This version (12 Jun 2017 14:51) was ***approved*** by larsc.
The Previously approved version (17 Feb 2015 17:07) is available.

Xilinx Reference Designs

Hardware

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Below is a list of hardware, IP Cores, or reference designs. While this content is believed to be reliable, many have not been validated, verified or reviewed by Analog Devices. These boards/platforms may or may not be suitable for end product integration or development, and may not meet datasheet specifications. Since many of these platforms or IP Cores are not designed or reviewed by Analog Devices, care should be taken to ensure that these will meet your needs before purchase. While ADI will always provide chip level support on the EngineerZone™, board level, or reference design support is given by the manufacture or creator of the specific materials.

References to manufacturer or third party software, websites, or to any specific commercial or non-commercial products are suggestions only and do not necessarily constitute or imply an endorsement, recommendation, or favoring by Analog Devices.

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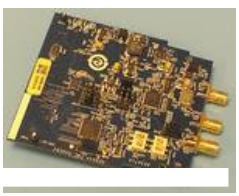
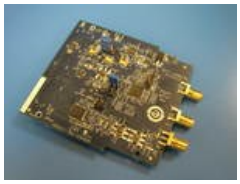
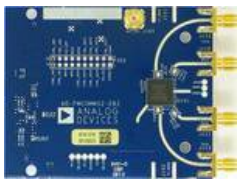
Add on Boards

ADI products can be found on many boards which use industry standard connectors, such as PMODs and FMC.

FMC

Part Number / Purchase	Description	ADI Parts
EVAL-AD7960FMCZ	 **Reference Design:** View Reference Design The EVAL-AD7960FMCZ board is based on the AD7960, which is an 18-bit, 5 MSPS charge redistribution successive approximation (SAR), analog-to-digital converter (ADC). The SAR architecture allows unmatched performance both in noise and in linearity. The AD7960 contains a low power, high speed, 18-bit sampling ADC, an internal conversion clock and an internal reference buffer. On the CNV± edge, the AD7960 samples the voltage difference between the IN+ and IN- pins. The voltages on these pins swing in opposite phase between 0 V and 4.096 V/5 V. The reference voltage is applied to the part externally. All conversion results are available on a single LVDS self-clocked or echo-clocked serial interface.	AD7960
EVAL-AD7961FMCZ	 **Reference Design:** View Reference Design The EVAL-AD7961FMCZ board is based on the AD7961, which is an 16-bit, 5 MSPS charge redistribution successive approximation (SAR), analog-to-digital converter (ADC). The SAR architecture allows unmatched performance both in noise and in linearity. The AD7961 contains a low power, high speed, 16-bit sampling ADC, an internal conversion clock and an internal reference buffer. On the CNV± edge, the AD7961 samples the voltage difference between the IN+ and IN- pins. The voltages on these pins swing in opposite phase between 0 V and 4.096 V/5 V. The reference voltage is applied to the part externally. All conversion results are available on a single LVDS self-clocked or echo-clocked serial interface.	AD7961
AD9434-FMC-500EBZ	 **Reference Design:** View Reference Design The AD9434-FMC-500EBZ board is based on the AD9434, which is a 12-Bit monolithic sampling analog-to-digital converter (ADC) optimized for high performance, low power, and ease of use. The part operates at up to a 500 MSPS conversion rate and is optimized for outstanding dynamic performance	AD9434 AD9517-4

Part Number / Purchase		Description	ADI Parts
		in wideband carrier and broadband systems.	
AD9467-FMC-250EBZ		**Reference Design:** View Reference Design The AD9467-FMC-250EBZ board is based on the AD9467, which is a 16-Bit, 250 MSPS analog-to-digital converter that. The AD9467 provides a new level of signal processing performance for test and measurement instrumentation, defense electronics, and communications applications where high resolution over a wide bandwidth is needed.	AD9467 AD9517-4
AD9265-FMC-125EBZ		**Reference Design:** View Reference Design The AD9265-FMC-125EBZ board is based on the AD9265, which is a 16-Bit, 125 MSPS analog-to-digital converter (ADC) featuring a wide bandwidth differential sample-and-hold analog input amplifier supporting a variety of user-selectable input ranges.	AD9265 AD9517-4
AD9739A-FMC-EBZ		**Reference Design:** View Reference Design The new AD9739A-FMC-EBZ board is based on the AD9739A is a 14-bit, 2.5 GSPS high performance RF DAC capable of synthesizing wideband signals from dc up to 3 GHz.	AD9739A ADF4350
AD-FMCOMMS1-EBZ		**Reference Design:** View Reference Design The AD-FMCOMMS1-EBZ is an analog front end hardware platform that addresses a broad range of research, academic, industrial and defense applications. The AD-FMCOMMS1-EBZ enables RF applications from 400MHz to 4 GHz. The module is customizable to a wide range of frequencies by software without any hardware changes, providing options for GPS or IEEE 1588 Synchronization, and MIMO configurations.	AD9122 ADL5375 ADF4351 ADL5602 ADL5380 AD8366 AD9643 ADF4351 AD9548 AD9523-1
AD-FMCOMMS2-EBZ		**Reference Design:** View Reference Design The AD-FMCOMMS2-EBZ is a high-speed analog module designed to showcase the AD9361, a high performance, highly integrated RF agile transceiver intended for use in RF applications, such as 3G and 4G base station applications and software defined radios. The AD-FMCOMMS2-EBZ provides RF engineers the ability to connect the AD9361 to a RF testbench (Vector Signal Analyzer, Signal generator, etc) and measure performance. The external components (which can easily be swapped) on the AD-FMCOMMS2-EBZ have a narrower RF tuning range 2400 – 2500 MHz. It is expected that most engineers will change these external components (pin for pin replacements from various vendors are available) for their specific application/ frequency of interest. Anyone interested in a wider tuning range board should look at the AD-FMCOMMS3-EBZ.	AD9361
AD-FMCOMMS3-EBZ		**Reference Design:** View Reference Design The AD-FMCOMMS3-EBZ is a high-speed analog module designed to showcase the AD9361, a high performance, highly integrated RF agile transceiver intended for use in RF applications, such as 3G and 4G base station applications and software defined radios. The purpose of the AD-FMCOMMS3-EBZ is to provide an RF platform to software developers, system architects, etc, who want a single platform that operates over a much wider tuning range (70 MHz – 6 GHz) than the AD-FMCOMMS2-EBZ.	AD9361
AD-FMCOMMS4-EBZ		**Reference Design:** View Reference Design The AD-FMCOMMS4-EBZ is a high-speed analog module designed to showcase the AD9364, a high performance, highly integrated RF agile transceiver intended for use in RF applications, such as 3G and 4G base station applications and software defined radios. The purpose of the AD-FMCOMMS4-EBZ is to provide an RF platform to software developers, system architects, etc, who want a single platform that operates over a much wider tuning range (70 MHz – 6 GHz) than the AD-FMCOMMS2-EBZ.	AD9364

Part Number / Purchase	Description	ADI Parts
AD-FMCOMMS5-EBZ	 **Reference Design:** View Reference Design The AD-FMCOMMS5-EBZ is a high-speed analog module designed to showcase the AD9361, a high performance, highly integrated RF agile transceiver intended for use in RF applications, such as 3G and 4G base station applications and software defined radios. The board includes two AD9361s in a 4 x 4 RF configuration, which demonstrates how to synchronize multiple devices together.	AD9361
AD-FMCOMMS6-EBZ	 **Reference Design:** View Reference Design The AD-FMCOMMS6-EBZ evaluation board is a 400 MHz to 4.4 GHz receiver based on the AD9652 dual 16-bit ADC, the ADL5566 High Dynamic Range RF/IF Dual Differential Amplifier and the ADL5380 quadrature demodulator. The AD-FMCOMMS6-EBZ is a discrete hardware receiver platform that addresses L and S band radar applications and enables RF applications from 400 MHz to 4 GHz. The module is configurable to a wide range of frequencies small filter hardware changes, providing options for RF up to 4 GHz and IF up to 155 MHz.	AD9652 ADF4351 ADL5380 ADL5566 AD9517 ADCLK925 ADP2370 ADM7150 ADP1740
AD-FMCADC2-EBZ	 **Reference Design:** View Reference Design The AD-FMCADC2-EBZ is a data acquisition and signal processing platform that contains a complete signal chain for digitizing wideband RF signals for a variety of high-performance applications. The board has operating software and drivers for seamless connectivity within the Xilinx FPGA development platform ecosystem. This board is comprised of the AD9625-2.5 12-bit, 2.5 GSPS JESD204B ADC, input balun, clock oscillator, and critical power management components.	AD9625-2.5
AD-FMCDAQ2-EBZ	 **Reference Design:** View Reference Design The AD-FMCDAQ2-EBZ module is comprised of the AD9680 dual, 14-bit, 1.0 GSPS, JESD204B ADC, the AD9144 quad, 16-bit, 2.8 GSPS, JESD204B DAC, the AD9523-1 14-output, 1 GHz clock generator, and power management components. It is clocked by an internally generated carrier platform via the FMC connector, comprising a completely self-contained data acquisition and signal synthesis prototyping platform. The module's combination of wideband data conversion, clocking, and power closely approximates real-world hardware and software for system prototyping and design, with no compromise in signal chain performance.	AD9680 AD9144 AD9523-1 ADN4661 ADP1740 ADP150
AD-FMCJESDADC1-EBZ	 **Reference Design:** View Reference Design The AD-FMCJESDADC1-EBZ board features two AD9250, which is a 14-Bit, 250MSPS analog-to-digital converter (ADC). This board shares the 4DSP FMC-176 PCB, which in addition to the ADC, has two AD9129, which is a 14-Bit, 2.8GSPS digital-to-analog converter (DAC).	AD9250 AD9129 AD9517-1
AD-FMCMOTCON2	 **Reference Design:** View Reference Design The AD-FMCMOTCON2-EBZ is a complete high performance servo system on an FPGA Mezzanine Card (FMC) board. Information on the FMC board, and how to use it, the design package that surrounds it, and the software which can make it work, can be found by clicking the documentation link. The purpose of the AD-FMCMOTCON2-EBZ is to provide a complete motor drive system demonstrating efficient and high dynamic control of three phase PMSM and induction motors. The kit consists of two boards: a controller board and a drive board. The system incorporates high quality power sources; reliable power, control, and feedback signals isolation; accurate measurement of motor current & voltage signals; high speed interfaces for control signals to allow fast controller response; industrial Ethernet high speed interfaces; flexible control with a FPGA/SoC interface. An optional AD-DYNO2-EBZ dynamometer can be purchased through Avnet and is intended to be an extension of the drive system.	ADUM7640 ADUM7641 ADM2486 ADUM1400 ADUM1402 ADG3308 AD8646 AD8137 ADUM5000 AD2S1210 ADN4662 ADG759 ADUM1250 CMP04 ADP2301 ADP1621 ADUM7223 ADUM5230

Part Number / Purchase	Description	ADI Parts
		AD8207 AD7403 AD7402 AD7405

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FMC

Part Number / Purchase	Description	ADI Parts
FMC-IMAGEON	 **Reference Design:** Analog Devices 1080p, 148.5MHz HDMI 1.4 input/output FMC card	ADV7511 ADV7611
AES-FMC-INDIO-G	 **Documentation:** Avnet The Analog Devices FMC Industrial I/O Daughterboard provides a complete Industrial analog hardware development environment for designers to accelerate their time to market. The daughterboard delivers a stable platform to develop and test industrial analog designs, digitally interfaced to the advanced Xilinx FPGA family. The variety of Analog Devices Industrial Hardware, tied to a separately purchased Spartan-6 LX150T board / device through an LPC FMC connector offers a prototyping environment to effectively demonstrate the enhanced benefits of Analog Industrial IO coupled with advanced Xilinx FPGA solutions.	ADuM5402 AD421 TMP05 ADM3490 AD7793 ADG1404 AD8021 AD7612 ADR441 AD5724 ADG1409 ADA4898-1 AD8512A AD8253 ADP1864

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Pmods

ADI products can be found on many boards which use industry standard connectors, such as Pmods and FMC.

