

# ADUCM350

 Recommended for New Designs

Configurable Impedance Network Analyzer & Potentiostat with Integrated Cortex M3 Core

Overview

Evaluation Kits

Documentation

Reference Materials

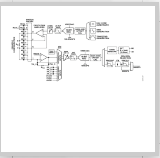
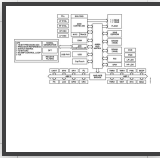
Design Resources

Discussions

Sample & Buy

 **Data Sheet** Rev. B  
CN Rev. B

 **User Guides** Rev. E  
**3**  
View All



## Overview

Features and Benefits

Product Details

- Measurement capability**
  - Impedance measurements
  - Current measurements
  - Amperometry
  - Voltammetry
  - Voltage measurements
  - Potentiometry
- Analog performance**
  - 160 kSPS, 16-bit, precision analog-to-digital converter (ADC)
  - High precision voltage reference
  - Ultra Low Leakage Configurable Switch Matrix
  - 12-bit digital-to-analog converter (DAC)
- Analog hardware accelerators**

## Product Categories

Processors & DSP

- Precision Microcontrollers

## Markets & Technology

Instrumentation & Measurement

- Impedance Measurement and Analysis
- Chemical Analysis & Analytical Instruments

Healthcare

- Life Sciences & Medical

Autonomous analog front-end (AFE) controller  
Direct digital synthesizer (DDS)/arbitrary waveform generator  
Receive filters  
Complex impedance measurement (DFT) engine

- **Processing**

16 MHz ARM® Cortex M3 processor  
384 kB of embedded flash memory  
32 kB system SRAM  
16 kB Flash configured EEPROM

- **Communication**

Input/output  
I2S and beeper interface  
LCD display controller (parallel and serial)  
LCD segment controller  
SPI, I<sup>2</sup>C, USB, and UART peripheral interfaces  
Programmable GPIOs

- **Power**

Coin cell battery compatible  
2.0 V to 3.6 V hibernate operation  
2.5 V to 3.6 V active measurement range  
Power management unit (PMU)  
Power-on reset (POR) and power supply monitor (PSM)

- **Packages and temperature range**

Operating temperature range: -40°C to +85°C  
Package: 120-lead, 8 mm × 8 mm CSP\_BGA

- See datasheet for additional features

Instrumentation

- [SpO2](#)
- [NiBP based on BCG and PPG](#)
- [Medical Isolation and Patient Safety](#)
- [EEG Measurement](#)
- [ECG Patient Monitoring](#)
- [Wearable Health Monitoring](#)
- [Body Composition Measurement](#)
- [Portable Blood Analyzer](#)
- [Respiration Measurement](#)
- [Clinical Monitoring](#)
- [Health, Wellness and Fitness](#)

## ADuCM350 Design Resources

Download the complete design file resource package.

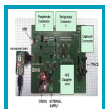
- [ADuCM350 Software Development Kit](#)
- [ADuCM350 Evaluation Kit Software Platform](#)
- [ADuCM350 Complete Documentation Pack](#)

Comparable Parts | [Click to see all in Parametric Search](#)

## Product Lifecycle ☒ Recommended for New Designs

This product has been released to the market. The data sheet contains all final specifications and operating conditions. For new designs, ADI recommends utilization of these products.

## Evaluation Kits (1)



### EVAL-ADUCM350

[View Detailed Evaluation Kit Information](#)

The Eval-ADuCM350EBZ evaluation kit consists of the following:

Equipment Required

## HARDWARE

1 Eval-ADuCM350EBZ board

1 USB-SW/UART-EMUZ also known as J-Link OB emulator

1 ADuCM350 4 Wire Bio Config 3 board

## Resources



[UG-587: ADuCM350 Hardware](#)

[Reference Manual \(Rev. E\)](#)



[UG-668: Evaluating the](#)

[ADuCM350 16-Bit, Precision,](#)

[Low Power Meter-on-a-Chip \(Rev. A\)](#)



[UG-677: ADuCM350 Software](#)

[Development Kit Quick Start](#)

[Guide](#)

# Documentation

[View All \(12\)](#) [Data Sheets \(1\)](#) [Application Notes \(8\)](#) [User Guides \(3\)](#)

