

# Solutions for Rapid Prototyping

## Answering the Needs of Practicing Engineers

Analog Devices participates in many vibrant hardware and software ecosystems, from Arduino to Pmod. Rapidly make your prototype and test your concepts. ADI's reference designs support many different applications and technologies, and include everything from hardware to embedded firmware that makes it easier for engineers to get their product concepts up and running fast.

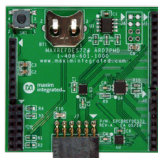
### Adapter Boards

Not all development platforms support the popular hardware interfaces that ADI uses. So for some of the platforms, we've produced adapter boards that enable additional hardware interface options to help scale the number of add-on boards that can be used. Analog Devices' goal is to ensure that we can provide hardware add-on boards for as many of the popular development platforms as possible to assist you with creating applications that work on your preferred embedded target. Below is a selection of the current supported development platforms along with a list of the available hardware interfaces they support without additional adapter boards.

#### MAXREFDES72

Arduino to Pmod-compatible adapter

- ▶ One Pmod-compatible port with universal serial interfacing
- ▶ 1.8 V to 5 V digital logic compatible
- ▶ On-board real-time clock
- ▶ Visit [analog.com/MAXREFDES72](http://analog.com/MAXREFDES72)



#### PMD-ARD-INTZ

4-channel Pmod-compatible peripheral to Arduino controller

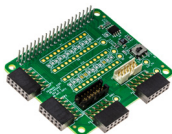
- ▶ Two SPI, one I<sup>2</sup>C, and one UART port
- ▶ Channel independent level translation
- ▶ Channel independent IOREF selection
- ▶ Visit [analog.com/PMD-ARD-INTZ](http://analog.com/PMD-ARD-INTZ)



#### PMD-RPI-INTZ

4-channel Pmod-compatible peripheral to Raspberry Pi controller

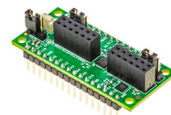
- ▶ Two SPI, two I<sup>2</sup>C Pmod-compatible ports
- ▶ QuikEval and power system management ports
- ▶ Flexible pin remapping matrix
- ▶ Visit [analog.com/PMD-RPI-INTZ](http://analog.com/PMD-RPI-INTZ)



#### FTHR-PMD-INTZ

FeatherWings to Pmod Adaptor

- ▶ One SPI, one I<sup>2</sup>C Pmod-compatible port
- ▶ Selectable Pmod-compatible power (3.3 V or 5 V)
- ▶ Selectable digital I/O voltage (3.3 V or 1.8 V)
- ▶ Visit [analog.com/FTHR-PMD-INTZ](http://analog.com/FTHR-PMD-INTZ)



## Arduino Shields

Arduino shields, first standardized by Arduino, are a popular hardware form factor that is typically mechanically and electrically compatible with the Arduino Uno Rev 3 board. Many different FPGA, microprocessor, and DSP vendors provide plug and play connectivity into their development boards and environments using this form factor. Arduino shields provide analog and digital pins to configure devices and digitize signals coming from the real world. The digital communications protocols supported by Arduino shields are SPI, I<sup>2</sup>C, UART, PWM, and GPIO. Most of the boards below are compatible with either the EVAL-ADICUP360 or EVAL-ADICUP3029 and should work with most compatible Arduino form factor microcontroller platforms. All software is open-source and can be found on

[github.com/analogdevicesinc/](https://github.com/analogdevicesinc/).

### DC2847A-KIT

Dual RF rms power detector with integrated bidirectional bridge

- ▶ Measure forward and reverse rms power
- ▶ 9 kHz to 7 GHz
- ▶ SMA input connector
- ▶ Visit [analog.com/DC2847A-KIT](https://analog.com/DC2847A-KIT)



### DC2870A-KIT

RF/microwave rms power detector

- ▶ 100 MHz to 40 GHz
- ▶ SMA input connector
- ▶ On-board voltage reference
- ▶ Visit [analog.com/DC2870A-KIT](https://analog.com/DC2870A-KIT)



### EVAL-AD8302-ARDZ

RF gain and phase detector

- ▶ Low frequency to 2.7 GHz
- ▶ SMA input connector
- ▶ Easily digitized using platform ADC
- ▶ Visit [analog.com/EVAL-AD8302-ARDZ](https://analog.com/EVAL-AD8302-ARDZ)



### EVAL-ADL5902-ARDZ

TruPWR™ rms detector

- ▶ 50 MHz to 9 GHz
- ▶ SMA input connector
- ▶ 65 dB rms power monitor
- ▶ Visit [analog.com/EVAL-ADL5902-ARDZ](https://analog.com/EVAL-ADL5902-ARDZ)



### EVAL-ADM3055E-ARDZ

SPI to CAN FD transceiver

- ▶ Fully isolated CAN FD bus
- ▶ Operates in standby mode and remote wake-up mode
- ▶ Switchable termination
- ▶ Visit [analog.com/CN0401](https://analog.com/CN0401)



### EVAL-ADXL362-ARDZ

Ultra low power, 3-axis, programmable g accelerometer with display

- ▶ Ultra low power sleep and wake-up modes
- ▶ Programmable acceleration ranges
- ▶ Board mounted LCD display
- ▶ Visit [analog.com/EVAL-ADXL362-ARDZ](https://analog.com/EVAL-ADXL362-ARDZ)



### EVAL-ADXL372-ARDZ

Micropower, 3-axis,  $\pm 200$  g digital output accelerometer

- ▶ Ultra low power sleep and wake-up modes
- ▶  $\pm 200$  g measurement range
- ▶ Adjustable high-pass filter
- ▶ Visit [analog.com/EVAL-ADXL372-ARDZ](https://analog.com/EVAL-ADXL372-ARDZ)



### EVAL-CN0216-ARDZ

Precision weigh scale/load cell measurement system

- ▶ High gain, low noise
- ▶ 4- or 6-wire load cell compatible
- ▶ Full-scale sensor output up to 10 mV
- ▶ Visit [analog.com/EVAL-CN0216-ARDZ](https://analog.com/EVAL-CN0216-ARDZ)



### EVAL-CN0338-ARDZ

NDIR thermopile-based gas detection

- ▶ Optimized for CO<sub>2</sub> gas
- ▶ Maintains accuracy in high humidity
- ▶ Single supply
- ▶ Visit [analog.com/CN0338](https://analog.com/CN0338)



### EVAL-CN0357-ARDZ

Electrochemical toxic gas detector

- ▶ Programmable for multiple other gases
- ▶ Resolution down to 1 ppm
- ▶ Low power, single-supply operation
- ▶ Visit [analog.com/EVAL-CN0357-ARDZ](https://analog.com/EVAL-CN0357-ARDZ)



### EVAL-CN0391-ARDZ

Universal 4-channel thermocouple measurement system (digital)

- ▶ Flexible 4-channel thermocouple system
- ▶ Cold junction compensation
- ▶ 24-bit digitization
- ▶ Visit [analog.com/CN0391](https://analog.com/CN0391)



### EVAL-CN0394-ARDZ

Universal 4-channel thermocouple measurement system (analog)

- ▶ Flexible 4-channel thermocouple system
- ▶ Cold junction compensation
- ▶ 24-bit digitization
- ▶ Visit [analog.com/CN0394](https://analog.com/CN0394)



### EVAL-CN0395-ARDZ

Volatile organic compound gas detection

- ▶ Temperature and humidity compensation
- ▶ Can be used with multiple sensor types
- ▶ Low power
- ▶ Visit [analog.com/CN0395](http://analog.com/CN0395)



### EVAL-CN0396-ARDZ

Dual electrochemical gas detector

- ▶ Temperature compensation
- ▶ Work with industry-standard gas sensors
- ▶ Programmable for a variety of gases
- ▶ Visit [analog.com/CN0396](http://analog.com/CN0396)