Pmods are small I/O interface boards that offer an ideal way to extend the capabilities of FPGA/CPLD boards. Pmods communicate with system boards using 6 or 12-pin connectors. Pmods include sensors, I/O, data acquisition & conversion, connectors, and more. Popular systems with Pmod connectors can be found at Digilent or Avnet.

Part Number / Purchase	Description	ADI Parts
PmodACL Digilent Avnet Silica	 **Reference Design:** Analog Devices **Reference Design:** Digilent **Reference Design:** Avnet **Reference Design:** Silica The Digilent PmodACL is a 3-axis digital accelerometer module powered by the Analog Devices ADXL345. It uses a standard 12-pin Pmod connector and can communicate via SPI or I2C.	ADXL345
PmodACL2	 **Reference Design:** Analog Devices The Digilent Pmod-ACL2 is an ultralow power, 3-axis MEMS accelerometer that consumes less than 2 µA at a 100 Hz output data rate and 270 nA when in motion triggered wake-up mode. Unlike accelerometers that use power duty cycling to achieve low power consumption, the ADXL362 does not alias input signals by undersampling; it samples the full bandwidth of the sensor at all data rates. The ADXL362 always provides 12-bit output resolution; 8-bit formatted data is also provided for more efficient single-byte transfers when a lower resolution is sufficient. Measurement ranges of ±2 g, ±4 g, and ±8 g are available, with a resolution of 1 mg/LSB on the ±2 g range.	ADXL362

Part Number / Purchase	Description	ADI Parts
PmodAD1 Digilent Avnet Silica	 **Reference Design:** Analog Devices **Reference Design:** Digilent **Reference Design:** Avnet **Reference Design:** Silica The Digilent Analog to Digital Module Converter Board (the AD1) converts signals at a maximum sampling rate of one million samples per second, fast enough for the most demanding audio applications. The AD1 uses a 6-pin header connector, and at less than one square inch is small enough to be located at the signal source.	AD7476
PmodAD2 Digilent	 **Reference Design:** Analog Devices **Reference Design:** Digilent The Digilent PmodAD2 is an analog to digital converter module with up to 4 channels at 12-bit resolution powered by the Analog Devices AD7991. It uses an 8-pin connector that allows communication via I2C. The PmodAD2 also has a 6-pin connector that allows up to 4 analog inputs or up to 3 analog inputs and a voltage reference.	AD7991
PmodAD3	 **Reference Design:** Analog Devices The Digilent Pmod-AD3 is a complete low power front-end solution for bridge sensor products, including weigh scales, strain gages, and pressure sensors. It contains a precision, low power, 24-bit sigma-delta (S-?) ADC; an on-chip, low noise programmable gain amplifier (PGA); and an on-chip oscillator.	AD7780
PmodAD4	 **Reference Design:** Analog Devices The Digilent Pmod-AD4 is a 16-bit, successive approximation, analog-to-digital converter (ADC) that operates from a single power supply, VDD.It contains a low power, high speed, 16-bit sampling ADC and a versatile serial interface port. On the CNV rising edge, it samples an analog input IN+ between 0V to REF with respect to ground sense IN-. The reference voltage, REF, is applied externally and can be set independent of the supply voltage, VDD. Its power scales linearely with throughput.	AD7980
PmodAD5	 **Reference Design:** Analog Devices The Digilent Pmod-AD5 is powered by the Analog Devices AD7193, a low noise, complete analog front end for high precision measurement applications. It contains a low noise, 24-bit sigma-delta (S-?) analog-to-digital converter (ADC).	AD7193
PmodAD6	 **Reference Design:** Analog Devices The Digilent Pmod-AD6 is powered by the Analog Devices AD7091R, a a 12-bit successive approximation analog-to-digital converter (ADC) that offers ultralow power consumption (typically 349 µA at 3 V and 1 MSPS) while achieving fast throughput rates (1 MSPS with a 50 MHz SCLK).	AD7091r
PmodAMP3	 **Reference Design:** Analog Devices The Digilent Pmod-AMP3 is powered by the Analog Devices SSM2518, a digital input, Class-D power amplifier that com-bines a digital-to-analog converter (DAC) and a sigma-delta (Σ-Δ) Class-D modulator. This unique architecture enables extremely low real-world power consumption from digital audio sources with excellent audio performance. The SSM2518 is ideal for power sensitive applications, such as mobile phones and portable media players, where system noise can corrupt small analog signals such as those sent to an analog input audio amplifier.	SSM2518
PmodCDC1 Digilent	 **Reference Design:** Analog Devices The Digilent PmodCDC1 delivers a complete signal processing solution for capacitive sensors, featuring an ultralow power converter with fast response time. The AD7156 uses an Analog Devices, Inc., capacitance-to-digital converter (CDC) technology, which combines features important for interfacing to real sensors, such as high input sensitivity and high tolerance of both input parasitic ground capacitance and leakage current. The integrated adaptive threshold algorithm compensates for any variations in the sensor capacitance due to environmental factors like humidity and temperature or due to changes in the dielectric material over time.	AD7156

Part Number / Purchase	Description	ADI Parts
PmodDA1 Digilent Avnet Silica	 **Reference Design:** Analog Devices **Reference Design:** Digilent **Reference Design:** Avnet **Reference Design:** Silica The Digilent PmodDA1 Digital To Analog Module Converter Board (the DA1) converts signals from digital to analog at up to one MSa per second. The DA1 uses a 6-pin header connector and at less than one square inch is small enough to be located where the signal is needed. The DA1 has four simultaneous D/A conversion channels, each with an 8-bit converter that can process a separate digital signal. It is possible to send a single signal, such as a reset signal, to all four channels simultaneously, but multiple unique signals cannot be sent simultaneously.	AD7303
PmodDA3	 **Reference Design:** Analog Devices The Digilent Pmod-DA3 is a single, 16-bit, serial input, unbuffered voltage output digital-to-analog converter (DAC) that operates from a single 2.7V to 5.5V supply. The DAC output range extends from 0V to Vref and is guaranteed monotonic, providing +- 1 LSB INL accuracy at 16 bits without adjustment.	AD5541A
PmodDA4	 **Reference Design:** Analog Devices The Digilent Pmod-DA4 is a low power, octal, 12 bit, buffered voltage-output DAC. The device operates from a single 2.7 V to 5.5 V supply and is guaranteed monotonic by design. The AD5628 is available in both a 4 mm × 4 mm LFCSP and a 16-lead TSSOP. The AD5628 has an on-chip reference with an internal gain of 2. The AD5628 has a 1.25 V 5 ppm/°C reference, giving a full-scale output range of 2.5 V; the AD5628-2 has a 2.5 V 5 ppm/°C reference, giving a full-scale output range of 5 V.	AD5628
PmodDA5	 **Reference Design:** Analog Devices The Digilent Pmod-DA5 is a single 18-bit, unbuffered voltage output DAC that operates from a bipolar supply of up to 33 V. The AD5781 accepts a positive reference input range of 5 V to VDD − 2.5 V and a negative reference input range of VSS + 2.5 V to 0 V. The AD5781 offers a relative accuracy specification of ±0.5 LSB maximum, and operation is guaranteed monotonic with a ±0.5 LSB DNL maximum specification.	AD5781
PmodDPOT	 **Reference Design:** Analog Devices The Digilent Pmod-DPOT is powered by the Analog Devices AD5160, a 256 Position SPI Compatible Digital Potentiometer	AD5160
PmodGYRO2 Digilent	 **Reference Design:** Analog Devices The Digilent PmodGYRO2 is powered by the Analog Devices ADXRS453, an angular rate sensor (gyroscope) intended for industrial, instrumentation and stabilization applications in high vibration environments.	ADXRS453
PmodIA	 **Reference Design:** Analog Devices The Digilent PmodIA is powered by the Analog Devices AD5933, a high precision impedance converter system solution that combines an on-board frequency generator with a 12-bit, 1 MSPS, analog-to-digital converter (ADC).	AD5933
PmodIOXP Digilent	 **Reference Design:** Analog Devices The Digilent PmodIOXP is an I/O expansion module powered by the Analog Devices ADP5589. It functions as an I/O port expander and keypad matrix decoder, and uses a standard 8-pin I2C connector allowing it to communicate with a system board via I2C.	ADP5589
PmodMIC2 Digilent	 **Reference Design:** Analog Devices The Digilent PmodMIC2 is powered by the Analog Devices ADMP441, a high performance, low power, digital output, omnidirectional MEMS microphone with a bottom port. The complete ADMP441 solution consists of a MEMS sensor, signal conditioning, an analog-to-digital converter, antialiasing filters, power management, and an industry standard 24-bit I²S interfface.	ADMP441

Part Number / Purchase	Description	ADI Parts
PmodRS232 Digilent	 The PmodRS232 Converter Module Board (the RS232 module) translates voltage from the logic levels used by Digilent system boards to the RS232 voltage used for serial communications.	ADM3232E
PmodTMP2 Digilent	 **Reference Design:** Analog Devices The Digilent PmodTMP2 is a high accuracy digital temperature sensor offering breakthrough performance over a wide industrial range, housed in a 4 mm × 4 mm LFCSP package. It contains an internal band gap reference, a temperature sensor, and a 16-bit ADC to monitor and digitize the temperature to 0.0078°C resolution. The ADC resolution, by default, is set to 13 bits (0.0625°C). The ADC resolution is a user programmable mode that can be changed through the serial interface.	ADT7420

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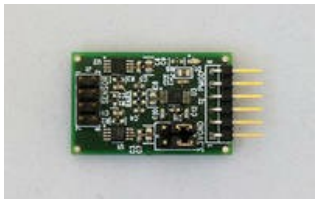
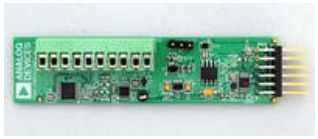
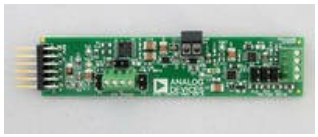
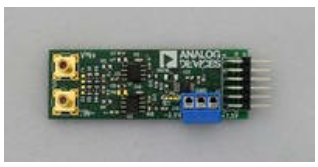
Pmod Compatible Boards

