



Flexis™ Microcontroller Series

EVB51JM128

32-bit USB microcontroller

- **Quick Start Guide**
- **Lab Tutorials**
- **CodeWarrior® Manual**
- **Getting Started DVD**

Learn More: For more information about the JM family, please visit www.freescale.com/flexis.



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Get to Know the EVB51JM128 Board

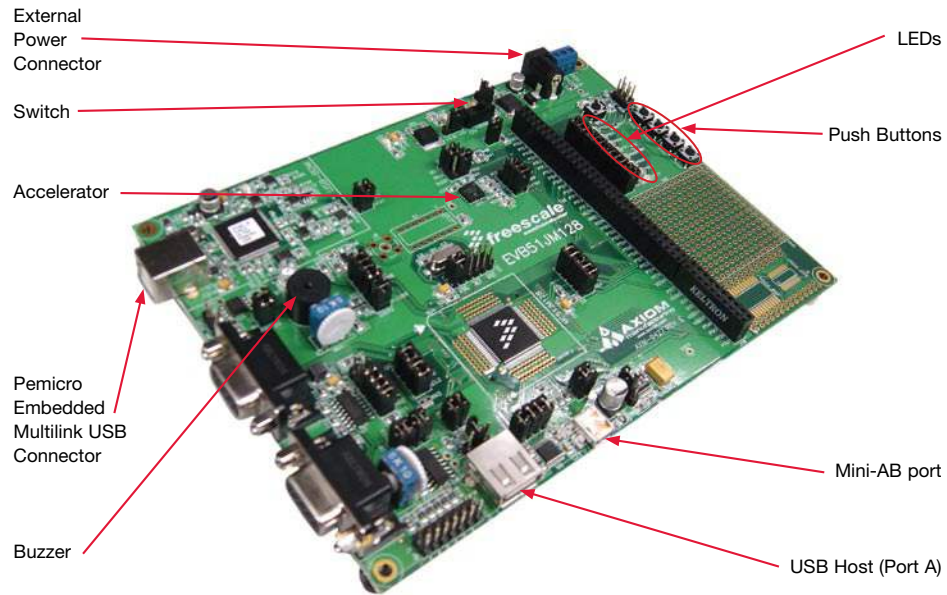


Figure 1. EVB51JM128 board

Introduction

EVB51JM128 is a cost-effective kit enabling quick evaluation of the MCF51JM128 (JM128) microcontroller. The USB On-The-Go (OTG) feature is supported in hardware through a dedicated USB mini-AB connector and in software through the included complimentary USB-LITE stack by CMX.

Please take a look at the EVB51JM128 Labs document (EVB51JM128LAB) included in the “Training” section of the DVD to learn more about the key USB benefits that JM128 gives your application.

EVB51JM128 Quick Start Guide

Step-by-step instructions

STEP 1

Install CodeWarrior® for Microcontrollers and JM128 Service Pack

CodeWarrior is a powerful tool designed to help you maximize your time to market. CodeWarrior Service pack will install the appropriate support files for the MCF51JM128 to the existing CodeWarrior installation. CodeWarrior installation is a one-time required step before connecting the board to your computer.

1. Insert provided DVD into computer and a menu will appear.
2. Click on appropriate board and “Install CodeWarrior.”
3. Follow the on-screen instructions until installation is complete.
4. Return to DVD menu and click on “Install JM128 Service Pack.”
5. Follow the on-screen instructions until installation is complete.

Once installation is complete, take advantage of several CodeWarrior tutorials that will walk you through various development tool features, such as “C Programming,” “Assembly Programming,” “Using Processor Expert™,” and more. Simply open CodeWarrior via the “Programs > Freescale CodeWarrior > CW for Microcontroller V6.x > CodeWarrior IDE.exe” path. Click “Run Getting Started Tutorial” from the startup dialog, select a tutorial and follow the on-screen instructions.