### EVAL-CN0397-ARDZ

Ultra low power visible light recognition measurement system

- ▶ Recognizes red, green, and blue light sources
- ▶ Sensors are integrated on board
- ▶ Ultra low power
- ▶ Visit [analog.com/CN0397](http://analog.com/CN0397)



### EVAL-CN0398-ARDZ

Soil moisture and pH with temperature measurement system

- ▶ Temperature compensation
- ▶ Uses BNC standard pH probe connector
- ▶ Uses voltage output moisture probes
- ▶ Visit [analog.com/CN0398](http://analog.com/CN0398)



### EVAL-CN0409-ARDZ

Water turbidity measurement system

- ▶ 0 FTU to 1000 FTU measurement range
- ▶  $\pm 0.5$  FTU system accuracy (up to 1000 FTU)
- ▶ Integrated ambient light rejection
- ▶ Visit [analog.com/CN0409](http://analog.com/CN0409)



### EVAL-CN0410-ARDZ

Programmable, 3-channel LED 1 A current source

- ▶ 1 A max current load per channel
- ▶ Designed to drive red, green, and blue LEDs
- ▶ Isolated repeater for multiple LED banks
- ▶ Visit [analog.com/CN0410](http://analog.com/CN0410)



### EVAL-CN0411-ARDZ

Total dissolved solids measurement system

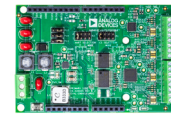
- ▶ Temperature compensation
- ▶ 1  $\mu$ s to 1 s measurement range
- ▶ Standard BNC conductivity probe connector
- ▶ Visit [analog.com/CN0411](http://analog.com/CN0411)



### EVAL-CN0414-ARDZ

4-channel analog input PLC module with HART®

- ▶  $\pm 10$  V, 4 mA to 20 mA input
- ▶ Hardware open wire detection
- ▶ HART compliant
- ▶ Visit [analog.com/CN0414](http://analog.com/CN0414)



### EVAL-CN0415-ARDZ

Robust closed-loop solenoid control design

- ▶ Overvoltage and undervoltage sensor control
- ▶ Useful for on/off and proportional solenoids
- ▶ Closed-loop driver circuit for precise control
- ▶ Visit [analog.com/CN0415](http://analog.com/CN0415)



### EVAL-CN0416-ARDZ

RS-485 communications design

- ▶ Isolated and nonisolated bus path
- ▶ Selectable as a main or a subordinate node
- ▶ Connects up to 32 boards together
- ▶ Visit [analog.com/CN0416](http://analog.com/CN0416)



### EVAL-CN0418-ARDZ

4-channel analog output PLC module with HART

- ▶  $\pm 10$  V, 4 mA to 20 mA output
- ▶ Programmable output values
- ▶ HART compliant
- ▶ Visit [analog.com/CN0418](http://analog.com/CN0418)



### EVAL-CN0428-ARDZ

Conductivity, pH, and ORP water quality measurement system

- ▶ Measure from one to four sensor channels
- ▶ Selectable SPI, I<sup>2</sup>C, or UART communication
- ▶ 10-pin JTAG/SWD connector for easy programming
- ▶ Visit [analog.com/CN0428](http://analog.com/CN0428)



### EVAL-CN0429-EBZ

Multichannel electrochemical gas detector

- ▶ 3- or 4-wire electrochemical gas sensors
- ▶ Gas sensor diagnostics and life expectancy
- ▶ Temperature and humidity compensation
- ▶ Visit [analog.com/CN0429](http://analog.com/CN0429)



### EVAL-CN0503-ARDZ

Multichannel optical-based water quality analysis platform

- ▶ Measures colorimetry/absorbance, fluorescence, turbidity
- ▶ Photometric front end reduces component count and rejects ambient light
- ▶ Swappable LEDs and photodiode
- ▶ Visit [analog.com/CN0503](http://analog.com/CN0503)



### EVAL-AD5941BATZ

Electrochemical impedance spectroscopy for batteries

- ▶ Designed for lithium-ion battery testing
- ▶ MHz to kHz frequency sweep
- ▶ Accurate data for state of health and state of charge calculation
- ▶ Visit [analog.com/CN0510](http://analog.com/CN0510)



### EVAL-CN0536-ARDZ

Geiger counter with adjustable high voltage power supply

- ▶ Power supply adjustable from 280 V to 500 V
- ▶ Compatible with center excited Geiger-Müller tubes
- ▶ Audible and visual indication of radiation
- ▶ Visit [analog.com/CN0536](http://analog.com/CN0536)



### EVAL-CN0537-ARDZ

Multistandard verified smoke detector solution

- ▶ UL 217 and UL 268 algorithm available
- ▶ Highly integrated analog front end
- ▶ Dual wavelength sensing technology
- ▶ Visit [analog.com/CN0537](http://analog.com/CN0537)



### EVAL-CN0540-ARDZ

IEPE-compatible data acquisition system

- ▶ For piezo and MEMS sensors
- ▶ 54 kHz analog input bandwidth
- ▶ 24-bit resolution, >108 dB SNR
- ▶ Visit [analog.com/CN0540](http://analog.com/CN0540)



### EVAL-CN0548-ARDZ

Isolated, high voltage and current measurement system

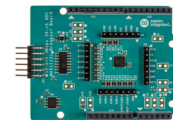
- ▶ Voltage input ranges from  $\pm 16$  V to  $\pm 40$  V
- ▶  $\pm 10$  A current input
- ▶ 250 V isolation
- ▶ Visit [analog.com/CN0548](http://analog.com/CN0548)



### MAX11131BOB

3 MSPS, low power, serial 12-/10-bit, 8-/16-channel ADCs breakout board

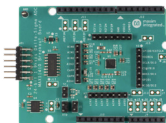
- ▶ 256 length channel sequencer
- ▶ 16 sample FIFO
- ▶ Unipolar or bipolar input range
- ▶ Visit [analog.com/MAX11131BOB](http://analog.com/MAX11131BOB)



### MAX11410BOB

24-bit multichannel low power 1.9 kSPS sigma-delta ADC with PGA breakout board

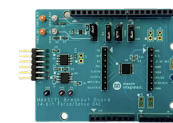
- ▶ 10 channels with PGA, buffers
- ▶ Burnout current sources for fault detection
- ▶ 90 dB simultaneous 60 Hz/50 Hz line rejection
- ▶ Visit [analog.com/MAX11410BOB](http://analog.com/MAX11410BOB)



### MAX5171BOB

14-bit DAC with force-sense voltage output

- ▶ Unipolar or bipolar operation
- ▶ Force/sense connections for improved load regulation
- ▶ Minimize power-up glitch
- ▶ Visit [analog.com/MAX5171BOB](http://analog.com/MAX5171BOB)



### MAX5719BOB

Ultralow noise 20-bit voltage output DAC

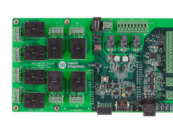
- ▶ 20-bit resolution, 0.05 nV/s glitch
- ▶ Ultralow noise: 6 nV/ $\sqrt{\text{Hz}}$
- ▶ Unipolar or bipolar operation
- ▶ Visit [analog.com/MAX5719BOB](http://analog.com/MAX5719BOB)



### MAXREFDES130

Building automation platform, Arduino/Mbed compatible

- ▶ Eight 0 V to 10 V, one 4 mA to 20 mA analog output
- ▶ Eight nonlatching relays, three latching relays
- ▶ 4 mA to 20 mA output, 1-Wire® main
- ▶ Visit [analog.com/MAXREFDES130](http://analog.com/MAXREFDES130)



## MAXREFDES161

High performance frequency synthesizer

- ▶ Frequencies between 23.5 MHz to 6 GHz
- ▶ On-board clock reference
- ▶ SMA input/output connectors
- ▶ Visit [analog.com/MAXREFDES161](http://analog.com/MAXREFDES161)



## FeatherWings

Adafruit's FeatherWing boards have a hardware form factor similar to shields and hardware attached on top (HAT) components but with a much smaller physical footprint and a design meant for connecting to feather motherboards. By design, you can plug as many wings onto a feather as you want, as long as you don't run out of power, space, or pin contentions.

