Overview

Analog Devices has developed a low cost, low power DSP evaluation platform targeting an array of real-time applications. The ADSP-BF706 EZ-KIT Mini® leverages the latest entry within the industry-leading, low power Blackfin® processor family as well as ADI’s optimized development tools and third party software deliverables—including innovative embedded audio design with Audio Weaver® from DSP Concepts. With on-board, high quality audio connectivity, multiple expansion options, and an integrated debug agent, the EZ-KIT Mini offers designers a complete small form factor, low cost starter platform for multiple applications.

The ADSP-BF706 Blackfin processor is a high performance DSP that delivers a class-leading 800 MMACS of processing power at less than 100 mW. With glueless connectivity options including USB and over 1 MB of internal SRAM, this reduces BOM cost and eliminates the need for external memory in many applications. Using the enhanced Blackfin+ core, the combination of performance, power efficiency, memory integration, sophisticated security, and great value, allows designers to incorporate advanced 16- and 32-bit processing into a wide range of new power sensitive use cases.

Target ADSP-BF70x applications include:

- Portable audio, DJ equipment, and effects
- Automotive audio and sensors
- Portable communications
- Military and aerospace
- Portable healthcare
- Intelligent lighting and occupancy detection*
- Industrial imaging and biometrics*

* For an advanced imaging-based starter system, please refer to ADI’s ADSP-BF707 BLIP Platform (www.analog.com/BF70x)

analog.com/BF70x
ADSP-BF706 EZ-KIT Mini features:

- ADSP-BF706 Blackfin Processor
  - 400 MHz/800 MMACs performance at <100 mW
  - 1160 kB on-chip SRAM (136 kB L1, 1 MB L2)
  - 88-lead LFCSP (QFN) package
- Small form factor: 4 in \times 2 in (10 cm \times 5 cm)
- 4 MB quad SPI flash
- ADAU1761 SigmaDSP® low power stereo audio codec
  - Line-in and headphone jacks
- Direct USB 2.0 HS PHY interface to ADSP-BF706
- External connections for EPPI0, SPORT, SPI, I2C, timer, and GPIOs
- On-board debug agent (JTAG/SWD) via separate USB interface
- Other features
  - USB bus powered
  - Push buttons and LEDs
  - Boot mode strapped to SPI master
  - Resistors for processor current measurement
  - Arduino Uno R3 connection compatibility

CrossCore® embedded studio software tools:

- Full featured development suite and board support package
- Complete real-time debug capability included
- Full featured one year evaluation license
- Complete code examples and demos including:
  - Audio processing from DSP Concepts (www.dspconcepts.com)
  - Vision algorithms from EBSYS (www.ebsys-tech.com)

Features include:

- Drag and drop user interface
- Full featured audio module library
- Efficient code generation
- MIPS and memory profiling
- Real-time tuning and control via USB interface