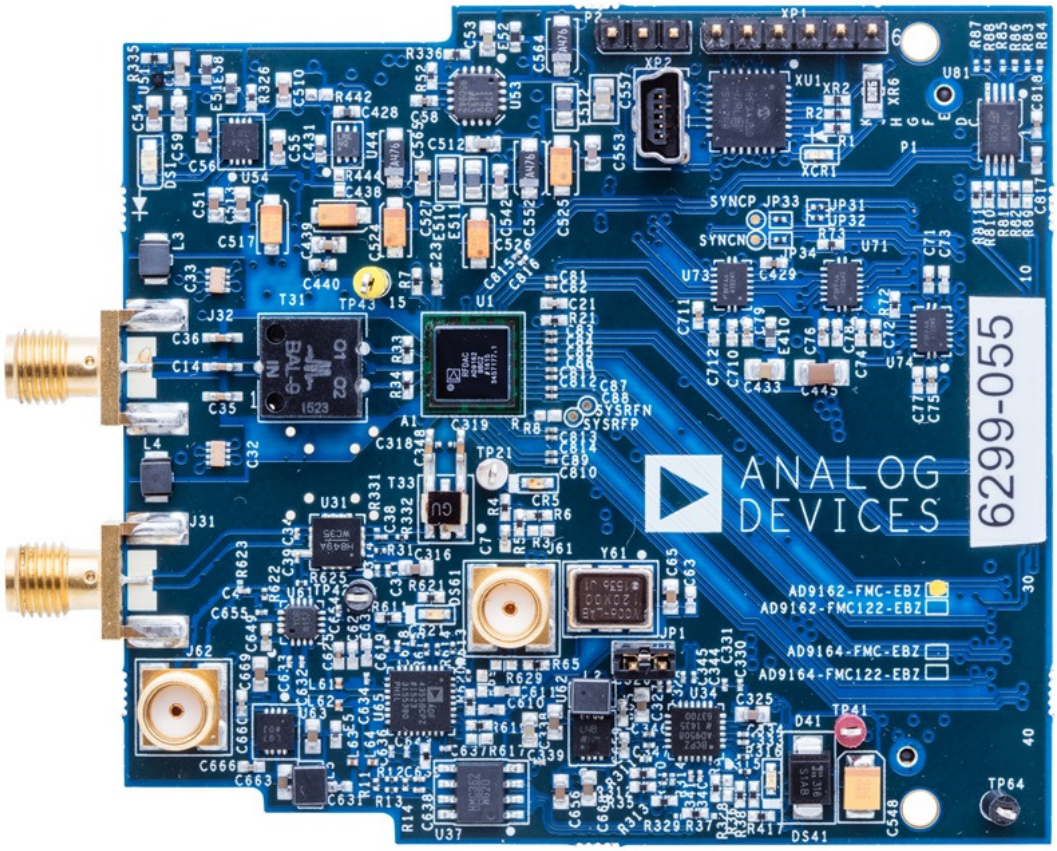
AD9161/AD9162/AD9163/AD9164 Evaluation Boards



The AD9161, AD9162, AD9163, and AD9164 evaluation boards are all FMC form-factor boards with FMC connector that complies to the Vita 57.1 standard. There are three variants of the board (-FMC, -FMCB, -FMCC) that accommodate slightly different Bills of Material (BOMs). The -FMC boards are designed for the 8x8mm package variant of the AD9162 and AD9164 and use a Marki Microwave wideband balun on the DAC output. The -FMCB boards are designed for the same 8x8mm package variant of the AD9162 and AD9164, and use a Mini-Circuits balun on the DAC output. The -FMCC boards are designed for the 11x11mm package variant and accommodates all four of the AD9161, AD9162, AD9163, and AD9164. It also uses a Mini-Circuits balun on the DAC output.

To operate the evaluation boards, the user must attach the board to a compatible FMC carrier board, such as those provided by FPGA vendors. Analog Devices produces an FPGA carrier called the ADS7-V2, which serves

as a digital pattern generator or data source as well as the power supply for the boards. The AD9162 and AD9164 boards have an option to be powered from a lab power supply when used in a special NCO-only mode. This operation is described in more detail in the User's Guide. The user must be able to observe the DAC output on a spectrum analyzer. A low noise clock source is provided on the evaluations boards, the ADF4355 PLL, and an option exists for the user to supply a low jitter external sine or square wave clock as a clock source instead. The evaluation board comes with software, called ACE, which allows the user to program the SPI port. Via the SPI port, the DUT (and clock circuitry) can be programmed into any of its various operating modes.

Documentation and software updates for using High-Speed DAC Evaluation Boards are included in individual, self-extracting update files. The latest DPG Downloader software can be downloaded from here: High-Speed DAC Software Suite. This installer will include an installer for the ACE software. The latest ACE software can be downloaded from here: Analysis | Control | Evaluation (ACE) Software.

Files included in the AD9161/AD9162, AD9163, AD9164 Update:

- SPI Application
- DPGDownloader Panel
- AD9161_AD9162 Data Sheet
- AD9163 Data Sheet
- AD9164 Data Sheet
- AD9162 IBIS Model
- AD9163 IBIS Model
- AD9164 IBIS Model

Package Contents

- AD9162-FMC-EBZ, AD9162-FMCB-EBZ, AD9161-FMCC-EBZ, AD9162-FMCC-EBZ, AD9163-FMCC-EBZ, AD9164-FMCB-EBZ, AD9164-FMCC-EBZ, or AD9164-FMC-EBZ Evaluation Board[1][2]
- Mini USB cable
- Evaluation Board DVD

Item	AD916(2,4)-FMC-EBZ	AD916(2,4)-FMCB-EBZ	AD916(1,2,3,4)-FMCC-EBZ
User Guide	ad916x-fmcx-ebz	ad916x-fmcx-ebz	ad916x-fmcx-ebz
Schematics	ad916(2,4)-fmc-ebz	ad916(2,4)-fmcb-ebz	ad916(1,2,3,4)-fmcc-ebz
Bill of Materials	ad916(2,4)-fmc-ebz	ad916(2,4)-fmcb-ebz	ad916(1,2,3,4)-fmcc-ebz
PCB Gerber Files	ad916(2,4)-fmc-ebz	ad916(2,4)-fmcb-ebz	ad916(1,2,3,4)-fmcc-ebz
PCB BRD File	ad916(2,4)-fmc-ebz	ad916(2,4)-fmcb-ebz	ad916(1,2,3,4)-fmcc-ebz

Product Details

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Evaluation Boards Differences
The differences between the AD9161, AD9162, AD9163, and AD9164 FMC boards are the DAC, package, and its output Balun are shown in the User Guide. For example, the AD916x-FMCx-EBZ uses the Marki BAL-0009SMG and the AD916x-FMCB-EBZ uses the Mini-Circuits TC1-1-43A+.

Data Pattern Generator

The Data Pattern Generator is a bench-top instrument for driving vectors into Analog Devices' high-speed Digital-to-Analog converters. The DPG connects to a PC over USB, and allows a user to download a vector from their PC into the DPG’s internal memory. Once downloaded, the vector can be played out to an attached Evaluation Board for a specific DAC at full speed. This allows for rapid evaluation of the DAC with both generic and custom-generated test data.

For more information on the DPG line of pattern generators and software:

- DAC Software Suite
- Analysis | Control | Evaluation (ACE) Software
- DPG1 (obsolete)
- DPG2 (obsolete)
- DPG3
- SDP-H1
- ADS7-V1/-V2
- Using MATLAB with ADS7 and AD916x Eval Boards