### MAX11301WING

20-port configurable ADC/DAC/GPIO/  
analog switch device

- ▶ Up to 20 analog/digital inputs/outputs
- ▶ Individually configured channels
- ▶ 12-bit ADC/DAC resolution, internal reference
- ▶ Visit [analog.com/MAX11301WING](http://analog.com/MAX11301WING)



### MAX30003WING

Biopotential front end for ECG  
measurements

- ▶ Programmable offset for wide electrode use
- ▶ On-chip FIFO and interrupts reduce software complexity
- ▶ Decreased power usage for extended battery life
- ▶ Visit [analog.com/MAX30003WING](http://analog.com/MAX30003WING)



### MAX30101WING

Pulse oximetry measurement sensor

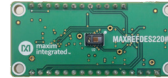
- ▶ Integrated LEDs and PDs
- ▶ Ambient light cancellation
- ▶ 0.7  $\mu$ A of shutdown power
- ▶ Visit [analog.com/MAX30101WING](http://analog.com/MAX30101WING)



### MAXREFDES220

Pulse oximeter smart sensor with digital  
signal processing

- ▶ Low power heart rate and pulse oximetry measurements
- ▶ Available algorithms for both measurements
- ▶ 3-axis accelerometer increases measurement accuracy
- ▶ Visit [analog.com/MAXREFDES220](http://analog.com/MAXREFDES220)



## FMC Boards

The FPGA mezzanine card (FMC) is an ANSI/VITA standard that defines the input/output pins of FPGAs and other reconfigurable devices. There are two types of connectors, low pin count (LPC) and high pin count (HPC) variations depending on the devices on the FMC card. It specifies a low profile connector and compact board size for compatibility with several industry-standard slot card, blade, low profile motherboard, and mezzanine form factors.

### AD-FMCOMMS11-EBZ

Direct RF-to-baseband transmit radio up  
to 5 GHz

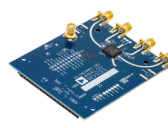
- ▶ 16-bit, 12 GSPS RFDAC
- ▶ 12-bit, 2.5 GSPS, 3.2 GHz analog bandwidth RFADC
- ▶ Direct to RF (DRF) transmitter and observation receiver architecture
- ▶ Visit [analog.com/AD-FMCOMMS11-EBZ](http://analog.com/AD-FMCOMMS11-EBZ)



### AD-FMCOMMS 2-EBZ

AD9361 software-defined radio board  
(optimized for 2.4 GHz)

- ▶ 2.4 GHz to 2.5 GHz operation
- ▶ 200 kHz to 56 MHz bandwidth
- ▶ Two receivers, two transmitters
- ▶ Visit [analog.com/AD-FMCOMMS2-EBZ](http://analog.com/AD-FMCOMMS2-EBZ)



### AD-FMCOMMS3-EBZ

AD9361 wideband software-defined  
radio board

- ▶ 70 MHz to 6 GHz operation
- ▶ 200 kHz to 56 MHz bandwidth
- ▶ Two receivers, two transmitters
- ▶ Visit [analog.com/AD-FMCOMMS3-EBZ](http://analog.com/AD-FMCOMMS3-EBZ)



### AD-FMCOMMS4-EBZ

AD9364 wideband software-defined  
radio board

- ▶ 70 MHz to 6 GHz operation
- ▶ 200 kHz to 56 MHz bandwidth
- ▶ One receiver, one transmitter
- ▶ Visit [analog.com/AD-FMCOMMS4-EBZ](http://analog.com/AD-FMCOMMS4-EBZ)



### AD-FMCOMMS5-EBZ

Synchronized 4 × 4 dual AD9361 transceiver board

- ▶ 70 MHz to 6 GHz operation
- ▶ 200 kHz to 56 MHz bandwidth
- ▶ Four receivers, four transmitters
- ▶ Visit [analog.com/AD-FMCOMMS5-EBZ](http://analog.com/AD-FMCOMMS5-EBZ)



### AD-FMCOMMS8-EBZ

Dual 4 × 4 ADRV9009 transceiver platform with observation receiver for DPD

- ▶ 75 MHz to 6 GHz operation
- ▶ 200 MHz receiver bandwidth
- ▶ Multichip phase synchronization
- ▶ Visit [analog.com/AD-FMCOMMS8-EBZ](http://analog.com/AD-FMCOMMS8-EBZ)



### EVAL-CN0506-FMCZ

10 Mbps/100 Mbps/1000 Mbps dual-channel, low power Industrial Ethernet PHY

- ▶ IEEE 1588 time stamping
- ▶ 1 Gbps with 180 m cable
- ▶ Supports managed and unmanaged operation via pin strapping
- ▶ Visit [analog.com/CN0506](http://analog.com/CN0506)



### EVAL-CN0577-FMCZ

Analog front end and digital interface for serial LVDS SAR ADCs

- ▶ 18-bit resolution, 15 MSPS
- ▶ Arbitrary voltage inputs supported
- ▶ All clocking and power generated on board
- ▶ Visit [analog.com/CN0577](http://analog.com/CN0577)



### EVAL-CN0585-FMCZ

Quad-channel, low latency, data acquisition, and signal generation module

- ▶ Four analog input channels with configurable voltage ranges
- ▶ Four analog output channels with configurable voltage range
- ▶ 200 ns latency between ADC measurement and DAC settling
- ▶ Visit [analog.com/CN0585](http://analog.com/CN0585)



### AD-FMCDAQ2-EBZ

High speed, dual-channel ADC and DAC with synchronization

- ▶ 14-bit, 1 GSPS ADC
- ▶ 16-bit, 800 MSPS DAC
- ▶ Input/output synchronization
- ▶ Visit [analog.com/AD-FMCDAQ2-EBZ](http://analog.com/AD-FMCDAQ2-EBZ)



## Development Platforms

Development platforms are used to design, develop, test, and debug embedded software that will target a particular processor, controller, or configurable device. These development platforms provide additional peripherals and functions that enable them to be compatible with various industry-standard communications protocols, connectivity interfaces, and hardware interfaces (such as Arduino shields, Pmod devices, FMC, Raspberry Pi HATs, and FeatherWings). The goal of a development board is to provide a means to take your design and ensure it functions on the embedded target of your choice, so when you move to the end, the design, code, and hardware have already been proven out.

ADI's goal is to ensure that we can provide hardware add-on boards for as many of the popular development platforms as possible to assist you with creating applications that work on your preferred embedded target. Below is a selection of the current supported development platforms along with a list of the available hardware interfaces they support without additional adapter boards.