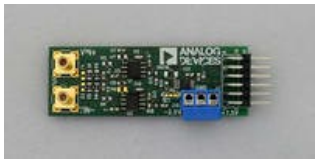
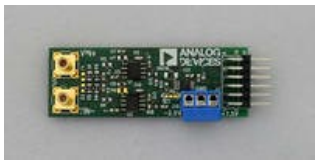
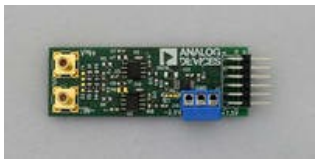
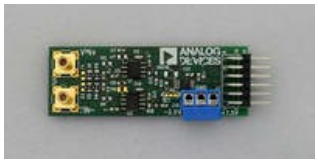
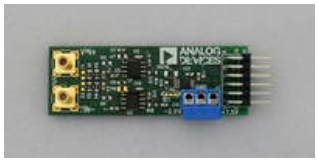
CftL Reference Designs

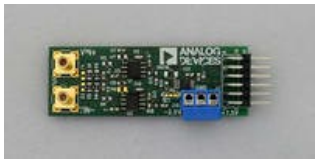
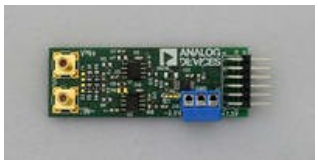
Part Number / Purchase	Description	ADI Parts
EVAL-CN0179-PMDZ	 CN0179 is a 4 mA-to-20 mA current loop transmitter for communication between a process control system and its actuator. Current loop interfaces are usually preferred because they offer the most cost effective approach to long distance noise immune data transmission. Besides being cost effective, this circuit offers the industry's lowest power solution.	AD5641 AD8657 ADR02
EVAL-CN0216-PMDZ	 CN0216 is a precision weigh scale signal conditioning system. Ultralow noise, low offset voltage, and low drift amplifiers are used at the front end for amplification of the low-level signal from the load cell.	AD7791 ADA4528-1 ADP3301
EVAL-CN0326-PMDZ	 CN0326 is a completely isolated low power pH sensor signal conditioner and digitizer with automatic temperature compensation for high accuracy. This circuit supports a wide variety of pH sensors that have very high internal resistance that can range from 1 MΩ to several GΩ, and digital signal and power isolation provides immunity to noise and transient voltages often encountered in harsh industrial environments. Suitable for a variety of industrial applications such as chemical, food processing, water, and wastewater analysis.	AD7793 AD8603 ADUM5401
EVAL-CN0332-PMDZ	 CN0332 is a single-supply, low cost, high-speed magnetoresistive (MR) signal conditioner solution that amplifies the small output voltage of the magnetoresistive sensor and converts it into a digital output signal. The circuit provides a compact and cost effective robust solution for high speed rotational sensing in industrial and automotive applications and is an excellent alternative to Hall effect sensors.	ADCMP601 AD8027 ADA4897-2
EVAL-CN0335-PMDZ	 CN0335 processes ±10 V input signals using a single 3.3 V supply. The total error after room temperature calibration is less than ±0.1% FSR over a ±10°C temperature change, making it ideal for a wide variety of industrial measurements. Both data and power are isolated, thereby making the circuit robust to high voltages and also ground-loop interference often encountered in harsh industrial environments.	AD7091R AD8606 ADUM5401

Part Number / Purchase	Description	ADI Parts
EVAL-CN0336-PMDZ	 CN0336 processes 4 mA to 20 mA input signals using a single 3.3 V supply. The total error after room temperature calibration is ±0.06% FSR over a ±10°C temperature change, making it ideal for a wide variety of industrial measurements. Both data and power are isolated, thereby making the circuit robust to high voltages and also ground-loop interference often encountered in harsh industrial environments.	AD7091R AD8606 ADUM5401
EVAL-CN0337-PMDZ	 CN0337 processes the output of a PT100 RTD and includes an innovative circuit for lead-wire compensation using a standard 3-wire connection. The circuit operates on a single 3.3 V supply.	AD7091R AD8606 ADUM5401
EVAL-CN0346-PMDZ	 CN0346 is a relative humidity sensing circuit which can be connected up to any Pmod compatible host controller board.	AD7156 AD8615 ADP125
EVAL-CN0349-PMDZ	 CN0349 is a fully Isolated conductivity measurement data acquisition system.	AD5934 AD8606 ADUM5000 ADUM1250 ADG715
EVAL-CN0350-PMDZ	 CN0350 processes charge input signals from piezoelectric sensors using a single 3.3 V supply and has a total error of less than 0.25% FSR after calibration over a ±10°C temperature range.	AD7091R AD8608
EVAL-CN0354-PMDZ	 CN0354 is a low power multichannel thermocouple measurement system with cold junction compensation.	AD7787 AD8495 ADM8829 ADG1609 ADR3412 REF194
EVAL-CN0355-PMDZ	 CN0355 is a low power signal conditioner for resistive bridge type sensors and includes a temperature compensation channel.	AD7793 AD8420 ADA4096-2
EVAL-CN0357-PMDZ	 CN0357 is an electrochemical gas sensing signal conditioning solution, designed to work with many electrochemical gas sensors down to resolutions of 1 part per million (ppm).	AD7790 ADA4528-2 AD8500 ADR3412 AD5270

ADC Drivers

Resolution	Sampling Speed	Part Number / Purchase	Description	ADI Parts	Device Driver
14-Bits	250 KSPS	EVAL-AD7942-PMDZ	 AD7942 is a 14-bit PulSAR® ADC 250 kSPS, unipolar, single-ended input.	AD7942 ADA4841	AD7942 IIO Serial ADC Linux Driver

Resolution	Sampling Speed	Part Number / Purchase	Description	ADI Parts	Device Driver
14-Bits	500 KSPS	EVAL-AD7946-PMDZ	 AD7946 is a 14-bit PulSAR® ADC 500 kSPS, unipolar, single-ended input.	AD7946 ADA4841	AD7946 IIO Serial ADC Linux Driver
16-Bits	100 KSPS	EVAL-AD7988-1-PMDZ	 AD7988-1 is a 16-bit PulSAR® ADC 100 kSPS, unipolar, differential input.	AD7988-1 ADA4841	AD7988-1 IIO Serial ADC Linux Driver
16-Bits	250 KSPS	EVAL-AD7685-PMDZ	 AD7685 is a 16-bit PulSAR® ADC 250 kSPS, unipolar, single-ended input.	AD7685 ADA4841	AD7685 IIO Serial ADC Linux Driver
16-Bits	250 KSPS	EVAL-AD7687-PMDZ	 AD7687 is a 16-bit PulSAR® ADC 250 kSPS, unipolar, differential input.	AD7687 ADA4841	AD7687 IIO Serial ADC Linux Driver
16-Bits	250 KSPS	EVAL-AD7691-PMDZ	 AD7691 is a 16-bit PulSAR® ADC 250 kSPS, unipolar, differential input.	AD7691 ADA4841	AD7691 IIO Serial ADC Linux Driver
16-Bits	500 KSPS	EVAL-AD7686-PMDZ	 AD7686 is a 16-bit PulSAR® ADC 500 kSPS, unipolar, single-ended input.	AD7686 ADA4841	AD7686 IIO Serial ADC Linux Driver
16-Bits	500 KSPS	EVAL-AD7688-PMDZ	 AD7688 is a 16-bit PulSAR® ADC 500 kSPS, unipolar, differential input.	AD7688 ADA4841	AD7688 IIO Serial ADC Linux Driver
16-Bits	500 KSPS	EVAL-AD7693-PMDZ	 AD7693 is a 16-bit PulSAR® ADC 500 kSPS, unipolar, differential input.	AD7693 ADA4841	AD7693 IIO Serial ADC Linux Driver
16-Bits	500 KSPS	EVAL-AD7988-5-PMDZ	 AD7988-5 is a 16-bit PulSAR® ADC 500 kSPS, unipolar, single-ended input.	AD7988-5 ADA4841	AD7988-5 IIO Serial ADC Linux Driver

Resolution	Sampling Speed	Part Number / Purchase	Description	ADI Parts	Device Driver
16-Bits	1000 KSPS	EVAL-AD7980-PMDZ	 AD7980 is a 16-bit PulSAR® ADC 1000 kSPS, unipolar, single-ended input.	AD7980 ADA4841	AD7980 IIO Serial ADC Linux Driver
16-Bits	1333 KSPS	EVAL-AD7983-PMDZ	 AD7983 is a 16-bit PulSAR® ADC 1333 kSPS, unipolar, single-ended input.	AD7983 ADA4841	AD7983 IIO Serial ADC Linux Driver
18-Bits	400 KSPS	EVAL-AD7690-PMDZ	 AD7690 is a 18-bit PulSAR® ADC 400 kSPS, unipolar, differential input.	AD7690 ADA4841	AD7690 IIO Serial ADC Linux Driver
18-Bits	1000 KSPS	EVAL-AD7982-PMDZ	 AD7982 is a 18-bit PulSAR® ADC 1000 kSPS, unipolar, differential input.	AD7982 ADA4841	AD7982 IIO Serial ADC Linux Driver
18-Bits	1333 KSPS	EVAL-AD7984-PMDZ	 AD7984 is a 18-bit PulSAR® ADC 1333 kSPS, unipolar, differential input.	AD7984 ADA4841	AD7984 IIO Serial ADC Linux Driver

Adapter Boards

An Adapter Board is an electrical interface routing between one socket or connection to another. The purpose of these adapters are to reroute one connector (normally an ADI standard connector) to a different connector (normally a standard Xilinx connector).

AD-DAC-FMC Adapter Board

The AD-DAC-FMC adapter board allows any of Analog Devices' DPG2-compatiable High-Speed DAC Evaluation Boards to be used on a Xilinx® evaluation board with a FMC connector. The adapter board uses the Low Pin Count (LPC) version of the FMC connector, so it can be used on either LPC or HPC hosts.

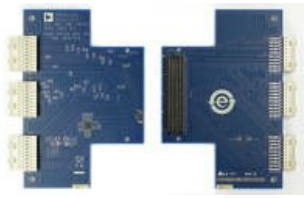
More information about this adapter board can be found at the product page.

Existing projects which can be used with the AD-DAC-FMC Adapter Board.

