay, time to positive edge, time to negative edge
Number of Time Gates	Up to 4 independent gates

Regulatory & Standards

EMC Compliance	IEC 61326-1, EN 61326-1, CISPR 11/EN 55011 Group 1 Class A, ICES/NMB-001, AS/NZS CISPR 11
Safety Compliance	IEC 61010-1, EN 61010-1, CAN/CSA-C22.2 No. 61010-1, UL Std. No. 61010-1

TECHNOLOGY

Diode Power Sensor

APPLICATIONS

RF and Microwave Power Measurement

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