### Arria 10 SoC Dev Kit

Intel® Arria® 10 SoC Development Kit

- ▶ Two LPC FMC connectors
- ▶ PCIe connector (Gen 3 ×8)
- ▶ Ethernet jack
- ▶ Visit [intel.com/content/www/us/en/products/details/fpga/development-kits/arria/10-sx.html](http://intel.com/content/www/us/en/products/details/fpga/development-kits/arria/10-sx.html)



### CoraZ7-07S

Xilinx® Zynq®-7000 all programmable SoC

- ▶ Arduino Uno connector
- ▶ Two Pmod-compatible connectors
- ▶ Ethernet jack
- ▶ Visit [projects.digilentinc.com/products/cora-z7-07s](http://projects.digilentinc.com/products/cora-z7-07s)



### DE10-Nano

Intel Cyclone V SoC

- ▶ Arduino Uno connector
- ▶ USB OTG
- ▶ Ethernet jack
- ▶ Visit [intel.com/content/www/us/en/developer/topic-technology/edge-5g/hardware/fpga-de10-nano.html](http://intel.com/content/www/us/en/developer/topic-technology/edge-5g/hardware/fpga-de10-nano.html)



### KCU105

Kintex® UltraScale™ FPGA KCU105 evaluation kit LPC FMC Connector, HPC FMC connector, Pmod-compatible connector, DDR4

- ▶ Two FMC connectors (LPC and HPC)
- ▶ Pmod-compatible connector
- ▶ PCIe edge connector (Gen 3 ×8)
- ▶ Visit [xilinx.com/products/boards-and-kits/kcu105.html](http://xilinx.com/products/boards-and-kits/kcu105.html)

## KC705

Kintex-7 FPGA KC705 evaluation kit LPC FMC connector, HPC FMC connector, DDR3

- ▶ Two FMC connectors (LPC and HPC)
- ▶ PCIe edge connector (×8)
- ▶ Ethernet jack
- ▶ Visit [xilinx.com/products/boards-and-kits/ek-k7-kc705-g.html](http://xilinx.com/products/boards-and-kits/ek-k7-kc705-g.html)

## VCU118

Virtex UltraScale+™ FPGA VCU118 evaluation kit

- ▶ HPC FMC connector
- ▶ HSPC FMC+ connector
- ▶ Two Pmod-compatible connectors
- ▶ Visit [xilinx.com/products/boards-and-kits/vcu118.html](http://xilinx.com/products/boards-and-kits/vcu118.html)

## ZC706

Zynq-7000 SoC ZC706 evaluation kit

- ▶ Two FMC connectors (LPC and HPC)
- ▶ Pmod-compatible connector
- ▶ PCIe edge connector (Gen 2 ×4)
- ▶ Visit [xilinx.com/products/boards-and-kits/ek-z7-zc706-g.html](http://xilinx.com/products/boards-and-kits/ek-z7-zc706-g.html)

## ZedBoard™

Single-core Arm SoC, FPGA with 8.5k logic slices, FMC, Pmod-compatible expansion headers

- ▶ LPC FMC connector
- ▶ Five Pmod-compatible connectors
- ▶ USB OTG
- ▶ Visit [digilent.com/reference/programmable-logic/zedboard/start](http://digilent.com/reference/programmable-logic/zedboard/start)

## EVAL-ADICUP360

ADuCM360, dual simultaneous 24-bit sigma-delta converter, Arduino form factor Arm Cortex-M3 development platform

- ▶ Arduino Uno connector
- ▶ Arduino Due connector
- ▶ Two Pmod-compatible connectors
- ▶ Visit [analog.com/EVAL-ADICUP360](http://analog.com/EVAL-ADICUP360)



## MAX32620FTHR

MAX32620 feather form factor microcontroller board

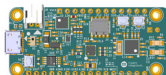
- ▶ FeatherWings connector
- ▶ Pmod-compatible connector
- ▶ USB lowercase
- ▶ Visit [analog.com/MAX32620FTHR](http://analog.com/MAX32620FTHR)



## MAX32650FTHR

MAX32650 feather form factor microcontroller board

- ▶ FeatherWings connector
- ▶ USB FeatherWings connector
- ▶ Visit [analog.com/MAX32650FTHR](http://analog.com/MAX32650FTHR)



## VC707

Virtex®-7 FPGA VC707 evaluation kit

- ▶ Two HPC FMC connectors
- ▶ PCIe edge connector (Gen 2 ×8)
- ▶ Ethernet jack
- ▶ Visit [xilinx.com/products/boards-and-kits/ek-v7-vc707-g.html](http://xilinx.com/products/boards-and-kits/ek-v7-vc707-g.html)

## ZC702

Xilinx Zynq-7000 SoC ZC702 evaluation kit

- ▶ Two LPC FMC connectors
- ▶ Two Pmod-compatible connector
- ▶ Ethernet jack
- ▶ Visit [xilinx.com/products/boards-and-kits/ek-z7-zc702-g.html](http://xilinx.com/products/boards-and-kits/ek-z7-zc702-g.html)

## ZCU102

XCZU9EG Zynq Ultrascale+ SoC, 2× LPC FMC expansion connectors

- ▶ Two LPC FMC connectors
- ▶ Two Pmod-compatible connector
- ▶ PCIe edge connector (Gen 2 ×4)
- ▶ Visit [xilinx.com/products/boards-and-kits/ek-u1-zcu102-g.html](http://xilinx.com/products/boards-and-kits/ek-u1-zcu102-g.html)

## EVAL-ADICUP3029

ADuCM3029, ultra low power Arduino form factor Arm® Cortex®-M3 development platform

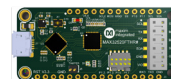
- ▶ Arduino Uno connector
- ▶ Two Pmod-compatible connectors
- ▶ Grove connector
- ▶ Visit [analog.com/EVAL-ADICUP3029](http://analog.com/EVAL-ADICUP3029)



## MAX32520FTHR

MAX32520 feather form factor microcontroller board

- ▶ FeatherWings connector
- ▶ Pmod-compatible connector
- ▶ USB programming
- ▶ Visit [analog.com/MAX32520FTHR](http://analog.com/MAX32520FTHR)



## MAX32630FTHR

MAX32630 feather form factor microcontroller board

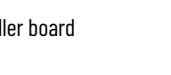
- ▶ FeatherWings connector
- ▶ USB programming
- ▶ Bluetooth® connectivity
- ▶ Visit [analog.com/MAX32630FTHR](http://analog.com/MAX32630FTHR)



## MAX32655FTHR

MAX32655 feather form factor microcontroller board

- ▶ FeatherWings connector
- ▶ USB programming
- ▶ Bluetooth connectivity
- ▶ Visit [analog.com/MAX32655FTHR](http://analog.com/MAX32655FTHR)



## MAX32666FTHR

MAX32666 feather form factor microcontroller board

- ▶ FeatherWings connector
- ▶ USB programming
- ▶ Bluetooth connectivity
- ▶ Visit [analog.com/MAX32666FTHR](https://analog.com/MAX32666FTHR)

## MAX78000FTHR

MAX78000 feather form factor microcontroller board



- ▶ FeatherWings connector
- ▶ USB programming
- ▶ Audio input/output jacks
- ▶ Visit [analog.com/MAX78000FTHR](https://analog.com/MAX78000FTHR)

## Raspberry Pi 3B+

Quad Arm core Cortex-A53 SoC, 1.5 GHz, 1 GB RAM, gigabit Ethernet, SPI, I<sup>2</sup>C, GPIO, USB

- ▶ Raspberry Pi HAT connector
- ▶ Four USB ports
- ▶ Ethernet jack
- ▶ Visit [raspberrypi.com/products/raspberry-pi-3-model-b-plus/](https://raspberrypi.com/products/raspberry-pi-3-model-b-plus/)

## Raspberry Pi 4

Quad Arm core Cortex-A72 SoC, 1.5 GHz, 8 GB RAM, dual display, gigabit Ethernet, SPI, I<sup>2</sup>C, USB, GPIO

- ▶ Raspberry Pi HAT connector
- ▶ Four USB ports
- ▶ Ethernet jack
- ▶ Visit [raspberrypi.com/products/raspberry-pi-4-model-b/](https://raspberrypi.com/products/raspberry-pi-4-model-b/)

## Raspberry Pi Zero 2W

1 GHz, quad Arm core Cortex-A53, 512 MB RAM, Wireless Ethernet, SPI, I<sup>2</sup>C, GPIO

- ▶ Raspberry Pi HAT connector
- ▶ USB OTG
- ▶ Wi-Fi
- ▶ Visit [raspberrypi.com/products/raspberry-pi-zero-2-w/](https://raspberrypi.com/products/raspberry-pi-zero-2-w/)

## Raspberry Pi Zero W

1 GHz, single Arm core, 512 MB RAM, wireless Ethernet, SPI, I<sup>2</sup>C, GPIO

- ▶ Raspberry Pi HAT connector
- ▶ USB OTG
- ▶ Wi-Fi
- ▶ Visit [raspberrypi.com/products/raspberry-pi-zero-w/](https://raspberrypi.com/products/raspberry-pi-zero-w/)

## Pmod-Compatible Devices

The Pmod (peripheral module)-compatible interface is an open standard by Digilent (a National Instruments company) for peripherals used with FPGAs or microcontroller development boards. The modules are available from simple push buttons to more complex modules with analog-to-digital converters (ADCs), digital-to-analog converters (DACs), or LCD displays. These modules can be used with a variety of FPGA or microcontroller development boards from different vendors and support major digital communication protocols such as SPI, I<sup>2</sup>C, and UART. Pmod-compatible interfaces normally have additional software drivers and configuration is required. All software is open source and can be found on [github.com/analogdevicesinc/](https://github.com/analogdevicesinc/).