Part Number	Description	ADI Parts
AD9739-R2-EBZ	**Reference design:** Analog Devices 14-Bit, 2500 MSPS, RF Digital-to-Analog Converter	AD9739
AD9789-EBZ	**Reference design:** Analog Devices 4 Channel QAM encoder/interpolator/upconverter with 2400 MSPS, 14-bit RF digital-to-analog converter	AD9789
AD9122-EBZ	**Reference design:** Analog Devices Dual 16-bit, 1200MSPS digital-to-analog converter	AD9122
AD9129-	**Reference design:** Analog Devices	AD9129

Part Number	Description	ADI Parts
EBZ	14-bit, 2.8GSPS digital-to-analog converter	
AD9747-EBZ	**Reference design:** Analog Devices Dual 16-bit, 250MSPS digital-to-analog converter	AD9747
AD9117-DPG2-EBZ AD9116-DPG2-EBZ AD9115-DPG2-EBZ AD9114-DPG2-EBZ	**Reference design:** Analog Devices 8/10/12/14-bit, low power digital-to-analog converter (DAC) that provides a sample rate of 125 MSPS.	AD9114 AD9115 AD9116 AD9117
AD9785-DPG2-EBZ AD9787-DPG2-EBZ AD9788-DPG2-EBZ	**Reference design:** Analog Devices 12-bit, 14-bit, and 16-bit, high dynamic range TxDAC® devices, respectively, that provide a sample rate of 800 MSPS, permitting multicarrier generation up to the Nyquist frequency.	AD9785 AD9787 AD9788

AD-ADC-FMC Adapter Board



The AD-ADC-FMC adapter board allows Analog Devices' FIFO-compatible High-Speed ADC Evaluation Boards to be used on a Xilinx® evaluation board with a FMC connector. There are two revisions of the interposer where both use the high pin count (HPC) version of the FMC connector.

More information about this adapter board can be found at the product page.

Evaluation boards which can be used with the Rev A, AD-ADC-FMC Adapter Board:

Part Number	Description	ADI Parts
AD9279-80KITZ	**Reference Design:** Analog Devices 8 channel LNA, VGA, AAF, I/Q Demodulator with 12Bit, 80MSPS Analog-to-Digital Converter	AD9279
AD9467-250EBZ	**Reference Design:** Analog Devices 16-bit, 250MSPS monolithic, IF sampling analog-to-digital converter (ADC)	AD9467

Evaluation boards which can be used with the Rev B, AD-ADC-FMC Adapter Board (Part Number: CVT-ADC-FMC-INTPZB):

Part Number	Description	ADI Parts
AD9250-250EBZ	**Reference Design:** Analog Devices 14-Bit, 250 MSPS, Analog-to-Digital Converter	AD9250
AD9250-170EBZ	**Reference Design:** Analog Devices 14 Bit, 170 MSPS, Analog-to-Digital converter	AD9250
AD6673-250EBZ	**Reference Design:** Analog Devices 11 Bit, 250 MSPS, Dual channel IF Receiver	AD6673
AD9649-EBZ	**Reference Design:** Analog Devices 14 Bit, 80 MSPS, Single channel ADC	AD9649
AD9671-EBZ	**Reference Design:** Analog Devices 14 Bit, 40 MSPS, Eight channel Ultrasound AFE with digital demodulator	AD9671
AD9683-250EBZ	**Reference Design:** Analog Devices 14-Bit, 250 MSPS, Analog-to-Digital Converter	AD9683

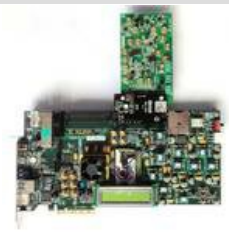
FMC-SDP Interposer

The FMC-SDP interposer allows any Analog Devices SDP Evaluation Board to be used on a Xilinx® evaluation board with a FMC connector. The interposer uses the Low Pin Count (LPC) version of the FMC connector, so it can be used on either LPC or HPC hosts. The interposer can only be used with FPGA boards that support 3.3VIO for the FMC connection.

Part Number	Description	ADI Parts
SDP-FMC-IB1Z	SDP to FMC Interposer Board	

Existing projects which can be used with the FMC-SDP Adapter Board.

Part Number	Description	ADI Parts
	Analog to Digital Converters	
EVAL-AD7091SDZ	 **Reference Design:** Analog Devices The AD7091 is a 12-bit successive approximation register analog-to-digital converter (SAR ADC) that offers ultralow power consumption (typically 367 µA at 3 V and 1 MSPS) while achieving fast throughput rates (1 MSPS with a 50 MHz SCLK). The AD7091 operates from a single 2.09 V to 5.25 V power supply. The AD7091 also features an on-chip conversion clock and a high speed serial interface.	AD7091
EVAL-AD7091RSDZ	 **Reference Design:** Analog Devices The AD7091R is a 12-bit successive approximation analog-to-digital converter (ADC) that offers ultralow power consumption (typically 349 µA at 3 V and 1 MSPS) while achieving fast throughput rates (1 MSPS with a 50 MHz SCLK). Operating from a single 2.7 V to 5.25 V power supply, the part contains a wide bandwidth track-and-hold amplifier that can handle input frequencies in excess of 7 MHz. The AD7091R also features an on-chip conversion clock, accurate reference, and high speed serial interface.	AD7091R
EVAL-AD7175-2SDZ	 **Reference Design:** Analog Devices The AD7175-2 is a low noise, fast settling, multiplexed, 2-/4- channel (fully/pseudo differential) Σ-Δ analog-to-digital converter (ADC) for low bandwidth inputs. It has a maximum channel scan rate of 50 kSPS (20 µs) for fully settled data. The output data rates range from 5 SPS to 250 kSPS. The AD7175-2 integrates key analog and digital signal condition-ing blocks to allow users to configure an individual setup for each analog input channel in use. Each feature can be user selected on a per channel basis. Integrated true rail-to-rail buffers on the analog inputs and external reference inputs provide easy to drive high impedance inputs. The precision 2.5 V low drift (2 ppm/°C) band gap internal reference (with output reference buffer) adds embedded functionality to reduce external component count. The digital filter allows simultaneous 50 Hz/60 Hz rejection at 27.27 SPS output data rate. The user can switch between different filter options according to the demands of each channel in the application. The ADC automatically switches through each selected channel. Further digital processing functions include offset and gain calibration registers, configurable on a per channel basis.	AD7175-2
EVAL-AD7176-2SDZ	 **Reference Design:** Analog Devices The AD7176-2 is a fast settling, highly accurate, high resolution, multiplexed S-? analog-to-digital converter (ADC) for low band-width input signals. Its inputs can be configured as two fully differential or four pseudo differential inputs via the integrated crosspoint multiplexer. An integrated precision, 2.5 V, low drift (2 ppm/°C), band gap internal reference (with an output reference buffer) adds functionality and reduces the external component count. The maximum channel scan data rate is 50 kSPS (with a settling time of 20 µs), resulting in fully settled data of 17 noise free bits. User-selectable output data rates range from 5 SPS to 250 kSPS. The resolution increases at lower speeds. The AD7176-2 offers three key digital filters. The fast settling filter maximizes the channel scan rate. The Sinc3 filter maximizes the resolution for single-channel, low speed applications. For 50 Hz and 60 Hz environments, the AD7176-2 specific filter minimizes the settling times or maximizes the rejection of the line frequency. These enhanced filters enable simultaneous 50 Hz and 60 Hz rejec-tion with a 27 SPS output data rate (with a settling time of 36 ms).	AD7176-2

Part Number	Description	ADI Parts
	Analog to Digital Converters	
EVAL-AD7291SDZ	 **Reference Design:** Analog Devices The AD7291 is a 12-bit, low power, 8-channel, successive approximation analog-to-digital converter (ADC) with an internal temperature sensor.	AD7291
EVAL-AD7298SDZ	 **Reference Design:** Analog Devices The AD7298 is a 12-bit, high speed, low power, 8-channel, successive approximation ADC with an internal temperature sensor. The part operates from a single 3.3 V power supply and features throughput rates up to 1 MSPS. The device contains a low noise, wide bandwidth track-and-hold amplifier that can handle input frequencies in excess of 30 MHz.	AD7298
EVAL-AD7327SDZ	 **Reference Design:** Analog Devices The AD7327 is an 8-channel, 12-bit plus sign successive approximation ADC designed on the iCMOS (industrial CMOS) process. iCMOS is a process combining high voltage silicon with submicron CMOS and complementary bipolar technologies. It enables the development of a wide range of high performance analog ICs capable of 33 V operation in a footprint that no previous generation of high voltage parts could achieve. Unlike analog ICs using conventional CMOS processes, iCMOS components can accept bipolar input signals while providing increased performance, dramatically reduced power consumption, and reduced package size. The AD7327 can accept true bipolar analog input signals. The AD7327 has four software-selectable input ranges: ±10 V, ±5 V, ±2.5 V, and 0 V to +10 V. Each analog input channel can be independently programmed to one of the four input ranges. The analog input channels on the AD7327 can be programmed to be single-ended, true differential, or pseudo differential.	AD7327
EVAL-AD7328SDZ	 **Reference Design:** Analog Devices The AD7328 is an 8-channel, 12-bit plus sign successive approximation ADC designed on the iCMOS™ (industrial CMOS) process. iCMOS is a process combining high voltage silicon with submicron CMOS and complementary bipolar technologies. It enables the development of a wide range of high performance analog ICs capable of 33 V operation in a footprint that no previous generation of high voltage parts could achieve. Unlike analog ICs using conventional CMOS processes, iCMOS components can accept bipolar input signals while providing increased performance, dramatically reduced power consumption, and reduced package size. The AD7328 can accept true bipolar analog input signals.	AD7328
EVAL-AD7366SDZ	 **Reference Design:** Analog Devices The AD7366 is a dual 12-bit, high speed, low power, successive approximation analog-to-digital converter that feature throughput rates up to 1 MSPS. The device contains two ADCs, each preceded by a 2-channel multiplexer, and a low noise, wide bandwidth track-and-hold amplifier. The AD7366 is fabricated on the Analog Devices, Inc., industrial CMOS process (iCMOS), which is a technology platform combining the advantages of low and high voltage CMOS. The iCMOS process allows the AD7366 to accept high voltage bipolar signals in addition to reducing power consumption and package size. The AD7366 can accept true bipolar analog input signals in the ±10 V range, ±5 V range, and 0 V to 10 V range.	AD7366
EVAL-AD7367SDZ	 **Reference Design:** Analog Devices The AD7367 is a dual 14-bit, high speed, low power, successive approximation analog-to-digital converter that feature throughput rates up to 1 MSPS. The device contains two ADCs, each preceded by a 2-channel multiplexer, and a low noise, wide bandwidth track-and-hold amplifier. The AD7367 is fabricated on the Analog Devices, Inc., industrial CMOS process (iCMOS), which is a technology platform combining the advantages of low and high voltage CMOS. The iCMOS process allows the AD7367 to accept high voltage bipolar signals in addition to reducing power consumption and package size. The AD7367 can accept true bipolar analog input signals in the ±10 V range, ±5 V range, and 0 V to 10 V range.	AD7367

