

QSG163: EFM32GG12-SLTB009A Quick-Start Guide

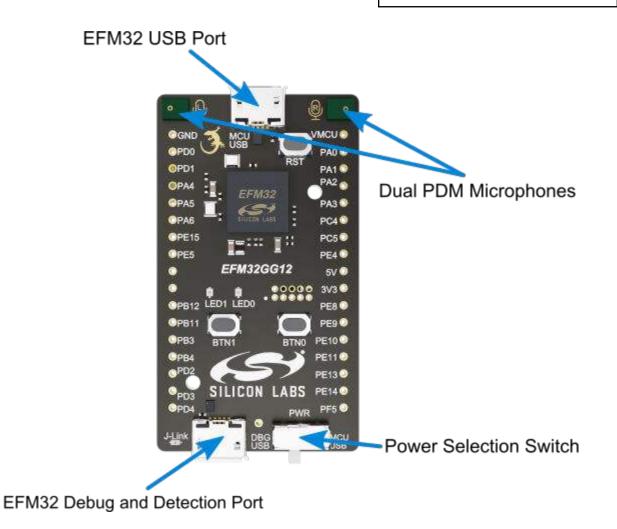


The EFM32GG12-SLTB009A is an excellent starting point to get familiar with the EFM32 Giant Gecko 12 microcontrollers.

The kit contains sensors and peripherals demonstrating some of the MCU's many capabilities. The kit can also serve as a starting point for application development.

KIT CONTENTS

- · EFM32GG12 Thunderboard
- 1 x micro USB cable
- · Getting Started card

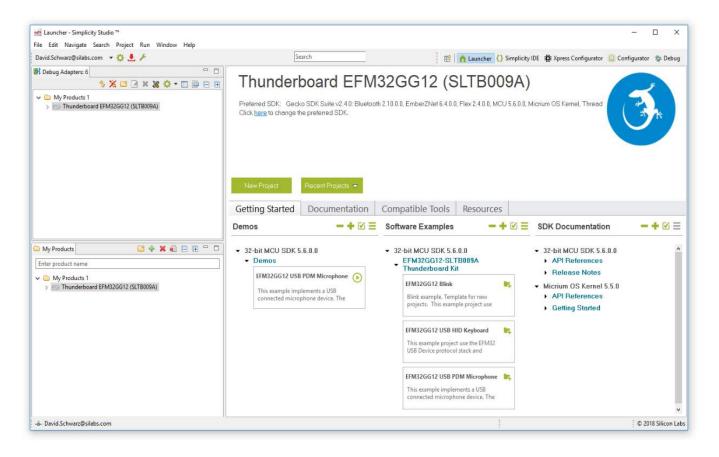


1. Getting Started

Install Simplicity Studio

Simplicity Studio is a free software suite needed to start developing your application. Download the latest version of Simplicity Studio from the Silicon Labs website:

http://www.silabs.com/simplicity-studio



1. Download the software and follow the installation instructions.

2. The installation wizard automatically selects the recommended software for the connected device or selected product line. To ad-

just the installed software, click the [Update Software] button in the [Launcher] area. In the dialog that opens, select the desired software under the [SDKs] tab and tools under the [Tools] tab.

3. Finalize the installation.

Preprogrammed demo

- 1. The Thunderboard GG12 has a pre-programmed demo that you can explore while Simplicity Studio is installing. This demo is the USB PDM microphone program.
- To run the demo, connect the micro USB cable between the kit and computer. Use the usb connector labeled [MCU USB], and set the Power Selection Switch to the [MCU] position.
- 3. The USB PDM microphone example implements a USB connected microphone device. The device enumerates as a device supporting stereo 16 bit PCM encoded audio at a samplerate of 44.1 kHz (the standard audio CD samplerate). The PCM samples are aquired using the Pulse Density Modulation (PDM) peripheral of the microcontroller.

Detect Your Device

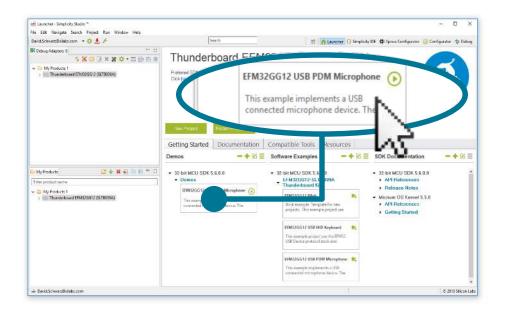
- 1. Provide power and a debug connection to the kit by connecting the provided USB cable between the kit and a computer. Use the USB connector labeled [**DBG USB**].
- 2. Ensure the power selector switch on the STK is in the [DBG] position.
- 3. Click the [**Refresh**] button in the [**Device**] area. The board may take some time to appear due to driver installations for the debug adapter.
- 4. Once an item with the name [J-Link Silicon Labs] appears, expand by clicking the arrow, and verify that the detected devices matches the kit. Click the EFM32GG12-SLTB009A.
- 5. The [Launcher] view will now display a number of available resources, including pre-compiled demos, examples, documentation, tools, and other resources.