### DS1086LPMB1

Low EMI 3 V all-silicon clock oscillator

- ▶ 130 kHz to 66.6 MHz frequency range
- ▶ Selectable spread spectrum dither for EMI reduction
- ▶ Internal nonvolatile configuration memory
- ▶ Visit [analog.com/DS1086LPMB1](https://analog.com/DS1086LPMB1)



### DS3231MPMB1

Real-time clock peripheral module

- ▶ Real-time clock with leap-year compensation
- ▶ Coin cell backup
- ▶ ±2 ppm accuracy
- ▶ Visit [analog.com/DS3231MPMB1](https://analog.com/DS3231MPMB1)



### EVAL-AD5592R-PMDZ

8-channel, 12-bit, configurable ADC/DAC/ GPIO module with SPI interface

- ▶ Universal analog and digital I/O
- ▶ Per-channel configuration
- ▶ Internal reference and temperature sensor
- ▶ Visit [analog.com/EVAL-AD5592R-PMDZ](https://analog.com/EVAL-AD5592R-PMDZ)



### EVAL-AD5593R-PMDZ

8-channel, 12-bit, configurable ADC/DAC/ GPIO module with I<sup>2</sup>C interface

- ▶ Universal analog and digital I/O
- ▶ Per-channel configuration
- ▶ Internal reference and temperature sensor
- ▶ Visit [analog.com/EVAL-AD5593R-PMDZ](https://analog.com/EVAL-AD5593R-PMDZ)



### EVAL-AD5770R-PMDZ

6-channel, current output DAC

- ▶ 14-bit resolution
- ▶ Per-output supply pins for reducing dissipation
- ▶ Output ranges from -60 mA to +300 mA
- ▶ Visit [analog.com/EVAL-AD5770R-PMDZ](http://analog.com/EVAL-AD5770R-PMDZ)



### EVAL-AD7124-8-PMDZ

8-channel, 24-bit sigma-delta ADC with PGA and reference

- ▶ 16-input crosspoint mux with sequencer
- ▶ 1.7 SPS to 19.2 kSPS conversion rate
- ▶ PGA gain from 1 to 128
- ▶ Visit [analog.com/EVAL-AD7124-8-PMDZ](http://analog.com/EVAL-AD7124-8-PMDZ)



### EVAL-AD7685-PMDZ

16-bit, 250 kSPS PulsAR® ADC Pmod-compatible evaluation board

- ▶ Unipolar, single-ended analog input
- ▶ 16-bit, 250 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7685-PMDZ](http://analog.com/EVAL-AD7685-PMDZ)



### EVAL-AD7686-PMDZ

16-bit, 500 kSPS PulsAR ADC Pmod-compatible evaluation board

- ▶ Unipolar, single-ended analog input
- ▶ 16-bit, 500 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7686-PMDZ](http://analog.com/EVAL-AD7686-PMDZ)



### EVAL-AD7687-PMDZ

16-bit, 250 kSPS PulsAR ADC Pmod-compatible evaluation board

- ▶ Unipolar, single-ended analog input
- ▶ 16-bit, 250 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7687-PMDZ](http://analog.com/EVAL-AD7687-PMDZ)



### EVAL-AD7688-PMDZ

16-bit, 500 kSPS PulsAR ADC Pmod-compatible evaluation board

- ▶ Unipolar, fully differential analog input
- ▶ 16-bit, 500 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7688-PMDZ](http://analog.com/EVAL-AD7688-PMDZ)



### EVAL-AD7690-PMDZ

18-bit, 400 kSPS PulsAR ADC Pmod-compatible evaluation board

- ▶ Unipolar, fully differential analog input
- ▶ 18-bit, 400 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7690-PMDZ](http://analog.com/EVAL-AD7690-PMDZ)



### EVAL-AD7691-PMDZ

16-bit, 250 kSPS PulsAR ADC Pmod-compatible evaluation board

- ▶ Unipolar, fully differential analog input
- ▶ 16-bit, 250 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7691-PMDZ](http://analog.com/EVAL-AD7691-PMDZ)



### EVAL-AD7693-PMDZ

16-bit, 500 kSPS PulsAR ADC Pmod-compatible evaluation board

- ▶ Unipolar, fully differential analog input
- ▶ 16-bit, 500 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7693-PMDZ](http://analog.com/EVAL-AD7693-PMDZ)



### EVAL-AD7942-PMDZ

14-bit, 250 kSPS PulsAR ADC Pmod-compatible evaluation board

- ▶ Unipolar, single-ended analog input
- ▶ 14-bit, 250 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7942-PMDZ](http://analog.com/EVAL-AD7942-PMDZ)



### EVAL-AD7946-PMDZ

14-bit, 500 kSPS PulsAR ADC Pmod-compatible evaluation board

- ▶ Unipolar, single-ended analog input
- ▶ 14-bit, 500 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7946-PMDZ](http://analog.com/EVAL-AD7946-PMDZ)



### EVAL-AD7980-PMDZ

16-bit, 1000 kSPS PulsAR ADC Pmod-compatible evaluation board

- ▶ Unipolar, single-ended analog input
- ▶ 16-bit, 1000 kSPS ADC
- ▶ On-board input buffers and reference
- ▶ Visit [analog.com/EVAL-AD7980-PMDZ](http://analog.com/EVAL-AD7980-PMDZ)



### EVAL-AD7982-PMDZ

18-bit, 1000 kSPS PuLSAR ADC Pmod-compatible evaluation board

- Unipolar, fully differential analog input
- 18-bit, 1000 kSPS ADC
- On-board input buffers and reference
- Visit [analog.com/EVAL-AD7982-PMDZ](http://analog.com/EVAL-AD7982-PMDZ)



### EVAL-AD7983-PMDZ

16-bit, 1333 kSPS PuLSAR ADC Pmod-compatible evaluation board

- Unipolar, single-ended analog input
- 16-bit, 1333 kSPS ADC
- On-board input buffers and reference
- Visit [analog.com/EVAL-AD7983-PMDZ](http://analog.com/EVAL-AD7983-PMDZ)



### EVAL-AD7984-PMDZ

18-bit, 1333 kSPS PuLSAR ADC Pmod-compatible evaluation board

- Unipolar, fully differential analog input
- 18-bit, 1333 kSPS ADC
- On-board input buffers and reference
- Visit [analog.com/EVAL-AD7984-PMDZ](http://analog.com/EVAL-AD7984-PMDZ)



### EVAL-AD7988-1-PMDZ

16-bit, 100 kSPS PuLSAR ADC Pmod-compatible evaluation board

- Unipolar, single-ended analog input
- 16-bit, 100 kSPS ADC
- On-board input buffers and reference
- Visit [analog.com/EVAL-AD7988-1-PMDZ](http://analog.com/EVAL-AD7988-1-PMDZ)