Part Number	Description	ADI Parts
	Analog to Digital Converters	
EVAL-AD7450ASDZ	 **Reference Design:** Analog Devices The AD7450A is 12-bit, high speed, low power, successive-approximation (SAR) analog-to-digital converter that feature a fully differential analog input. This part operates from a single 3 V or 5 V power supply and features throughput rates up to 1 MSPS.	AD7450A
EVAL-AD7490SDZ	 **Reference Design:** Analog Devices The AD7490 is a 12-bit high speed, low power, successive- approximation ADC. The part operates from a single 2.7 V to 5.25 V power supply and features throughput rates up to 1 MSPS. The part contains a low-noise, wide bandwidth track/hold amplifier that can handle input frequencies in excess of 1 MHz.	AD7490
EVAL-AD7656-1SDZ	 **Reference Design:** Analog Devices The AD7656 is a reduced decoupling pin- and software-compatible versions of AD7656/AD7657/AD7658. The AD7656-1/AD7657-1/AD7658-1 devices contain six 16-/ 14-/12-bit, fast, low power successive approximation ADCs in a package designed on the iCMOS® process (industrial CMOS). iCMOS is a process combining high voltage silicon with submicron CMOS and complementary bipolar technologies. It enables the development of a wide range of high performance analog ICs capable of 33 V operation in a footprint that no previous generation of high voltage parts could achieve. Unlike analog ICs using conven-tional CMOS processes, iCMOS components can accept bipolar input signals while providing increased performance, which dramatically reduces power consumption and package size. The AD7656-1/AD7657-1/AD7658-1 feature throughput rates of up to 250 kSPS.	AD7656-1
EVAL-AD7657-1SDZ	 **Reference Design:** Analog Devices The AD7657 is a reduced decoupling pin- and software-compatible versions of AD7656/AD7657/AD7658. The AD7656-1/AD7657-1/AD7658-1 devices contain six 16-/ 14-/12-bit, fast, low power successive approximation ADCs in a package designed on the iCMOS® process (industrial CMOS). iCMOS is a process combining high voltage silicon with submicron CMOS and complementary bipolar technologies. It enables the development of a wide range of high performance analog ICs capable of 33 V operation in a footprint that no previous generation of high voltage parts could achieve. Unlike analog ICs using conven-tional CMOS processes, iCMOS components can accept bipolar input signals while providing increased performance, which dramatically reduces power consumption and package size. The AD7656-1/AD7657-1/AD7658-1 feature throughput rates of up to 250 kSPS.	AD7657-1
EVAL-AD7658-1SDZ	 **Reference Design:** Analog Devices The AD7658 is a reduced decoupling pin- and software-compatible versions of AD7656/AD7657/AD7658. The AD7656-1/AD7657-1/AD7658-1 devices contain six 16-/ 14-/12-bit, fast, low power successive approximation ADCs in a package designed on the iCMOS® process (industrial CMOS). iCMOS is a process combining high voltage silicon with submicron CMOS and complementary bipolar technologies. It enables the development of a wide range of high performance analog ICs capable of 33 V operation in a footprint that no previous generation of high voltage parts could achieve. Unlike analog ICs using conven-tional CMOS processes, iCMOS components can accept bipolar input signals while providing increased performance, which dramatically reduces power consumption and package size. The AD7656-1/AD7657-1/AD7658-1 feature throughput rates of up to 250 kSPS.	AD7658-1
EVAL-AD7492SDZ	 **Reference Design:** Analog Devices The AD7492, AD7492-4, AD7492-5 are 12-bit high speed, low power, successive approximation ADCs. The parts operate from a single 2.7 V to 5.25 V power supply and feature throughput rates up to 1.25 MSPS. They contain a low noise, wide bandwidth track/hold amplifier that can handle bandwidths up to 10 MHz.	AD7492

Part Number	Description	ADI Parts
	Analog to Digital Converters	
EVAL-AD7683SDZ	 **Reference Design:** Analog Devices The AD7683 is a 16-bit, charge redistribution, successive approximation, PulSAR® analog-to-digital converter (ADC) that operates from a single power supply, VDD, between 2.7 V and 5.5 V. It contains a low power, high speed, 16-bit sampling ADC with no missing codes (B grade), an internal conversion clock, and a serial, SPI-compatible interface port. The part also contains a low noise, wide bandwidth, short aperture delay, track-and-hold circuit. On the CS falling edge, it samples an analog input, +IN, between 0 V to REF with respect to a ground sense, –IN. The reference voltage, REF, is applied externally and can be set up to the supply voltage. Its power scales linearly with throughput.	AD7683
EVAL-AD7685SDZ	 **Reference Design:** Analog Devices The AD7685 is a 16-bit, charge redistribution successive approximation, analog-to-digital converter (ADC) that operates from a single power supply, VDD, between 2.3 V to 5.5 V. It contains a low power, high speed, 16-bit sampling ADC with no missing codes, an internal conversion clock, and a versatile serial interface port. The part also contains a low noise, wide bandwidth, short aperture delay, track-and-hold circuit. On the CNV rising edge, it samples an analog input IN+ between 0 V to REF with respect to a ground sense IN-. The reference voltage, REF, is applied externally and can be set up to the supply voltage. Power dissipation scales linearly with throughput.	AD7685
EVAL-AD7686SDZ	 **Reference Design:** Analog Devices The D7686 is a 16-bit, charge redistribution, successive approximation, analog-to-digital converter (ADC) that operates from a single 5 V power supply, VDD. It contains a low power, high speed, 16-bit sampling ADC with no missing codes, an internal conversion clock, and a versatile serial interface port. The part also contains a low noise, wide bandwidth, short aperture delay track-and-hold circuit. On the CNV rising edge, the AD7686 samples an analog input IN+ between 0 V to REF with respect to a ground sense IN-. The reference voltage, REF, is applied externally and can be set up to the supply voltage. Power dissipation scales linearly with throughput.	AD7686
EVAL-AD7687SDZ	 **Reference Design:** Analog Devices The AD7687 is a 16-bit, charge redistribution, successive approximation, analog-to-digital converter (ADC) that operates from a single power supply, VDD, between 2.3 V to 5.5 V. It contains a low power, high speed, 16-bit sampling ADC with no missing codes, an internal conversion clock, and a versatile serial interface port. The part also contains a low noise, wide bandwidth, short aperture delay track-and-hold circuit. On the CNV rising edge, it samples the voltage difference between IN+ and IN- pins. The voltages on these pins usually swing in opposite phase between 0 V to REF. The reference voltage, REF, is applied externally and can be set up to the supply voltage. Its power scales linearly with throughput.	AD7687
EVAL-AD7688SDZ	 **Reference Design:** Analog Devices The AD688 is a 16-bit, charge redistribution, successive approximation, analog-to-digital converter (ADC) that operates from a single 5 V power supply, VDD. It contains a low power, high speed, 16-bit sampling ADC with no missing codes, an internal conversion clock, and a versatile serial interface port. The part also contains a low noise, wide bandwidth, short aperture delay track-and-hold circuit. On the CNV rising edge, it samples the voltage difference between IN+ and IN- pins. The voltages on these pins usually swing in opposite phase between 0 V and REF. The reference voltage, REF, is applied externally and can be set up to the supply voltage. Its power scales linearly with throughput.	AD7688
EVAL-AD7690SDZ	 **Reference Design:** Analog Devices The AD7690 is an 18-bit, successive approximation, analog-to-digital converter (ADC) that operates from a single power supply, VDD. It contains a low power, high speed, 18-bit sampling ADC with no missing codes, an internal conversion clock, and a versatile serial interface port. On the CNV rising edge, it samples the voltage difference between the IN+ and IN- pins. The voltages on these pins swing in opposite phase between 0 V and REF. The reference voltage, REF, is applied externally and can be set up to the supply voltage. The power of the AD7690 scales linearly with the throughput.	AD7690

Part Number	Description	ADI Parts
	Analog to Digital Converters	
EVAL-AD7691SDZ	 **Reference Design:** Analog Devices The AD7691 is an 18-bit, charge redistribution, successive approximation, analog-to-digital converter (ADC) that operates from a single power supply, VDD, between 2.3 V and 5 V. It contains a low power, high speed, 18-bit sampling ADC with no missing codes, an internal conversion clock, and a versatile serial interface port. On the CNV rising edge, it samples the voltage difference between the IN+ and IN- pins. The voltages on these pins swing in opposite phases between 0 V and REF. The reference voltage, REF, is applied externally and can be set up to the supply voltage. The power of the AD7691 scales linearly with the throughput.	AD7691
EVAL-AD7693SDZ	 **Reference Design:** Analog Devices The AD7693 is a 16-bit, successive approximation analog-to-digital converter (ADC) that operates from a single power supply, VDD. It contains a low power, high speed, 16-bit sampling ADC with no missing codes, an internal conversion clock, and a versatile serial interface port. The reference voltage, VREF, is applied externally and can be set up to the supply voltage, VDD. On the CNV rising edge, it samples the voltage difference between the IN+ and IN- pins. The voltages on these pins swing in opposite phase between 0 V and VREF about VREF/2. Its power scales linearly with throughput.	AD7693
EVAL-AD7942SDZ	 **Reference Design:** Analog Devices The AD7942 is a 14-bit, charge redistribution, successive approxi-mation PulSAR® ADC that operates from a single power supply, VDD, between 2.3 V to 5.5 V. It contains a low power, high speed, 14-bit sampling ADC with no missing codes, an internal conversion clock, and a versatile serial interface port. The part also contains a low noise, wide bandwidth, short aperture delay track-and-hold circuit. On the CNV rising edge, it samples an analog input, IN+, between 0 V to VREF with respect to a ground sense, IN-. The reference voltage, VREF, is applied externally and is set up to be the supply voltage. Its power scales linearly with the throughput.	AD7942
EVAL-AD7946SDZ	 **Reference Design:** Analog Devices The AD7946 is a 14-bit, charge redistribution, successive approximation, analog-to-digital converter (ADC) that operates from a single 5 V power supply, VDD. It contains a low power, high speed, 14-bit sampling ADC with no missing codes, an internal conversion clock, and a versatile serial interface port. The part also contains a low noise, wide bandwidth, short aperture delay track-and-hold circuit. On the CNV rising edge, it samples an analog input IN+ between 0 V to REF with respect to a ground sense IN-. The reference voltage, REF, is applied externally and can be set up to the supply voltage. Its power scales linearly with throughput.	AD7946
EVAL-AD7980SDZ	 **Reference Design:** Analog Devices The AD7980 is a 16-bit, successive approximation, analog-to-digital converter (ADC) that operates from a single power supply, VDD. It contains a low power, high speed, 16-bit sampling ADC and a versatile serial interface port. On the CNV rising edge, it samples an analog input IN+ between 0 V to REF with respect to a ground sense IN-. The reference voltage, REF, is applied externally and can be set independent of the supply voltage, VDD. Its power scales linearly with throughput.	AD7980
EVAL-AD7982SDZ	 **Reference Design:** Analog Devices The AD7982 is an 18-bit, successive approximation, analog-to-digital converter (ADC) that operates from a single power supply, VDD. It contains a low power, high speed, 18-bit sampling ADC and a versatile serial interface port. On the CNV rising edge, the AD7982 samples the voltage difference between the IN+ and IN- pins. The voltages on these pins usually swing in opposite phases between 0 V and VREF. The reference voltage, REF, is applied externally and can be set independent of the supply voltage, VDD. Its power scales linearly with throughput.	AD7982
EVAL-AD7983SDZ	 **Reference Design:** Analog Devices The AD7983 is a 16-bit, successive approximation, analog-to-digital converter (ADC) that operates from a single power supply, VDD. It contains a low power, high speed, 16-bit sampling ADC and a versatile serial interface port. On the CNV rising edge, it samples an analog input IN+ between 0 V to REF with respect to a ground sense IN-. The reference voltage, REF, is applied externally and can be	AD7983