📹 Launcher - Simplicity Studio 🦜				- 🗆 X		
Be Edit Navigate Search Project Ran Window Help	a to be					
David Schwarz Salabs com 🔹 🖗 🛃 🥕	Search	1 21 1	Councher () Simplicity IDE 🏦 Spress Configurator 📋	Configuration of Debray		
Bi Debug Adapters 0	Thunderboard EFM32GG12 (SLTB009A)					
	Olek <u>hara</u> bi dronga tre preferred SDF, Vleri-Projekt Barsen Prijados-e		w 240 € MOJ 588 € Microm OS Kennel: Threed			
	Getting Started Documentation	Compatible Tools	resources			
	Demos 🗕 🗕 🔶 🏵	Software Examples	🗕 🕂 🗹 🚍 SDK Documentation	-+8		
MyPeducts	32-bit MCU SDK 5.6.0.0 Damos	• 32-hit MCU PDF F A	 32 bit MCU SDK 5.6.0.0 bit SDK 5.6.0.0 	-		
Enter product name	UM126612 W/P	6.3	X 🗳 🖉 🕷 ֎ 🖛			
 My Products 1 Thursderboard FPM32S512 (SLTB0394) 		Products 1 Thunderboard EFM	132GG12 (SITB009A)			
		THME2GG12 USB PDM This soundle implement convected microphone	ma UR			
é DavišSchwec@silats.com				C 2010 Silicon La		

2. Resources

Demos

Demos are a quick and easy way to evaluate a device without compiling or debugging code. Demos can be accessed using the [Get-ting Started]>[Demos] area in the launcher.



Software Examples

Software examples can be imported, compiled, and downloaded using the [Getting Started]>[Software Examples] area in the launcher.

📹 Launcher - Simplicity Studio "						- 0 ×
File Edit Navigate Search Project Run Window Help						
David Schwarz Salats com 🔹 🔕 差 🥕	Search		1.01	A Launcher () Simplicity	IDE 🖞 Spress Configurator 📋 Con	ógarator 🂠 Debug
Bit Debug Adapters 0 "" II % X (a) X (b) X (c) X (GG12 Blink			3
	Olixis Jaw Prejazi		ample. Templa s. This example			
	Getting Started Docume	ntation	Compatible Tools	Resources	145	
			Software Examples	-+ ⊗≡	SDK Documentation	-+8=
My Pedects 2 4 N in P P 2	• 32-bit MCU SDK 5.6.0.0 • Demos		32-bit MCU SDK 5.6 0 EFM32GG12-SL1 D9A Thunderboord Ki		32 bit MCU SDK 5.6.0.0 API References	-
y ≥ My Peckett 1) III Thunderbard HH4DSSU (0178094)	UTM32GG12 USB POM Microphe	ine 🕑	EFM32GG12 B		 Release Notes Micrium OS Kernel 5.5.0 	
	The example implements a USB connected microphene device. The		Disk sample en en en et as		API References Getting Started	- 1
				9 Keytsand 🛛 💽 uue the BFM52 Zack and		
			HME2GG12 USB P0 This wangle implem connected micropho	write a USB		
- Devid.Schwerz@silebs.com						© 2010 Silicon Labs

Software Documentation

Software documentation provides more information on the firmware libraries available for the selected device. Access these documents using the [**Documentation**] area in the launcher.

ni Launcher - Simplicity Studio ** File Edit Navigate Search Project Ran Window Help		- 🗆 ×
David.Schwarz@slabs.com + 🗘 🛃 🥕	Search	
BF Debug Adapters 5 ★ X 3 2 X X 0 + 2 I 10 0 0 0 → My Proceed Of Mo2000 (00100060)	Thunderboard EFMs	 32-bit MCU SDK 5.6.0.0 API Reference Release Notes CS Kores
	Demos -+⊗≣ Softwar	tble Tools Resources re Examples -+ 🛛 🚍 SDK Doc nentation -+ 🕫 🚍
My Peducts My Peducts Frier product name		LMCU SDK 5.6.0.0 • 32 b K 5.6.0.0 * M32GG12-SLT BURA b bes underboard Kit
✓ My Products 1	UMD2GG12 USB PDM Microphene () This assumptio implements, a LSB tormatical microphene device. The	MINDEGRAT KIN + N - Ass MIS2GG12 Block & Microm OS Kernel 5.5.0 • API References • API References • Getting Sturted
		FM32G612 US8 HID Keyboard
	T	This example project use the EFME2 SB Device protocol stack and
	7 12 14	This example project use the EFM02

