# Precision Microcontrollers Selection Guide

## Precision Analog Microcontrollers—ARM Cortex-M3, ARM7, and 8051 Series

Analog Devices precision analog microcontrollers combine precision analog functions, such as high resolution ADCs and DACs, voltage reference, temperature sensor, and a host of other peripherals, with an industry-standard microcontroller and flash memory designed for industrial, instrumentation, medical, communications, and automotive applications.

The ADuCM36x family extends the precision data acquisition systems with the first fully integrated 24-bit data acquisition system incorporating dual high performance multi-channel sigma-delta ($\Sigma$-$\Delta$) analog-to-digital converters (ADCs), 32-bit ARM Cortex™-M3 MCU, and Flash/EE memory on a single chip designed for direct interfacing to external precision sensors in both wired and battery powered applications.

The ADuCRF101 is a fully integrated data acquisition solution designed for low power wireless applications. It features a 14-bit ADC, 32-bit ARM Cortex-M3 MCU, 431 MHz to 464 MHz and 862 MHz to 928 MHz RF transceiver, and Flash/EE memory.

The ADuC7xxx ARM7TDMI® family integrates 12-, 16- and 24-bit analog-to-digital converters, 12-bit DACs with flash, SRAM, and a host of digital peripherals.

The ADuC8xx series was the first to integrate true 12- to 24-bit analog precision, in-circuit reprogrammable Flash/EE memory, and an on-chip 8052 core.

### *Features*

- Microcontrollers for industrial, instrumentation, medical, communications, and automotive applications
- Leading edge, mixed-signal integration with 12- to 24-bit ADCs, multiple 12- to 14-bit current and voltage DACs, reference, and current sources
- Wireless DAQ with Cortex-M3 and analog I/O
- ARM Cortex-M3, Flash/EE, and 16- to 24-bit analog I/O
- ARM7TDMI, Flash/EE, and 12- to 24-bit analog I/O
- 8052 series with Flash/EE and 12- to 24-bit analog I/O
- Complete suite of development tools