Part Number	Description	ADI Parts
	Analog to Digital Converters	
	set independent of the supply voltage, VDD. Its power scales linearly with throughput.	
EVAL-AD7984SDZ	 **Reference Design:** Analog Devices The AD7984 is an 18-bit, successive approximation, analog-to-digital converter (ADC) that operates from a single power supply, VDD. It contains a low power, high speed, 18-bit sampling ADC and a versatile serial interface port. On the CNV rising edge, the AD7984 samples the voltage difference between the IN+ and IN- pins. The voltages on these pins usually swing in opposite phases between 0 V and VREF. The reference voltage, REF, is applied externally and can be set independent of the supply voltage, VDD.	AD7984
EVAL-AD7988-5SDZ	 **Reference Design:** Analog Devices The AD7988-1 is is a 16-bit, successive approximation, analog-to-digital converter (ADC) that operate from a single power supply, VDD. The AD7988-1 offers a 100kSPS throughput. It is a low power, 16-bit sampling ADC with a versatile serial interface port. On the CNV rising edge, it samples an analog input IN+ between 0 V to REF with respect to a ground sense IN-. The reference voltage, REF, is applied externally and can be set independent of the supply voltage, VDD.	AD7988-1
EVAL-AD7988-5SDZ	 **Reference Design:** Analog Devices The AD7988-5 is is a 16-bit, successive approximation, analog-to-digital converter (ADC) that operate from a single power supply, VDD. The AD7988-5 offers a 500kSPS throughput. It is a low power, 16-bit sampling ADC with a versatile serial interface port. On the CNV rising edge, it samples an analog input IN+ between 0 V to REF with respect to a ground sense IN-. The reference voltage, REF, is applied externally and can be set independent of the supply voltage, VDD.	AD7988-5
	Digital to Analog Converters	
EVAL-AD5415SDZ	 **Reference Design:** Analog Devices The AD5415 is a CMOS, 12-bit, dual channel, current output digital-to-analog converter. This device operates from a 2.5 V to 5.5 V power supply, making it suited to battery-powered applications and other applications.	AD5415
EVAL-AD5421SDZ	 **Reference Design:** Analog Devices The AD5421 is a complete, loop-powered, 4 mA to 20 mA digital-to-analog converter (DAC) designed to meet the needs of smart transmitter manufacturers in the industrial control industry. The DAC provides a high precision, fully integrated, low cost solution in a compact TSSOP package.	AD5421
EVAL-AD5425SDZ	 **Reference Design:** Analog Devices The AD5425 is a CMOS, 8-bit, current output digital-to-analog converter that operates from a 2.5 V to 5.5 V power supply, making it suitable for battery-powered applications and many other applications.	AD5425
EVAL-AD5443SDZ	 **Reference Design:** Analog Devices The AD5443 is a CMOS12-bit current output digital-to-analog converters (DACs), respectively. These devices operate from a 3 V to 5.5 V power supply, makingthem suitable for battery-powered applications and many other applications.	AD5443
EVAL-AD5446SDZ	 **Reference Design:** Analog Devices The AD5446 is a CMOS 14-bit current output, digital-to-analog converters (DACs). Operating from a single 2.5 V to 5.5 V power supply, these devices are suited for battery-powered and other applications.	AD5446

Part Number	Description	ADI Parts
	Analog to Digital Converters	
EVAL-AD5449SDZ	 **Reference Design:** Analog Devices The AD5449 is CMOS, 12-bit, dual-channel, current output digital-to-analog converter (DAC). This device operates from a 2.5 V to 5.5 V power supply, making it suited to battery-powered and other applications.	AD5449
EVAL-AD5453SDZ	 **Reference Design:** Analog Devices The AD5453 is a CMOS 14-bit current output digital-to-analog converters, respectively. These devices operate from a 2.5 V to 5.5 V power supply, making them suited to several applications, including battery- powered applications.	AD5453
EVAL-AD5541ASDZ	 **Reference Design:** Analog Devices The AD5541A is a single, 16-bit, serial input, unbuffered voltage output digital-to-analog converter (DAC) that operate from a single 2.7 V to 5.5 V supply.	AD5541A
EVAL-AD5542ASDZ	 **Reference Design:** Analog Devices The AD5542A is single, 16-bit, serial input, unbuffered voltage output digital-to-analog converter (DAC) that operates from a single 2.7 V to 5.5 V supply. The DAC output range extends from 0 V to VREF and is guaranteed.	AD5542A
EVAL-AD5543SDZ	 **Reference Design:** Analog Devices The AD5543 is precision 16-bit, low power, current output, small form factor digital-to-analog converter (DAC). It is designed to operate from a single 5 V supply with a ±10 V multiplying reference.	AD5543
EVAL-AD5553SDZ	 **Reference Design:** Analog Devices The AD5553 is precision 14-bit, low power, current output, small form factor digital-to-analog converter (DAC). It is designed to operate from a single 5 V supply with a ±10 V multiplying reference.	AD5553
EVAL-AD5570SDZ	 **Reference Design:** Analog Devices The AD5570 is a single 16-bit serial input, voltage output DAC that operates from supply voltages of ±11.4 V up to ±16.5 V. Integral linearity (INL) and differential nonlinearity (DNL) are accurate to 1 LSB. During power-up, when the supply voltages are changing, VOUT is clamped to 0 V via a low impedance path.	AD5570
EVAL-AD5629RSDZ	 **Reference Design:** Analog Devices The AD5629R device is a low power, octal, 12-bit, buffered voltage-output DACs. It operates from a single 2.7 V to 5.5 V supply and is guaranteed monotonic by design.	AD5629R
EVAL-AD5668SDCZ	 **Reference Design:** Analog Devices The AD5668 device is a low power, octal, 16-bit, buffered voltage-output DAC. The device operates from a single 2.7 V to 5.5 V supply and is guaranteed monotonic by design.	AD5668

Part Number	Description	ADI Parts
	Analog to Digital Converters	
EVAL-AD5669RSDZ	 **Reference Design:** Analog Devices The AD5669R device is a low power, octal, 16-bit, buffered voltage-output DACs. It operates from a single 2.7 V to 5.5 V supply and is guaranteed monotonic by design.	AD5669R
EVAL-AD5684RSDZ	 **Reference Design:** Analog Devices The AD5684R is a low power, quad, 12-bit buffered voltage output DACs. The device includes a 2.5 V, 2 ppm/°C internal reference (enabled by default) and a gain select pin giving a full-scale output of 2.5 V (gain = 1) or 5 V (gain = 2). The device operates from a single 2.7 V to 5.5 V supply, is guaranteed monotonic by design, and exhibits less than 0.1% FSR gain error and 1.5 mV offset error performance.	AD5684R
EVAL-AD5686RSDZ	 **Reference Design:** Analog Devices The AD5686R is a low power, quad, 12-bit buffered voltage output DACs. The device includes a 2.5 V, 2 ppm/°C internal reference (enabled by default) and a gain select pin giving a full-scale output of 2.5 V (gain = 1) or 5 V (gain = 2). The device operates from a single 2.7 V to 5.5 V supply, is guaranteed monotonic by design, and exhibits less than 0.1% FSR gain error and 1.5 mV offset error performance.	AD5686R
EVAL-AD5694RSDZ	 **Reference Design:** Analog Devices The AD5694R nanoDAC is a quad, 12-bit, rail-to-rail, voltage output DAC. The device includes a 2.5V, 2ppm/°C internal reference (enabled by default) and a gain select pin giving a full-scale output of 2.5V (gain=1) or 5V (gain=2). The device operates from a single 2.7 V to 5.5 V supply, is guaranteed monotonic by design and exhibits less than 0.1% FSR gain error and 1.5mV offset error performance.	AD5694R
EVAL-AD5696RSDZ	 **Reference Design:** Analog Devices The AD5696R nanodac is a quad, 16-bit, rail-to-rail, voltage output dac. the device includes a 2.5v, 2ppm/°c internal reference (enabled by default) and a gain select pin giving a full-scale output of 2.5v (gain=1) or 5v (gain=2). the device operates from a single 2.7 v to 5.5 v supply, is guaranteed monotonic by design and exhibits less than 0.1% fsr gain error and 1.5mv offset error performance.	AD5696R
EVAL-AD5755SDZ	 **Reference Design:** Analog Devices The AD5755 is a quad, voltage and current output DAC that operates with a power supply range from -26.4 V to +33 V. On-chip dynamic power control minimizes package power dissipation in current mode. This is achieved by regulating the voltage on the output driver from 7.4 V to 29.5 V using a dc-to-dc boost converter optimized for minimum on chip power dissipation.	AD5755
EVAL-AD5755-1SDZ	 **Reference Design:** Analog Devices The AD5755-1 is a quad, voltage and current output DAC, that operates with a power supply range from -26.4 V to +33 V. On chip dynamic power control minimizes package power dissipation in current mode. This is achieved by regulating the voltage on the output driver from between 7.4 V to 29.5 V using a dc-to-dc boost converter optimized for minimum on-chip power dissipation. Each channel has a corresponding CHART pin so that HART signals can be coupled onto the current output of the AD5755-1.	AD5755-1
EVAL-AD5757SDZ	 **Reference Design:** Analog Devices The AD5757 is a quad, current output DAC that operates with a power supply range from 10.8 V to 33 V. On-chip dynamic power control minimizes package power dissipation by regulat-ing the voltage on the output driver from 7.4 V to 29.5 V using a dc-to-dc boost converter optimized for minimum on-chip power dissipation.	AD5757

