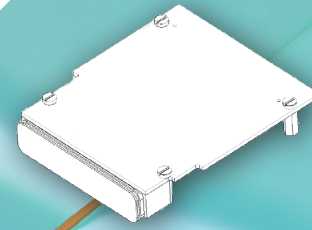


FM581

SIX CHANNEL 370MSPS, 16-BIT ADC FMC



The **FM581** is a six channel, 370 MSPS 16-bit conduction cooled ADC FMC module. The module simultaneously samples six analogue inputs from the front panel connectors and makes the digitised data available through JESD204B interfaces on the FMC connector.

The ADCs are configured via a Serial Peripheral Interface (SPI) that provides access to the converter's internal registers. This allows user customisation of the ADC settings for optimal performance in a given application.

An internal or front panel trigger initiates the capturing of samples from the ADC converters. The sampling clock is selectable from either an external source or on-board oscillator.

The single-ended analogue inputs are converted to differential signals and routed to the ADC inputs.

A Firmware Development Kit (FDK) supports data capture to memory and DMA functions for the **VF360** FMC carrier card. Custom development of FPGA pre-processing functions (e.g. digital down-conversion) is also provided for.

A Software Development Kit (SDK) provides a Linux driver and example application for the **VF360** FMC carrier card.

The **VF360** is a 3U OpenVPX FMC carrier with a Stratix® V FPGA and TMS320C667X DSP processor.

Specifications

Converter Characteristics

- 3x Texas Instruments ADC16DX370 Dual ADCs
- SNR: 69 dBFS with AIN = 231 MHz
- SFDR: 85 dBFS with AIN = 231 MHz
- Sampling resolution: 16-bits

Front Panel Analogue Inputs

- Six single ended AC coupled analogue inputs
- RF Input bandwidth (-3 dB): 800 MHz
- Full-scale input power: +7 dBm (1.4 Vpp)
- Input impedance: 50 Ohm

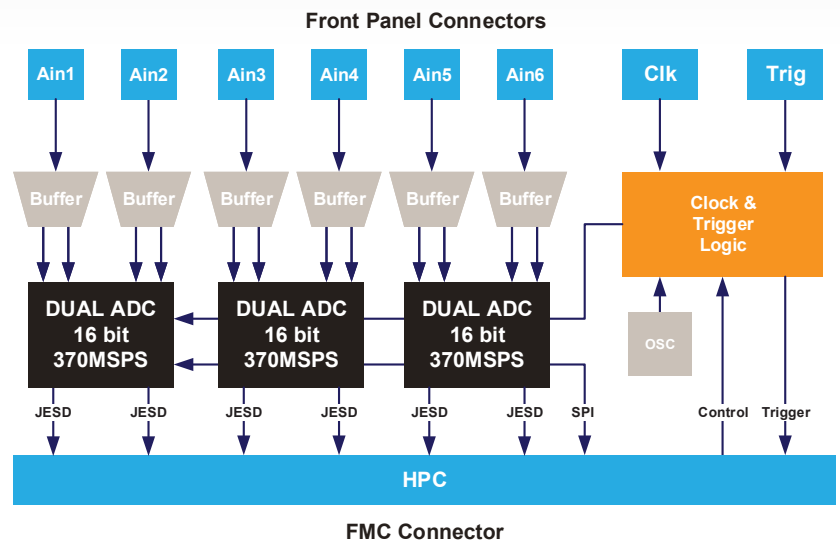
Front Panel Clock Input

- Single ended AC coupled LVPECL/LVDS
- Frequency range: 50 - 370 MHz
- Input voltage: sine or square wave (1Vp-p)
- Input impedance: 50 Ohm

Front Panel Trigger Input

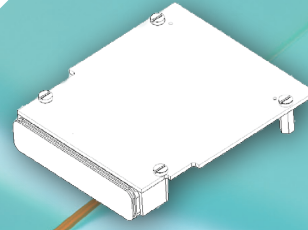
- Single ended DC coupled LVPECL/LVTTL
- Input impedance: 50 Ohm

Block Diagram



FM581

SIX CHANNEL 370MSPS, 16-BIT ADC FMC



FMC Interface

- 6x JESD204B interfaces for digitised samples
- SPI interface for ADC configuration
- Discrete control lines

Firmware and Software Support

- FDK for custom firmware development on VF360
- SDK with Linux driver and example application
- Firmware development services available on request

Application Examples

- High-bandwidth sampling
- Wideband receiver sub-systems
- Multi-channel digital receivers
- Radar and Sonar
- IF Sampling
- Software-defined radio

Ordering Information

Generic order code = FM581-X (X=On-board oscillator frequency)

Standard order code = FM581-370 (370 MHz)

Example of 24-Channel Sampling System

