



16-Lane Gen4 PCI-Express Card

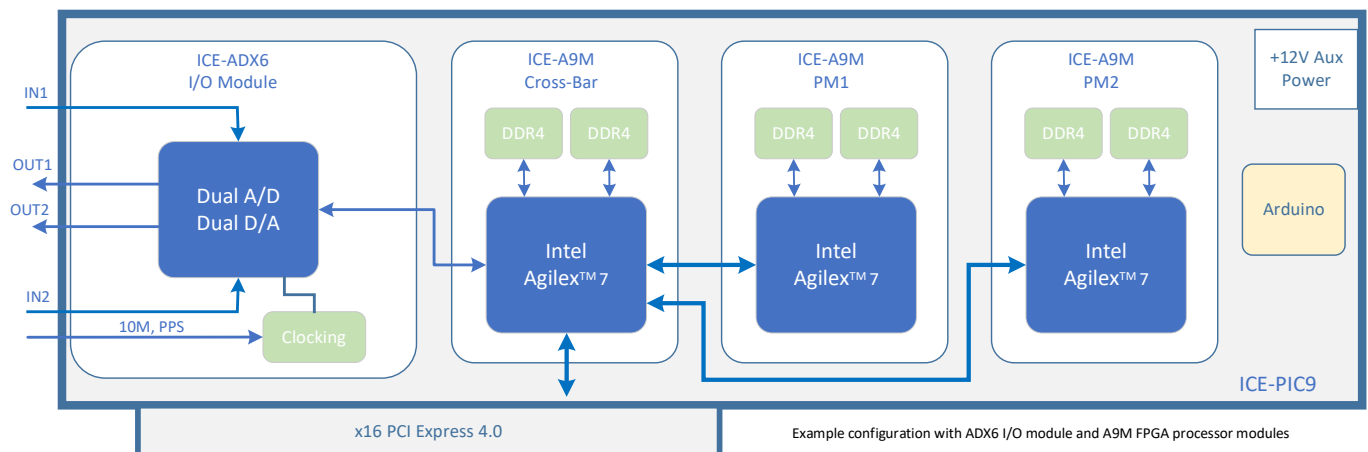
The ICE-PIC9 is a Gen 4 card capable PCI-Express for use in workstations, servers, and embedded platforms. The card enables high-speed data acquisition and processing of both analog and digital signals. The ICE-PIC9 features the ICE-A9M FPGA processor module(s) with Intel Agilex™ 7 FPGAs to accelerate and offload computational requirements in high performance computing environments.

ICE-PIC9 adapter cards contain an I/O module site, a modular crossbar architecture, and a newly designed processor module interface. The ICE-PIC9L improves upon previous models with increased sustained bus speeds (32 GB/s peak), memory bandwidth (32 GB/s peak), and I/O module bandwidth (24 GB/s peak).

Key Features

Feature	Details	Description
PCI Interface	x16 Gen 4	16-Lane Gen 4 (16 Gb/s) Full Size
Peak Host Bandwidth	32 GB/s	Host read and write bandwidth
Processor Modules	Up to three	Supports up to three ICE-A9M Agilex™ 7 Modules
FPGA	Intel Agilex™ 7	Supports up to AGF012 FPGA (1.1M Logic Elements)
FPGA Memory	16 GB DDR4	Two banks of 8 GB DDR4 Memory
I/O Modules	ADX6, DQ28	ADX6: Dual A/D, Dual D/A - 6.0 Gs/s DQ28: Dual 100 Gb Ethernet Interfaces

Block Diagram



ICE Services



Signal Processing Libraries

ICE provides signal processing libraries including functions such as Tune-Filter-Decimate, configurable FFTs, signal classification, and demodulation.

System Integration

Turnkey DSP solutions are available in a variety of form factors including rack mount, low SWAP, and hardened enclosures.

Application Development

Use one ICE's built-in applications or develop your own. On-site support for application development and system integration.

Customer Support

Phone, email support and product training available straight from the design and engineering teams.

Specifications

PCI Interface	16-Lane PCIe 4.0
Crossbar FPGA	A9M: Agilex™ 7 AGF008 / 012 Speed Grade: -E3V
Crossbar FPGA Memory	Two banks of 8 GB DDR4
Crossbar Flash Memory	64-bit wide, 1600 MHz
Processor Modules	On-board Flash for FPGA
I/O Modules	Two A9M processor modules
Clocking	ADX6 - Dual A/D, D2A modules DQ28 - Dual 100 Gb Ethernet QSFP28
	Programmable clock PPS Input

Microcontroller	Temperature, voltage and current monitoring
Form Factor	USB Port for IPMICE
Power	Full length, standard height 11in x 4.38in
Cooling	Application dependent, typically 25-75W
Environmental	Power Derived from 12V
	Air cooled
	Single slot width passive heat spreader*
	0°C - 35°C operating*

*check with factory for extended operating ranges

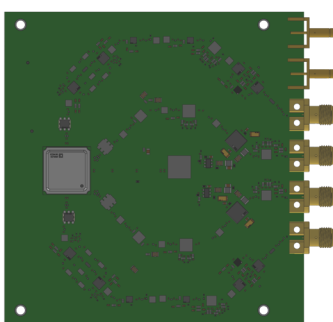
Compatible Modules

ICE-A9M



Agilex™ 7 Processor Module

ICE-ADX6



Dual A/D & D/A, 6 Gs/s

ICE-DQ28



Dual QSFP28 100 Gb Ethernet

Ordering Information

ICE-PIC9S	PCIe Gen 4 x16, Crossbar FPGA (6.6" long, full height)
ICE-PIC9	PCIe Gen 4 x16, Crossbar FPGA and one A9M Processor Module site (9" long, full height)
ICE-PIC9L	PCIe Gen 4 x16, Crossbar FPGA and two A9M Processor Module sites (12.5" long, full height)

For more information visit www.ICE-Online.com

Revision 0.0, December 2024, Specifications subject to change without notice

ICE Enterprises
703-934-4879