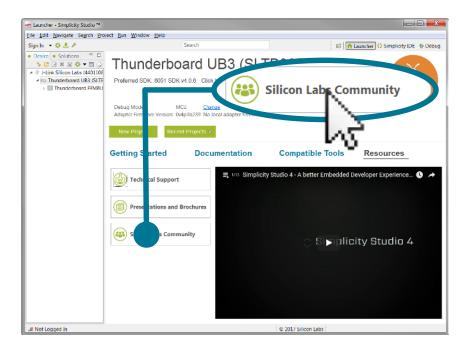
Other Documentation

Kit documentation, application notes, and device documentation can be found using the [Documentation] area of the launcher.

ncher-SimplickyStatio ** itt blogse Stoch Project Ban Window Help					- c ×
idwardsials.com • 😳 📕 🥕	Sant	1.8		PRASS -	il desa
ag despine t → X X V A X X O + - D → A Ny France I — Transferment IMACCO 2 (5,10000)			132GG12-SLTB009A (iuide
≌ Wyreadd State	Getting Started Documentation My Favorite Documentation Takes reset for here for the Takes Takes and the favorites of the takes to be a favorite for the favorites of the favorites for the favorites for the favorites of the	-+ 🗹	Resources All Documents Gees SESsieve All Human 21 0 5042 Michael Of Kimel Trees 2009 Transferiour 1976266 (2) 57203	EnterNet A DA, Te	-+ 20 + 20
Tree (nodur name → C) My Industri 1 → E Truck Score 39 6206 2 (1,76093)]		Usuar's Guides OSG161: EFM326G12 SUB Description in universible	ert Guide	
			III	2 liter «Gulde	•

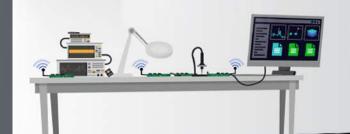
Community and Support

Have a question? Visit the community by clicking the [**Resources**]>[**Silicon Labs Community**] area of the launcher.



Silicon Labs

Simplicity Studio⁴



Simplicity Studio

One-click access to MCU and wireless tools, documentation, software, source code libraries & more. Available for Windows, Mac and Linux!







www.silabs.com/quality

Support and Community community.silabs.com

Disclaimer

Silicon Labs intends to provide customers with the latest, accurate, and in-depth documentation of all peripherals and modules available for system and software implementers using or intending to use the Silicon Labs products. Characterization data, available modules and peripherals, memory sizes and memory addresses refer to each specific device, and "Typical" parameters provided can and do vary in different applications. Application examples described herein are for illustrative purposes only. Silicon Labs reserves the right to make changes without further notice and limitation to product information, specifications, and descriptions herein, and does not give warranties as to the accuracy or completeness of the included information. Silicon Labs shall have no liability for the consequences of use of the information supplied herein. This document does not imply or express copyright licenses granted hereunder to design or fabricate any integrated circuits. The products are not designed or authorized to be used within any Life Support System without the specific written consent of Silicon Labs. A "Life Support System" is any product or system intended to support or sustain life and/or health, which, if it fails, can be reasonably expected to result in significant personal injury or death. Silicon Labs products are not designed or authorized for military applications. Silicon Labs products shall under no circumstances be used in weapons of mass destruction including (but not limited to) nuclear, biological or chemical weapons, or missiles capable of delivering such weapons.

Trademark Information

Silicon Laboratories Inc.®, Silicon Laboratories®, Silicon Labs®, SiLabs® and the Silicon Labs logo®, Bluegiga®, Bluegiga Logo®, Clockbuilder®, CMEMS®, DSPLL®, EFM®, EFM32®, EFR, Ember®, Energy Micro, Energy Micro logo and combinations thereof, "the world's most energy friendly microcontrollers", Ember®, EZLink®, EZRadio®, EZRadioPRO®, Gecko®, ISOmodem®, Micrium, Precision32®, ProSLIC®, Simplicity Studio®, SiPHY®, Telegesis, the Telegesis Logo®, USBXpress®, Zentri, Z-Wave, and others are trademarks or registered trademarks of Silicon Labs. ARM, CORTEX, Cortex-M3 and THUMB are trademarks or registered trademarks of ARM Holdings. Keil is a registered trademark of ARM Limited. All other products or brand names mentioned herein are trademarks of their respective holders.



Silicon Laboratories Inc. 400 West Cesar Chavez Austin, TX 78701 USA

http://www.silabs.com