ULTRA LOW POWER MCU COG DEVELOPMENT PLATFORM

Ultra Low Power Development Platform with Connectivity

The MCU cog is a compact development platform enabling system designers to design, build, test, and deploy ultra low power industrial wireless IoT solutions quickly and easily. The EV-COG-AD3029LZ MCU cog uses the ADuCM3029 ARM® Cortex®-M3 microcontroller, whereas the EV-COG-AD4050LZ uses the more powerful ADuCM4050 ARM Cortex-M4F microcontroller. Both are designed to provide years of robust and secure operation using coin cell batteries and are targeted toward smart industrial, smart health, smart city, and smart infrastructure applications.

Expansion boards referred to as *gears* can be developed by the designer to support specific sensor requirements. Analog Devices offers an expander gear board as an example, which provides the designer with access to all of the microcontroller signals.

Open Source

The CrossCore® Embedded Studio™ is based on free, open-source software, including Eclipse, GNU toolchain, GNU ARM Eclipse plugin, and other software. The ADuCM3029 IDE offers designers an easy to use development tool with no code size limitations.

Prototyping

The MCU cog boards incorporate debugging capability and can be used as standalone platforms for software debugging. The expander gear board includes an industry-standard Arduino® shield socket should the designer want to use commercially available shield boards for prototyping. It also provides board space for the designer to solder additional components.

Wireless Connectivity

To allow the designer to experiment with different wireless connectivity options, a range of high performance Analog Devices radio modules can be connected directly to the MCU cog boards.

The EV-COG-BLEINTP1Z connectivity cog also connects directly to the MCU cog platform. It provides general-purpose wireless connectivity over standard Bluetooth® LE and Wi-Fi. It also allows more advanced designers with expertise in radio to develop their own protocols based on the Analog Devices portfolio of performance radio transceivers, which are designed to plug into this connectivity cog board.

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System Solution Using Cog Development Kit

Application Gear

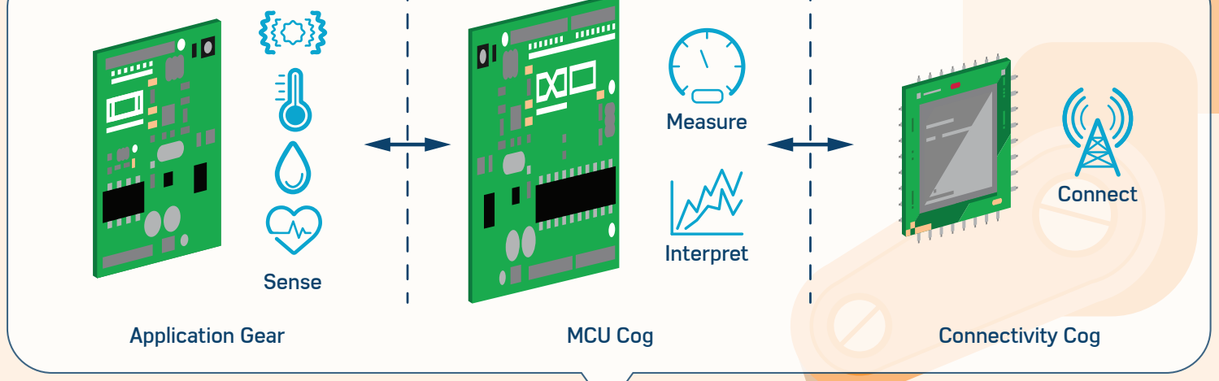
The gear houses the application specific sensors and the data from sensors is read by the MCU.

MCU Cog

The MCU on the MCU cog reads the sensor data, processes and interprets the data, and sends the information over the connectivity cog.

Connectivity Cog

The connectivity cog contains one of Analog Devices' connectivity solutions. This cog relays the information sent by the MCU over the air.



Cloud

Cloud services are used to visualize and interpret the data.

