

BF609 EZ KIT Board Support Package (BSP) v1.0.1 Release Notes

Thank you for installing the BF609 EZ Board Board Support Package (BSP). The BSP provides example which demonstrate the drivers and services provided along with CCES 1.0.0

The EZ Board designed for use with CrossCore® Embedded Studio (CCES) for Analog Devices Processors software development tools. The CCES development environment aids advanced application code development and debug, such as:

- Create, compile, assemble, and link application programs written in C++, C, and assembly
- Load, run, step, halt, and set breakpoints in application programs
- Read and write data and program memory
- Read and write core and peripheral registers
- Plot memory

For more details on CCES, please visit www.analog.com/cces For more on the ADSP-BF609 EZ Board, please visit www.analog.com/BF609EZBoard

The BF609 EZ Board BSP provides comprehensive examples which demonstrate support for services , drivers, examples and code sketches .

Installation Logging

Support and Assistance

- Submit your questions online at:
 - <http://www.analog.com/support>
- E-mail your Processor and DSP software and development tools questions from within CrossCore Embedded Studio:
 - processor.tools.support@analog.com
- E-mail your Processors and DSP applications and processor questions to:
 - processor.support@analog.com OR
 - processor.china@analog.com (Greater China support)
- Post your questions in the Processors and DSP online technical support community in Engineer Zone at:
 - <http://ez.analog.com/community/dsp>

Software Requirements

To build the projects included in the BF609 EZ Board BSP, CrossCore Embedded Studio version 1.0.0 or later is required..

Interrupts

CrossCore Embedded Studio provides a coherent interrupt management mechanism which allows for the same interface to be used in RTOS and non-RTOS applications. This means that interrupt service routines in all applications must be written in C and use the `adi_int` interface. Any thread-safety requirements or interactions with tasks are handled by the `adi_int` interface. For more information on the `adi_int` API, in CrossCore Embedded Studio go to Help > Search and enter `adi_int`.

Examples of the usage of this interrupt management mechanism are the System Services and Device Drivers provided with Crosscore Embedded Studio. By using the `adi_int` interface, the same services and drivers can be used in all applications regardless of whether an operating system is used.

Sketches and Examples

Sketches

CrossCore Embedded Studio provides a mechanism by which small code fragments, called sketches, can be generated with parameterized input provided by the user. The resulting code can then be copied and pasted to a project. BF609 EZ Board BSP related sketches are provided. To locate the sketches specific to the BF609 EZ Board r BSP, open up the example browser (Help -> Browse Examples) and then select the appropriate product name in the "Product:" pulldown.

Examples

Power_On_Self_Test example which includes a test for each device on the ADSP-BF609 EZ-Board in order to make sure that the board is functioning correctly

Parallel flash programmer interface application used with the device programmer to access the PC28F128P33 parallel flash device on the ADSP-BF609 EZ-Board

Serial flash programmer interface application used with the device programmer to access the W25Q32BV Quad SPI flash device on the ADSP-BF609 EZ-Board

EXAMPLES FOR DRIVERS:

1. SSLDD Rotary Encoder example using the on-chip ADSP-BF609 Rotary encoder
2. SSLDD TWI example that reads from the ADSP-BF609 EZ-Kit thermal sensor
3. SSLDD example to demonstrate character echo using UART
4. SSLDD example for using Linkport

5. SSLDD example for using SPORT
6. SSLDD example for using SPI
7. SSLDD PVP examples for memory and camera pipe.

Please note that camera pipe example for PVP requires additional hardware and BSPs which are mentioned below.

1. Video decoder EI3 Extender board and its BSP(Video_Decoder_EI3_Extender_Board-Rel1.0.0)
2. Video encoder EI3 Extender board and its BSP(Video_Encoder_EI3_Extender_Board-Rel1.0.0)
3. A DVD player and a TV

Details about the Video decoder EI3 Extender board /Video encoder EI3 Extender board and its Board Support Package(BSP) can be found at

www.analog.com/ex3-viddecoder

EXAMPLES FOR SERVICES:

1. SSLDD example using GPIO
2. SSLDD example using mcapi
3. SSLDD example for using power management
4. SSLDD example for using stdio service.
5. SSLDD example for using timer

Location

In order to locate BF609 EZ Board BSP examples and sketches, you can use the following:

- Open CrossCore Embedded Studio's Example Browser which can be found in CrossCore Embedded Studio under Help. Select in the Product section ADSP-BF609 EZ-Board v1.0.1 for a full list of examples and sketches.
- Import projects located in your BF609 EZ Board BSP installation folder under the example directory in product installation "ADSP-BF609_Evaluation_Board-Rel1.0.1\BF609_Evaluation_Board\Blackfin\Examples".

Documentation

General information on the driver model can be found in CCES help under

CrossCore® Embedded Studio 1.0.0 > BF609 EZ Board Board Support Package 1.0.1 > System Services and Device Drivers

MISRA-C Support

MISRA C is a software development standard for the C programming language developed by the Motor Industry Software Reliability Association (MISRA). Its aims are to facilitate code safety, portability, and reliability in the context of embedded systems, specifically those systems programmed in ANSI C. The compiler detects violations of the MISRA rules at compile-time, link-time, and run-time.

As of release 1.0.1 All system services and device drivers are MISRA-C compliant (the specific suppressions are listed in the header files).

System Services and Device Driver Thread Safety

All system services and device drivers (SSDD) use mutexes and semaphores to ensure thread-safety. If an RTOS is present then the SSDD will use the RTOS mutex and semaphores. If an RTOS is not present then the SSDD will use a non-RTOS implementation of mutexes and semaphores (spin locks).

Known issues with BF609 EZ Board Board Support Package (BSP)

None