STEP 2

Install USB-LITE Stack by CMX for MCF51JM128

USB-LITE stack by CMX for MCF51JM128 is a complimentary stack with the appropriate JM128 USB OTG dual-mode low-level drivers and top-level HID class and CDC class examples. To exercise the various USB examples packaged with the stack follow the step-by-step EVB51JM128 Labs document (EVB51JM128LAB) included in the “Training” section of the DVD. Stack installation is a one-time required step before developing with this software.

1. Insert provided DVD into computer and a menu will appear.
2. Click on “Install USB-LITE by CMX.” This will launch the stack installer.
3. Follow on-screen instructions until installation is complete.

The USB-LITE stack by CMX default installed at C:\CMXUSB_LITE_V1.

For device function demo, HID and CDC class software projects can be found at C:\CMXUSB_LITE_V1\usb-peripheral\projects\CodeWarrior-6.x\mcf51xx\

For host function demo, HID and mass storage class software projects can be found at C:\CMXUSB_LITE_V1\usb-host\projects\CodeWarrior-6.x\mcf51xx\

For OTG function demo, the software project can be found at C:\CMXUSB_LITE_V1\usb-otg\projects\CodeWarrior-6.x\mcf51xx\

STEP 3

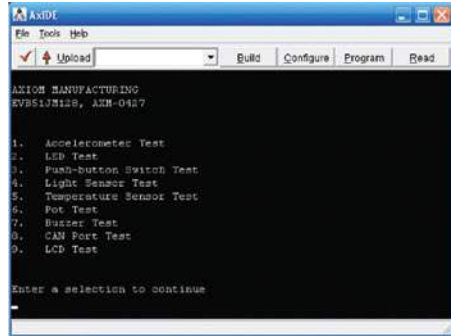
Connect Board to Computer

USB driver installation is a one-time required step, to be completed after CodeWarrior installation.

1. Connect provided A to B gray USB cable from a free USB port on your computer to the USB connector on the board.
2. Operating system will recognize your board as new hardware and will prompt you to install the USB drivers. Choose recommended option to install the software automatically. USB drivers for your board were pre-loaded in CodeWarrior installation.
3. Follow on-screen instructions until all USB driver installations are complete. The green USB LED on-board should illuminate.

Freescale USB-LITE Stack by CMX

Freescale is providing a comprehensive USB software solution through a complimentary USB stack. The Freescale USB-LITE stack by CMX enables all the JM family products from 8-bit device function and 32-bit OTG dual-modes of operation. The USB stack supports several HID (host and device mode), CDC and mass storage projects. The complimentary stack also interfaces with CodeWarrior Development Studio providing a productive, comprehensive development environment for designing embedded applications.



```
ASIDE
File Tools Help
[Upload] Build Configure Program Read

AMION MANUFACTURING
EVBS12M128, ACM-0947

1. Accelerometer Test
2. LED Test
3. Push-button Switch Test
4. Light Sensor Test
5. Temperature Sensor Test
6. Pot Test
7. Buzzer Test
8. CAN Port Test
9. LCD Test

Enter a selection to continue
_
```

**STEP
4****Test Board by Running Quick Start Application**

Now that you have successfully completed the software and hardware setup, test your board by running the Quick Start Application pre-loaded in the microcontroller's on-chip flash memory. The demo application sends an ASCII text menu to COM1 at 19,200 bps. The displayed menu will allow testing of each of the board peripherals.

1. Verify the option jumpers are set in default positions.
2. Connect a serial cable between a host PC and COM1 on the target board.
3. Open a terminal program on the PC and configure for 19200, 8, N, 1
4. Connect the included A/B USB cable between an open USB port on the host PC and the USB connector on the target board.
5. A menu will display within the terminal program window.
6. Pressing a number key on the keyboard will execute the associated test. Please note, the CAN Test and LCD Test are not functional.
7. Now that your board is functional, try out the labs discussed in the EVB51JM128 Labs document (EVB51JM128LAB) included in the "Training" section of the DVD. These labs will guide you step-by-step through all the HID (host and device), CDC and mass storage class examples included in the complimentary USB-LITE stack by CMX for MCF51JM128.