



ICE-A9M FPGA Processor Module



Agilex™ 7 FPGA Module

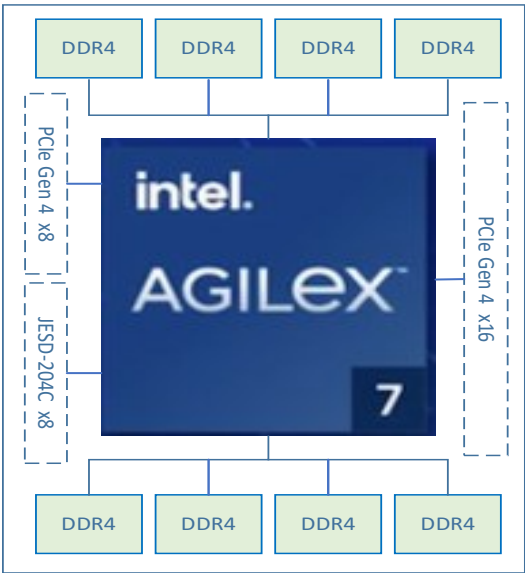
The ICE-A9M module uses an Intel Agilex™ 7 FPGA and may be used with ICE-PIC9, ICE-PAC9, and ICE-TRAY9 products. The module uses a x16 PCI Express 4.0 compliant interface and supports up to 32 GB/s (peak) system transfer rates. Designed to be flexible, the module may be used as a Crossbar or Processor Module in the ICE family of products. The module contains two banks of 64-bit DDR4 memory (16 GBytes).

The Agilex™ 7 device supports transceiver speeds up to 25 Gb/s enabling an 8-bit JESD204C interface to the I/O module. The I/O module can support up to two channels of 3.0 GHz of bandwidth in each direction (available on the ICE-ADX6). The transceivers can also support two 100Gb ethernet ports with QSFP28 interfaces (available on the ICE-DQ28). Additional transceivers are used to communicate with on board processors or ICE-A9M processor modules with x4 PCIe links.

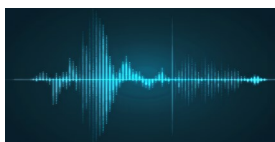
Key Features

Feature	Details	Description
PCI Express Interface	x16 Gen 4	16-Lane Gen 4 (32 GB/s peak)
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, 1600 MHz
I/O Module Interface	JESD204C, 100 GbE	8-lane, ~25 GB/s
Processor Module Interface	4-lane PCIe	4-lane Gen 4 PCI Express links (8 GB/s)
Form Factor	94 x 60 mm	Compatible with ICE-PIC9, ICE-PAC9 and ICE-TRAY9

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.

Specifications

PCI Interface	16-Lane PCIe 4.0
FPGA	A9M: Agilex™ 7 AGF008 / 012 Speed Grade: -E3V
FPGA Memory	Two banks of 8 GB DDR4 64-bit wide, 1600 MHz
Flash Memory	Off-board Flash, x4 QSPI
PM Interface	x4 PCIe (16 Gb/s peak)
I/O Interfaces	x8 JESD-204C or x8 QSFP28 (25 Gb/s)
Clocking	Six programmable reference clocks

Form Factor	94mm x 60mm
Power	Application dependent, Supplied by PIC9
Cooling	Air cooled Single slot width passive heat spreader*
Environmental	0°C - 35°C operating*
*check with factory for extended operating ranges	

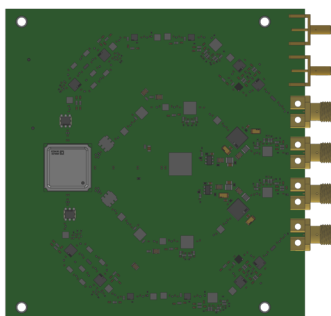
Compatible Modules

ICE-PIC9



PCIe Adapter

ICE-ADX6



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

ICE-DQ28



Dual QSFP28 100 Gb Ethernet

Ordering Information

ICE-A9M Agilex™ 7 Processor Module

For more information visit www.ICE-Online.com

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

ICE Enterprises
703-934-4879