### EVAL-AD7988-5-PMDZ

16-bit, 500 kSPS PuLSAR ADC Pmod-compatible evaluation board

- Unipolar, single-ended analog input
- 16-bit, 500 kSPS ADC
- On-board input buffers and reference
- Visit [analog.com/EVAL-AD7988-5-PMDZ](http://analog.com/EVAL-AD7988-5-PMDZ)



### EVAL-ADF7242-PMDZ

Low power, 2.4 GHz ISM band radio

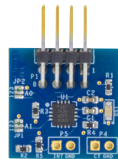
- Global ISM band
- High sensitivity
- Programmable output power
- Visit [analog.com/EVAL-ADF7242-PMDZ](http://analog.com/EVAL-ADF7242-PMDZ)



### EVAL-ADT7420-PMDZ

±0.25°C accurate digital temperature sensor

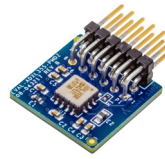
- 16-bit digital temperature resolution
- I<sup>2</sup>C interface for up to four nodes on a single bus
- Low power (700  $\mu$ W at 3.3 V normal mode, 7  $\mu$ W at 3.3 V in shutdown mode)
- Visit [analog.com/EVAL-ADT7420-PMDZ](http://analog.com/EVAL-ADT7420-PMDZ)



### EVAL-ADXL355-PMDZ

Low power, low noise 3-axis digital accelerometer

- 20-bit ADC resolution
- Programmable high- and low-pass digital filters
- Low power (200  $\mu$ A in measurement mode and 21  $\mu$ A in standby mode)
- Visit [analog.com/EVAL-ADXL355-PMDZ](http://analog.com/EVAL-ADXL355-PMDZ)



### EVAL-ADXRS290-PMDZ

Ultralow noise, dual-axis MEMS gyroscope for stabilization applications

- Full-scale output range of  $\pm 100^\circ/\text{s}$
- Ultralow noise:  $0.004^\circ/\text{s}/\sqrt{\text{Hz}}$
- Programmable high-pass and low-pass filters
- Visit [analog.com/EVAL-ADXRS290-PMDZ](http://analog.com/EVAL-ADXRS290-PMDZ)



### EVAL-CN0179-PMDZ

Programmable 4 mA to 20 mA current loop transmitter

- Low power
- 14-bit resolution control
- High-side current source compatible with grounded loads
- Visit [analog.com/CN0179](http://analog.com/CN0179)



### EVAL-CN0216-PMDZ

Precision weigh scale/load cell measurement system

- High gain, low noise
- 4- or 6-wire load cell compatible
- Full-scale sensor output up to 10 mV
- Visit [analog.com/CN0216](http://analog.com/CN0216)



### EVAL-CN0326-PMDZ

Isolated pH monitor with temperature compensation

- $\pm 0.5\%$  accurate with temperature compensation
- Works with pH sensors 1 M $\Omega$  to 1 G $\Omega$  output impedance
- Uses standard connectors (BNC for pH and RCA for temperature)
- Visit [analog.com/CN0326](http://analog.com/CN0326)



### EVAL-CN0335-PMDZ

Fully isolated,  $\pm 10$  V data acquisition system

- ▶ Galvanically isolated from processor
- ▶ Standard  $\pm 10$  V industrial input
- ▶ Works from single 3.3 V supply
- ▶ Visit [analog.com/CN0335](http://analog.com/CN0335)



### EVAL-CN0336-PMDZ

Fully isolated, 4 mA to 20 mA data acquisition system

- ▶ Galvanically isolated from processor
- ▶ Standard 4 mA to 20 mA industrial input
- ▶ Works from single 3.3 V supply
- ▶ Visit [analog.com/CN0336](http://analog.com/CN0336)



### EVAL-CN0337-PMDZ

Fully isolated, 3-wire RTD temperature measurement system

- ▶ Galvanically isolated from processor
- ▶ Uses standard 3-wire RTD sensors
- ▶ Includes lead-wire temperature compensation
- ▶ Visit [analog.com/CN0337](http://analog.com/CN0337)



### EVAL-CN0346-PMDZ

Accurate relative humidity measurement system

- ▶ Contactless humidity measurement
- ▶ Highly accurate
- ▶ I<sup>2</sup>C digital output
- ▶ Visit [analog.com/CN0346](http://analog.com/CN0346)



### EVAL-CN0349-PMDZ

Fully isolated conductivity measurement system

- ▶ Galvanically isolated from processor
- ▶ 1% accurate conductivity measurements after calibration
- ▶ Visit [analog.com/CN0349](http://analog.com/CN0349)



### EVAL-CN0350-PMDZ

Piezoelectric vibration measurement system

- ▶ Vibration measurements up to 500 kHz
- ▶ Uses wide variety of charge crystal sensors
- ▶ Low power
- ▶ Visit [analog.com/CN0350](http://analog.com/CN0350)



### EVAL-CN0354-PMDZ

Multichannel thermocouple measurement system with cold junction compensation

- ▶ Measure up to 4 channels
- ▶ Overall power consumption of <8 mW
- ▶ <2°C error from -25°C to +400°C
- ▶ Visit [analog.com/CN0354](http://analog.com/CN0354)



### EVAL-CN0355-PMDZ

Temperature compensated bridge signal conditioner and driver system

- ▶ Connect pressure sensor or load cells
- ▶ Drive voltage range of 5 V to 15 V
- ▶ Full-scale sensor output from 10 mV to 1 V
- ▶ Visit [analog.com/CN0355](http://analog.com/CN0355)



### EVAL-CN0357-PMDZ

Electrochemical toxic gas detector

- ▶ Programmable for multiple other gases
- ▶ Resolution down to 1 ppm
- ▶ Low power, single-supply operation
- ▶ Visit [analog.com/CN0357](http://analog.com/CN0357)



### EVAL-CN0363-PMDZ

Dual-channel colorimeter

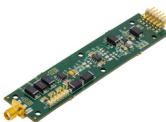
- ▶ Red, green, blue LED absorption
- ▶ Vial holder and diffusor glass included
- ▶ Digital synchronization between channels
- ▶ Visit [analog.com/CN0363](http://analog.com/CN0363)



### EVAL-CN0365-PMDZ

High temperature 16-bit data acquisition system

- ▶ Entire board can work up to 175°C
- ▶ Low power for battery applications
- ▶ 16-bit, 600 kSPS DAQ
- ▶ Visit [analog.com/CN0365](http://analog.com/CN0365)



### EVAL-CN0370-PMDZ

Single-supply LED current driver

- ▶ Programmable output current
- ▶ Range from 0 mA to 20 mA
- ▶ Low power
- ▶ Visit [analog.com/CN0370](http://analog.com/CN0370)



### EVAL-CN0372-PMDZ

Ultra low power, multichannel data acquisition with energy harvesting

- ▶ Low power (100  $\mu$ W at 22 kSPS)
- ▶ Photovoltaic or thermoelectric energy
- ▶ 4-channel 16-bit DAQ
- ▶ Visit [analog.com/CN0372](http://analog.com/CN0372)



### EVAL-CN0531-PMDZ

Programmable 20-bit, linear, precision, bipolar  $\pm 5$  V DC voltage source

- ▶  $\pm 5$  V output range
- ▶ 20-bit signal generation control
- ▶ Single 3.3 V power supply
- ▶ Visit [analog.com/CN0531](http://analog.com/CN0531)



### EVAL-CN0552-PMDZ

Extended range capacitance to digital converter

- ▶ 4 pF range with 4 aF resolution, 50 pF extended range
- ▶ Dual capacitance inputs with internal temperature sensor
- ▶ 10 Hz to 90 Hz sample rate
- ▶ Visit [analog.com/CN0552](http://analog.com/CN0552)