## Data Sheets

[ADuCM350: 16-Bit Precision, Low Power  
Meter On A Chip with Cortex-M3 and  
Connectivity Data Sheet \(Rev. B\)](#)

PDF

959 kB

## Application Notes

## User Guides

# Reference Materials

[View All \(8\)](#) [White Papers \(1\)](#) [Informational \(1\)](#) [Videos \(4\)](#) [Technical Articles \(1\)](#) [Analog Dialogue \(1\)](#)

## White Papers

[Operating the AD8233 with the ADuCM350](#)

## Informational

## Videos

# Design Resources

ADI has always placed the highest emphasis on delivering products that meet the maximum levels of quality and reliability. We achieve this by incorporating quality and reliability checks in every scope of product and process design, and in the manufacturing process as well. "Zero defects" for shipped products is always our goal.

 [ADUCM350 Material Declaration](#)

 [Quality And Reliability](#)

 [Symbols and Footprints](#)

## PCN-PDN Information

Select Model

# Discussions

## ADUCM350 Discussions

- [ADUCM350 DESIGN SUPPORT COMMUNITY - INTRO](#)
- [ADuCM350 FAQ ADuCM350 Evaluation Kit](#)
- [ADuCM350 FAQ System Clocks](#)

All ADUCM350 Discussions

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SUPPORT COMMUNITY

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# Sample & Buy

| Model                                | Package                    | Pins | Temp Range | Packing Qty | Price (100-499) | Price (1000+) | RoHS                                                                                         | Order from Analog Devices |
|--------------------------------------|----------------------------|------|------------|-------------|-----------------|---------------|----------------------------------------------------------------------------------------------|---------------------------|
| ADUCM350BBCZ<br>PCN<br>Production    | 120 ball CSPBGA (8x8x1.23) | 120  | -40 to 85C | Tray, 348   |                 |               | Y  Info | <div>Purchase</div>       |
| ADUCM350BBCZ-RL<br>PCN<br>Production | 120 ball CSPBGA (8x8x1.23) | 120  | -40 to 85C | Reel, 2000  | -               |               | Y  Info | <div>Purchase</div>       |

International prices may differ due to local duties, taxes, fees and exchange rates. For volume-specific price or delivery quotes, please contact your local Analog Devices, Inc. sales office or authorized distributor. Pricing displayed for Evaluation Boards and Kits is based on 1-piece pricing.

[Price Table Help](#)

## Evaluation Boards

Pricing displayed is based on 1-piece.

| Model                               | Description                                                                              | RoHS |     |
|-------------------------------------|------------------------------------------------------------------------------------------|------|-----|
| EV-ADUCM350-4WBCZ<br>Production     | Additional 4Wire Bio Config daughterboard if required (1 supplied in Eval-ADuCM350 kit)  |      | Yes |
| EV-ADUCM350AUDZ<br>Production       | Additional Daughterboard to verify Beeper and I2S functionality                          |      | Yes |
| EV-ADUCM350DISZ<br>Production       | Additional board with large Captouch pads and a PDI display connector                    |      | Yes |
| EV-ADUCM350GPIOTHZ<br>Last Time Buy | Additional board with an LCD display to verify GPIO funtionalty                          |      | Yes |
| EV-ADUCM350-SMCZ<br>Production      | Additional Switch Mux Config daughterboard if required (1 supplied in Eval-ADuCM350 kit) |      | Yes |
| EVAL-ADUCM350EBZ<br>Production      | Evaluation Kit for ADuM350                                                               |      | Yes |

Back

Add to cart

Select a country ▾

Check Inventory

Pricing displayed is based on 1-piece. The USA list pricing shown is for budgetary use only, shown in United States dollars (FOB USA per unit), and is subject to change. International prices may vary due to local duties, taxes, fees and exchange rates.

15,000

Problem Solvers

4,700+

Patents Worldwide

125,000

Customers

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Years

Ahead of What's Possible

Analog Devices is a global leader in the design and manufacturing of analog, mixed signal, and DSP integrated circuits to help solve the toughest engineering challenges.

See the Innovations

Analog Devices. Dedicated to solving the toughest engineering challenges.

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