To the Cloud

(Ultra Low Power)
Wireless Sensor Node

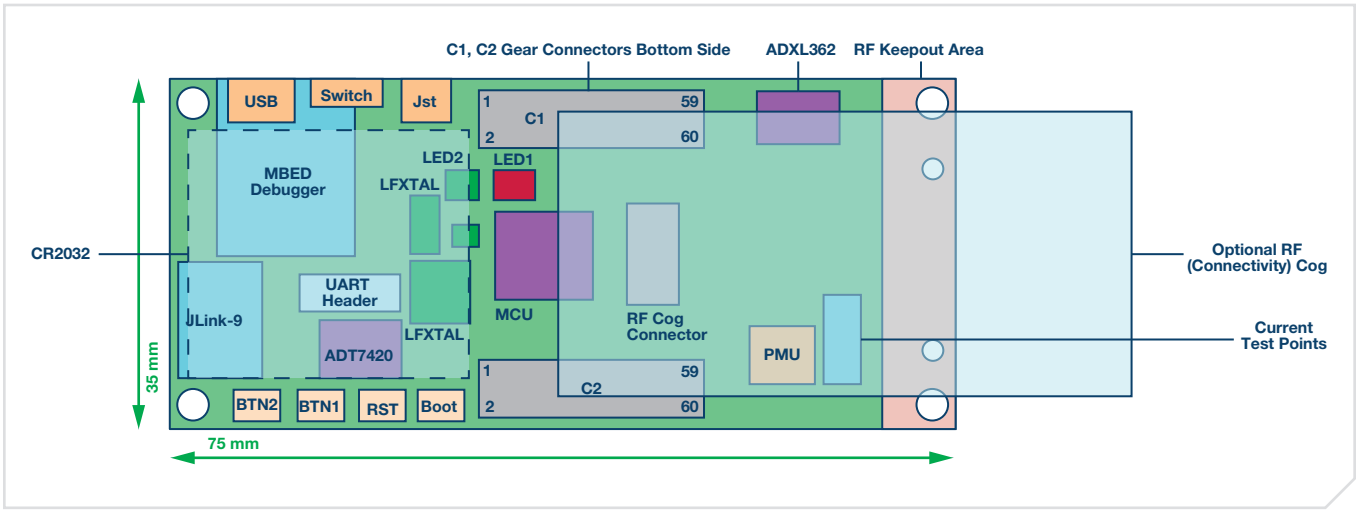
Wireless Sensor Node

The wireless sensor node contains the sensing, processing, and connectivity parts. These parts are realized by using various cogs (and gears).

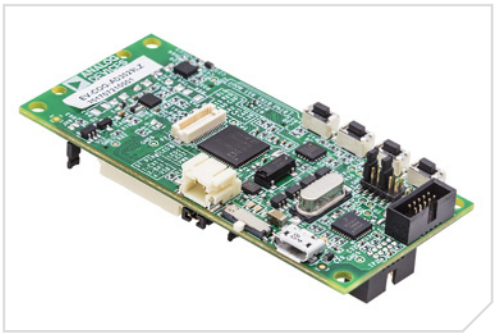
Gateway

Gateway

A protocol specific gateway is used to relay the data to the cloud.

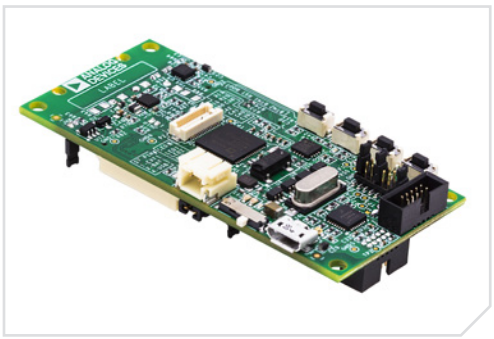


Hardware functional blocks on MCU cogs.

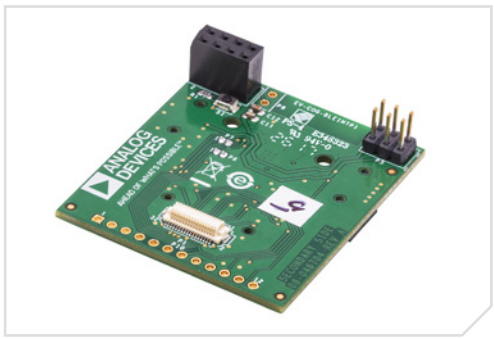


EV-COG-AD3029LZ MCU cog.

EV-GEAR-EXPANDER1Z gear.



EV-COG-AD4050LZ MCU cog.



EV-COG-BLEINTP1Z connectivity cog.

Tools Support

arm MBED

CrossCore® Development Tools by Analog Devices

KEIL™ Tools by ARM

IAR SYSTEMS

For additional information, please reference the COG3029/COG4050 product pages at *analog.com/ev-cog-AD3029* and *analog.com/ev-cog-AD4050*. More application specific gears and connectivity cogs are coming soon.

Analog Devices, Inc.
Worldwide Headquarters

Analog Devices, Inc.
One Technology Way
P.O. Box 9106
Norwood, MA 02062-9106
U.S.A.
Tel: 781.329.4700
(800.262.5643, U.S.A. only)
Fax: 781.461.3113

Analog Devices, Inc.
Europe Headquarters

Analog Devices GmbH
Otl-Aicher-Str. 60-64
80807 München
Germany
Tel: 49.89.76903.0
Fax: 49.89.76903.157

Analog Devices, Inc.
Japan Headquarters

Analog Devices, KK
New Pier Takeshiba
South Tower Building
1-16-1 Kaigan, Minato-ku,
Tokyo, 105-6891
Japan
Tel: 813.5402.8200
Fax: 813.5402.1064

Analog Devices, Inc.
Asia Pacific Headquarters

Analog Devices
5F, Sandhill Plaza
2290 Zuchongzhi Road
Zhangjiang Hi-Tech Park
Pudong New District
Shanghai, China 201203
Tel: 86.21.2320.8000
Fax: 86.21.2320.8222

analog.com

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