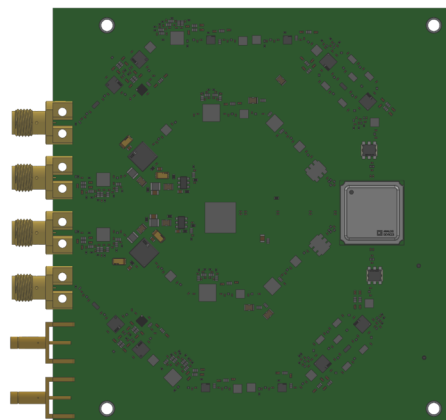




Dual A/D, D/A Module

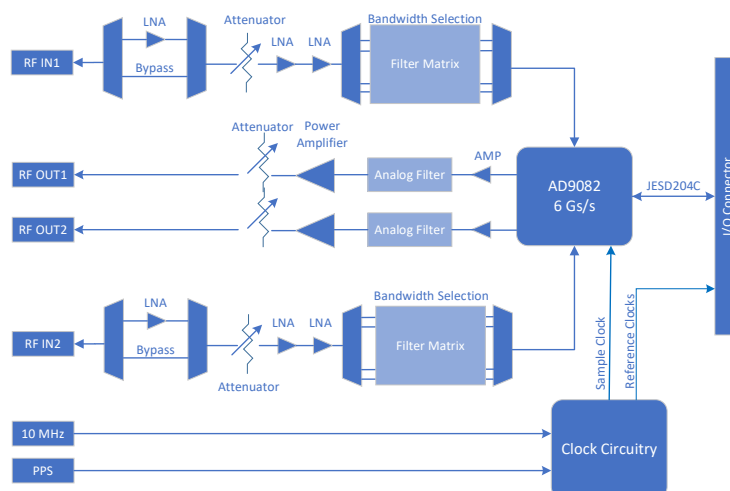
The ICE-ADX6 module provides two A/D inputs (6.0 Gs/s) and two D/A outputs (12.0 Gs/s). The module is compatible with the PIC9 family of products including ICE-PIC9, ICE-PAC9, ICE-TRAY9 variants. The two input channels have nearly 50 dB of programmable gain and attenuation allowing for a wide variety of input levels. Four different bandwidth filters may be selected depending where the signal of interest is located in the spectrum. The AD9082 allows up to 6.0 GHz sample rates on the ADC inputs and up to 12.0 GHz on the DAC outputs.

The two DAC output channels have low pass filters as well as power amplifier and attenuators. The sample clock is derived from either an on-board VCXO or external 10 MHz reference clock. A frequency synthesizer is used to generate the FPGA reference clocks and JESD204C interface timing to the Crossbar FPGA.

Key Features

Feature	Details	Description
I/O Module Interface	JESD204C	8-lane, 25 GHz (20 GB/s)
A/D bandwidth	Up to 3.0 GHz	Dual channels up to 3.0 GHz of bandwidth, 12-bit
D/A bandwidth	Up to 3.0 GHz	Dual channels up to 3.0 GHz of bandwidth, 16-bit
ADC Device	AD9082	Analog Device 9082 Dual A/D, Dual D/A
Input Filtering	Four ranges	Four preset filter ranges
Timing	1 PPS	Fine timing for coherent requirements
Reference Clocks	10 MHz	On-board VCXO or external 10 MHz reference

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

Specifications

ADC Device	Analog Devices AD9082
Sampling Rates	A/D: 6.0 Gs/s, 12-bit data D/A: 12.0 Gs/s, 16-bit data
PM Interface	x4 PCIe (16 Gb/s peak)
I/O Interfaces	x8 JESD-204C 8-lane 25 GHz
Clock Options	On-board 10 MHz VCXO External 10 MHz input
Preselection Filters	Four predetermined ranges
Output Filters	Low pass filters

Form Factor	93mm x 96.5mm
Connectors	SMA: RFin, Rfout SMB: 10 MHz in, PPS in
Power	30W (typical) 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-TRAY9



Rack Mount or Portable

ICE-PAC9



Low SWaP, Rugged DSP Appliance

Ordering Information

ICE-ADX6 Dual A/D, Dual D/A Module

For more information visit www.ICE-Online.com

Revision 0.0, December 2024, Specification subject to change without notice
© 2024 ICE Enterprises, Inc. All rights reserved

ICE Enterprises
703-934-4879