Part Number	Description	ADI Parts
Analog to Digital Converters		
EVAL-AD5780SDZ	 **Reference Design:** Analog Devices The AD5760 is a true 16-bit, unbuffered voltage output DAC that operates from a bipolar supply of up to 33 V. The AD5760 accepts a positive reference input range of 5 V to VDD - 2.5 V and a negative reference input range of VSS + 2.5 V to 0 V. The AD5760 offers a relative accuracy specification of ±0.5 LSB maximum range, and operation is guaranteed monotonic with a ±0.5 LSB DNL maximum range specification.	AD5760
EVAL-AD5780SDZ	 **Reference Design:** Analog Devices The AD5780 is a true 18-bit, unbuffered voltage out DAC that operates from a bipolar supply up to 33V. Both reference inputs are buffered on chip and external buffers are not required.The AD5780 accepts a positive reference input in the range of 5V to VDD – 2.5V and a negative reference input in the range of VSS + 2.5v to 0V. The AD5780 offers relative accuracy of +/-1 LSB max and operation is guaranteed monotonic with a ±1 LSB DNL max range specification.	AD5780
EVAL-AD5781SDZ	 **Reference Design:** Analog Devices The AD5781 is a high precision, 18-bit digital-to-analog converter (DAC), designed to meet the requirements of precision control applications. The output range of the AD5781 is configured by two reference voltage inputs. The device is specified to operate with a dual power supply of up to 33 V.	AD5781
EVAL-AD5790SDZ	 **Reference Design:** Analog Devices The AD5790 is a single 20-bit, voltage out DAC that operates from a bipolar supply up to 33V. Reference buffers are also provided on-chip. The AD5790 accepts a positive reference input in the range of 5V to VDD – 2.5V and a negative reference input in the range of VSS + 2.5v to 0V. The AD5790 offers a relative accuracy of +/-2 LSB's max and operation is guaranteed monotonic with a -1 LSB to +3 LSB's DNL specification.	AD5790
EVAL-AD5791SDZ	 **Reference Design:** Analog Devices The AD5791 is a single 20-bit, unbuffered voltage-output DAC that operates from a bipolar supply of up to 33 V. The AD5791 accepts a positive reference input in the range 5 V to VDD - 2.5 V and a negative reference input in the range VSS + 2.5 V to 0 V. It offers a relative accuracy specification of ±1 LSB max, and operation is guaranteed monotonic with a ±1 LSB DNL maximum specification.	AD5791
Digital Potentiometers		
EVAL-AD5110SDZ	 **Reference Design:** Analog Devices The AD5110 provides provide a nonvolatile solution for 128-/64-/32-position adjustment applications, offering guaranteed low resistor tolerance errors of ±8% and up to ±6 mA current density in the A, B, and W pins. The low resistor tolerance, low nominal temperature coefficient and high bandwidth simplify open-loop applications, as well as tolerance matching applications. The new low wiper resistance feature minimizes the wiper resistance in the extremes of the resistor array to only 45 O, typical. The wiper settings are controllable through an I2C-compatible digital interface that is also used to readback the wiper register and EEPROM content. Resistor tolerance is stored within EEPROM, providing an end-to-end tolerance accuracy of 0.1%.	AD5110
EVAL-AD5111SDZ	 **Reference Design:** Analog Devices The AD5111 provides a nonvolatile solution for 128-/64-/32-position adjustment applications, offering guaranteed low resistor tolerance errors of ±8% and up to ±6 mA current density in the A, B, and W pins. The low resistor tolerance, low nominal temperature coefficient, and high bandwidth simplify open-loop applications, as well as tolerance matching applications. The new low wiper resistance feature minimizes the wiper resistance in the extremes of the resistor array to only 45 O, typical. A simple 3-wire up/down interface allows manual switching or high speed digital control with clock rates up to 50 MHz.	AD5111

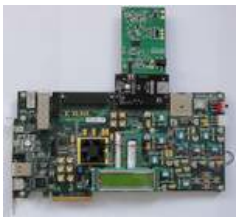
Part Number	Description	ADI Parts
	Analog to Digital Converters	
EVAL-AD5162SDZ	 **Reference Design:** Analog Devices The AD5162 provides a compact 3 mm x 4.9 mm packaged solution for dual 256 position adjustment applications. This device performs the same electronic adjustment function as a 3-terminal mechanical potentiometer. Available in four different end-to-end resistance values (2.5 k, 10 k, 50 k, 100 k), this low temperature coefficient device is ideal for high accuracy and stability-variable resistance adjustments.The wiper settings are controllable through the SPI compatible digital interface.	AD5162
EVAL-AD5172SDZ	 **Reference Design:** Analog Devices The AD5172/AD5173 are dual-channel, 256-position, one-time programmable (OTP) digital potentiometers that employ fuse link technology to achieve memory retention of resistance settings. OTP is a cost-effective alternative to EEMEM for users who do not need to program the digital potentiometer setting in memory more than once. These devices perform the same electronic adjustment function as mechanical potentiometers or variable resistors with enhanced resolution, solid-state reliability, and superior low temperature coefficient performance.	AD5172
EVAL-AD5232SDZ	 **Reference Design:** Analog Devices The AD5232 provides a nonvolatile, dual-channel, digitally controlled variable resistor (VR) with 256-position resolution. This device performs the same electronic adjustment function as a mechanical potentiometer with enhanced resolution, solid state reliability, and superior low temperature coefficient performance. The versatile programming of the AD5232, performed via a microcontroller, allows multiple modes of operation and adjustment.	AD5232
EVAL-AD5235SDZ	 **Reference Design:** Analog Devices The AD5235 is a dual-channel, 1024-position, nonvolatile memory digital potentiometer. With versatile programmability, the AD5235 allows multiple modes of operation, including read/write access in the RDAC and EEMEM registers, increment/decrement of resistance, resistance changes in ±6 dB scales, wiper setting read-back, and extra EEMEM for storing user-defined information, such as memory data for other components or a lookup table. The AD5235 supports dual-supply ±2.25 V to ±2.75 V operation and single-supply 2.7 V to 5.5 V operation, making the device suited for battery-powered applications and many other applications. In addition, the AD5235 uses a versatile SPI-compatible serial interface, allowing speeds of up to 50 MHz.	AD5235
EVAL-AD5252SDZ	 **Reference Design:** Analog Devices The AD5252 is a dual channel, digitally controlled variable resistor (VR) with resolutions of 256 positions. This device performs the same electronic adjustment function as a potentiometer or variable resistor. The AD5252's versatile programming via a Micro Controller allows multiple modes of operation and adjustment.	AD5252
EVAL-AD5254SDZ	 **Reference Design:** Analog Devices The AD5254 is quad-channel, I2C, nonvolatile memory, digitally controlled potentiometers with 256 positions, respectively. This device performs the same electronic adjustment functions as mechanical potentiometers, trimmers, and variable resistors.	AD5254
EVAL-AD5270SDZ	 **Reference Design:** Analog Devices The AD5270 is single-channel, 1024-position digital rheostat that combines industry leading variable resistor performance with nonvolatile memory (NVM) in a compact package.	AD5270

Part Number	Description	ADI Parts
Analog to Digital Converters		
EVAL-AD5272SDZ	 **Reference Design:** Analog Devices The AD5272 is single-channel, 1024-position digital rheostat that combines industry leading variable resistor performance with nonvolatile memory (NVM) in a compact package.	AD5272
EVAL-AD8403SDZ	 **Reference Design:** Analog Devices The AD8403 provides a quad channel, 256 position digitally controlled variable resistor (VR) device. This device performs the same electronic adjustment function as a potentiometer or variable resistor. The AD8403 contains four independent variable resistors in 24-lead PDIP, SOIC and TSSOP packages. Each part contains a fixed resistor with a wiper contact that taps the fixed resistor value at a point determined by a digital code loaded into the controlling serial input register. The resistance between the wiper and either endpoint of the fixed resistor varies linearly with respect to the digital code transferred into the VR latch. Each variable resistor offers a completely programmable value of resistance, between the A terminal and the wiper or the B terminal and the wiper. The fixed A to B terminal resistance of 1 kO, 10 kO, 50 kO or 100 kO has a ±1% channel-to-channel matching tolerance with a nominal temperature coefficient of 500 ppm/°C. A unique switching circuit minimizes the high glitch inherent in traditional switched resistor designs avoiding any make-before-break or break-before-make operation.	AD8403
EVAL-ADN2850SDZ	 **Reference Design:** Analog Devices The ADN2850 is a dual-channel, nonvolatile memory, digitally controlled resistors with 1024-step resolution, offering guaranteed maximum low resistor tolerance error of ±8%. The device performs the same electronic adjustment function as a mechanical rheostat with enhanced resolution, solid state reliability, and superior low temperature coefficient performance. The versatile programming of the ADN2850 via an SPI®-compatible serial interface allows 16 modes of operation and adjustment including scratchpad programming, memory storing and restoring, increment/decrement, ±6 dB/step log taper adjustment, wiper setting readback, and extra EEMEM for user-defined information such as memory data for other components, look-up table, or system identification information.	ADN2850
Direct Digital Synthesis (DDS) & Modulators		
EVAL-AD9833SDZ	 **Reference Design:** Analog Devices The AD9833 is a low power, programmable waveform generator capable of producing sine, triangular, and square wave outputs. Waveform generation is required in various types of sensing, actuation, and time domain reflectometry (TDR) applications. The output frequency and phase are software programmable, allowing easy tuning. No external components are needed. The frequency registers are 28 bits; with a 25 MHz clock rate, resolution of 0.1 Hz can be achieved. Similarly, with a 1 MHz clock rate, the AD9833 can be tuned to 0.004 Hz resolution.	AD9833
EVAL-AD9834SDZ	 **Reference Design:** Analog Devices The AD9834 is a 75 MHz low power DDS device capable of producing high performance sine and triangular outputs. It also has an on-board comparator that allows a square wave to be produced for clock generation. Consuming only 20 mW of power at 3 V makes the AD9834 an ideal candidate for power-sensitive applications.	AD9834
EVAL-AD9837SDZ	 **Reference Design:** Analog Devices The AD9837 is a low power, programmable waveform generator capable of producing sine, triangular, and square wave outputs. Waveform generation is required in various types of sensing, actuation, and time domain reflectometry (TDR) applications. The output frequency and phase are software programmable, allowing easy tuning. The frequency registers are 28 bits: with a 16 MHz clock rate, resolution of 0.06 Hz can be achieved; with a 5 MHz clock rate, the AD9837 can be tuned to 0.02 Hz resolution.	AD9837