**www.analog.com/microcontroller**

ANALOG DEVICES

## Precision Analog Microcontroller (MicroConverter) Products

| Part Number | MCU, MIPS | Flash Code (Bytes) | Flash Data (Bytes) | RAM (Bytes) | External Memory Interface | Power Supply (V) | GPIOs[1] | Download/Debug | ADCs | DACs | Temp Sensor Accuracy (°C)[2] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Precision Analog RF Microcontroller with Cortex-M3 Core* | | | | | | | | | | | |
| ADuCRF101 ***New*** | Cortex-M3, 20D | 128k | | 16k | None | 2.2 to 3.6 | 28 | UART and SWD | 12-/14-bit, 6-channel, 1 MSPS | — | ±10°C |
| *Precision Analog Microcontroller with Cortex-M3 Core* | | | | | | | | | | | |
| ADuCM360 ***New*** | Cortex-M3, 20D | 128k | | 8k | None | 1.8 to 3.6 | 19 | UART and SWD | Dual, 24-bit, 11-channel, up to 3.906 kSPS | 1 × 12-bit with op amp mode for driving 4 mA to 20 mA loop | ±6°C |
| ADuCM361 ***New*** | Cortex-M3, 20D | 128k | | 8k | None | 1.8 to 3.6 | 19 | UART and SWD | Single 24-bit, 11-channel, up to 3.906 kSPS | 1 × 12-bit with op amp mode for driving 4 mA to 20 mA loop | ±6°C |
| ADuCM301 ***New*** | Cortex-M3, 20D | 128k | | 16k | None | 1.8 to 3.6 | 23 | UART and SWD | 12-/14-bit, 6-channel, 1 MSPS | — | ±10°C |
| *Precision Analog Microcontroller with ARM7 Core* | | | | | | | | | | | |
| ADuC7019 | ARM7, 40 | 62k | | 8k | None | 2.7 to 3.6 | 14 | JTAG + UART/I$^2$C | 12-bit, 5-channel (2 differential), 1 MSPS | 12-bit, triple | ±3.0 |
| ADuC7020 | ARM7, 40 | 62k | | 8k | None | 2.7 to 3.6 | 14 | JTAG + UART/I$^2$C | 12-bit, 5-channel (2 differential), 1 MSPS | 12-bit, quad | ±3.0 |
| ADuC7021 | ARM7, 40 | 62k, 32k | | 8k | None | 2.7 to 3.6 | 13 | JTAG + UART | 12-bit, 8-channel (4 differential), 1 MSPS | 12-bit, dual | ±3.0 |
| ADuC7022 | ARM7, 40 | 62k, 32k | | 8k | None | 2.7 to 3.6 | 13 | JTAG + UART | 12-bit, 10-channel (5 differential), 1 MSPS | None | ±3.0 |
| ADuC7023 | ARM7, 40 | 62k | | 8k | None | 2.7 to 3.6 | 20 | JTAG + I$^2$C | 12-bit, 12-channel, 1 MSPS | 12-bit quad | ±3°C |
| ADuC7024 | ARM7, 40 | 62k | | 8k | None | 2.7 to 3.6 | 30 | JTAG + UART/I$^2$C | 12-bit, 10-channel (5 differential), 1 MSPS | 12-bit, dual | ±3.0 |
| ADuC7025 | ARM7, 40 | 62k, 32k | | 8k | None | 2.7 to 3.6 | 30 | JTAG + UART | 12-bit, 12-channel (5 differential), 1 MSPS | None | ±3.0 |
| ADuC7026 | ARM7, 40 | 62k | | 8k | Code and data | 2.7 to 3.6 | 40 | JTAG + UART/I$^2$C | 12-bit, 12-channel (6 differential), 1 MSPS | 12-bit, quad | ±3.0 |
| ADuC7027 | ARM7, 40 | 62k | | 8k | Code and data | 2.7 to 3.6 | 40 | JTAG + UART | 12-bit, 16-channel (8 differential), 1 MSPS | None | ±3.0 |
| ADuC7028 | ARM7, 40 | 62k | | 8k | None | 2.7 to 3.6 | 30 | JTAG + UART/I$^2$C | 12-bit, 8-channel (4 differential), 1 MSPS | 12-bit, quad | ±3.0 |
