

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E1437A

The Keysight (Agilent/HP) E1437A is a high-performance, single-slot, C-size VXI modular digitizer. It features 23 bits of resolution at a 20 MSa/s sampling rate, designed for advanced digital signal processing (DSP) applications such as spectral analysis, filtering, and demodulation. It includes integrated analog conditioning, an 8 MHz analog anti-alias filter, a digital local oscillator (LO), and 24 decimation filters with a large onboard FIFO memory.

SPECIFICATIONS

General

Interfaces	VXIbus, VXI Local Bus, Front Panel SMB (Input, External Trigger, External Clock)
Warm-up Time	30 minutes

Physical

Power Supply	VXI Backplane powered (+5 V, +12 V, -12 V, -5.2 V, -2 V)
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	262 mm × 30.5 mm × 353 mm (VXI C-size, 1-slot) mm

Analog Input

Number of Input Channels	1
Input Impedance	50 Ω
Analog Bandwidth	8 MHz
Input Ranges	-30 dBm to +26 dBm (in 2 dB steps)
Input Coupling	DC

Analog-to-Digital Conversion (ADC)

ADC Resolution	14 bits
Maximum Sampling Rate	20 MSa/s
Alias-Free Bandwidth	8 MHz (at 20 MSa/s)

Digital Signal Processing (DSP)

Digital Local Oscillator (LO) Range	0 Hz to 10 MHz
Digital LO Resolution	32-bit
Number of Decimation Filters	24
Decimation Range	1 to 8,388,608 (2 ⁰ to 2 ²³)

Onboard Memory

Onboard Memory Type	FIFO
FIFO Memory Capacity	2 MSamples

Triggering & Synchronization

Trigger Sources	Immediate, External, TTLTRG (VXI), Software, Local Bus
Trigger Modes	Free run, Level, External
External Trigger Input	Front panel SMB

Clocking & Timebase

External Clock Input	Front panel SMB
External Clock Frequency	20 MHz (nominal)

Bus & System Interface

Module Form Factor	VXI C-size
Number of Slots Occupied	1 slot
VXI Device Type	Register-based slave
VXI Local Bus Support	Yes (Left & Right local bus)

Software & Compliance

Driver Software Support	VXIplug&play
Application Software Compatibility	Visual Basic, Agilent VEE, LabVIEW, C/C++
I/O Library Compatibility	Agilent IO Libraries / Keysight Connection Expert

Dynamic Performance

Spurious-Free Dynamic Range (SFDR)	> 90 dBfs (dc to 8 MHz)
Signal-to-Noise Ratio (SNR)	> 74 dB (dc to 8 MHz)
Noise Spectral Density	<-142 dBfs/Hz (dc to 8 MHz)
Amplitude Flatness	±0.1 dB (dc to 8 MHz)
Phase Linearity	±2.0 degrees (dc to 8 MHz)

Filter Performance

Passband Ripple	< ±0.04 dB
Stopband Attenuation	> 110 dB

Input Specifications

Maximum Overvoltage Protection	±15 V peak
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Environmental

Storage Temperature Range	-40 °C to +75 °C
Operating Humidity	Up to 95% RH (non-condensing)
Operating Altitude	Up to 4,570 m (15,000 ft)
Cooling Requirements	4.5 L/s @ 4.4 Pa (0.45 mm H2O) pressure drop

Inputs & Outputs

Input Connector	Single BNC (female)
External Clock, Trigger, and Sync Connectors	SMB (male)

VXI Interface

VXI Device Class	Register-based (A16/A32, D16/D32/D64)
VXIbus Specification Compliance	Revision 1.4

TECHNOLOGY

VXI Digitizer

APPLICATIONS

High-performance signal analysis, digital signal processing (DSP), spectral analysis, and communications testing

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