Part Number	Description	ADI Parts
Analog to Digital Converters		
EVAL-AD9838SDZ	 **Reference Design:** Analog Devices The AD9838 is a low power DDS device capable of producing high performance sine and triangular outputs. It also has an on-board comparator that allows a square wave to be produced for clock generation. Consuming only 11 mW of power at 2.3 V the AD9838 is an ideal candidate for power-sensitive applications.	AD9838
MEMS Microphones		
EVAL-ADMP441Z	 **Reference Design:** Analog Devices The ADMP441 is a high performance, low power, digital output, omnidirectional MEMS microphone with a bottom port. The complete ADMP441 solution consists of a MEMS sensor, signal conditioning, an analog-to-digital converter, antialiasing filters, power management, and an industry standard 24-bit I2S inter-face. The I2S interface allows the ADMP441 to connect directly to digital processors, such as DSPs and microcontrollers, with-out the need for an audio codec in the system. The ADMP441 has a high SNR and high sensitivity, making it an excellent choice for far field applications. The ADMP441 has a flat wideband frequency response, resulting in natural sound with high intelligibility. A built-in particle filter provides high reliability.	ADMP441
PLL Synthesizers / VCOs		
EVAL-ADF4001SD1Z	 **Reference Design:** Analog Devices The ADF4001 frequency synthesizer can be used to implement clock sources for PLLs that require very low noise, stable reference signals. It consists of a low-noise digital PFD (Phase Frequency Detector), a precision charge pump, a programmable reference divider, and a programmable 13-bit N counter. In addition, the 14-bit reference counter (R Counter), allows selectable REFIN frequencies at the PFD input. A complete PLL (Phase-Locked Loop) can be implemented if the synthesizer is used with an external loop filter and VCO (Voltage Controlled Oscillator) or VCXO (Voltage Controlled Crystal Oscillator). The N min value of 1 allows flexibility in clock generation.	ADF4001
EVAL-ADF4002SD1Z	 **Reference Design:** Analog Devices The ADF4002 frequency synthesizer is used to implement local oscillators in the upconversion and downconversion sections of wireless receivers and transmitters. It consists of a low noise digital phase frequency detector (PFD), a precision charge pump, a programmable reference divider, and programmable N divider. The 14-bit reference counter (R counter) allows selectable REFIN frequencies at the PFD input. A complete phase-locked loop (PLL) can be implemented if the synthesizer is used with an external loop filter and voltage controlled oscillator (VCO). In addition, by programming R and N to 1, the part can be used as a standalone PFD and charge pump.	ADF4002
EVAL-ADF4106SD1Z	 **Reference Design:** Analog Devices The ADF4106 frequency synthesizer is used to implement local oscillators in the up-conversion and down-conversion sections of wireless receivers and transmitters. It consists of a low noise, digital phase frequency detector (PFD), a precision charge pump, a programmable reference divider, programmable A counter and B counter, and a dual-modulus prescaler (P/P + 1). The A (6-bit) counter and B (13-bit) counter, in conjunction with the dual-modulus prescaler (P/P + 1), implement an N divider (N = BP + A). In addition, the 14-bit reference counter (R Counter) allows selectable REFIN frequencies at the PFD input. A complete phase-locked loop (PLL) can be implemented if the synthesizer is used with an external loop filter and voltage controlled oscillator (VCO). Its very high bandwidth means that frequency doublers can be eliminated in many high frequency systems, simplifying system architecture and reducing cost.	ADF4106
EVAL-ADF4153SD1Z	 **Reference Design:** Analog Devices The ADF4153 is a fractional-N frequency synthesizer that implements local oscillators in the up-conversion and down-conversion sections of wireless receivers and transmitters. It consists of a low noise digital phase frequency detector (PFD), a precision charge pump, and a programmable reference divider. There is a Σ-Δ based fractional interpolator to allow programmable fractional-N division. The INT, FRAC, and MOD registers define an overall N divider (N = (INT + (FRAC/MOD))). In addition, the 4-bit reference counter (R counter) allows selectable REFIN frequencies at the PFD input. A complete phase- locked loop (PLL) can be implemented if the synthesizer is used with an external loop filter	ADF4153

Part Number	Description	ADI Parts
	Analog to Digital Converters	
	and a voltage controlled oscillator (VCO).	
EVAL-ADF4156SD1Z	 **Reference Design:** Analog Devices The ADF4156 is a 6.2 GHz fractional-N frequency synthesizer that implements local oscillators in the upconversion and down-conversion sections of wireless receivers and transmitters. It consists of a low noise digital phase frequency detector (PFD), a precision charge pump, and a programmable reference divider. There is a S-? based fractional interpolator to allow programmable fractional-N division. The INT, FRAC, and MOD registers define an overall N divider (N = (INT + (FRAC/MOD))). The RF output phase is programmable for applications that require a particular phase relationship between the output and the reference. The ADF4156 also features cycle slip reduction circuitry, leading to faster lock times without the need for modifications to the loop filter.	ADF4156
EVAL-ADF4157SD1Z	 **Reference Design:** Analog Devices The ADF4157 is a 6 GHz fractional-N frequency synthesizer with a 25-bit fixed modulus, allowing subhertz frequency resolution at 6 GHz. It consists of a low noise digital phase frequency detector (PFD), a precision charge pump, and a programmable reference divider. There is a S-? based fractional interpolator to allow programmable fractional-N division. The INT and FRAC values define an overall N divider, N = INT + (FRAC/225). The ADF4157 features cycle slip reduction circuitry, which leads to faster lock times without the need for modifications to the loop filter.	ADF4157
	Synchro/Resolver to Digital Converters	
EVAL-AD2S1205	 **Reference Design:** Analog Devices The AD2S1205 is a complete 12-bit resolution tracking resolver-to-digital converter that contains an on-board programmable sinusoidal oscillator providing sine wave excitation for resolvers. The converter accepts 3.15 V p-p ± 27% input signals on the Sin and Cos inputs. A Type II tracking loop is employed to track the inputs and convert the input Sin and Cos information into a digital representation of the input angle and velocity. The maximum tracking rate is a function of the external clock frequency. The performance of the AD2S105 is specified across a frequency range of 8.192 MHz ± 25%, allowing a maximum tracking rate of 1250 rps.	AD2S1205
	Circuits from the Lab	
EVAL-CN0150A-SDPZ	 **Reference Design:** Analog Devices This circuit measures RF power at any frequency from 1 MHz to 8 GHz over a range of approximately 60 dB. The measurement result is provided as a digital code at the output of a 12-bit ADC with serial interface and integrated reference. The output of the RF detector has a glueless interface to the ADC and uses most of the ADC's input range without further adjustment. A simple two-point system calibration is performed in the digital domain.	CN0150
EVAL-CN0178-SDPZ	 **Reference Design:** Analog Devices This circuit uses the ADL5902 TruPwr™ detector to measure the rms signal strength of RF signals with varying crest factors (peak-to-average ratio) over a dynamic range of approximately 65 dB and operates at frequencies from 50 MHz up to 9 GHz.	CN0178
EVAL-CN0187-SDPZ	 **Reference Design:** Analog Devices This circuit measures peak and rms power at any RF frequency from 450 MHz to 6 GHz over a range of approximately 45 dB. The measurement results are converted to differential signals in order to eliminate noise and are provided as digital codes at the output of a 12-bit SAR ADC with serial interface and integrated reference. A simple twopoint calibration is performed in the digital domain.	CN0187

Part Number	Description	ADI Parts
	Analog to Digital Converters	
EVAL-CN0188-SDPZ	 **Reference Design:** Analog Devices This circuit monitors current in individual channels of -48 V to better than 1% accuracy. The load current passes through a shunt resistor, which is external to the circuit. The shunt resistor value is chosen so that the shunt voltage is approximately 50 mV at maximum load current.	CN0188
EVAL-CN0189-SDPZ	 **Reference Design:** Analog Devices The CN-0189 circuit incorporates a dual axis ADXL203 accelerometer and the AD7887 12-bit successive approximation (SAR) ADC to create a dual axis tilt measurement system.	CN0189
EVAL-CN0194-SDPZ	 **Reference Design:** Analog Devices This circuit provides galvanic isolation for high speed, high accuracy, simultaneous sampling analog-todigital conversion applications. The 16-bit AD7685 PulSAR ADC is versatile and allows monitoring of multiple channels through daisy chaining. An input circuit based on the AD8615 op amp level shifts, attenuates, and buffers a ±10 V industrial signal to match the input requirements of the ADC. The flexible circuit includes a precision ADR391 reference and two quadchannel ADuM1402 digital isolators to provide a compact and cost effective solution to a popular industrial data acquisition application.	CN0194
EVAL-CN0202-SDPZ	 **Reference Design:** Analog Devices This circuit provides a full function, high voltage (up to 44 V), flexible, programmable analog output solution that meets most requirements for programmable logic controller (PLC) and distributed control system (DCS) applications.	CN0202
EVAL-CN0203-SDPZ	 **Reference Design:** Analog Devices This circuit provides a full function, high voltage (up to 44 V), flexible, programmable analog output solution that meets most requirements for programmable logic controller (PLC) and distributed control system (DCS) applications.	CN0203
EVAL-CN0204-SDPZ	 **Reference Design:** Analog Devices This circuit provides a full function, high voltage (up to 44 V), flexible, programmable analog output solution that meets most requirements for programmable logic controller (PLC) and distributed control system (DCS).	CN0204
EVAL-CN0209-SDPZ	 **Reference Design:** Analog Devices This circuit provides a fully programmable universal analog front end (AFE) for process control applications. The following inputs are supported: 2-, 3-, and 4-wire RTD configurations, thermocouple inputs with cold junction compensation, unipolar and bipolar input voltages, and 4 mA-to-20 mA inputs.	CN0209
EVAL-CN0216-SDPZ	 **Reference Design:** Analog Devices This circuit is a precision weigh scale signal conditioning system. It uses the AD7791, a low power buffered 24-bit sigma-delta ADC along with two external ADA4528-1 zero-drift amplifiers. This solution allows for high dc gain with a single supply.	CN0216

Part Number	Description	ADI Parts
Analog to Digital Converters		
EVAL-CN0218-SDPZ	 **Reference Design:** Analog Devices This circuit monitors current in systems with high positive common-mode dc voltages of up to +500 V with less than 0.2% error. The load current passes through a shunt resistor, which is external to the circuit. The shunt resistor value is chosen so that the shunt voltage is approximately 500 mV at maximum load current.	CN0218
EVAL-CN0235-SDPZ	 **Reference Design:** Analog Devices This board is a fully isolated lithium ion battery monitoring and protection system. Lithium ion (Li-Ion) battery stacks contain a large number of individual cells that must be monitored correctly in order to enhance the battery efficiency, prolong the battery life, and ensure safety.	CN0235
EVAL-CN0240-SDPZ	 **Reference Design:** Analog Devices The circuit from the EVAL-CN0240-SDPZ board monitors bidirectional current from sources with dc voltages of up to ±270V with less than 1% linearity error. The load current passes through a shunt resistor, which is external to the circuit. The shunt resistor value is chosen so that the shunt voltage is approximately 100 mV at maximum load current.	CN0240
EVAL-CN0241-SDPZ	 **Reference Design:** Analog Devices The circuit from this board is a classic high-side current sensing circuit topology with a single sense resistor. High-side current monitors are likely to encounter overvoltage conditions from transients or when the monitoring circuits are connected, disconnected, or powered down.	CN0241
EVAL-CN0271-SDPZ	 **Reference Design:** Analog Devices The circuit from this board is a complete thermocouple signal conditioning circuit with cold junction compensation followed by a 16-bit sigma-delta (S-?) analog-to-digital converter (ADC).	CN0271
FMC-SDP Interposer Testing		
SDP-FMC-IB1Z	 **Reference Design:** Analog Devices This project presents the steps to setup an environment for testing the FMC-SDP Interposer Board together with the ADZS-BRKOUT-EX3 SDP breakout board, the Xilinx KC705 FPGA board and the Xilinx Embedded Development Kit (EDK).	FMC-SDP Interposer, ADZS-BRKOUT-EX3 SDP breakout board

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