| ADuC7029 | ARM7, 40 | 62k | | 8k | None | 2.7 to 3.6 | 22 | JTAG + I$^2$C | 12-bit, 7-channel, 1 MSPS | 12-bit quad | ±3°C |
| ADuC7121 | ARM7, 40 | 126k | | 8k | None | 3 to 3.6 | 32 | JTAG + I$^2$C | 12-bit, 9-channel, 1 MSPS | 12-bit quad and 5 × 11-bit IDAC | ±3°C |
| ADuC7122 | ARM7, 40 | 126k | | 8k | None | 3 to 3.6 | 32 | JTAG + I$^2$C | 12-bit, 13-channel, 1 MSPS | 12 × 12-bit | ±3°C |
| ADuC7124 | ARM7, 40 | 126k | | 32k | None | 2.7 to 3.6 | 30 | JTAG + UART | 12-bit, 12-channel, 1 MSPS | 12-bit dual | ±3°C |
| ADuC7126 | ARM7, 40 | 126k | | 32k | Code and data | 2.7 to 3.6 | 40 | JTAG + UART/I$^2$C | 12-bit, 16-channel, 1 MSPS | 12-bit quad | ±3°C |
| ADuC7128 | ARM7, 40 | 126k | | 8k | None | 3.0 to 3.6 | 28 | JTAG + UART | 12-bit, 10-channel (5 differential), 1 MSPS | 10-bit DAC, PWM | ±3.0 |
| ADuC7129 | ARM7, 40 | 126k | | 8k | Code and data | 3.0 to 3.6 | 38 | JTAG + UART | 12-bit, 10-channel (5 differential), 1 MSPS | 10-bit DAC, PWM | ±3.0 |
| ADuC7060 | ARM7, 10.24 | 32k | | 4k | No | 2.5 | 16 | JTAG + UART | Dual, 24-bit, 5-channel/ 8-channel, 8 kSPS | Single, 14-bit | ±3.0 |
| ADuC7061 | ARM7, 10.24 | 32k | | 4k | No | 2.5 | 8 | JTAG + UART | Dual, 24-bit, 5-channel/ 8-channel, 8 kSPS | Single, 14-bit | ±3.0 |
| *Precision Analog Microcontrollers with ARM7 Core for Automotive Battery Monitoring* | | | | | | | | | | | |
| ADuC7032-8L | ARM7, 20 | 96k | | 6k | None | 3 to 18 | 9 | JTAG + LIN | 3 × 16-bit $\Sigma$-$\Delta$ ADC | — | ±2.0 |
| ADuC7036 | ARM7, 20 | 96k | | 6k | None | 3.5 to 18 | 9 | JTAG + LIN | 2 × 16-bit $\Sigma$-$\Delta$ ADC | — | ±3°C |
| ADuC7039 | ARM7, 20 | 64k | | 4k | None | 3.5 to 18 | 5 | JTAG + LIN | 2 × 16-bit $\Sigma$-$\Delta$ ADC | — | ±3°C |
| *Precision Analog Microcontrollers with 8052 Core* | | | | | | | | | | | |
| ADuC845 | 8052, 12 | 62k, 32k, 8k | 4k | 2k + 256 | Data only | 2.7 to 3.6, 4.75 to 5.25 | 32 | Single pin or UART | 24-bit, dual, 1.3 kSPS | 12-bit, single | ±1.5 |
| ADuC847 | 8052, 12 | 62k, 32k, 8k | 4k | 2k + 256 | Data only | 2.7 to 3.6, 4.75 to 5.25 | 32 | Single pin or UART | 24-bit, 1.3 kSPS | 12-bit, single | None |
| ADuC848 | 8052, 12 | 62k, 32k, 8k | 4k | 2k + 256 | Data only | 2.7 to 3.6, 4.75 to 5.25 | 32 | Single pin or UART | 16-bit, 1.3 kSPS | 12-bit, single | None |
| ADuC841 | 8052, 20 | 62k, 8k | 4k | 2k + 256 | Data only | 2.7 to 3.6, 4.75 to 5.25 | 32 | Single pin or UART | 12-bit, 8-channel, 400 kSPS | 12-bit, dual | ±1.5 |
| ADuC842 | 8052, 16 | 62k, 32k, 8k | 4k | 2k + 256 | Data only | 2.7 to 3.6, 4.75 to 5.25 | 32 | Single pin or UART | 12-bit, 8-channel, 400 kSPS | 12-bit, dual | ±1.5 |
| ADuC843 | 8052, 16 | 62k, 32k, 8k | 4k | 2k + 256 | Data only | 2.7 to 3.6, 4.75 to 5.25 | 32 | Single pin or UART | 12-bit, 8-channel, 400 kSPS | None | ±1.5 |