### EVAL-CN0569-PMDZ

Infrared gesture recognition module

- ▶ Light sensing
- ▶ Highly integrated optical front end
- ▶ Dual receive sensors for intensity and directionality measurements
- ▶ Open source gesture detection algorithm
- ▶ Visit [analog.com/CN0569](http://analog.com/CN0569)



### MAX11205PMB1

16-bit, single-channel sigma-delta ADC with 2-wire interface

- ▶ 2.1  $\mu$ V rms noise
- ▶ 50 Hz/60 Hz line noise rejection
- ▶ Ultra low power
- ▶ Visit [analog.com/MAX11205PMB1](http://analog.com/MAX11205PMB1)



### MAX11259PMB

24-bit, 6-channel, 64 kSPS sigma-delta ADC with PGA

- ▶ Six 24-bit analog inputs
- ▶ 64 kSPS (I<sup>2</sup>C fast mode plus)
- ▶ 133 dB SNR at 50 SPS
- ▶ Visit [analog.com/MAX11259PMB](http://analog.com/MAX11259PMB)



### MAX11300PMB1

20-port configurable ADC/DAC/GPIO/analog switch device

- ▶ Up to 20 analog/digital inputs/outputs
- ▶ Individually configured channels
- ▶ 12-bit ADC/DAC resolution, internal reference
- ▶ Visit [analog.com/MAX11300PMB1](http://analog.com/MAX11300PMB1)



### MAX11311PMB

12-port configurable ADC/DAC/GPIO/analog switch device via SPI

- ▶ Up to 12 analog/digital inputs/outputs
- ▶ Individually configured channels
- ▶ 12-bit ADC/DAC resolution, internal reference
- ▶ Visit [analog.com/MAX11311PMB](http://analog.com/MAX11311PMB)

### MAX11312PMB

12-port configurable ADC/DAC/GPIO/analog switch device via I<sup>2</sup>C

- ▶ Up to 12 analog/digital inputs/outputs
- ▶ Individually configured channels
- ▶ 12-bit ADC/DAC resolution, internal reference
- ▶ Visit [analog.com/MAX11312PMB](http://analog.com/MAX11312PMB)

### MAX14001PMB

Dual-channel, isolated ADC for load and line measurements

- ▶ 10-bit, 10 kSPS isolated ADC
- ▶ 3.75 kV rms isolation
- ▶ Integrated isolated supply
- ▶ Visit [analog.com/MAX14001PMB](http://analog.com/MAX14001PMB)



### MAX14840PMB1

RS-485 half-duplex transceiver

- ▶ 40 Mbps max baud rate
- ▶ Fail-safe receiver input
- ▶  $\pm 35$  kV human body model ESD protection
- ▶ Visit [analog.com/MAX14840PMB1](http://analog.com/MAX14840PMB1)



### MAX14850PMB1

6-channel digital isolator for SPI/UART isolation

- ▶ SPI or UART Pmod-compliant isolation
- ▶ Data rate DC to >20 Mbps
- ▶ 600 V isolation (60 s)
- ▶ Visit [analog.com/MAX14850PMB1](http://analog.com/MAX14850PMB1)



### MAX14912PMB

High voltage octal digital output driver with diagnostics

- ▶ Octal 24 V inductive-load tolerant push-pull driver
- ▶ SPI interface with CRC error checking
- ▶ Per-pin diagnostics fault/status LED indicators
- ▶ Visit [analog.com/MAX14912PMB](http://analog.com/MAX14912PMB)



### MAX14914PMB

24 V, 1.3 A high-side industrial input/output driver

- ▶ 24 V, 1.3 A driver with current limit
- ▶ 5 V logic compatible
- ▶ Drives unlimited inductance
- ▶ Visit [analog.com/MAX14914PMB](http://analog.com/MAX14914PMB)



### MAX22190PMB

Octal industrial digital input with diagnostics

- ▶ 12 V/24 V logic, no HV supply required
- ▶ CRC error checking on SPI interface
- ▶ Per-input LED indicator
- ▶ Visit [analog.com/MAX22190PMB](http://analog.com/MAX22190PMB)



### MAX22191PMB

Passively powered 24 V digital inputs

- ▶ 24 V logic compatible
- ▶ 250 ns response time
- ▶ One isolated, one nonisolated input
- ▶ Visit [analog.com/MAX22191PMB](http://analog.com/MAX22191PMB)



### MAX31723PMB1

Peripheral module for MAX31723, digital thermometer and thermostat with SPI/I<sup>2</sup>C-wire interface

- ▶ Measures temperature from -55°C to +125°C
- ▶ Thermometer accuracy of  $\pm 0.5^\circ\text{C}$
- ▶ Programmable, nonvolatile, thermostat output
- ▶ Visit [analog.com/MAX31723PMB1](http://analog.com/MAX31723PMB1)



### MAX31855PMB1

Cold-junction compensated, type-K thermocouple-to-digital converter

- ▶ Type-K thermocouple optimized
- ▶ Integrated cold junction compensation
- ▶ Open and short wire detection
- ▶ Visit [analog.com/MAX31855PMB1](http://analog.com/MAX31855PMB1)



### MAX31865PMB1

RTD-to-digital temperature converter

- ▶ Handles both PT100 and PT1000
- ▶ 2-, 3-, and 4-wire sensor compatible
- ▶ Open, short, and overrange fault detection
- ▶ Visit [analog.com/MAX31865PMB1](http://analog.com/MAX31865PMB1)



### MAX3232PMB1

$\pm 15$  kV ESD-protected true RS-232 transceiver

- ▶ 1 Mbps max baud rate
- ▶ Single-supply, no external negative supply required
- ▶ DB9 receptacle RS-232 connection
- ▶ Visit [analog.com/MAX3232PMB1](http://analog.com/MAX3232PMB1)



### MAX5216PMB1

16-bit high performance buffered DAC

- ▶ 16-bit DAC with 1.2 LSB INL
- ▶ On-board 0.15% accurate reference
- ▶ Low power (<80  $\mu\text{A}$ )
- ▶ Visit [analog.com/MAX5216PMB1](http://analog.com/MAX5216PMB1)



### MAX5487PMB1

Independently controlled, dual-output potentiometer

- ▶ Dual-channel, 256-tap potentiometer
- ▶ Wiper position stored in nonvolatile memory
- ▶ Independent control to each output
- ▶ Visit [analog.com/MAX5487PMB1](http://analog.com/MAX5487PMB1)



### MAX9611PMB1

12-bit, programmable current limiter

- ▶ Programmable current limit up to 1 A
- ▶ 30 V max operating voltage
- ▶ Nine selectable I<sup>2</sup>C addresses
- ▶ Visit [analog.com/MAX9611PMB1](http://analog.com/MAX9611PMB1)



### MAXREFDES11

16-bit high accuracy 0 V to 10 V input isolated analog front end

- ▶ 16-bit, 200 kSPS
- ▶ On-board reference and isolated power
- ▶ 5 k $\Omega$  input impedance
- ▶ Visit [analog.com/MAXREFDES11](http://analog.com/MAXREFDES11)



### MAXREFDES18

16-bit PLC analog output

- ▶  $\pm 20$  mA, 0 mA to 20 mA, 4 mA to 20 mA
- ▶  $\pm 10$  V, 0 V to 10 V, 0 V to 5 V
- ▶ Data and power isolation
- ▶ Visit [analog.com/MAXREFDES18](http://analog.com/MAXREFDES18)



### MAXREFDES24

Isolated 4-channel analog current and voltage outputs

- ▶ 16-bit, 0.1% total error
- ▶  $I_{\text{OUT}}$ :  $\pm 24$  mA, up to 1 kA load
- ▶  $V_{\text{OUT}}$ :  $\pm 12$  V
- ▶ Visit [analog.com/MAXREFDES24](http://analog.com/MAXREFDES24)



