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Find the *Abaco Systems / 4DSP FMC110* at our website: *Click HERE*



# FMC110 high pin count FMC ADC DAC

## *12-bit ADC & 16-bit DAC - 1 Gsps*

The FMC110 is a dual channel A/D and dual channel D/A FMC daughter card. The FMC110 provides two channels of 12-bit A/D @ 1 Gsps and two channels of 16-bit D/A @ 1 Gsps enabling simultaneous sampling at a maximum rate of 1 Gsps. The sample clock can be supplied externally through a coaxial connection or supplied by an internal clock source (optionally locked to an external reference). Additionally a trigger input for customized sampling control is available. The FMC110 daughter card is mechanically and electrically compliant to FMC standard (ANSI/VITA 57.1). The high-pin count (HPC)-compatible card has front panel I/O and can be used in a conduction-cooled environment as well as a conventionally (air) cooled environment. The FMC110 allows flexible control on clock source, sampling frequency, and calibration through an serial communication bus. The FMC110 card is equipped with power supply and temperature monitoring with several power-down modes to switch off unused functions, reducing system level power and heat, well suited for Software Defined Radio (SDR), battery or other low power source applications. This is ideal for applications such as airborne where power demand effects mission range and on-station mission time.

| ANSI/VITA 47 | Air-cooled | | Conduction-cooled | |
|---|---|---|---|---|
| | EAC4 | EAC6 | ECC1 | ECC4 |
| Operating temperature | 0C to +55C | -40C to +70C | 0C to +55C | -40C to +85C |
| Storage temperature | -40C to +85C | -50C to +100C | -40C to +85C | -55C to +105C |
| Humidity | 95% | 95% | 95% | 95% |
| Operating vibration | 5Hz to 100Hz PSD = 0.04g2/Hz<br>100 Hz to 1000 Hz PSD = 0.04 gs^2/Hz<br>1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave | 5Hz to 100H PSD = 0.04g2/Hz<br>100 Hz to 1000 Hz PSD = 0.04 gs^2/Hz<br>1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave | 5 Hz to 100 Hz PSD increasing at 3 dB/octave<br>100 Hz to 1000 Hz PSD = 0.1 g2/Hz<br>1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave | 5 Hz to 100 Hz PSD increasing at 3 dB/octave<br>100 Hz to 1000 Hz PSD = 0.1 g2/Hz<br>1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave |
| Operating shock | 20g, 11 millisecond, half-sine or 20g, 11 millisecond, terminal sawtooth shock pulses in all three axes | 20g, 11 millisecond, half-sine or 20g, 11 millisecond, terminal sawtooth shock pulses in all three axes | 40g, 11 millisecond shock half-sine or 40g, 11 millisecond, terminal sawtooth shock pulses in all three axes | 40g, 11 millisecond shock half-sine or 40g, 11 millisecond, terminal sawtooth shock pulses in all three axes |
| Operating altitude | -1500 ft to 60,000 ft (with airflow) | -1500 ft to 60,000 ft (with airflow) | -1500 ft to 60,000 ft | -1500 ft to 60,000 ft |
| Conformal coating | Optional | Optional | Optional | Optional |

## FEATURES:

- Dual - A/D - D/A Channel Operation
  - 2-channels 12-bit 1.0 Gsps A/D
  - 2-channels 16-bit 1.0 Gsps D/A
- VITA 57.1-2010 compliant
- Conduction Cooled - Standard Option
- LVDS and 1.65V to 3.3V IO signalling
- Single ended AC-coupled analog input
- Clock Source, Sampling Frequency, and Calibration through an SPI communication bus
- Flexible clock tree enables:
  - internal clock
  - external clock
  - internal clock with external reference
- Mil-I-46058c Conformal Coating Compliant (optional)
- 6 Front panel SSMC connectors
- 4 Rocket I/O pairs and 4 LVTTL lines available on the front panel

abaco SYSTEMS

# FMC110 high pin count FMC ADC DAC *12-bit ADC & 16-bit DAC - 1 Gsps*

## Specifications

**Application**

- Direct RF Down Conversion
- Software Defined Radio (SDR)
- RADAR/SONAR
- Ultra Wideband Satellite Digital Receiver
- Medical equipment
- Aerospace and test instrumentation

**Support**

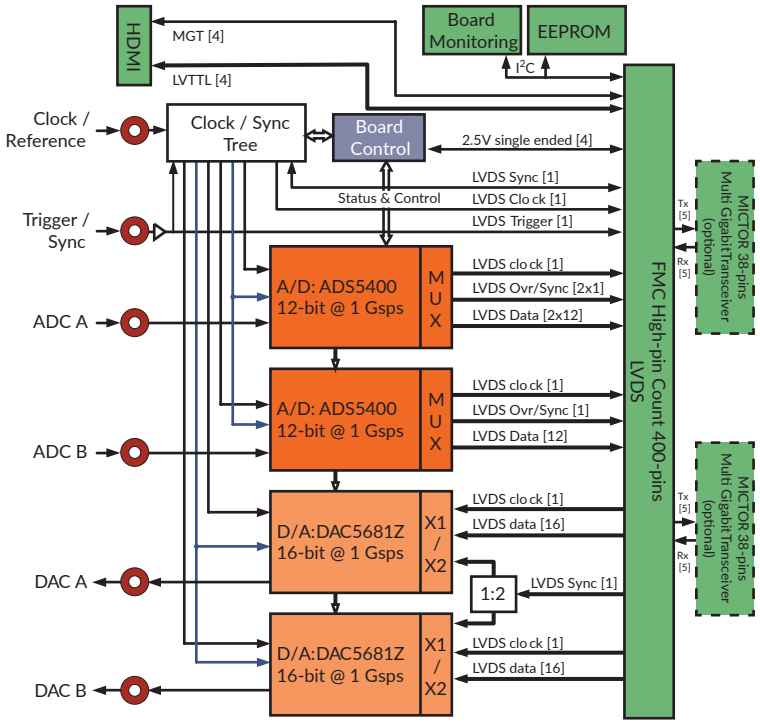
- Stellar IP available for this product. A simple way to design FPGA firmware with automated code and bitstream generation
- ML605 reference design available
- User Manual
- Reference firmware design (VHDL)
- Reference ISE project for Virtex-6

**Support**

- User Manual
- Reference firmware design (VHDL)
- Reference ISE project for Virtex-6
- Email support (support@abaco.com)

**AS9100 Certified**

## Block diagram




## Ordering information

**Talk to us about your algorithmic requirements, Abaco Systems is a full-service firmware and software development house. We are a specialist at high performance FFT and Video Processing. Check with us, we may have IP Cores that meet requirements for your application, right off the shelf.**

## WE INNOVATE. WE DELIVER. YOU SUCCEED.

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