

Switching between the S08 and ColdFire V1 Microcontrollers

A step-by-step guide for using the Flexis QE128 accelerometer demo

Introduction

Welcome to the demonstration of the industry's first 8 and 32 bit compatible devices – the Flexis QE128 duo. As part of Freescale's controller continuum, the Flexis QE128 microcontrollers are pin, peripheral, and tool compatible. The 8-bit QE device is built on and benefits from Freescale's popular S08 core while the 32-bit QE device is the first of its kind on our ColdFire V1 core. The enhancements to hardware and software make the transition between both devices possible and are perfect for designing high-end and low-end products (for example, industrial security control vs. home security control). They are also ideal to reduce cost by going from a 32-bit device to an 8-bit device.

We have claimed that the QE128 devices are truly compatible—you may be asking—is this really possible? By following the instructions below, you will see how the Flexis QE128 solution is so easy that it will save you time in your next design.

How to run the Flexis QE128 accelerometer demo

1. Setup demo:

- Launch CodeWarrior for Microcontrollers V6.0 (also known as CW IDE)
- Open the accelerometer example project
- Launch “AccelerometerDemo.exe”
 - See “DEMOQE_User_Manual_1_03” for details on this application.
 - Set “Port” to “USB COM”
 - Set “Baud” rate to 115200
- Make sure the MC9S08QE128 daughter card is in DEMOQE board then power-on board
- DEMOQE board jumpers should all be set to the default settings
- Make sure MC9S08QE128 is the selected device in CW IDE
- Check that power is on and the debugger window is closed

2. Run demo on S08:

- Click the make and go button (green arrow) in CW IDE
- Bring AccelerometerDemo window to front, click “Open Serial Port and Start Demo” button
- Move board around to demonstrate 3-axis accelerometer
 - Observe output in AccelerometerDemo window
- Click PTA3 button on DEMOQE board to enable data averaging, move board
- Click PTA2 button on DEMOQE board to enable data filtering, move board

3. Change device to V1:

- Click “Close Port” in AccelerometerDemo window
- Close S08 debugger window
- Bring CW IDE window to front
- Use “Change Wizard” button to select the MCF51QE128
- Power down DEMOQE board
- Change daughter card on DEMOQE board from MC9S08QE128 to MCF51QE128

4. Run demo on V1:

- Power on DEMOQE board and check that no debugger window is open
- Click make and go button in CW IDE
- Bring AccelerometerDemo window to front, click “Open Serial Port and Start Demo” button
- Move board around to demonstrate 3-axis accelerometer
 - Observe output in AccelerometerDemo window
- Click PTA3 button on DEMOQE board to enable data averaging, move board
- Click PTA2 button on DEMOQE board to enable data filtering, move board

5. Change device back to S08:

- Click “Close Port” in AccelerometerDemo window

- Close CFV1 debugger window
 - Bring CW IDE window to front
 - Use “Change Wizard” to select S08 again (MC9S08QE128)
 - Power down DEMOQE board
6. Run demo on S08:
- Change device in DEMOQE board from V1 to S08
 - Power on DEMOQE and check that no debugger window is open
 - Click make and go button in CW IDE
 - Bring AccelerometerDemo window to front, click “Open Serial Port and Start Demo” button
 - Move board around to demonstrate 3-axis accelerometer
 - Observe output in AccelerometerDemo window

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