### MAXREFDES4

16-bit high accuracy 4 mA to 20 mA loop input isolated analog front end

- ▶ On-board power and data isolation 0.02% accurate reference
- ▶ 4 mA to 20 mA or 0.2 V to 4.096 V voltage input
- ▶ Visit [analog.com/MAXREFDES4](http://analog.com/MAXREFDES4)



### MAXREFDES5

16-bit high accuracy multichannel isolated analog front end

- ▶ Two high impedance  $\pm 10$  V input
- ▶ Two 17 k $\Omega$  impedance  $\pm 10$  V inputs
- ▶ 16-bit, 2 LSB INL, on-board 3 ppm/ $^\circ\text{C}$  max reference
- ▶ Visit [analog.com/MAXREFDES5](http://analog.com/MAXREFDES5)



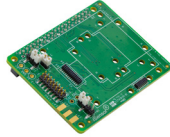
## Raspberry Pi HATs

Raspberry Pi HATs are add-on boards specifically designed to be compatible with the Raspberry Pi 3B+ and later devices. In a nutshell, a HAT is a rectangular board that has four mounting holes in the corners that align with the mounting holes on the B+, has a 40-pin GPIO header, and supports the special autoconfiguration system that allows automatic GPIO setup and driver setup. The automatic configuration is achieved using two dedicated pins (ID\_SD and ID\_SC) on the GPIO header that are reserved for an I<sup>2</sup>C EEPROM. The EEPROM holds the board manufacturer information, GPIO setup, and a thing called a device tree fragment—basically a description of the attached hardware that allows Linux to automatically load the required drivers.

### EVAL-ADISIMU1-RPIZ

Inertial measurement unit to Raspberry Pi adapter

- ▶ Direct sensor mount or remote mount with cable
- ▶ Supports multiple IMU families
- ▶ Powered from Raspberry Pi
- ▶ Visit [analog.com/EVAL-ADISIMU1-RPIZ](http://analog.com/EVAL-ADISIMU1-RPIZ)



### EVAL-CN0508-RPIZ

Programmable, 75 W, single output benchtop power supply

- ▶ Software programmable
- ▶ Manual current and voltage control
- ▶ On-board diagnostics
- ▶ Visit [analog.com/CN0508](http://analog.com/CN0508)



### EVAL-CN0511-RPIZ

DC to 5.5 GHz signal generator with  $\pm 0.5$  dB calibrated output power

- ▶ DC to 5.5 GHz sine output, 48-bit tuning resolution
- ▶ 83 dB SFDR at 51 MHz
- ▶ On-board reference oscillator
- ▶ Visit [analog.com/CN0511](http://analog.com/CN0511)



### EVAL-CN0554-RPIZ

$\pm 10$  V analog input and  $\pm 15$  V analog output for Raspberry Pi platforms

- ▶ Selectable input and output voltage ranges
- ▶ 16 single-ended input and output channels
- ▶ All power rails derived from the Raspberry Pi
- ▶ Visit [analog.com/CN0554](http://analog.com/CN0554)



### EVAL-CN0566-RPIZ

Phased array development platform

- ▶ 10 GHz to 10.5 GHz beamsteering platform
- ▶ 360° phase shift with 2.8° resolution
- ▶ 31 dB amplitude tuning range with 0.5 dB resolution
- ▶ Visit [analog.com/CN0566](http://analog.com/CN0566)



### EVAL-CN0575-RPIZ

10BASE-T1L field device development platform with Class 12 and 13 SPoE

- ▶ Data and power delivery using single-pair power over Ethernet
- ▶ Power Class 12 and 13 delivery capable
- ▶ Provides speeds up to 10 MBPS at 1 km
- ▶ Visit [analog.com/CN0575](http://analog.com/CN0575)



## Analog Devices Software Stack

The software stack ADI develops, maintains, and supports is made up of many layers designed to be modular at every step of the design process. Providing device specific drivers, hardware abstraction, interface layers, application layers, and example code allows for easy customization and integration of available software into your end design.

|                             |                                          |                     |                         |
|-----------------------------|------------------------------------------|---------------------|-------------------------|
| Application Layer           | Python, MATLAB®, LabVIEW, IIO-Scope      |                     |                         |
| Application Interface Layer | pyadi-iio, MATLAB Toolboxes, LabVIEW-iio |                     |                         |
| Infrastructure Layer        | iiod/Libiio                              |                     | iiod/tinyiiod           |
| Device Driver               | Linux Drivers/Kernel                     |                     | Bare Metal Drivers      |
| Peripheral Configuration    | Device Tree                              | Device Tree Overlay | Microcontroller SDK/BSP |
| Development Platform        | FPGA                                     | RPI                 | Microcontroller         |

## Development Platforms: Hardware Interfaces and Software Device Drivers

|                                | Development Platform  | Hardware Interfaces |         |      |         |         | Software Device Drivers   |                      |
|--------------------------------|-----------------------|---------------------|---------|------|---------|---------|---------------------------|----------------------|
|                                |                       | FMC                 | Arduino | Pmod | RPI HAT | Feather | Bare Metal Driver Support | Linux Driver Support |
| <i>Xilinx</i>                  | ZC702                 | •                   |         |      |         |         |                           | •                    |
|                                | ZC706                 | •                   |         |      |         |         |                           | •                    |
|                                | ZCU102                | •                   |         | •    |         |         |                           | •                    |
|                                | KC705                 | •                   |         |      |         |         |                           | •                    |
|                                | KCU105                | •                   |         |      |         |         |                           | •                    |
|                                | VC707                 | •                   |         |      |         |         |                           | •                    |
|                                | VCU118                | •                   |         |      |         |         |                           | •                    |
|                                | ZedBoard              | •                   |         | •    |         |         |                           | •                    |
|                                | CoraZ7-07s            |                     | •       | •    |         |         |                           | •                    |
| <i>Intel</i>                   | Arria 10 SoC Dev Kit  | •                   |         |      |         |         |                           | •                    |
|                                | Arria 10gx            | •                   |         |      |         |         |                           | •                    |
|                                | DE10-Nano             |                     | •       |      |         |         |                           | •                    |
| <i>Raspberry Pi Foundation</i> | Raspberry Pi 4        |                     |         | •    | •       |         |                           | •                    |
|                                | Raspberry Pi 3B+      |                     |         | •    | •       |         |                           | •                    |
|                                | Raspberry Pi 3B       |                     |         | •    | •       |         |                           | •                    |
|                                | Raspberry Pi Zero     |                     |         | •    | •       |         |                           | •                    |
|                                | Raspberry Pi Zero W   |                     |         | •    | •       |         |                           | •                    |
|                                | Raspberry Pi Zero 2 W |                     |         | •    | •       |         |                           | •                    |
| <i>Analog Devices</i>          | EVAL-ADICUP3029       |                     | •       | •    |         |         | •                         |                      |
|                                | EVAL-ADICUP360        |                     | •       | •    |         |         | •                         |                      |
|                                | MAX32520FTHR          |                     |         |      |         | •       | •                         |                      |
|                                | MAX32620FTHR          |                     |         | •    |         | •       | •                         |                      |
|                                | MAX32630FTHR          |                     |         | •    |         | •       | •                         |                      |
|                                | MAX32650FTHR          |                     |         | •    |         | •       | •                         |                      |
|                                | MAX32655FTHR          |                     |         | •    |         | •       | •                         |                      |
|                                | MAX32666FTHR          |                     |         |      |         | •       | •                         |                      |
|                                | MAX78000FTHR          |                     |         | •    |         | •       | •                         |                      |
| <i>ST Micro</i>                | Nucleo                |                     | •       |      |         |         | •                         |                      |
|                                | STM32                 |                     |         |      |         |         | •                         |                      |
| <i>Arduino</i>                 | Arduino Uno Rev 3     |                     | •       |      |         |         | •                         |                      |

Circuits from the Lab® reference designs are built and tested by ADI engineers with comprehensive documentation and factory-tested evaluation hardware.

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