[1] Pins that are also analog inputs are limited to digital input only, that is, GPI, not GPIO. In the case of the ARM7 parts, all pins are full GPIO.

[2] Temperature sensor is calibrated on all $\Sigma$-$\Delta$ parts, while it is not calibrated on the successive approximation parts.

[3] External reference option available.

| PWMs | Internal Reference[3] | Serial Ports | Clocking | Timers[4] | Other Peripherals[5] | Temperature Range[6] (°C) | Package |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 8-channel, 16-bit | 1.25 V, ±40 ppm typ | UART, SPI, I$^2$C | 16 MHz internal oscillator, 32 kHz oscillator, external 32 kHz watch crystal | 2 general-purpose 16-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | ISM band transceiver | –40 to +85 | 9 mm × 9 mm, 64-lead LFCSP |
| | | | | | | | |
| 6-channel, 16-bit | 1.2 V, ±5 ppm typ | UART, 2 × SPI, I$^2$C | 16 MHz internal oscillator, 32 kHz oscillator, external 32 kHz watch crystal | 2 general-purpose 16-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | Programmable PGA, programmable sensor excitation $I_{SOURCES}$ | –40 to +125 | 7 mm × 7 mm, 48-lead LFCSP |
| 6-channel, 16-bit | 1.2 V, ±5 ppm typ | UART, 2 × SPI, I$^2$C | 16 MHz internal oscillator, 32 kHz oscillator, external 32 kHz watch crystal | 2 general-purpose 16-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | Programmable PGA, programmable sensor excitation $I_{SOURCES}$ | –40 to +125 | 7 mm × 7 mm, 48-lead LFCSP |
| 8-channel, 16-bit | 1.25 V, ±40 ppm typ | UART, 2 × SPI, I$^2$C | 16 MHz internal oscillator, 32 kHz oscillator, external 32 kHz watch crystal | 2 general-purpose 16-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | PSM, POR | –40 to +85 | 6 mm × 6 mm, 40-lead LFCSP |
| | | | | | | | |
| See Note 7 | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | External, internal (3%), PLL (prog) | 2 × 32-bit, 2 × 16-bit | PLA, comparator, PSM, POR | –40 to +125 | 6 mm × 6 mm, 40-lead LFCSP |
| See Note 7 | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | External, internal (3%), PLL (prog) | 2 × 32-bit, 2 × 16-bit | PLA, comparator, PSM, POR | –40 to +125 | 6 mm × 6 mm, 40-lead LFCSP |
| See Note 7 | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | External, internal (3%), PLL (prog) | 2 × 32-bit, 2 × 16-bit | PLA, comparator, PSM, POR | –40 to +125 | 6 mm × 6 mm, 40-lead LFCSP |
| See Note 7 | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | External, internal (3%), PLL (prog) | 2 × 32-bit, 2 × 16-bit | PLA, comparator, PSM, POR | –40 to +125 | 6 mm × 6 mm, 40-lead LFCSP |
| 5-channel 16-bit | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | Trimmed on-chip oscillator (±3%), external watch crystal, 41.78 MHz PLL | 3 general-purpose 32-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | PLA, comparator, PSM, POR | –40 to +125 | 5 mm × 5 mm, 32-lead LFCSP;<br>6 mm × 6 mm, 40-lead LFCSP |
| 3-phase, 16-bit | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | External, internal (3%), PLL (prog) | 2 × 32-bit, 2 × 16-bit | PLA, comparator, PSM, POR | –40 to +125 | 9 mm × 9 mm, 64-lead LFCSP; 64-lead LQFP |
| 3-phase, 16-bit | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | External, internal (3%), PLL (prog) | 2 × 32-bit, 2 × 16-bit | PLA, comparator, PSM, POR | –40 to +125 | 9 mm × 9 mm, 64-lead LFCSP; 64-lead LQFP |
| 3-phase, 16-bit | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | External, internal (3%), PLL (prog) | 2 × 32-bit, 2 × 16-bit | PLA, comparator, PSM, POR | –40 to +125 | 14 mm × 14 mm, 80-lead LQFP |
| 3-phase, 16-bit | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | External, internal (3%), PLL (prog) | 2 × 32-bit, 2 × 16-bit | PLA, comparator, PSM, POR | –40 to +125 | 14 mm × 14 mm, 80-lead LQFP |
| 3-phase, 16-bit | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | External, internal (3%), PLL (prog) | 2 × 32-bit, 2 × 16-bit | PLA, comparator, PSM, POR | –40 to +125 | 6 mm × 6 mm, 64-ball BGA |
| 3-phase, 16-bit | 2.5 V, ±40 ppm typ | UART, SPI, 2 I$^2$C ports | Trimmed on-chip oscillator (±3%), external watch crystal, 41.78 MHz PLL | 4 general-purpose 32-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | PLA, comparator, PSM, POR | –40 to +125 | 5 mm × 5 mm, 49-ball CSP_BGA |
