FMC300

Multi-Channel Wideband 7GHz FMC with up to 6GSPS 12-bit RF ADC and up to 12GSPS 16-bit RF DAC

The FMC300 is an analog-to-digital converter (ADC) and digital-to-analog converter (DAC) FMC daughter card that is available in two configurations: Either two 12-bit RF ADC channels at up to 6GSPS (Analog Devices AD9082) or four 12-bit RF ADC channels at up to 4 GSPS (Analog Devices AD9081) options are available. Both configurations support up to four 16-bit DAC's at up to 12 GSPS. The sample clock can be locked to either an internal or external reference. A trigger input is also available for customized sampling control and synchronization.

The FMC300 is mechanically and electrically compliant to the FMC standard (ANSI/VITA 57.4). It can be used in a conduction-cooled environment with Abaco carrier cards.

The FMC300 utilizes JESD204B/C high speed serial interface to the host carrier. Coupled with a frequency range of up to 7GHz for both transmit and receive, the FMC300 Is ideal for low latency applications.

The analog signals are AC-coupled and either connected to the front panel as an air-cooled option using SSMB connectors, or to the backplane as a conduction-cooled option using SMP3 connectors.

The FMC300 allows flexible control of the sampling frequency, and calibration through SPI communication. The ADC has individual calibration circuits for fine-tuning gain, offset and phase. It is equipped with power supply and temperature monitoring.

The FMC300 is ideal for applications where low-latency, high bandwidth sampling are the driving requirements.

FEATURES:

- Dual-channel, 12-bit ADC upto 6GSPS
                    -or-
- Quad-channel, 12-bit ADC upto 4GSPS
- Quad-channel, 16-bit DAC up to 12GSPS
- VITA 57.4 FMC compliant
- Conduction-cooled available with Abaco carrier
- AC-coupled analog signals
- Aligned to SOSA standard
- SMP3 RF connections to backplane
- Sampling frequency and calibration through SPI
- Flexible clock tree enables
  - Internal clock source
  - External reference clock
- MIL-I-46058C compliant conformal coating (optional)
- Seamlessly mates with Abaco VP891 and VP231

Abaco
S Y S T E M S

AMETEK®

FMC300 *Wideband 6GHz FMC*

Applications

- Electronic Warfare (EW)
- Signals Intelligence (SIGINT)
- Radar/Sonar
- Software Defined Radio (SDR)
- Multi-Function Communication Systems
- Telecommunications/Broadband Wireless
- Networking and Base Stations Equipment
- Ultra-Wide-Band Satellite Digital Receiver
- Optical and Photonics Instrumentation
- RF and EMI Test Instrumentation
- Biomedical Imaging and Medical Equipment

Block Diagram

*Intended as a reference for basic features and connections and not an actual product layout or design

Specifications

Physical Specifications
- FPGA Mezzanine Card (FMC) VITA 57.4 compliant
- Air Cooled or conduction-cooled
  (Conduction-cooled available with Abaco
  carrier boards)

Analog ADC & DAC I/O
- Analog Devices AD9082 or AD9081
- AC-coupled analog I/O signals

Connections
- Air-Cooled: SSMB to front panel
- Conduction-Cooled: SMP3 to backplane
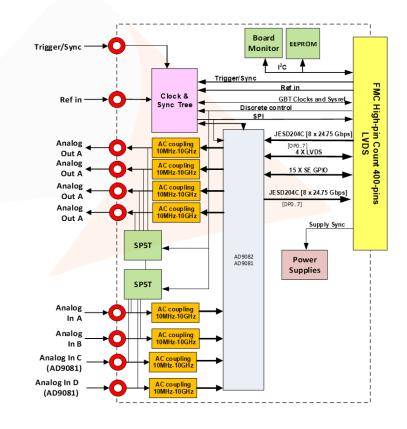 (SOSA-Aligned)

Clocking Options
- On-board internal clock source
- External Reference Clock

Trigger
- Trigger/Sync input for multi-board
  synchronization

Board Support Package (BSP)
- Supports Industry-standard Vivado IDE
- Open source reference design
- Windows and Linux support

Ordering information

For available product part numbers, contact your local product expert.