



ADUCM350

Configurable Impedance
Network Analyzer &
Potentiostat with Integrated
Cortex M3 Core

Recommended for
New Designs

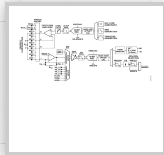
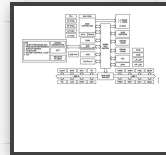
[Overview](#)[Evaluation Kits](#)[Documentation](#)[Reference Materials](#)[Design Resources](#)[Discussions](#)[Sample & Buy](#)**Data Sheet** Rev. B

CN Rev. B

**User
Guides**

Rev. E

3

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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)

Product Categories

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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, I²C, 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](#)
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ADuCM350 Design Resources

Download the complete design file resource package.

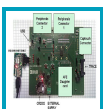
- [ADuCM350 Software Development Kit](#)
- [ADuCM350 Evaluation Kit Software Platform](#)
- [ADuCM350 Complete Documentation Pack](#)

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

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[ADuCM350 FAQ ADuCM350 Evaluation Kit](#)

[ADuCM350 FAQ System Clocks](#)

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Sample & Buy

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

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

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