| 6-channel, 16-bit | 2.5 V, ±10 ppm typ, ±30 ppm max | UART, SPI, 2 I$^2$C ports | Trimmed on-chip oscillator (±3%), external watch crystal, 41.78 MHz PLL | 1 general-purpose 48-bit timer, 2 general-purpose 32-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | PLA, PSM, POR | –10 to +95 | 7 mm × 7 mm, 108-ball CSP_BGA |
| 6-channel, 16-bit | 2.5 V, ±10 ppm typ, ±30 ppm max | UART, SPI, 2 I$^2$C ports | Trimmed on-chip oscillator (±3%), external watch crystal, 41.78 MHz PLL | 1 general-purpose 48-bit timer, 2 general-purpose 32-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | PLA, PSM, POR | –10 to +95 | 7 mm × 7 mm, 108-ball CSP_BGA |
| 6-channel, 16-bit | 2.5 V, ±15 ppm typ | 2 UARTs SPI, 2 I$^2$C ports | Trimmed on-chip oscillator (±3%), external watch crystal, 41.78 MHz PLL | 1 general-purpose 48-bit timer, 2 general-purpose 32-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | Programmable logic array, analog comparator | –40 to +125 | 9 mm × 9 mm, 64-lead LFCSP;<br>14 mm × 14 mm, 80-lead LQFP |
| 6-channel, 16-bit | 2.5 V, ±15 ppm typ | 2 UARTs, SPI, 2 I$^2$C ports | Trimmed on-chip oscillator (±3%), external watch crystal, 41.78 MHz PLL | 1 general-purpose 48-bit timer, 2 general-purpose 32-bit timers, 32-bit wake-up timer, 16-bit watchdog timer | Programmable logic array, analog comparator | –40 to +125 | 9 mm × 9 mm, 64-lead LFCSP;<br>14 mm × 14 mm, 80-lead LQFP |
| 6-channel, 16-bit | 2.5 V, ±40 ppm typ | 2 UARTs, SPI, 2 I$^2$C ports | External, internal (2%), PLL (prog) | 1 × 16-bit, 3 × 32-bit, 1 × 48-bit | PLA, comparator, PSM, POR | –40 to +125 | 9 mm × 9 mm, 64-lead LFCSP |
| 6-channel, 16-bit | 2.5 V, ±40 ppm typ | 2 UARTs, SPI, 2 I$^2$C ports | External, internal (2%), PLL (prog) | 1 × 16-bit, 3 × 32-bit, 1 × 48-bit | PLA, comparator, PSM, POR | –40 to +125 | 9 mm × 9 mm, 64-lead LFCSP |
| 6-channel | 1.2 V, ±10 ppm typ | UART, SPI, I$^2$C | External, internal (3%), PLL (prog) | 4 × timers | SPI/I$^2$C/vectored interrupt controller | –40 to +125 | 9 mm × 9 mm, 48-lead LQFP;<br>7 mm × 7 mm, 48-lead LFCSP |
| 2-channel | 1.2 V, ±10 ppm typ | UART, SPI, I$^2$C | External, internal (3%), PLL (prog) | 4 × timers | SPI/I$^2$C/vectored interrupt controller | –40 to +125 | 5 mm × 5 mm, 32-lead LFCSP |
| | | | | | | | |
| — | 1.2 V, ±5 ppm typ | LIN transceiver, SPI | Internal (1%), PLL (prog) | 1 × 16-bit, 3 × 32-bit, 1 × 48-bit | Comparator, wake-up, WDT | –40 to +125 | 9 mm × 9 mm, 48-lead LQFP |
| — | 1.2 V, ±5 ppm typ | SPI, BSD, STI, LIN bus | Precision oscillator, low power oscillator, 20.48 MHz PLL, external watch crystal | 1 general-purpose 48-bit timer, 1 general-purpose 32-bit timer, 32-bit wake-up timer, 16-bit watchdog timer, 16-bit STI timer or general-purpose timer | High voltage wake-up pin | –40 to +115 | 7 mm × 7 mm, 48-lead LFCSP |
| — | 1.2 V, ±5 ppm typ | SPI, LIN bus | Precision oscillator, low power oscillator, 20.48 MHz PLL, external watch crystal | 1 general-purpose 16-bit timer, 32-bit wake-up timer, and 16-bit watchdog timer | | –40 to +115 | 6 mm × 6 mm 32-pin LFCSP |
| | | | | | | | |
| Dual, 16-bit | 1.25 V, ±100 ppm typ | UART, SPI, I$^2$C | Internal, PLL | 3 × 16-bit, 1 × baud rate, 1 × TIC | POR, PSM, WDT, $I_{SOURCES}$, burnout | –40 to +125[6] | 8 mm × 8 mm, 56-lead LFCSP;<br>14 mm × 14 mm, 52-lead MQFP |
| Dual, 16-bit | 1.25 V, ±100 ppm typ | UART, SPI, I$^2$C | Internal, PLL | 3 × 16-bit, 1 × baud rate, 1 × TIC | POR, PSM, WDT, $I_{SOURCES}$, burnout | –40 to +125[6] | 8 mm × 8 mm, 56-lead LFCSP;<br>14 mm × 14 mm, 52-lead MQFP |
| Dual, 16-bit | 1.25 V, ±100 ppm typ | UART, SPI, I$^2$C | Internal, PLL | 3 × 16-bit, 1 × baud rate, 1 × TIC | POR, PSM, WDT, $I_{SOURCES}$, burnout | –40 to +125[6] | 8 mm × 8 mm, 56-lead LFCSP;<br>14 mm × 14 mm, 52-lead MQFP |
| Dual, 16-bit | 2.5 V, ±15 ppm typ | UART, SPI, I$^2$C | External | 3 × 16-bit, 1 × baud rate, 1 × TIC | POR, PSM, WDT | –40 to +85 | 8 mm × 8 mm, 56-lead LFCSP;<br>14 mm × 14 mm, 52-lead MQFP |
| Dual, 16-bit | 2.5 V, ±15 ppm typ | UART, SPI, I$^2$C | Internal, PLL | 3 × 16-bit, 1 × baud rate, 1 × TIC | POR, PSM, WDT | –40 to +85 | 8 mm × 8 mm, 56-lead LFCSP;<br>14 mm × 14 mm, 52-lead MQFP |
| Dual, 16-bit | 2.5 V, ±15 ppm typ | UART, SPI, I$^2$C | Internal, PLL | 3 × 16-bit, 1 × baud rate, 1 × TIC | POR, PSM, WDT | –40 to +85 | 8 mm × 8 mm, 56-lead LFCSP;<br>14 mm × 14 mm, 52-lead MQFP |

