The 8051 SDK provides infrastructure support for applications developed on 8-bit devices, and it provides interfaces with the underlying hardware. It is composed of the following modules:

- 8-Bit Device Header Files
- 8-Bit Peripheral Driver Libraries
- Sample Applications/Examples for 8-Bit Development Kits

This document covers the following SDK version:

8051 SDK 4.2.1.0 released June, 2021

### Key Features

- Updated EFM8BB51 and EFM8BB52 header files for Rev C
- Added peripheral driver libraries for EFM8BB51 and EFM8BB52
- Added demos and examples for EFM8BB51 and EFM8BB52

### Compatibility and Use Notices

If you are new to the Silicon Labs 8-bit SDK, see Using This Release.

**Compatible Compilers:**

- Keil v9.60
1 New Items

1.1 New Device Headers
None

1.2 New Peripheral Driver Libraries
The following new peripheral driver libraries were added for EFM8BB51 and EFM8BB52:
- ADC
- CLU
- DAC
- PCA
- Power
- SMBus
- SPI
- UART0
- UART1
- WDT

1.3 New Sample Applications
The following new sample applications were added for EFM8BB51 and EFM8BB52:
- ADC
- Bootloader
- Comparators
- Configurable Logic
- External Interrupts
- Flash
- PCA
- Port IO
- Programmable VREF
- PWM
- SMBus
- SPI
- Temp Sensor
- Timers
- UART0
- UART1
- Watchdog

The following new sample application is added for EFM8BB51:
- GPIO Expander

The following new demos were added for EFM8BB51 and EFM8BB52:
- Blinky
- Configurable Logic
- Power Modes
2 Improvements

2.1 Updated Device Headers

- Updated EFM8BB51 and EFM8BB52 device header files for Rev C.
- Updated the SDCC detection definition to "__SDCC" for all C8051 device header files.
- Updated EFM8LB1 device header files to remove deprecated XOSC0 crystal mode enumerations.
- Updated EFM8UB2 device header files to correct SMB1 SMBCS enumeration.

2.2 Updated Peripheral Driver Libraries

- Updated all EFM8BB3 CLU peripheral driver libraries to remove deprecated CLUn ALTCLK enumeration.

2.3 Updated Sample Applications

Updated the Power Modes example to use peripheral driver library for the following devices:
- EFM8BB51
- EFM8BB52

Updated the following EFM8BB3 examples to remove deprecated ADCLPM enumeration:
- ADC
- Configurable Logic
- Function Generator
- IEC60730
- Oscilloscope
- Rainbow Blinky
- Space Invaders
- Temp Sensor
- USBC Battery Pack
- Voltmeter

Updated the EFM8BB3 CLU Button Debounce example to remove deprecated CLUn ALTCLK enumeration.
3 Fixed Issues

The table below lists issues resolved in the latest release.

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>698433</td>
<td>Minor formatting and documentation changes to various 8-bit device header files.</td>
</tr>
</tbody>
</table>
### 4 Known Issues in the Current Release

The table below lists known issues in the latest release. Items shown in blue are links to additional information.

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>355966</td>
<td>Dropped characters on multiple calls to UART1_WriteBuffer()</td>
<td>Insert a short delay between any two bufferWrite calls</td>
</tr>
<tr>
<td>354781</td>
<td>Missing autopaging in the efm8_memory_lcd library</td>
<td>Insert SFRPAGE save and restore</td>
</tr>
<tr>
<td>344029</td>
<td>Missing autopaging in UART1_writeBuffer()</td>
<td>Insert SFRPAGE save and restore</td>
</tr>
</tbody>
</table>
5 Deprecated Items

None
6 Removed Items

- Removed the Biphase Mark and Manchester examples for EFM8LB1 and EFM8BB3 devices.
- Removed duplicate SIDefs header files for C8051 devices
7 Using This Release

7.1 Installation and Use

The 8-Bit SDK can be installed through Simplicity Studio. Installation instructions can be found in AN1211.

Use the 8-bit SDK with the Simplicity Studio V5 development platform. Simplicity Studio ensures that most software and tool compatibilities are managed correctly. Install software and board firmware updates promptly when you are notified.

Documentation specific to the SDK version is installed with the SDK. API references and other information about this and earlier releases is available on http://devtools.silabs.com/studio/doc/EFM8/software/.

7.2 Support

Development Kit customers are eligible for training and technical support. You can use https://www.silabs.com/products/mcu/8-bit to obtain information about all Silicon Labs 8-bit products and services, and to sign up for product support.

You can contact Silicon Laboratories support at http://www.silabs.com/support.
8 Legal

8.1 Disclaimer

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