

## Features

- Dual ADC
- 8-bit Resolution
- Low Power Consumption: 1.1W
- 1 GHz Full Power Input Bandwidth (-3 dB)
- 1 GSPS (min) Sampling Rate with Two Channels
- SINAD = 46 dB typ (7.3 ENOB), THD = -60 dB, SFDR = -62 dB, at  $F_S = 1$  GSPS,  $F_{IN} = 500$  MHz
- Two-tone IMD: -62 dBc min (499 MHz, 501 MHz) at 1 GSPS
- DNL = 0.25 lsb typ, INL = 0.5 lsb typ
- Channel to Channel Input Offset Error: 0.5 lsb max (After Calibration)
- Gain Matching (Channel to Channel): 0.5 lsb max (After Calibration)
- Low Bit Error Rate ( $10^{-13}$ ) at 1 GSPS
- Very Low Input Capacitance: 2 pF
- 500 mVpp Analog Input (Differential Only)
- Differential or Single-ended  $50\Omega$  PECL/LVDS Compatible Clock Inputs
- LVDS Output Compatibility ( $100\Omega$ )
- 1:2 or 1:1 Data Output Demultiplexer
- Analog Gain ( $\pm 1.5$  dB) Digitally Control
- Input Clock Selection
- Analog Input Switch Selection
- Full or Partial Standby Mode
- Three-wire Serial Interface (16-bit Data, 3-bit Address)
- Binary or Gray Digital Outputs
- Asynchronous Data Ready Reset
- Interlacing Functions:
  - Offset and Gain (Channel to Channel) Auto Calibration
  - Digital SDA (Sampling Delay Adjust) on Both Channel
- Test Mode (Decimation, BER, DAC)
- Power Consumption: 1.1W (Typ), 1.7W (Max)
- Power Supply: 3.30V (Analog), 3.30V (Digital), 2.25V (Output)
- LQFP144 Package
- Temperature Range:
  - $-20^\circ\text{C} < T_a < +85^\circ\text{C}$ ,
  - $0^\circ\text{C} < T_a < +70^\circ\text{C}$
- Evaluation Board AT84AD001-EB

## Applications

- Satellite Receiver
- Direct RF Down-conversion
- Instrumentation
- WLAN



## Dual ADC 8-bit 1 GSPS Converter

AT84AD001  
SMART ADC™

Preliminary

## Summary

For more information,  
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Caution: This is a preliminary Data Sheet. The information contained herein is believed to be reliable and is given for information only.

Atmel reserves the right to make changes at any time without notice.

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