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[4] **TIC:** time interval counter.

[5] **PSM:** power supply monitor; **WDT:** watchdog timer; **POR:** power-on reset; $\mathbf{I_{SOURCES}}$: current sources; **burnout:** sensor burnout capability; **PLA:** programmable logic array.

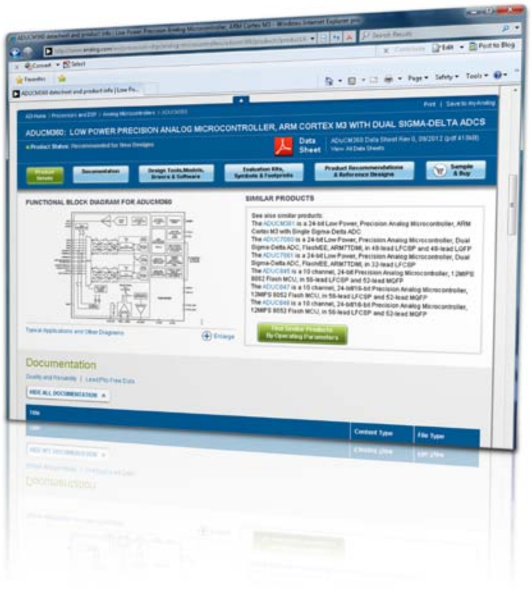
[6] 125°C applies to the MQFP package only.

[7] Can be used through PLA.

# Simplifying Designs for Your Competitive Edge

## Development Systems

Each series of precision analog microcontrollers are supported by a complete range of low cost mini kits right up to full featured evaluation systems including nonintrusive emulator, evaluation board, and power supplies.



ADUCM360: LOW POWER PRECISION ANALOG MICROCONTROLLER, ARM CORTEX M3 WITH DUAL SIGMA-DELTA ADCS

FUNCTIONAL BLOCK DIAGRAM FOR ADUCM360

SIMILAR PRODUCTS

Documentation

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Reference circuit designs have been built and tested to ensure function and performance.

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*Flexible evaluation and debug hardware for Cortex-M3 series.*

## Software Development Tools

8052-based products, ARM7-based products, and Cortex-M3 based product are all supported by industry-standard tool suites.

### Integrated Development Environments

- Complete development suite, compilers, debuggers, IDEs, etc.
- Third-party developers offer integrated development environments (IDEs)

### Examples, Software, and Libraries

- Library of software drivers and extensive support for all major tool providers offers a fast route to best-fit and an optimized development process.

### ADI Software Tools

- The Elves tool helps generate C code using predefined parameters and low level functions, which are provided. These functions allow configuration of each of the device peripherals, clocks, and power-down modes.

  Tools like Elves help with code efficiency, execution speed, and ease of programming development.

ENGINEER® ZONE Support Community

## Technical Support

- Worldwide FAE network to provide local support
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- Analog Microcontrollers Support Community

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I$^2$C refers to a communications protocol originally developed by Philips Semiconductors (now NXP Semiconductors).

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