

250MSps dual-channel high-speed data DAS acquisition card



● Product Description

The PCIe-6920 is a high-speed data acquisition card with a PCIe x8 Lane interface, dual channels, and a 14-bit resolution at a sampling rate of 250MSps. It features an onboard high-performance FPGA chip with abundant multipliers and RAM resources. Using large-capacity data buffering and high-speed data transfer engine technology, it supports real-time uploading of raw data, with a data transfer rate of up to 2GB/s. The driver software is highly compatible and supports multiple versions of



WIN7, WIN8, and WIN10 (32/64-bit). DAS (Distributed Acoustic Sensing) and DVS (Distributed Vibration Sensing) are relatively new technological directions in recent years. Compared to DTS (Distributed Temperature Sensing), they require higher technical standards and more advanced devices. In particular, the system's ADC requirements are demanding, needing high sampling rates and high precision, as well as long-term stability. Currently, our company provides high-speed A/D converters (sampling rates up to 1 GS/s, 16-bit) for DAS and DVS systems.

● Product features

14-bit dual-channel synchronous real-time sampling 、 with 250M sample rate 、 DC coupling, 50Ω input impedance 、 2Vpp input voltage range 、 0-125MHz analog bandwidth (customizable bandwidth) 、 Up to 88dBc SFDR 、 Trigger output pulse, 16-channel digital I/O 、 PCI Express x8 Lane high-speed transmission interface 、 2GB DDR3 high-speed data buffer

● Part Number

MP-DAQ-PCIe-6920-250M

● Application area

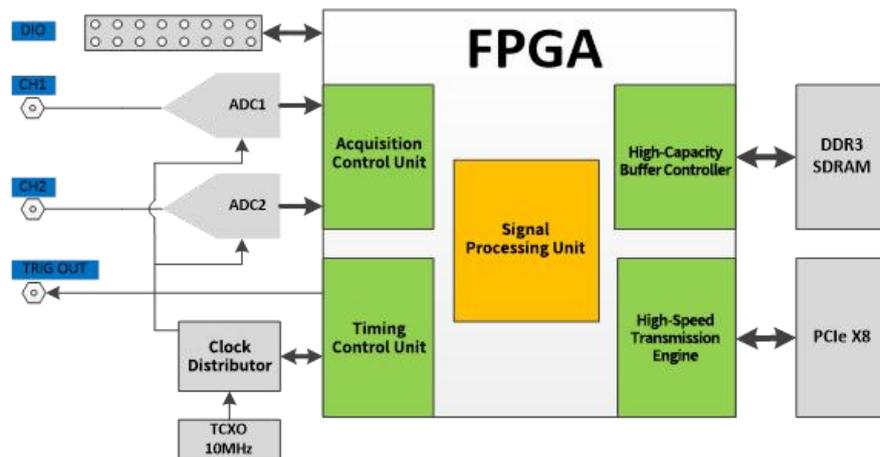
Lidar signal processing | Plasma diagnosis | Vibration and noise analysis |

High energy physics experiments | Industrial automation detection

● Core parameters

Number of Input Channels	Sampling Rate	Input Impedance
2	250 MSps	50 ± 1%Ω

● General Parameters



Input Channel	Value	Unit
Number of Input Channels	2	
Input Impedance	50±1%	Ω
Input Signal Range	2Vp-p/10dBm	
Input Coupling	DC (AC coupling available upon request)	
Resolution	14	bits
Bandwidth (-3dB)	0-125 MHz (other bandwidths available upon request)	MHz
Spurious-Free Dynamic Range (SFDR)	-1dBFS input / 250MSps	
fIN=26MHz	88.5	dBc
fIN=42MHz	88.9	dBc
Signal-to-Noise Ratio (SNR)	-1dBFS input / 250MSps	
fIN=26MHz	70	dBFS
fIN=42MHz	72	dBFS
Average Noise Density	-140	dBm/Hz
Internal Reference Clock		
Frequency	10	MHz
Stability	±0.5 (-20-60°C)	ppm
Trigger Output		
High-Level Min. Voltage	3.3	V
Pulse Width Resolution	4	nS
Min. Pulse Width	4	nS
Digital Input/Output		
Number of Channels	16	
Level Standard	3.3V LVTTTL	
Output Driving Capability	8 (MAX)	mA
Signal Rate	50 (MAX)	Mbps
Onboard Buffer	2	GB (DDR3L)



Onboard Algorithms

Supports IQ demodulation function, with adjustable center frequency.

Supports acquisition of raw data, IQ demodulated amplitude and phase data, and processed data.

Maximum number of capture points per trigger: 65536 (131072 when using a single channel or raw data only).

Supports trigger delay sampling.

Sampling rate can be reduced to 125M, 83.33M, 62.5M, and 50M for use.

Power Supply and Power Consumption

Supply Voltage: 12V (gold finger power supply)

Power Consumption: 18W (Max)

Temperature Range

Operating Temperature: -20°C to 60°C

Storage Temperature: -40°C to 85°C

Mechanical Dimensions

181mm(L) x 111mm(W)x20mm(D)