

# FMC168 low pin count FMC

## 8-channel 16-bit ADC - 250 Msps

The FMC168 is a digitizer FMC featuring eight ADC channels with 16-bit resolution and 250 Mega samples per second sampling rate per channel. With a flexible clock generation and distribution scheme, the FMC168/4 allows control on sampling frequency and analog input gain through serial communication with a carrier card.

The FMC168 design is based on the TI ADS42LB69 Dual Channel 16-Bit 250 MSPS A/D, is equipped with power supply and temperature monitoring and offers several power-down modes to switch off unused functions.

### FEATURES:

- Eight channel 16-bit 250MSPS A/D conversion
- Available as air cooled and conduction cooled
- VITA 57.1-2010 compliant
- Based on TI ADS42LB69
- Coaxial front panel inputs on SSMC connectors
- Single ended AC- or DC-coupled analog input
- Flexible clock tree enables:
  - internal clock
  - internal clock locked to an external reference
  - external clock
  - external sync / 1PPS
- LPC (low-pin count) compatible
- Mil-I-46058c Conformal Coating Compliant - Optional

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 = 0.04g <sup>2</sup> /Hz 100 Hz to 1000 Hz PSD = 0.04 gs <sup>2</sup> /Hz 1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave	5Hz to 100H PSD = 0.04g <sup>2</sup> /Hz 100 Hz to 1000 Hz PSD = 0.04 gs <sup>2</sup> /Hz 1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave	5 Hz to 100 Hz PSD increasing at 3 dB/octave 100 Hz to 1000 Hz PSD = 0.1 g <sup>2</sup> /Hz 1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave	5 Hz to 100 Hz PSD increasing at 3 dB/octave 100 Hz to 1000 Hz PSD = 0.1 g <sup>2</sup> /Hz 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

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## Specifications

### Application

- Software defined radio (SDR)
- RADAR/SONAR
- Beamforming
- Wireless communication receivers
- Medical equipment
- Aerospace and test measurement instruments

### Support

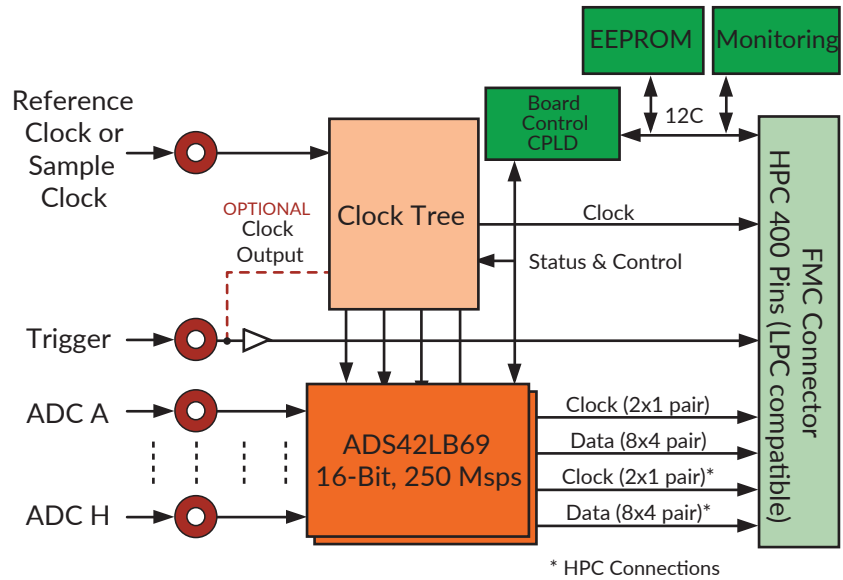
- Stellar IP is available for this product. A simple way to design FPGA firmware with automated code and bitstream generation.
- Can be used on any VITA 57.1 compliant carrier card
- User Manual
- Performance Guide
- Support provided on Abaco Systems' support forum private boards
- Reference designs available for multiple FPGA carriers.

### Performance

- 650MHz Bandwidth (AC)
- 80dB Cross-Talk
- 10dBm analog inputs (2Vpp)
- 0dBm clock input (typ.)
- (LV)TTL compatible trigger
- Programmable digital gain (0-6dB)

AS9100 Certified

## Block diagram



## Ordering information

Compatible with all Abaco Systems FMC carrier hardware and most Xilinx design kits. For a full compatibility matrix look at the product page on our website: [www.abaco.com](http://www.abaco.com)

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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